PILOT OF A LEARNING MANAGEMENT SYSTEM TO ENHANCE COUNSELORS'

RELATIONAL QUALITIES THROUGH MINDFULNESS-BASED PRACTICES

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Mindfulness-based practices are associated with increased attentional qualities, improved self-focus styles, enhanced empathic understanding, and strengthened self-compassion, making these practices a viable addition to counselor training programs. However, current mindfulness training models are primarily designed for relief of psychological distress, stress reduction, and increased well-being rather than focused on enhancing therapeutic skills and require intensive time commitments that may present logistical difficulties for overburdened curricula and graduate students.

This study piloted an on-line, eight-week mindfulness-based practices learning management system for counselors (MBLMS-C) with a specific focus on the cultivation of qualities associated with successful therapeutic relationships. Ten of forty-six recruited counseling master's students enrolled in their first basic skills course at a sample of accredited universities across the United States completed the exit survey. Data were analyzed using multivariate repeated measures analyses comparing pre-post- counselor relational qualities of mindfulness traits, empathy, self-focus style, and self-compassion. Results indicated no statistically significant difference with a partial η^2 = .73. What-if analyses (*N* = 30) indicated statistical significance may have been obtained given a larger sample. Variance was explained by increased self-compassion (partial η^2 = .34) and mindfulness traits (partial η^2 = .31) and decreased self-focus style rumination (partial η^2 = .23) and empathic personal distress (partial η^2 = .12). Changes

were observed in the desired direction for self-focus style reflection and empathic perspective taking/empathic concern. Discussion includes a review of the findings including examination of participant feedback regarding training experience. Study limitations and implications for counselor education, professional enhancement, and suggestions for future research are also offered.

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Counseling outcome research indicates the therapeutic relationship is more predictive of change than counseling techniques (Lambert & Barley, 2001; Martin, Garske, & Davis, 2000). Primarily, counselors are responsible for building and maintaining these relationships (Lambert & Ogles, 2004; Norcross, 2010), and this requires development of interpersonal skills and characteristics that promote attuned communication (Bruce, Manber, Shapiro, & Constantino, 2010; Lambert & Barley; Norcross; Rogers, 1992; Siegel, 2010). In recognition of the importance of these characteristics, the Council for Accreditation of Counseling and Related Educational Programs (CACREP, 2009) requires all master's programs to include coverage of "counselor characteristics and behaviors that influence helping processes" (II.G.5.2; p. 92). However, many training systems focus primarily on superficial mechanics of interpersonal communication skills rather than internal processes associated with cultivation of more subtle qualities (Bruce et al.; Keefe, 1976; Walsh, 2008).

Although research into methods for enhancing counselor qualities that support therapeutic relationships is sparse (Lambert & Ogles, 2004; Shapiro & Izett, 2008), mindfulness is emerging as an evidence-based best practice for a wide variety of mental disorders (Baer, 2003; Hick, 2008; Kabat-Zinn, 2003) and may hold promise for practitioners as well as clients (Bruce et al., 2010; Hick; Siegel, 2010). Broadly defined, mindfulness-based practices include paying attention in a particular way: on purpose, in the present moment, while cultivating an attitude of non-judgmental curiosity and compassion. These practices have been shown to increase focused attention, self-reflection, empathy, and self-compassion (Bruce et al.; Carson & Langer, 2006; Hick;

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Lesh, 1970; Schure, Christopher, & Christopher, 2008). In addition, emerging

neuroscience research suggests that mindfulness can modify brain functioning related

to attentional regulation, emotional processing, empathy, and compassion through

flexibility, adaptability, receptivity, conditioning, and practice (e.g., Chiesa & Serretti,

2010; Fletcher, Schoendorff, & Hayes, 2010).

Preliminary evidence also indicates that the cultivation of mindful qualities in

counselors has a positive impact on intra- and interpersonal attunement, self-efficacy,

and compassion (Chrisman, Christopher, & Lichtenstein, 2009; Greason & Cashwell,

2009; McCollum & Gehart, 2010; Shapiro, Brown & Biegel, 2007; Schure et al., 2008).

Furthermore, in two double-blind studies, clients seen by counselors engaged in daily

meditation reported significantly fewer symptoms, more positive assessment of

individual therapy, and more positive ratings of the entire treatment experience

(Grepmair, Mitterlehner, Loew, Bachler, Rother, & Nickel, 2007; Grepmair, Mitterlehner,

Loew, & Nickel, 2007). Combined, strong evidence exists for the inclusion of

mindfulness practices for enhancing counselors' abilities to strengthen therapeutic

relationships and thereby augment therapeutic success. Therefore, a deeper

investigation of the intersection between essential counselor relational characteristics

and the qualities enhanced by mindfulness-based practices is warranted.

Therapeutic Relationship Factors

Evidence supports the link between strong therapeutic relationships and positive

counseling outcomes, suggesting this alliance is an important therapeutic component

regardless of other factors (Horvath & Symonds, 1991; Lambert & Ogles, 2004;

Norcross, 2010; Martin et al., 2000). When empathy, warmth, congruence, and strength

of the relationship are combined with counselors' interpersonal style and attitudes,

these common factors are proposed to contribute to 30% of the improvements seen in

therapy (Lambert & Barley, 2001). Evidently, the skills and personal qualities needed

for establishing and developing common factors is the responsibility of counselor

(Lambert & Barley; Lambert & Ogles; Norcross). While defining specific counselor

relational qualities is complicated by their interdependent and dynamic constitution,

several essential qualities and characteristics emerge from the counseling literature.

At the core of the counseling relationship are the qualities proposed by Rogers

(1992) including expressed unconditional positive regard, warmth, and respect;

counselor genuineness; and conveyed accurate empathy (Lambert & Barley, 2001;

Norcross, 2010; Patterson, 1984; Siegel, 2001). Clinician-guided elements to establish

attuned relationships include giving accurate feedback, goal consensus, repair skills,

appropriate self-disclosure, managing countertransference, and interpretation of themes

and patterns (Ackerman & Hilsenroth, 2003; Norcross; Siegel). Also, encouraging a

sense of hope, facilitating deep exploration, acknowledging success, and affirming

confidence in the client are recognized keys to creating and maintaining the therapeutic

bond (Ackerman & Hilsenroth; Jennings & Skovholt, 2004).

Fundamental inner qualities of effective clinicians include being accepting,

altruistic, authentic, attentive, compassionate, confident, courageous, curious, empathic,

flexible, friendly, open, genuine, honest, humorous, intuitive, psychologically healthy,

respectful, self-aware, self-reflective, trustworthy, vulnerable, and warm (Ackerman &

Hilsenroth, 2003; Halinski, 2009; Jennings & Skovholt, 2004). Along with these

qualities, Jennings and Skovholt concluded that master therapists demonstrated continual learning; acceptance and enjoyment of ambiguity and complexity; emotional receptivity; and attention to self-care.

It has been firmly established that attuned relationships between counselor and client are foundational for healing relationships and should remain a primary aim of clinician attention, assessment, and training (Lambert & Barley, 2001; Lambert & Ogles, 2004; Norcross, 2010; Patterson, 1984; Siegel, 2010). Despite this wide agreement, there is currently a lack of evidence regarding ways to foster and enhance these counselor relational qualities (Bruce et al., 2010; Greason & Cashwell, 2009; Lambert & Ogles; McCollum & Gehart, 2010; Shapiro & Izett, 2008).

To date, training for mental health professionals has focused on behaviorally observable interviewing skills and abilities related to cognitive assessments. Evidence suggests these training models do not impact mastery or intrapersonal awareness and appraisal adequately (Buser, 2008; Hill, Stahl, & Roffman, 2007; Paladino, Minton, & Kern, 2011) and are not linked to enhanced client outcomes in a consistent manner (Buser). Although not yet demonstrated, this lack of connection between skills training and client outcome may be related to a lack of attention to inner characteristics necessary for cultivating a wider variety of the counselor relational qualities (Greason & Cashwell, 2009; Hill et al.).

A number of scholars have suggested methods for bringing attention to relational qualities within counselor training. These models call for the cultivation of personal mindfulness including compassion, empathy, generosity, openness, and self-reflection (Rønnestad & Skovholt, 2003; Skovolt, 2005; Timm & Blow, 1999); improvement in self-

focus style and meta-cognitive abilities (Fauth & Williams, 2005; Hiebert, Uhlemann, Marshall, & Lee, 1998); development of empathy (Keefe, 1976; Lyons & Hazler, 2002); and increased self-compassion (Patsiopoulos & Buchanan, 2011; Shapiro & Islett, 2008). However well-developed these suppositions are, methods for developing these qualities and integrating them into counselor training programs is still lacking empirical support (Greason & Cashwell, 2009). Recently, scholars have pointed to the strong intersection between desired counselor relational qualities and qualities developed during mindfulness-based practices, noting that this link may improve counselor training and development (Aggs & Bambling, 2010; Chrisman et al., 2009; Fulton, 2009; Greason & Cashwell; Hick, 2008; McCollum & Gehart, 2010; Rimes & Wingrove, 2010; Schure et al., 2008; Shapiro & Islett) and, in turn, impact client outcomes (Grepmair, Mitterlehner, Loew, Bachler, et al., 2007; Grepmair, Mitterlehner, Loew, & Nickel, 2007). By examining the qualities gained through mindfulness-based practices, the benefits for counselors become clear.

Mindfulness Factors

Mindfulness-based practices have been linked to improved mental health, neurobiological changes, wellness, and have recently been integrated into the fields of medicine, psychology, and interpersonal neurobiology (Brown & Ryan, 2003; Carmody, 2009; Chiesa & Serretti, 2010; Grossman, Niemann, Schmidt, & Walach, 2003; Shapiro, 2009). As with most complex systems, attempts to operationally define practice (Bishop et al., 2004) and delineate a concise model is challenging (Baer, 2003; Brown, Ryan, & Creswell, 2007; Carmody, 2009; Leary & Tate, 2007; Rapgay & Bystrisky, 2009;

Shapiro, Carlson, Astin & Freedman, 2006), and consensus remains elusive (Chiesa & Malinowski, 2011; Mikulas, 2010).

For the purposes of this discourse, mindfulness-based practices are broadly defined as activities related to attending to direct experience while cultivating non-judgmental curiosity and compassion. These practices can occur exclusive of other activities, i.e. *formal practice*, or in the context of daily living, i.e. *informal practice.* Formal practices are loosely divided into three styles: *focused concentration,* sustaining an unelaborated single point of attention to an object of direct experience; *open awareness,* choiceless attending to the substance, process and fluidity of current experience including the observation of fluctuating mental activity, and *cultivating caring states*, intentionally fostering kindness and compassion (Chiesa & Malinowski, 2011; Kabat-Zinn, 2003; Marlatt & Kristeller, 1999; Siegel, Germer, & Olendzki, 2009). A growing body of literature provides evidence that engaging in both formal and informal practice lead to trait changes in mindfulness related qualities like present moment attention, equanimity, and compassion (Davidson et al., 2003; Hick, 2008; Kabat-Zinn, 2003; Shapiro et al., 2006; Shapiro, 2009).

Support for changes acquired during and through practice are abundant (Brown & Ryan, 2003; Germer, 2005; Malinowski, 2008; Olendzki, 2009). Those most salient to this inquiry are derived from neuroscience research and from studies regarding helping professionals' experiences of mindfulness. Keeping in mind that these qualities are dynamic and inter-related, the following discussion will be divided into three assets developed through mindfulness-based practices: attentional skills, emotional regulation, and cultivating caring states.

Mindful Neural Changes

Mindfulness-based practices include considerable time enhancing attentional skills including focusing, sustaining, and shifting attention. Researchers have found links between practice, structural changes in the brain (e.g., increased cortical thickness and connectivity), and functional changes related to concentration and attentional processes (e.g., internal and external focus, sensory processing, and flexibility; Cahn & Polich, 2006; Chiesa & Serretti, 2010; Ivanovshi & Malhi, 2007; Luders, Clark, Narr & Toga, 2011; Lutz, Dunne, & Davidson, 2007; Treadway & Lazar, 2009).

Also integral to mindfulness-based practice is the acquisition of equanimity which is enhanced by practicing non-judgmental curiosity towards experience. Findings from neuroscience research support ways in which these practices change and engage areas of the brain related to emotional arousal, regulation, stability, and response flexibility. Additional findings point to enhanced emotional awareness through increased activity in areas linked to interoception and sensory input processing (Cahn & Polich, 2006; Chiesa & Malinowski, 2011; Chiesa & Serretti, 2010; Hölzel et al., 2011; Ivanovshi & Malhi, 2007; Luders et al., 2011; Lutz et al., 2007; Treadway & Lazar, 2009). Through neuroimaging, researchers have also demonstrated that mindfulness practitioners have structural changes and less activity in brain areas associated with self-referential activities like personal narrative creation, social cognition, rumination, and anxiety, when compared to those without mindfulness experience (Goldin & Gross, 2010; Taylor et al., 2011). Several scholars postulated that mindfulness related changes in self-focus, from self-evaluative to self-reflective styles, augment attentional

proficiencies by decreasing mind-wandering, improving the capability to shift between first and third person perspectives, and lessening emotional reactivity (Chiesa & Malinowski, 2011; Hölzel et al.).

While nearly all mindfulness-based practices include creating an atmosphere of kindness and compassion, several practices are specifically designed to generate these feelings towards self and others. Neuroscience research into changes associated with the intentional cultivation of caring states is very limited; however, initial findings demonstrated increased brain activation associated with empathy, spiritual experiences, compassion, happiness, and well-being (Hölzel et al., 2008; Hölzel et al., 2007; Luders, Toga, Lepore, & Gaser, 2009; Lutz, Brefczynski-Lewis, Johnstone, & Davidson, 2008; Manna et al., 2010; Taylor et al., 2011; Wang et al., 2011). These intentional cultivation practices are also linked to greater empathic perceptions and responses, and altruism (Lutz et al.).

In summary, it is well established that learning impacts brain structure and function; mindfulness-based practices are no exception (Pascual-Leone, 2009; Slagter, Davidson, & Lutz, 2011). Specifically, neuroscience research regarding a variety of meditation styles has documented significant changes in state and trait mindfulness among long and short term mindfulness practitioners alike (Cahn & Polich, 2006; Chiesa & Malinowski, 2011; Fletcher et al., 2010; Ivanovski & Malhi, 2007; Lutz et al., 2008; Manna et al., 2010; Slagter et al.; Treadway & Lazar, 2009; Wang et al., 2011). This nascent biological evidence provides support for subjective reports regarding ways in which mindfulness-based practices change relational experiences between counselors and their clients.

Mindful Counselors

Initial qualitative research with counseling students links mindfulness-based practices to a wide variety of enhanced relational qualities (Chrisman et al., 2009; McCollum & Gehart, 2010; Schure et al., 2008). These researchers described increased attentional capabilities as evidenced by counseling student's statements of increased awareness, improved mental clarity, greater ability to observe and process the present moment, and enhanced capability to make meaningful personal reflections. They also chronicled enhanced emotional processing in the form of decreased anxiety, improved coping with strong or threatening emotions, and less attachment to emotional experiences; these changes resulted in more flexible responding and decreased reactivity. Participants also reported increased empathy, kindness, and compassion including greater sense of ease and peace, fewer self and other judgments, more empathy, and expanded feelings of compassion. Many of these students were able to experience directly how their self-directed feelings of acceptance and compassion translated into compassion and acceptance toward others, including their clients (Chrisman et al.; McCollum & Gehart; Schure et al.).

In general, students who engaged in mindfulness interventions reported a variety of attitude changes including greater self-understanding, self-acceptance, self-trust, self-confidence, and interpersonal attunement (Chrisman et al., 2009; McCollum & Gehart, 2010; Schure et al., 2008). McCollum and Gehart found students reported increased ability to: (a) tolerate therapeutic silence; (b) remain present with intense and difficult materials and not become overwhelmed; (c) attend to the emerging therapeutic

processes; (d) attend to inner process while remaining engaged with the client; (e) be responsive to the client; (f) quiet their own inner dialogue; (g) generally slow down and feel at ease in session; and (h) consider new perspectives on therapy as a healing process. As a result, they reported decreased desire to control the counseling process and diminished tendency to engage in ruminative thinking about sessions and their clients. Additionally, McCollum and Gehart reported their students were more productive because they were better able to "simply be" with their clients, instead of trying to do something *to* their clients (p. 355). Students reported increased self-awareness, willingness to examine difficult emotions in a non-threating way, and recognition of their personal capacity for pain. All three studies found that students planned to continue their own personal practices and use what they learned to recommend or incorporate mindfulness with their clients.

Additionally, helping professionals who completed some form of mindfulness-based training reported reductions of distress and anxiety (Shapiro, Schwartz, & Bonner, 1998; Shapiro et al., 2005; Shapiro et al., 2007) and rumination (Rimes & Wingrove, 2010; Shapiro et al., 2007). These changes were accompanied by increases in mindfulness traits (Gökhan, Meehan, & Peters, 2010; Rimes & Wingrove; Shapiro et al., 2007), empathy (Gökhan et al.; Lesh, 1970; Shapiro et al., 1998), self-compassion (Aggs & Bambling, 2010; Gökhan et al.; Rimes & Wingrove; Shapiro et al., 2005), cultural sensitivity (Gökhan et al.), knowledge of mindfulness (Aggs & Bambling), and openness to experience (Lesh). Researchers also found positive relationships between mindfulness traits and counselor attentional skills, empathy, self-efficacy (Greason & Cashwell, 2009), and life satisfaction (May & O'Donovan, 2007); and negative

relationships between emotional exhaustion and depersonalized feelings towards clients (May & O'Donovan). Two studies specifically looked at the relationship between mindfulness-based practices and client outcomes (Grepmair, Mitterlehner, Loew, Bachler, et al., 2007; Grepmair, Mitterlehner, Loew, & Nickel, 2007). These researchers found clients of meditation practitioners reported significantly fewer symptoms, higher assessment of individual therapy, and more positive ratings regarding the entire treatment experience. Convergences of these possibilities results in the following proposed intersection between relational qualities important for counselors and qualities acquired through mindfulness-based practices.

Intersection

In synthesizing the intersection between counselor qualities and mindfulness-based practices the following structure emerged, which aligns well with previous publications by Shapiro and Islett (2009) and Hick and Bien (2008). Most salient to the current research question is the intersection between acquired traits of attention, emotional regulation, and caring as measured by changes in mindfulness traits, empathic tendencies, self-focus style, and self-compassion.

Enhanced mindfulness traits, including attentional abilities, can supplement engagement and active listening leading to proficiency in reflective dialogue, feedback, analysis, rupture repair, and recognition of client themes and patterns. Also, improved attentional flexibility can enhance shifting between internal and external cues resulting in more comprehensive understanding, accompanied by less frequent rumination and personal narrative excursions. Consequently, clients are likely to experience their

counselors as more attentive, curious, understanding, and caring. Overall, the relationship benefits from more collaboration, opportunities for goal consensus, connection, and continuity.

Having a more reflective and less ruminative self-focus style naturally leads to self-understanding. This style is also associated with reduced anxiety and greater emotional regulation (Hiebert et al., 1998). Experience with personal reflection and introspection also facilitates appropriate self-disclosure, genuineness, and values clarification as it allows for greater choice over responses. Additionally, there is improved emotional stability, steadiness, and clearer understanding of the client's perspective when witnessing deep emotional content due to a reduction of self-referent impressions and automatic reactions. This benefits clients by encouraging deeper exploration, while improving honesty and openness within the relationships. Clients will also likely experience the counselor's courage and hope, which provides a model for coping strategies and well-being.

The benefits of empathy are fundamentally understood within the counseling field. The non-judgmental curiosity and emotional regulation practiced during mindfulness naturally facilitates the ability to mirror the client's perspective and aids repairing the relationship when rupture occurs. Furthermore, when uncomfortable experiences are recognized and met with acceptance, the need to respond in defensive ways is diminished and insight is expanded (Brown et al., 2007). With mindfulness training, conveying accurate empathy naturally develops from a kind of "self-empathy" developed through grappling with intrapersonal processes and observations of direct experience.

Compassion, unconditional positive regard, warmth, kindness, and respect are all qualities integral to strong relationships. Compassion practices also facilitate vulnerability, openness, and altruistic tendencies, identified as important qualities in master therapists (Jennings & Skovholt, 2004). Because empathy is bidirectional, feelings cultivated towards self (e.g., friendliness, warmth, compassion, calm, and hope) will be shared with clients. Clients come to understand they are important and worth caring for, thereby expanding the possibility of continued engagement in self-care and maintaining gains made through the counseling process.

Scholars embedded in mindfulness-based teachings have recognized parallels between mindfulness qualities and counselor relational qualities, pointing out that mindfulness-based practices and counseling include attention, receptivity, patience, curiosity, and compassion; and when present greatly enhance the therapeutic encounter (Fulton, 2009; Woods, 2009). As such, by grappling with personal difficulties while practicing empathy, kindness, equanimity, and compassion, counselors become more inclined to offer the same healing presence to their clients (Germer, 2005; R. Siegel et al., 2009; Walsh, 2008). In summary, increased mindfulness qualities can increase counselors' relational abilities which are then received by their clients. Together the therapeutic relationship is strengthened, and success is more likely to occur.

Purpose of the Study

In general, current mindfulness-based training interventions require intensive time commitments and may present logistical difficulties for overburdened curricula and

graduate students. Evidence indicates that time and logistics are both factors in completing training programs (Shapiro, Astin, Bishop, & Cordova, 2005). In addition, current mindfulness training models are primarily designed for relief of psychological distress, stress reduction, and increased well-being rather than focused on enhancing therapeutic skills (Aggs & Bambling, 2010). Currently there are no training models that combine the convenience of on-line training with a focus on the development of relational skills and internal processes associated with creating strong therapeutic relationships.

Based on the potential for mindfulness-based practices to enhance counselor relational qualities, a training program was developed to teach mindfulness-based practices via a web-based medium, with emphasis on the cultivation of qualities associated with successful therapeutic relationships. The purpose of this quasi-experimental pilot study was to examine the proficiency this program to change mindfulness traits, empathic perspective taking and empathic concern, empathic personal distress, rumination and reflective self-focus styles, and self-compassion in beginning counseling students. Specifically, research questions were to what degree does the mindfulness-based learning management system for counselors (MBLMS-C) affect student counselors' (a) mindfulness traits, (b) empathic perspective taking and empathic concern, (c) empathic personal distress, (d) self-focus style of rumination, (e) self-focus style of reflection, and (f) self-compassion?

Procedures

Following approval from the university Institutional Review Board (IRB), email invitations were sent to 123 faculty members, resulting in 15 CACREP-accredited sites returning letters of cooperation and receiving student recruitment materials. Instructors

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were asked to email, post, and/or announce the participation opportunity in introductory counseling skills courses, and students received a brief overview of training content, time commitment expectations, and information for contacting the investigators via email or website. Participants who accessed the website were asked to provide an email contact, password, and informed consent. To protect participant confidentiality, a unique participant ID was provided via email. Next, participants completed survey data including a demographic questionnaire, the Interpersonal Reactivity Index (IRI), Five Factor Mindfulness Questionnaire (FFMQ), Rumination-Reflection Questionnaire (RRQ), and Self-Compassion Scale (SCS). Following completion of the surveys, participants received an email with instructions for beginning the training.

Course materials were presented as weekly lessons available at 7 day intervals, with daily guided mindfulness practices opening consecutively, by week, based on the prior completed practice. Participants were given the opportunity to repeat any previously accessed materials, were provided unlimited space to reflect on the daily experience, and were asked to record estimates of time spent in suggested informal practice. Lesson participation was recorded automatically, with reminders sent if the website was not accessed for 5 days. Eight weeks from the start date, participants were asked to complete the exit survey and given the choice of entering a random drawing for one of ten $50 gift cards to an on-line book store. Links were provided for emailing the student investigator, obtaining university specific counseling resources, and opting out of the study.

Participants

The population of interest for this study included students who were admitted or provisionally admitted to CACREP-accredited counseling programs and enrolled in their first essential or helping skills course. Initially, 46 students gave informed consent and were assigned participant IDs. Of these, 37 participants from 11 universities completed the entry survey. Of these initial participants, 12 completed exit surveys 8 weeks after their entry into the study (see Table 1.1 for participation rates).

Table 1.1

Participant Completion Rates by Week

Week	*n*	Lessons	Formal Practice		Informal Practice	
			Qty	Mins	Qty	Mins
0[a]	46					
1[b]	37	26	141	1410	138	2214
2	17	17	86	860	78	1102
3	15	13	73	1095	66	1147
4	14	13	67	1055	62	1131
5	14	11	57	855	52	1094
6	14	11	40	800	39	1357
7	14	10	40	800	40	1239
8[c]	12	8	35	700	34	1059

Note. Four participants opted out and are not counted beyond initial entry survey.

[a] includes all participants who gave informed consent. [b] includes all participants who completed entry survey. [c] entry survey data was incomplete for two participants who completed exit survey

Final participants were 10 female masters' level students enrolled in their first clinical course at 5 CACREP-accredited counseling programs. They were 22 - 28 (*M* = 24.80, *SD* = 2.70) years of age, and self-identified as White (*n* = 5), biracial (*n* = 2), and

one each Black, Asian, and Latino. Four participants each reported a religious

background of Christian-not Catholic and none; two identified as Christian-Catholic. The

majority ($n = 6$) indicated their counseling major focus was clinical mental health with n

= 3 studying community and n = 1 studying school counseling. Four participants

indicated previous mindfulness experience (see Table 1.2 for details).

Table 1.2

Participant Pre-Training Mindfulness-Based Practice Experience

	Participants	
Experience Details	Entry[a] ($n = 37$)	Exit[b] ($n =10$)
Previous Experience = Yes	11	4
Type of Experience		
Brief Exposure	5	3
Regular Practice	2	1
Past Practice	2	0
N/A	2	0
Style/tradition of practice[c]		
Yoga	6	3
Meditation	7	3
Pranayama	1	0
Loving-Kindness	2	0
DBT	1	1
Experience *months; range / mean (sd)*	0 – 36 / 11.9 (12.25)	3 – 36 / 13.5 (15.59)
Weekly Formal Practice *mins*; *range / mean (sd)*	0 – 60 / 20.0 (28.02)	0 – 60 / 30.0 (34.64)
Weekly Informal Practice *mins; range / mean (sd)*	0 – 90 / 29.0 (31.85)	0 – 90 / 42.5 (40.31)

Notes. [a]participants completing entry survey. [b]participants completing training. [c]participants reported multiple types of practice

Course Description

      The MBLMS-C training program was inspired by the mindfulness-based stress reduction (MBSR) program as an eight-week introduction to a variety of mindfulness-based practices (Stahl & Goldstein, 2010). Weekly lessons consisted of slide presentations ranging from 12 - 28 minutes (M = 20.55, total = 164.37) and included information related to: (a) each practice style, (b) research findings, (c) common experiences and potential barriers, (d) connections to counseling, (e) attitudes to cultivate, (f) formal practice instructions; and (f) informal practice instructions. Each week's formal guided practice introduced a different style, with narrated guidance progressively reduced to provide more time for self-regulation between instructions and ranged from 10 – 20 minutes daily (M = 15.63).

      Based on several training models, three styles of meditation were consecutively presented (Gunaratana, 2002; Rapgay & Bystrisky, 2009; Stahl & Goldstein, 2010). Following an introduction week, two foundational focused concentration practices were presented to provide stability and calmness. Next two open-awareness practices including instruction for developing meta-awareness, then three practices in the cultivation of caring states associated with kindness and compassion were taught. Participants were reminded throughout the lessons to monitor emotional intensity and instructed to return to concentration style practices for stability if needed and to seek outside support if they experienced on-going concerns. Although not required, participants were encouraged to set a regular time and place for daily formal practice. See Table 1.3 for training curriculum outline.

Table 1.3

Curriculum Outline for Mindfulness-Based Learning Management System for Counselors (MBLMS-C)

Weekly Lesson Content [a]	Formal Practices			Informal Practices
	Title	Style	Min Per	
Week 1				
Introduction: Mindfulness and mindfulness-based practices Research overview: mental, physical, and neurobiology Counseling Link: attention, emotional processing, and positive states Introduction: Types of practice and course overview Expectations: Common early practice experiences Attitude: Non-judgment Instructions: Formal and informal practice details	Wheel of Awareness	Introduction	10	Mindful Travel
Week 2				
Introduction: Focused Concentration practice Research overview: Changes in attention and setting intentions Counseling Link: attention and relational connection Introduction: Ways to practice focused concentration Expectations: Common practice experiences Attitude: Patience Instructions: Formal and informal practices details	Mindful Breathe	Concentration	10	Mindful Eating
Week 3				
Introduction: Body scan practice Research overview: Stress reduction Counseling Link: Empathy and interoception Introduction: Common misperceptions Expectations: Potential abreactions from pain and trauma, common barriers Attitude: Gratitude Instructions: Formal and informal practices details	Body Scan[b]	Concentration	15	Mindful Hygiene
Week 4				
Introduction: Open awareness practice Research overview: Empathy and emotional labeling Counseling Link: Emotional presence and attuned communication Introduction: Mental patterns, grasping, rejecting, and ignoring Attitude: Curiosity Instructions: Formal and informal practices details	Labeling	Open Awareness	15	Mindful Walking

(table continues)

Table 1.3 *(continued).*

Weekly Lesson Content [a]	Formal Practices			Informal Practices
	Title	Style	Min Per	
Week 5				
Introduction: Meta-awareness practice				
Research overview: Interpersonal neurobiology and self-focus style	Watching the Mind	Open Awareness	15	Emotional Curiosity
Counseling Link: Touch and go, counseling relationship				
Introduction: Noticing how the mind works				
Attitude: Acceptance				
Instructions: Formal and informal practices details				
Week 6				
Introduction: Loving-kindness practice				
Research overview: Cultivating kindness	Loving-Kindness	Positive States	20	Listening
Counseling Link: Caring environment creation and self-care				
Introduction: Resistance and responding with kindness				
Attitude: Gentleness				
Instructions: Formal and informal practices details				
Week 7				
Introduction: Self-compassion practice				
Overview: Self-compassion components and habitual responding				
Research overview: Emotional well-being	Self-Compassion	Positive States	20	Extending Kindness
Counseling Link: Relationship benefits				
Introduction: Negativity bias, self-criticism, and backdraft				
Attitude: Kindness				
Instructions: Formal and informal practices details				
Week 8				
Introduction: Open hearted practice				
Overview: Being open to pain				
Counseling Link: Open to discomfort and window of tolerance	Tonglen	Positive States	20	Common Humanity
Review of Key Concepts: Mental habits and normal challenges				
Attitude: Courage				
Instructions: Formal and informal practices details				

Note. Training content was derived from comprehensive review of the literature. Contact first author for specific references.

Instrumentation

Demographics

Demographic information gathered included age, sex, ethnic identity, religion, university affiliation, major counseling program focus, credit hours earned towards master's degree, and previous mindfulness/meditation experience. Participants who indicated previous mindfulness experience were asked to specify type of experience, style/tradition of practice, number of years of experience, and current average weekly time spent in formal and informal practice.

Five Factor Mindfulness Questionnaire (FFMQ; Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006).

The FFMQ was developed and supported through exploratory and confirmatory factor analysis by combining five previous mindfulness measures. The resulting instrument was a 39 item self-report measure of five mindfulness dimensions: (a) Observe, measuring noticing, observing and attending to experiences including bodily sensations, thoughts, feelings, and other perceptions; (b) Describe, measuring the ability to use words to describe experiences; (c) Act with Awareness, measuring the tendency to focus on the task at hand, and not be distracted; (d) Nonreact, measuring the ability to remain neutral to inner experiences; and (e) Nonjudge, measuring the tendency for self-evaluation with a nonjudging attitude.

Responses were made on a 5-point Likert scale ranging from 1 (*never or very rarely true*) to 5 (*very often or always true*), with 19 items reverse scored. All subscale scores range from 8 – 40 (*n* = 8 items), with the exception of the Nonreact subscale (*n* =

7 items) score range from 7 - 35. Higher scores indicated greater degrees of mindfulness; however, no score interpretations are available therefore analysis only included direction and strength of change following the intervention. Internal consistency for each factor subscale was demonstrated to be from .75 to .91 and .96 for the full instrument (Baer et al., 2006). Internal consistency for the full scale was .93 at pre-test and .95 at post-test. See Table 1.4 for detailed information regarding observed subscale reliabilities.

Interpersonal Reactivity Index (IRI; Davis, 1983).

The IRI was designed to utilize a multidimensional approach to measure cognitive and affective dimensions of empathy on four distinctive dimensions. This 28 item self-report measure consists of four 7-item subscales: (a) Perspective Taking, a cognitive measure of the propensity to take another's point of view including a selfless concern for another person's feelings and reactions; (b) Empathic Concern, an affective measure of the inclination to feel warmth, compassion, and concern for others particularly as it relates to the other person's misfortune or negative emotions; (c) Personal Distress, a measure of anxiety and discomfort in reaction to others and related to poor interpersonal skills, feelings of vulnerability, uncertainty and fearfulness that may impede the ability to interpersonal connection; and (d) Fantasy, a rating of the propensity to put oneself into the feelings and actions of fictional characters and is linked to higher sensitivity to others. The Fantasy subscale was not perceived as related to counselor relational qualities, and was not used in this research.

Table 1.4

Exploration of Subscale Means and Univariate Post Hoc[a] Tests and Subscale Reliability for Variables of Interest

Measures	Pre M (SD)	Post M (SD)	Mean Change	F	p $n = 10$	partial η^2	p^c $n = 30$	Cronbach's α Pre	Post
FFMQ									
Observe	26.0 (5.44)	30.0 (3.97)	+ 4.0	4.80	.056	.348	<.001	.84	.71
Describe	28.0 (6.13)	30.3 (5.23)	+ 2.3	3.13	.111	.258	.004	.94	.90
Act with Awareness	25.2 (5.75)	25.8 (3.26)	+ 0.6	0.09	.772	.010	.596	.94	.68
Nonjudge	26.0 (6.67)	27.8 (7.24)	+ 1.8	0.67	.435	.069	.154	.91	.95
Nonreact	22.0 (5.40)	23.4 (5.21)	+ 1.4	2.09	.182	.188	.015	.92	.89
IRI									
Perspective Taking	20.0 (4.57)	21.1 (4.33)	+ 1.1	.51	.491	.054	.207	.74	.71
Empathic Concern	23.2 (1.48)	22.9 (3.74)	- 0.3	.07	.796	.008	.636	-1.19	.51
Personal Distress	12.2 (7.39)	11.0 (5.10)	- 1.2	1.27	.288	.124	.052	.91	.82
RRQ									
Rumination	3.6 (0.99)	3.2 (0.70)	- 0.4	2.70	.135	.230	.006	.96	.90
Reflection	3.8 (0.52)	3.9 (0.71)	+ 0.1	.382	.552	.041	.277	.87	.91
SCS									
Self-Kindness	3.4 (0.79)	3.6 (0.78)	+ 0.2	.858	.378	.087	.107	.72	.72
Self-Judgment	3.2 (1.10)	2.8 (1.06)	- 0.4	3.90	.080	.302	.001	.92	.88
Common Humanity	3.6 (0.80)	3.8 (0.33)	+ 0.2	.742	.411	.076	.133	.67	-.38
Isolation	3.3 (1.06)	3.0 (0.93)	- 0.3	5.062	.051	.360	<.001	.91	.81
Mindfulness	3.4 (0.67)	3.4 (0.72)	0	.114	.743	.012	.549	.62	.70
Over-identification	3.5 (0.98)	2.8 (0.73)	- 0.7	5.704	.041	.388	<.001	.88	.67

Note. FFMQ = Five Factor Mindfulness Questionnaire Total; IRI = Interpersonal Reactivity Index; RRQ = Rumination-Reflection Questionnaire; SCS = Self-Compassion Scale. [a]Post hoc analysis completed by univariate repeated measures analysis of variance for exploration only. [b]effect size determined by partial eta squared obtained from post hoc univariate test following multivariate repeated measures analysis. [c]'what if' results obtained by performing an analysis of $n = 30$.

A 5-point Likert scale with responses of 0 (*does not describe me*) to 4 (*describes me well*) was utilized with a score range from 0 – 28 on each subscale including nine reverse scored items. For this study, results from the Perspective Taking and Empathic Concern subscales were combined as a measure of cognitive and affect empathic tendencies considered beneficial for counselors. The Personal Distress subscale was used as a measure of empathic distress. No score interpretations are available; therefore analysis only included direction and strength of change following the intervention. Validity of this scale was supported by confirming relationships between internal items and other related empathy measures. Davis (1983) reported the internal reliability to be between .70 - .82; and test-retest reliability between .62 - .71 for each of the subscales. See Table 1.4 for detailed information regarding observed subscale reliabilities. Low internal consistency on the Empathic Concern subscale (α = -1.19) was due to inconsistent participant responding; therefore, interpretations using this subscale must be considered with extreme caution.

Rumination-Reflection Questionnaire (RRQ; Trapnell & Campbell, 1999).

The RRQ was designed and confirmed through construct validity testing and factor analysis to measure two distinct styles of private self-attentiveness. These self-focus styles are defined as rumination, a style motivated by fear and characterized by an inability to shut off unwanted thoughts, including the tendency to worry about things from the past and future; and reflection a style motivated by curiosity and characterized as the tendency to be introspective, and spend time contemplating personal attitudes, and feelings. This 24 item self-report measure consists of two 12-item subscales with

responses given on a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*), and includes 8 reverse scored items. For each subscale higher scores indicating stronger self-attentive tendencies (range = 12 – 60). There are no score interpretations; therefore it was used only to measure direction and strength of change following the intervention. Trapnell and Campbell reported reliability as .91 for Reflection and .90 for Rumination with reliability. See Table 1.4 for detailed information regarding observed subscale reliabilities.

Self-Compassion Scale (SCS; Neff, 2003).

The SCS was designed and confirmed through factor analysis and construct validity testing to measure personal responses, particularly during difficult times, on three dimensions: (a) self-kindness vs. self-judgment, measured as the tendency to self-direct kindness and understanding, versus criticism and judgment; (b) common humanity vs. isolation, measured as a tendency to recognize experiences as being part of the human condition, versus an attitude of separateness from others; and (c) mindfulness vs. over-identification, measured as a tendency to reflect on the nature of painful thoughts and emotions versus becoming immersed and self-absorbed in them.

This 26 item self-report measure consists of six subscales, 5-items in the Self-Kindness and Self-Judgment subscales and 4-items in Common Humanity, Isolation, Mindfulness, and Over-identification. Responses are given on a 5-point Likert scale from 1 (*almost never*) to 5 (*almost always*), and calculated as means. Negative subscales (Self-criticism, Isolation, and Over-identification) are reverse scored before computing overall scores giving a total range from 5 – 30. Higher total scores indicate

higher self-compassion. According to Neff (2003) scores above 3.5 indicate high self-compassion. Test-retest reliability was .93 for the overall scale, with a range of .80 - .88 for individual subscales. Neff reported internal consistency reliability for complete instrument of .92, with a range of .75 - .81 for the six individual subscales. In this sample, internal consistency for the full scale was .96 at pre-test and .92 at post-test. See Table 1.4 for detailed information regarding observed subscale reliabilities. Closer inspection of participants' individual responses revealed inconsistent responding; therefore, interpretations including the Common Humanity subscale (α = -.38) should be interpreted with extreme caution.

Training Engagement

Data were also collected on participant engagement with the training. Completion of lessons was tracked by the website through log-in times. Time spent in formal practice was calculated by progression through the training and entry of optional open-ended reflections. Engagement in informal practice was self-reported as an estimate of time spent the previous day. See Table 1.1 for details.

Data Analysis

After meeting statistical assumptions, a multivariate repeated measures analysis of variance was conducted using pre- post- survey data. Composite variable counselor relational qualities (CRQ) consisted of the subscale sum of the FFMQ (FFMQ-T); combined IRI subscales Perspective Taking and Empathic Concern subscales (IRI-C/A); IRI empathic Personal Distress subscale (IRI-PD); RRQ subscale means for

Rumination (RRQ-RUM), and Reflection (RRQ-REF); and SCS mean subscale scores (SCS-T).

A priori power analysis indicating a sample size of at least 28 to detect a moderate effect size with α err prob = 0.05, power (1 - β err prob) = .95, number of groups = 1, and number of measurements (pre/post) = 2. Given the resulting sample size of $n = 10$, a data set ($n = 30$) was created and subsequent *what if* analyses were conducted to explore general training viability, assess effect sizes, and discuss potential clinical significance. Exploration of descriptive statistics was used to give further support for postulated impact from training participation.

Results

Multivariate repeated measures analysis indicated no statistically significant difference between pre- and post- measures of CRQ (Wilk's λ = .266, $F(6, 4)$ = 1.84, p = .288); however, percent of variance explained was approximately 73% (partial η^2 = .73). Due to the lack of statistical significance, no post hoc tests were completed.

What if analyses resulted in statistically significant differences between pre- post-results (Wilk's λ = .266, $F(6, 24)$ = 1.84, $p < .001$) indicating that a statistically significant difference may have been obtained given a larger sample. Furthermore, univariate post hoc *what if* analyses indicated statistically significant differences between SCS-T (p = .001), FFMQ-T (p = .001), RRQ-RUM (p = .006), and IRI-PD (p = .006; see Table 1.4 for comprehensive results).

Exploration of the CRQ composite variables revealed effect sizes as: (a) SCS-T (partial η^2 = .34) primarily from reductions in Self-Judgment, Isolation, and Over-identification; (b) FFMQ-T (partial η^2 = .31) with differences obtained primarily from increased Observe and Describe scores; (c) RRQ-RUM (partial η^2 = .23); and (d) IRI-PD (partial η^2 = .12). Observation of overall subscale mean changes revealed changes in the hypothesized directions for: (a) all FFMQ subscales, (b) IRI Perspective Taking and Personal Distress, (c) RRQ Rumination and Reflection, (d) all SCS subscales except Mindfulness. Comparisons with normed samples revealed patterns that will be explored in the following discussion. (See Table 1.4 for detailed subscale comparisons).

Discussion

Taking into consideration difficulties of adequately representing the complex and dynamic processes involved in intra- and inter- personal relationships, the following observations, recommendations, and aspirations were made from these research findings. First, overall changes observed were in the direction that would be beneficial to counselors for the development of traits and characteristics that promote therapeutic relationships.

The largest changes were seen in increased self-compassion, accounting for 34% of the variance between pre- post- training. Increases in self-compassion are associated with increased empathic concern for others, greater desire to end suffering, and decreased controlling and critical behaviors direct towards clients (Germer, 2009; Neff, 2011; Shapiro & Islett, 2008). Interestingly, the specific practices for cultivating self-compassion were given at the end of the training, and not all students participated.

Therefore increased self-compassion may be due to the presence of non-judgmental acceptance as part of mindfulness-based practices, which may be sufficient to encourage self-compassion. This contention is supported by uniform increases in the FFMQ Nonjudge scores of students who did not complete that portion of the training. Also, extending self-compassion has been found to be particularly difficult in Western cultures (Germer, 2005; Neff, 2001), and beginning practitioners often struggle with self-criticism. It could be that those who completed the self-compassion portion of the training gained additional direct experience with their tendencies to be self-critical and reported as such in the exit survey. The courage to confront and overcome realized self-criticism may take extended time and practice.

Increases in mindfulness traits, accounting for 31% of the variance between pre-post- measures, were also found. Changes in subscales scores for Observe, Describe, and Nonreact accounted for the majority of these differences. Even after a relatively brief training period, the relational benefits gained hold the promise of increasing counselors' ability to use attentional flexibility to engage in active listening and reflective dialogue leading to better understanding and engagement (Chrisman et al. 2009; McCollum & Gehart, 2010; Shure et al., 2008). Additionally, the development of equanimity and unconditional positive regard allows counselors to cultivate and maintain a presence where safety, trust, and deep emotional content can be revealed, processed, and resolved (Bien, 2008; Rogers, 1992). The aspiration, as supported by previous research (Aiken, 2006; Chrisman et al., 2009; Grepmair, Mitterlehner, Loew, Bachler, et al., 2007; Grepmair, Mitterlehner, Loew, & Nickel, 2007; McCollum & Gehart, 2010; Schure et al.,), is that these qualities translate into beneficial clinical outcomes.

Pre- post- changes in ruminative self-focus style were consistent with previous research (Farb et al., 2007; Goldin & Gross, 2010; Shapiro et al., 2007; Rimes & Wingrove, 2010), indicating that mindfulness-based practices are helpful for reducing anxious self-attentiveness including the inability to shut off unwanted thoughts which can impede therapeutic presence, increase counselors' anxiety and decrease feelings of efficacy (Greason & Cashwell, 2010; Hiebert et al., 1998).

Decreased empathic personal distress was also found, accounting for 12% of the pre- post- variance. Reductions in tension, uncertainty and fearfulness in the presence of strong emotional content are important for counselors. Previous research supports therapeutic benefits related to counselors' willingness and ability to hear and facilitate expressions of deep affect (Bien, 2008; Gehart & McCollum, 2008; Wegela, 2011). Emotional stability also facilitates and models healthy coping strategies by allowing counselors to remain hopeful despite clients' difficult emotional expressions (Germer, 2005; Bien, 2005).

Cognitive and affective empathic perceptual changes found in this research were not strong; however, the following factors should be considered. Although previous researchers found that mindfulness-based practices increased empathic perceptions in helping professionals (e.g. Andersson, King, & Lalande, 2010; McCollum & Gehart, 2010; Rimes & Wingrove, 2010; Shapiro et al., 1998),entry scores indicated these participants began with higher empathic tendencies, perhaps making it harder to measure or achieve change, but also providing useful evidence that beginning students may already possess the strong qualities needed to use this ability within the counseling framework. Also, the result of increased self-awareness could mean more refined

understanding of personal empathic tendencies resulting in a more accurate

assessment of personal characteristics; therefore, actual gains are masked. Finally, it is

possible that the IRI instrument does not adequately measure the increased

interoception that supports empathic understanding, as found in the neuroscience

research (Hölzel et al., 2008; Lazar et al., 2005; Vestergaard-Poulsen et al., 2009).

Certainly, the dynamic interplay between empathic characteristics and empathic

reception warrants future research.

Little change was seen in reflective self-focus style; however, as with the

empathic perceptual tendencies, participants reported reflective self-focus styles more

developed than normed samples. It could be that counseling students may already

possess the tendencies to be self-inquisitive, curious, and self-aware. Also, because

mindfulness-based practices are, at their core, practices in self-awareness and

curiosity, additional inquiry would be helpful to determine the phases of reflective style

change and the suitability of the RRQ to capture changes specific to mindfulness-based

practice.

Limitations

One of the largest limitations to this study was participation and attrition (see

Table 1.1). Although examination of written participant reflections did not reveal any

patterns in participation rates, it appears that instructor encouragement was

instrumental in engaging and maintaining students in the training as, known to the

investigators, students from one university were offered extra credit for research

participation. Finding external motivations to encourage students prior to realization of

intrinsic rewards from practice may be critically important, including payment for participation, inclusion in course requirements, or assessing educators' commitment and personal experience in order to encourage engagement with mindfulness-based practices.

General limitations include the usual cautions associated with convenience samples, self-report measures, personality differences in participants who volunteer, and the possibility of socially desirable responding among participants. Lack of a control group means changes may be the result of external factors unrelated to the training, such as natural maturation that occurs during the first semester of one's graduate program. Due to the small sample size, limited scope, internal consistency measurement errors, and inability to obtain accurate statistical analysis, generalization of these findings should be done with extreme caution.

Implications for Practice

Strong theoretical support combined with early evidence supports the integration of mindfulness-based practice into counselor training programs. Finding ways to introduce practices into overburdened curricula will be challenging. As empirical evidence regarding connections between mindfulness, counselor relational qualities, and therapeutic effectiveness grows, more opportunities will become available including on-line training systems like the one piloted by this research. Considerations will need to be made towards training delivery, time commitments, homework compliance, and ethical considerations such as perceived conflicts with other spiritual traditions. Attention to trainer competence is also integral to insure proper transfer of knowledge

(Stauffer & Pehrsson, 2012) with personal practice for the educator at the core of qualification (Kabat-Zinn, 2003). Future mindfulness educators may wish to explore the development of training programs and competency requirements for educators. Fortunately strong empirical evidence for mindfulness-based practice benefits has resulted quality resources including books, on-line media, retreat centers, and continuing education workshops for professionals. As with other skills, counselor educators and supervisors who are interested in integrating mindfulness-based practices into skills curricula will need to ensure appropriate training and personal integration prior to expecting such experiences of students.

Implications for Research

Foremost, future research with larger sample sizes and control groups is needed to replicate initial findings. Particular attention to experimental control, motivation, participation constraints, and incentives will be needed to help resolve limitations such as attrition and measurement error. Understanding a wider variety of personality traits that support engagement with practice can also inform ways engage learners for maximum benefit. Also, modifications to MBLMS-C to determine critical content vs. time requirements can be facilitated by understanding gains from practicing non-judgment compared to intentional compassion practices. Future researchers should also explore impact of training sequence timing on acquisition and maintenance of relational qualities. It is also essential to verify adequate measures to capture more subtle qualities associated with mindfulness-based practices including interoceptive capacity and reflective self-focus style. Due to the lack of self-compassionate tendencies in

Western cultures, longitudinal studies to determine the subtle shifts in self-compassion across time will also be beneficial.

As evidence regarding the benefits of these practices continues to build, it will be important to find ways to educate professionals and counselor educators. This will include exploration of alternative delivery methods, evolved attrition prevention strategies, trainer-trainee relationships, trainer competence levels, and impact of an on-line forum for participant bonding and feedback. Ultimately this line of inquiry should include explorations of the client experience including alliance formation and clinical outcomes.

Conclusions

Although it has been shown that personal and relational characteristics of counselors are vital to therapeutic outcome (e. g., Wampold, 2010) and that these qualities should be nurtured (Mahoney, 2005; Norcross, 2010; Skovholt, 2005), the counselor education field struggles to develop a model that includes methods for teaching basic skills paired with the development of the internal processes and inner qualities necessary to become an effective counselor. Although statistical results from this research are limited, general trends in improved mindfulness traits, empathy, self-focus style, self-compassion, and positive participant reflections indicated that incorporating mindfulness-based practices into counselor education curriculum is a viable and potentially useful method for improving counselor relational qualities. This research provided one potential avenue for incorporating mindfulness-based practices into counselor education through a web-based delivery system. Continued support and enthusiasm for the potential for mindfulness-based practice to enhance these qualities

may result in more effective methods for enhancing counselor development which ultimately leads strong therapeutic relationships and better client outcomes.

In reflecting back on these assertions it is apparent that future research to understand the complex and dynamic nature of intra- and inter-personal experience would be helpful in creating a full model of the intricacies and impact of mindfulness-based practices on counselor relational qualities. What is offered here is just a glimmer contained in the vastness of what is still unknown. At the same time, I hope it offers curiosity, encouragement and hopefulness to motivate continued inquiry.

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APPENDIX A

INTRODUCTION

Counseling outcome research indicates the therapeutic relationship is more predictive of change than counseling techniques (Lambert & Barley, 2001; Martin, Garske & Davis, 2000). Counselor characteristics associated with building strong therapeutic relationships include warmth, empathic ability, flexibility, self-awareness, responsiveness, respectfulness, ability to convey unconditional positive regard, and genuineness (Ackerman & Hilsenroth, 2003; Bruce, Manber, Shapiro, & Constantino, 2010; Halinski, 2009; Lambert & Barley; Lyons & Hazler, 2002; Rogers, 1992; Shapiro & Izett; 2008). Furthermore, characteristics of master therapists like curiosity, self-reflection, empathy for others, openness to ambiguity, self-awareness, and non-defensiveness are associated with the creation of successful therapeutic alliances (Jennings & Skovholt, 2004). In recognition of the importance of these characteristics, the Council for Accreditation of Counseling and Related Educational Programs (CACREP, 2009) requires that programs include coverage of "counselor characteristics and behaviors that influence helping processes" (II.G.5.2; p. 92). However, many training practices focus primarily on superficial mechanics of interpersonal communication skills rather than internal processes associated with the cultivation of these qualities (Bruce et al.; Keefe, 1976; Walsh, 2008).

Although research into methods for enhancing counselor qualities that support therapeutic relationships is sparse (Lambert & Ogles, 2004; Shapiro & Izett, 2008), mindfulness is emerging as an evidence-based best practice for a wide variety of mental disorders (Baer, 2003; Hick, 2008; Kabat-Zinn, 2003a) and may hold promise for practitioners as well as clients (Bruce et al., 2010; Hick; Siegel, 2010). Mindfulness practices can increase empathy, focused attention, self-attunement, self-acceptance,

and self-compassion; while also decreasing anxiety, negative affect, rumination, and perceived stress (Bruce et al.; Carson & Langer, 2006; Hick; Lesh, 1970; Schure, Christopher, & Christopher, 2008). In addition, emerging neuroscience research suggests that mindfulness increases the function of the brain by increasing attentional regulation, emotional processing, empathy and compassion through flexibility, adaptability, receptivity, conditioning, and practice (e. g., Chiesa & Serretti, 2010; Fletcher, Schoendorff, & Hayes, 2010). Thus, research supports mindfulness practices for enhancing counselors' abilities to form strong relationships through biological changes in brain structure and function (Siegel). Indeed, preliminary evidence indicates that the cultivation of mindful qualities in counselors has a positive impact on counselor efficacy (Chrisman, Christopher, & Lichtenstein, 2009; Greason & Cashwell, 2009; McCollum & Gehart, 2010; Schure et al; Shapiro, Brown & Biegel, 2007).

Statement of the Problem

In general, current mindfulness-based training interventions require intensive time commitments and may present logistical difficulties for overburdened curricula and graduate students. Evidence indicates that time and logistics are both factors in completing training programs (Shapiro, Astin, Bishop, & Cordova, 2005). In addition, current training models are primarily designed for relief of psychological distress, stress reduction, and increased well-being; and not focused on enhancing therapeutic skills (Aggs & Bambling, 2010). Currently there are no training models that combine the convenience of on-line training with a focus on the development of relational skills and internal processes associated with creating strong therapeutic relationships like

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attentional regulation, non-judgmental acceptance, emotional regulation, empathy, self-reflection, and compassion.

Purpose of the Study

In this study, I developed, implemented, and evaluated the effectiveness of a convenient, eight-week web-based mindfulness training program with specific focus on the cultivation of those qualities associated with successful therapeutic relationships.

Research Questions

To what degree does the intervention affect (a) student counselors' mindfulness traits, (b) student counselors' empathic perspective taking and empathic concern, (c) student counselors' empathic personal distress, (d) student counselors' self-focus style of rumination, (e) student counselors' self-focus style of reflection, and (f) student counselors' self-compassion?

Significance of the Study

Although it has been shown that the personal and relational characteristics of counselors is vital to therapeutic outcome (e.g., Wampold, 2010), the counselor education field has yet to embrace a model that includes the important basic skills *and* development of the internal processes and inner qualities necessary to become an effective counselor. Development of a convenient web-based training program to encourage development of these qualities could enhance counselor training programs, increase counselor relational qualities, and lead to better client outcomes.

Organization of the Dissertation Document

In this appendix, I discussed the importance of developing strong therapeutic connections and counselor characteristics identified as enhancing these relationships. I also stated that counselor training programs are lacking methods for increasing these qualities in their trainees and submitted that current research provided evidence that engaging in mindfulness-based practice is likely to help. The statement of the problem, purpose of the study, research question, significance of the study and organization of the proposed study were also provided.

Appendix B contains a comprehensive literature review regarding counselor relational skills and characteristics linked to developing strong therapeutic relationships, current counselor training modalities, mindfulness definition and training considerations, evidence of changes from mindfulness practices, and the intersection between mindfulness-based practices and counselor qualities. Appendix C is a detailed methods and procedures of the research including the research question, definition of terms, instruments, participants, procedures, training curriculum, and data analysis. Appendix D contains the complete results and Appendix E the extended discussion followed by a comprehensive reference list.

APPENDIX B

COMPREHENSIVE LITERATURE REVIEW

This appendix contains a comprehensive literature review related to counselor characteristics that enhance the therapeutic relationship, development of these qualities, and the potential of mindfulness-based practices to enhance these attributes. The person of the counselor is a primary determinant of therapeutic outcomes (Beutler, et al., 2004; Duncan, Miller, Wampold, & Hubble, 2010; Lambert & Barley, 2001; Wampold, 2010); therefore, it is important for counselor educators to find ways to enhance qualities that lead to better outcomes. Recent developments in the use of mindfulness-based interventions has led to examination of how these practices might be used to enhance counselor characteristics beneficial to therapeutic relationships (Fulton, 2005; Hick & Bien, 2008; Shapiro & Carlson, 2009). While several researchers have examined how teaching mindfulness to students learning therapeutic skills might improve these qualities (Aggs & Bambling, 2010; Chrisman, Christopher, & Lichtenstein, 2009; Gökhan, Meehan, & Peters, 2010; Greason & Cashwell, 2009; Lesh, 1970; McCollum & Gehart, 2010; Schure et al., 2008), there has been little quantitative research supporting these claims.

Therapeutic Relationships

Even though many researchers focus on finding empirically supported treatments, counseling outcome research indicates that the strength of the therapeutic relationship is more important to outcome than counseling techniques (Horvath & Symonds, 1991; Lambert & Ogles, 2004; Norcross, 2010; Martin et al., 2000). Several common factors have been identified as important regardless of treatment type used by

the counselor. The following section includes a review of several meta-analyses that demonstrate the link between relationship factors and counseling outcomes.

Horvath and Symonds (1991) examined studies (n = 24) that explored long-term results related to the qualities of a working alliance in counseling. They concluded the link between working alliance and outcome is as strong as other important variables in treatment; although they stated the resulting effect size (ES = .26) was moderate, it is within the range of other therapeutic variables. Similarly, Martin et al. (2000) analyzed 79 studies and found a moderate effect size ($\bar{r}$ = .22) between these variables. Given that this finding is consistent across studies, it appears that the alliance itself may be therapeutic regardless of techniques or other therapeutic interventions employed by the mental health professional and client (Martin et al.).

Lambert and Ogles (2004) stated it is "virtually unanimous" that the quality of the relationship is vital to positive therapeutic outcomes (p. 174). Overwhelming evidence has established that the relationship between counselor and client is vital. As well, a large part of the responsibility for the development of the therapeutic alliance belongs to the counselor. The following sections explore relational skills and personal characteristics that contribute to strong therapeutic relationships.

Counselor Relational Skills

Nearly every counselor is aware of the relational elements proposed by Rogers (1992) as being necessary for therapeutic change. Indeed, these qualities are considered so important that they have come to be known as the core conditions of the therapeutic relationship (Lambert & Ogles, 2004; Patterson, 1984; Rogers, 1992).

These include: (a) personal genuineness of the counselor, (b) expressed unconditional positive regard, warmth or respect for the client, and (c) the ability of the counselor to experience and convey accurate empathic understanding to the client (Patterson; Rogers).

In a review of reviews, Patterson (1984) contended that bias leads many researchers to underestimate the importance of the core conditions when researching the impact of counselor variables on outcome. Patterson suggested that the actual evidence is "nothing short of amazing" as it relates to counselor use of accurate empathy, respect, warmth, and genuineness as a condition of positive therapeutic outcomes (p. 437). He concluded that the effectiveness of any method or intervention is likely related to the ability of the therapist to nurture this relationship. Patterson also suggested that it may be the absence of good relationships in clients' lives that is at the root of their psychological disturbances; therefore, the therapeutic relationship itself becomes the vehicle for healing.

Additionally, Lambert and Barley (2001) reported that interdependent and dynamic aspects of interpersonal style, therapist attitudes, empathy, warmth, congruence, and strength of the relationship, are more highly correlated with outcomes than treatment type, contributing approximately 30% of improvements seen in clients. Lambert and Barley emphasized the difficulties of determining which of these aspects is most important due the interdependent nature of these characteristics; however, they proposed that the most salient of these qualities are the core conditions. In a separate review, Lambert and Ogles (2004) stressed the fundamental nature of the core conditions and confirmed most counseling theories define these characteristics as

primary. Given the strength of these common factors to influence positive outcomes,

they suggested that educators should emphasize the cultivation of these qualities

despite the fact that researchers have not yet distinguished which counselor

characteristics have the greatest impact (Lambert & Barley; Lambert & Ogles).

From the perspective of the emerging field of interpersonal neurobiology, Siegel

(2001) identified "basic elements of interpersonal relationships that foster emotional

well-being and psychological resilience" (p. 78). Although he described these qualities

from the perspective of any healthy relationship, it is easy to see the parallels to

therapeutic relationships. Siegel identified five primary areas for healthy relationships:

collaboration, reflective dialogue, repair, coherent narratives, and emotional

communication. The first area, collaboration, includes attuned communication which is

shared and at the same time contingent on the other. It is characterized by signals that

are exchanged and matched in quality and timing and consists of fundamental non-

verbal components that communicate emotions. Siegel proposed that sharing at this

level creates a resonant connection where each person begins to feel felt by the other;

developing these connections appears to nurture social, emotional, and cognitive

functioning. The second component, reflective dialogue, is characterized by verbal

dialogue regarding internal states including "emotions, perceptions, thoughts, intentions,

memories, ideas, beliefs, and attitudes" (p. 79). Communication at this level confirms

that internal life is important and can be communicated with others. The next

component, repair, is the process by which attuned communication is reestablished

after it is disrupted. Siegel acknowledged that misunderstandings and missed

connections happen but can be repaired and reestablished. Further, because

disconnections can have a negative impact on development, it is important to return to

"consistent, predictable, reflective, intentional, and mindful" care as soon as possible

within relationships (p. 79). Coherent narratives are the fourth element, and provide

connection of the past, present, and future through narrative stories that can be shared.

He suggested that people with this capacity are able to help others create coherent

narratives as well. The final component is emotional communication where the joy and

vitality of living, as well as the pain and suffering of life, are communicated. Siegel

proposed that the sharing of joy helps to create the "foundation for a positive attitude

towards self and others"; the sharing of negative emotions is soothing and helps to

foster resilience (p. 79). Additionally, emotionally attuned communication means

knowing when the other person needs connection or solitude. Overall, attending to the

qualities of interpersonal relationships lead to "emotional well-being and psychological

resilience" through shared experience (Siegel, 2001, p. 78). Although Siegel was

communicating about all human relationships, it has been suggested that attuned

relationships between counselor and client are the foundation for the healing

relationship (Siegel, 2010).

Norcross (2010) summarized findings by the Psychological Association Division

29 task force of the most effective clinician-guided relationship elements. These

included accurate empathy, collaborative alliance, goal consensus, warm acceptance,

congruence and genuineness, feedback, ability to repair relationship ruptures, self-

disclosure by the clinician, ability to manage countertransference, and interpretations of

themes and patterns. From the evidence Norcross concluded: (a) cultivation of the

therapeutic relationship should be a "primary aim" of clinicians, (b) clinicians should be

skilled at adapting the relationship to meet different client's needs, (c) the quality of the relationship should be routinely assessed based on the client's responses, (d) the relationship works dynamically with other therapeutic elements so training must be comprehensive, and (e) therapy is foremost a human endeavor and this quality should not be lost in the midst of technology and materialism (p. 133). Personal characteristics of the counselor have also been identified as important to therapeutic outcomes (Ackerman & Hilsenroth, 2003; Halinski, 2009; Jennings & Skovholt, 2004; Rogers, 1992).

Counselor Characteristics

As stated above, the core conditions described by Rogers (1992) are essential to the success of counseling and the strength of the therapeutic relationship. However, some scholars have suggested that there are other personal qualities that are important for counselors to possess and that these characteristics may influence the counseling process. The following summaries describe many of these proposed counselor characteristics.

Ackerman and Hilsenroth (2003) completed a comprehensive review of the literature in order to enumerate the counseling skills and personal qualities that have been shown to enhance the therapeutic alliance. They summarized the findings of 25 studies of the therapist variables contributing to positive therapeutic relationships. Techniques and skills included nurturing a sense of hope, encouraging deep exploration, pointing out client progress and success, being supportive, stressing collaborative efforts to relieve the clients suffering, expressing trust in the client's

abilities to change, making personal connections, giving accurate reflection and interpretation, facilitating expressions of affect, and being active, affirming, understanding, and attentive to the client's experience in counseling (p. 28). More personal counselor qualities identified included flexibility, honesty, respectfulness, trustworthiness, confidence, curiosity, attentiveness, friendliness, warmth, and openness. In addition, Ackerman and Hilsenroth's review indicated that when a counselor expressed these skills and qualities to the client via an alert, relaxed, and interested attitude, a stronger therapeutic alliance can be formed. They concluded that along with these qualities a sense of collaboration also lends itself to a strong therapeutic bond. Furthermore, the presence of these qualities contributed to the likelihood that the client will be engaged in the process, which in turn leads to more clinical gains (Ackerman & Hilsenroth).

In another comprehensive review of personality traits related to counselor effectiveness, Halinski (2009) found the counselor personality traits of (a) warmth and acceptance, (b) empathy, (c) flexibility, (d) self-awareness, and (d) genuineness, were the top five characteristics identified in the literature as important, and perhaps necessary in a good counselor. In addition to these personality traits, confidence, sense of humor, psychological health, altruistic tendencies, vulnerability, openness, and an intuitive sense were mentioned throughout the literature. Halinski concluded that counselors who possess these qualities are more likely capable of developing into competent counselors.

Similarly, an exploration of the characteristics of master therapists by Jennings and Skovholt (2004) revealed a list of cognitive, emotional and relational characteristics

associated with therapist effectiveness. In the cognitive realm, these qualities included: (a) a sense of curiosity and desire for continual learning, (b) courage to try regardless of the outcomes, (c) openness to learning from experience and a willingness to self-examine, and (d) willingness to accept and enjoy the ambiguity and complexity of human nature. In the emotional domain, they identified qualities of emotional receptivity including: (a) self-awareness, self-reflection, non-defensiveness, and the willingness to consider feedback from others, (b) continuous attention to their own mental health and emotional well-being including congruence, authenticity, and honesty, and (c) a deep understanding and appreciation of the ways their own well-being impacts their work. In the realm of relational qualities, these authors identified three areas. First, master therapists have strong relationship skills like listening and observing while maintaining a non-judgmental, empathic, and compassion approach. Next, master therapists build and share responsibility for a strong working alliance, believe in the client's ability to change, and trust the client is the expert in their own lives. Finally, they have the ability to take advantage of the strong relationship and use the sense of safety they have engendered to discuss the client's most difficult and painful issues. In conclusion, these authors offered the possibility that many of these qualities can be developed and nurtured (Jennings & Skovholt).

Although these skills and characteristics have been researched, there is still a lack of support for ways to foster and enhance these vital characteristics in counselors (Greason & Cashwell, 2009; Lambert & Ogles, 2004; McCollum & Gehart, 2010; Shapiro & Izett, 2008). This gap in the literature may be because scholars assume that counselors already have these characteristics (Halinski, 2008) or because it is difficult to

teach empathy, connection and therapeutic presence (McCollum & Gehart, 2010). Early

in their training, nearly all counselors are introduced to the requirements of the core

conditions proposed by Rogers (1992); however, methods for consistently cultivating

these qualities remain intangible and elusive (Bruce et al., 2010).

Counselor Training

In 2008, Buser reviewed counselor training models and stated the most

"prominent" models are designed to improve counselor competence in two areas,

interpersonal and cognitive skills (p. 86). Interpersonal skills were defined as

behaviorally observable interviewing skills, and cognitive skills as abilities related to

increasing competence in client conceptualization, self-appraisal, and social insight.

Buser concluded there is empirical support for the effectiveness of these training

models to improve interpersonal and conceptualization skills, but only minimally impact

self-appraisal. Additionally, evidence has not shown changes in social insight. Buser

reviewed meta-analyses comparing professional training to client outcomes and

concluded that although research indicated skills training models are overall moderately

effective, researchers have not demonstrated that these skills translate into better

clinical outcomes. This was demonstrated by several studies where paraprofessionals

without graduate training had equal, and sometimes even better, outcomes than

clinicians with comprehensive professional training. In general, Buser found researchers

blame methodological shortcomings for the lack of evidence for the value of

professional training. However, could it also be that skills training programs are missing

something vital in counselor development, and therefore professionals and paraprofessionals are equally capable of providing basic client needs?

Paladino, Minton, and Kern (2011) overviewed several training models and suggested that despite evidence of increased skills students still struggle with mastery and interpersonal awareness, both necessary to become effective counselors. They combined two current models, one for skills enhancement (Skilled Counselor Training Model, SCTM), and one for awareness enhancement (Triad Training Model, TTM) to create the Interactive Training Model, a tool for developing and assessing interpersonal skills and process-oriented insight. While this model addresses two important aspects of counselor development, it still falls short of addressing the internal processes associated with the cultivation of many of the qualities that can enhance the therapeutic relationship.

Hill, Stahl, and Roffman (2007) also confirmed that skills based training is the primary method used in training counselors. At the same time, Hill et al. acknowledged the importance of teaching new counselors to listen empathically, become more self-aware, and reduce barriers related to self-consciousness. They suggested relaxation, positive self-statements, and confidence building through mastery as tools for enhancing these "non-helping skills components of helping skills training" (p. 368).

An overview of these training models confirmed they are useful (Buser, 2008; Hill et al., 2007; Paladino et al., 2011); however, the focus is primarily on the acquisition of skills and not the complex, inner qualities suggested as necessary for creating a strong working alliance. Although not specifically presented as a model for educators, Skovholt (2005) proposed The Caring Cycle, which incorporated some of the inner

personal challenges faced by helping professionals. In the model, Skovholt described how counselors need to develop the capacity for "boundaried generosity" (p. 88), whereby compassion is expressed but the counselor is still able to separate his or her role from the role of the client. This means the counselor must be connected and caring, but remain aware that the client is responsible for his or her own healing. He stated that novice counselors are often overwhelmed and need help learning how to create ways to be empathically connected and simultaneously not overly attached. Although Skovholt defined what needs to occur and recognized the challenge faced by the helping professionals, he stopped short of articulating how to develop these qualities.

Although these training models primarily focus on skills building, several researchers have stressed the importance of developing individual interpersonal skills related to personal reflection, self-focus, self-compassion and empathy. In the following section, I review research related to the cultivation these qualities, in particular the empathic skills critical to the therapeutic relationship (Keefe, 1976; Rogers, 1992; Shapiro & Islett, 2008).

Personal Mindfulness

Rønnestad and Skovholt (2003) suggested that beginning and maintaining a manner of self-reflection is important throughout a counselor's career. They stated "the ability and willingness to continually reflect upon professional experiences in general, and difficulties and challenges in particular, are prerequisites for optimal development" (p. 58). They strongly supported the need for counselors to continue to deeply understand themselves and strive to understand their clients because therapeutic work

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can deteriorate if the counselor fails to continue to develop. Rønnestad and Skovholt advocated for openness to experience, an attitude of respect for the complexities of therapeutic contact, appreciation for vulnerability of the human condition, and continued personal growth.

Research by Timm and Blow (1999) emphasized reasons for therapists to engage in introspective work. They suggested counseling students should explore ways that personal issues could impede the therapeutic relationship and be encouraged to explore how resolution of past experiences can result in strengths that can be beneficial to the therapeutic process. They also suggested that with proper preparation, including a felt sense of safety and confidentiality, a strong supervisory relationship can help counselors in training explore their own deep personal issues and make "the difference between mediocre and excellent therapists" (p. 333).

Self-focus Style

Hiebert, Uhlemann, Marshall, and Lee (1998) proposed that the content of counselors' internal dialogue during sessions may be an important factor that should be addressed during counselor training. They stated there is evidence that quality, not quantity, of counselors' self-talk can contribute to high anxiety; excessive anxiety may impede empathic connections and understanding of clients. Furthermore, self-talk related to self-doubt is likely causing the largest negative impact on new counselors' performance and self-efficacy. They assessed 95 first semester counseling students and found higher levels of negative self-talk and lower levels of positive self-talk were associated with increased anxiety and lower performance. Based on these findings,

Hiebert et al. suggested counselor education programs could be enhanced by developing methods to help new counselors to develop more encouraging self-dialogues, develop metacogntive abilities to self-monitor, reduce negative ruminations, and thereby reduce disruptive anxiety. Rather than suggesting specific strategies, they referred educators to the literature on training these same skills in clients.

Also based on the contention that negative self-talk impedes counselor self-efficacy and therapeutic connections, Fauth and Williams (2005) asked 17 counseling students to reflect on their self-talk while reviewing an initial counseling session with a volunteer client, followed by a counselor and client post session assessment. Counselor trainees reported their self-talk was helpful during the session. Furthermore, clients noted they felt more supported and helped by the trainees who were most self-aware. Conversely, trainees who reported engaging in strategies to stop or manage their self-talk reported, and were perceived, as being less engaged with the clients. Fauth and Williams suggested there may be an optimal level of self-awareness. Once counselors begin to pay too much attention, particularly spending energy to quell it, self-awareness becomes a distraction and hinders interpersonal connection.

Empathy

Keefe (1976) created a comprehensive model of empathic behavior in which empathy is a vital component of the helping relationship. Execution of the empathic response begins when a feeling state and/or thoughts arise in a client and is transmitted, both verbally and non-verbally, to the clinician. The clinician receives the message and interprets it based on congruence between the verbal and non-verbal

behaviors of the client and the feelings evoked in the clinician. Then, the clinician makes a determination about the most salient part of the message and decides on the message to give back to the client regarding his or her understanding. In this phase, the counselor must have complete understanding about what the client has expressed and his or her own feelings about this expression. Keefe also suggested this ability to understand complex experiences requires a degree of psychological openness, an ability to attend to personal feelings, and a high degree of self-actualization in the clinician. Perhaps most importantly, Keefe used this model to suggest that empathic behaviors are skills that can be taught and learned. Keefe went on to suggest that meditation could be used to increase empathic skills because it can help the clinician attend to and maintain focus on the client, keep personal thoughts from masking the client's message, understand one's own emotions more deeply, and keep the mind clear of distractions.

More recently, Lyons and Hazler (2002) researched trait and state empathy increases during counselor training programs. They surveyed first and second year counseling students and compared them on cognitive and affective measures of empathy. They found both types of empathy increased between the first and second year of counseling training, indicating empathy can be learned and developed. However, Lyons and Hazler did not examine training methods that influenced this development, therefore no training recommendations could be made regarding ways to facilitate acquisition of this important construct (Lyons & Hazler).

Self-compassion

A relatively new construct in the field of mental health and well-being is self-compassion. According to Shapiro and Islett (2008), self-compassion has been linked to increased empathic concern for others, greater desire to end suffering, and decreased controlling and critical behaviors directed towards clients. Bien (2008) stated one of the greatest gifts we can give others within the therapeutic relationship is to offer positive expressions of loving-kindness and compassion to ourselves, thus making it possible to share our happiness.

Patsiopoulos and Buchanan (2011) stated that self-compassion is not yet recognized as necessary in the therapeutic relationship in the same way as empathy; however, links to well-being, life satisfaction and social connectedness make it a potentially important component. They conducted a qualitative inquiry of practicing counselors and found practicing self-compassion enabled counselors to (a) accept the limits of their clients and themselves in the therapy process, (b) be more in touch with the client's own self-determination and autonomy, (c) manage self-doubt, self-criticism and countertransference, (d) maintain a non-judgmental attitude towards themselves and their clients, (e) practice better self-care, and (f) be more genuine and willing to forgive their own and others fallibility. Patsiopoulos and Buchanan concluded that practicing self-compassion showed the potential to enhance counselor effectiveness and thus contribute to better therapeutic relationships.

While there is some movement towards understanding counselor personal mindfulness, self-focus style, empathy and self-compassion, it remains that there is: "little empirically based direction on how to cultivate the internal habits of mind

necessary for controlling attention and for having a cognitive and emotional empathic response" (Greason & Cashwell, 2009, p. 2). In the meantime, many training programs focus on skills related to acting empathic instead of being empathic because a real empathic response requires a felt emotional connection, something that is hard to observe and measure; and therefore harder to teach.

Although it has been shown that interpersonal and relational characteristics of counselors are vital to therapeutic outcome (e. g., Wampold, 2010), the counselor education field has yet to embrace training models and methods that include both important basic skills and development of inner experience of the core conditions necessary for effectiveness. Recently, scholars and researchers with experience in mindfulness-based practices have recognized the intersection and potential between these two disciplines. In order to support this idea I will first review the concepts of mindfulness-based practices and then present the neurophysiology evidence that supports the biological changes produced by meditative practices. The sparse research on the actual applications of these practices with counselors will also be reviewed.

Mindfulness

One of the most recent additions to the field of counseling is the integration of mindfulness practices into clinical and research agendas (Brown, Ryan, & Creswell, 2007b; Shapiro, 2009), with positive results related to increased well-being and coping among a variety of clinical and non-clinical groups (Baer, 2003; Brown & Ryan, 2003; Chiesa & Malinowski, 2011; Chiesa & Serretti, 2010; Chiesa & Serretti, 2009; Hick, 2008). Not only is mindfulness being included as an integral element of psychology, but

it is also being integrated into a variety of theoretical models of counseling and

psychotherapy (Baer; Brown et al.; Chiesa & Malinowski; Germer, 2005; Siegel,

Germer, & Olendzki, 2009). As with many new interventions, the first several decades

have been devoted to primarily descriptive and outcome studies (Kabat-Zinn, 2003a;

Shapiro, Carlson, Astin, & Freedman, 2006). More recently, the need for a formal

operational definition has been recognized; although one has emerged (Bishop et al.,

2004) and found some agreement among scholars, there is still no consensus regarding

key components and process of mindfulness practice (Brown et al.; Carmody, 2009;

Chiesa & Malinowski; Chiesa & Serretti; Malinowski, 2008; Rapgay & Bystrisky, 2009;

Shapiro, 2009; Shapiro, et al.). Because consensus within the mental health field

remains elusive, I will explore current elements of mindfulness and common

disagreements found in the literature in the following section. This review will serve as a

foundation for the proposed model for mindfulness-based training for counselors

presented in Appendix C.

Describing Mindfulness

     In order to introduce mindfulness practices, scholars have sought to describe the

essential components as precisely and concisely as possible. Following are examples

of several of these descriptions.

     As one of the first health professionals to develop a clinical intervention that

included mindfulness practices, Kabat-Zinn's descriptions are often cited. He described

mindfulness as "the awareness that emerges through paying attention on purpose, in

the present moment, and nonjudgmentally to the unfolding of experience moment by

moment" (2003a, p. 145). Kabat-Zinn elaborated by stating that mindfulness practice involves a commitment to resume awareness of the present experience with "an open heart, a spacious, non-judging, nonreactive mind, and without trying to get anywhere, achieve anything, reject anything, or fall into either the stream of conceptual thought" or negative emotions (p. 150). More succinctly, he described mindfulness as intentional "openhearted, moment-to-moment, non-judgmental awareness" (2005, p. 24). Similarly, Marlatt and Kristeller (1999) described mindfulness as attending to the present moment with an attitude of acceptance, with the goal of obtaining an attitude of equanimity towards experiences, "no matter how upsetting or infatuating they may otherwise be" (p. 71). Perhaps the most concise definition was published by the Institute for Mindfulness and Psychotherapy, "awareness, of present experience, with acceptance" (Germer, 2005; R. Siegel et al., 2009).

Seeking further clarity, scholars have elaborated on the essential components of mindfulness practice. For example, Marlatt and Kristeller (1999) described it as present moment awareness to the "full range of experiences" including cultivation of an accepting and non-judgmental attitude (p. 68). Hick (2008) used the following words when describing mindfulness: "focusing attention, being aware, intentionality, being nonjudgmental, acceptance, and compassion"; and also, "nonelaborative, nonjudgmental, present-centered awareness where each thought, feeling, or sensation that arises in the attentional field is acknowledged and accepted as it is" (p. 5). Chiesa and Serretti (2009) summarized mindfulness as "the development of a particular kind of attention, characterized by a nonjudgmental awareness, openness, curiosity, and acceptance of internal and external present experiences, which allows practitioners to

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act more reflectively rather than impulsively" (p. 593). As well, Shapiro et al., (2006)

contended that mindfulness as a construct includes intention, attention, and attitude as

the "fundamental building blocks" of practice; and that "mindfulness *is* this moment to

moment process" (p. 375). Finally, Malinowski (2008) described "the heart of practice"

as the cultivation of "a dispassionate, observant state of mind, where all arising thoughts

and emotions are recognized as mental events without ascribing any specific value to

them" (p. 156).

Delving deeper into the processes during practice, Brown, Ryan, and Creswell

(2007a) pointed out that mindfulness is not about control; instead, it is about being

aware of the "ongoing parade" of subjective experience, including attempts to control

these mental processes (p. 276). Additionally, Marlatt and Kristeller (1999) stressed the

importance of developing the skill of observing one's mental processes. Despite these

seemingly complex descriptions of mindfulness practice, Germer (2005) described

mindfulness as a "deceptively simple way of relating to experience" (p. 3). Additionally,

Woods (2009) described mindfulness practice as a "means to directly observe the

nature of thoughts, emotions, and physical sensations…in the present moment" through

"kindhearted and intentional engagement" (p. 464).

Emerging from these descriptive summaries is a set of common terms. They

describe actions of cultivation, intention, commitment, and practice; state that these take

place in the present moment, moment-to-moment and in the here and now; and note

that states occur with the attitudes of attention, awareness, nonjudgment, non-reactivity,

kindness and openheartedness. Many of these terms have elusive, subtle, and

intangible qualities and, as such, are easily interpreted through a personal perception

that is different than the original intention and context. It is apparent how difficult it can be to convey the meaning of this complex process in few words. Indeed, as mindfulness practices have increasingly been researched, supported, and integrated into mental health interventions, the number of misinterpretations has increased due to the imprecision of these descriptions (e.g., Chiesa & Malinowski, 2011; Rapgay & Bystrisky, 2009). In short, the need for a more precise definition has led mindfulness researchers to attempt to find an operational definition with universal agreement.

Formal Operational Definition

Many scholars agreed that mindfulness had not been well defined and this led to a variety of problems in interpreting findings and advancing the research agenda (Baer, 2003; Brown & Ryan, 2003). In response, a team of scholars collaborated to develop an operational definition of mindfulness (Bishop et al., 2004). First, the team agreed that despite variations in training, several basic procedures and goals emerged as common to mindfulness practices. These included instructions to attend to present moment experience, with a non-judgmental observation of the process; with instructions to return to the present moment experience when the mind wanders by just acknowledging, and not evaluating, whatever had entered the field of awareness. In addition, practitioners are instructed to extend these practices into daily life. In order to incorporate all these elements, a two-component model of mindfulness was developed.

The first component created by Bishop et al. (2004) described the self-regulation of attention on immediate experience. The goal is to maintain focused attention on the present experience, including observation and description of thoughts, feelings, and

sensations as they occur. As well, emphasis is placed on the intention and skill of noting when the mind wanders and then returning to present experience. The purpose of this process is to increase "recognition of mental events in the present moment" and strengthen the ability to develop "nonelaborative awareness" (p. 232).

The second component included the cultivation of an attitude of curiosity, openness, and acceptance of current experience. Bishop et al. (2004) proposed this attitude is the component that distinguishes mindfulness from other constructs such as introspection, self-awareness, and psychological mindedness; over time this openness to experience may prove to be the component responsible for many of the positive outcomes associated with practice (p. 236). These authors noted that while there is no direct link in mindfulness-based practices to qualities like patience, trust, calmness, wisdom, and compassion, these qualities are likely outcomes of learning and maintaining mindfulness practices.

While this operational definition has found some support, there are still disagreements regarding several core issues (Chiesa & Malinowski, 2011; Leary & Tate, 2007; Malinowski, 2008; Rapgay & Bystrisky, 2009). First, Leary and Tate disputed the completeness of the definition contending that a cognitive-regulatory skills definition is incomplete. Instead, they stated a philosophical and ethical component is necessary in order to promote the qualities being linked with outcomes from training and practice. They supported this contention in the following example:

Perhaps increasing one's nonjudgmental attention to the present moment has

positive benefits by decreasing self-absorption and egoism, calming emotional

overreactions, increasing insight into the nature of each situation as it arises, and

allowing a greater degree of control over one's actions. Yet, in the case of the

samurai, warriors used mindfulness practices to help them to inflict death without

forethought or hesitation, which suggests that the effects of mindfulness on

behavior may depend on the ideology in which it is imbedded." (p. 254).

Although this seems to be a valid concern, it has yet to be formally addressed by

researchers.

Although Rapgay and Bystrisky (2009) stated that the operational definition

proposed by Bishop et al. (2004) was encouraging and the most "accurate

representation" of classic mindfulness practice, they also believe it contained several

flaws (p. 151). First, they contended that the proposed definition by Bishop et al. does

not adequately differentiate between attention (focus) and awareness (observation); and

that without precisely defining the two, practitioners may not know what to do. In

addition, they disagreed with the statement that mindfulness includes "inviting"

experiences. Rapgay and Bystrisky maintained that classical mindfulness practices do

not involve active invitation because the mind does not need encouragement. In

addition, although Bishop et al. explained that acceptance means "experientially open",

Rapgay and Bystrisky disagreed with use of the terms "generating curiosity" and argued

that true classical mindfulness places no such requirements regarding attitudes other

than the intention to observe.

Despite some adoption of this operational definition, there is no universally

agreed upon operational definition that comprehensively describes mindfulness and

mindfulness practices (Brown et al., 2007b; Carmody, 2009; Chiesa & Malinowski,

2011; Chiesa & Serretti, 2009; Malinowski, 2008; Rapgay & Bystrisky, 2009; Shapiro,

2009; Shapiro et al., 2006). In addition, some scholars contend that the number of potential dimensions and factors, and the intangible nature of mindfulness practices, renders a comprehensive, all inclusive operational definition impossible (Chiesa & Malinowski; Malinowski). Despite the lack of agreement, several models of mindfulness have emerged.

Models of Mindfulness

Until a single, comprehensive model is developed, individual models can be used to understand mindfulness and mindfulness practices. These models differ primarily because some scholars argue a mindfulness model should only include the elements of directing attention and awareness (Baer, 2003; Brown & Ryan, 2003; Brown et al., 2007b; Carmody, 2009; Chiesa & Malinowski, 2011; Mikulas, 2011) while others have stated inclusion of nonjudgmental attention is important and may eventually be the unique factor responsible for positive outcomes (Bishop et al., 2004; Germer, 2005; Kabat-Zinn, 2005; Leary & Tate, 2007; Shapiro et al., 2006).

In 2003, Brown and Ryan argued that mindfulness is a practice that enhances consciousness because it purposefully directs attention and awareness to the present moment and allows for "clarity and vividness" of present experience (p. 823). More recently, Brown et al., (2007b) expanded their model of mindfulness practice to include: (a) "clear" awareness of experience, which is perception without the clutter or bias of conceptual thought or evaluation; (b) non-interference with experience, which is accomplished by simply noting happenings; (c) flexibility with experience, which means a combination of single pointed focus and attention to the process of naturally shifting

focus; (d) emersion with experience, which allows for an embodied and active participation with the present moment; (e) connection with immediate experience, which means not being caught up in ruminating on the past or the future; and (f) awareness of experience, which means noticing when one is present and when one is no longer in this moment (p. 214).

Other scholars agreed that describing mindfulness practice in terms of its consciousness qualities is enough. For example, Baer (2003) described mindfulness as only "the nonjudgmental observation of the ongoing stream of internal and external stimuli as they arise" (p. 125). Also, returning to a more traditional description of mindfulness, Chiesa and Malinowski (2011) stated the original practice of mindfulness is simply the "clear awareness of inner and outer worlds, including thoughts, sensations, emotions, actions, or surroundings as they exist at any given moment" (p. 406). These authors pointed out the term "bare attention" is helpful because it describes the process of the perception of experience prior to any cognitive or emotional, conceptualization or categorization about the experience.

Additionally, Carmody (2009) suggested that a model focused on the enhancement of attentional skills has several advantages. First, it simplifies instruction by excluding "superfluous" terms related to present moment awareness and experience, given that any reference to mental processes can only be occurring now (p. 278). Next, he stated that including instruction to be non-evaluative and nonjudgmental during mindfulness practice is unnecessary because judgments and evaluations are thoughts to be acknowledged in the same way as any other thought, feeling or sensation. Finally, he contended understanding the fluid nature of attention through experience leads to

perceptual shifts and a balanced mind (p. 278). Carmody concluded that describing

mindfulness in terms of attention alone allows easier comparison with other

interventions and would later provide better ways to understand other variables (e.g.,

compassion, generosity and nonharming) that are associated with practice.

Rapgay and Bystrisky (2009) agreed that mindfulness refers to practices in

"divided sustained bare attention and awareness" (p. 152) combined with the

observation of these processes; however, they expressed concerns regarding

definitional changes and omissions resulting from the integration of classical

mindfulness practice into current psychology. Along with concurrent awareness and

awareness of the attentional process, they proposed the definition of mindfulness

should stress: (a) the importance of attention, which they define as sustained focus and

concentration; (b) development of awareness, which is the ability to be aware of other

experiences as they arise in consciousness, as well as the understanding that the

nature of consciousness is "spacious, expansive and capable of containing a variety of

experiences"; and (c) development of introspective awareness, which is the observation

of attention and awareness and is used to bring attention back to the balance of

attention and awareness (p. 156).

Mikulas (2011) argued that to understand mindfulness the contents of the mind

(perceptions, memories, thoughts, and feelings) must be differentiated from the

processes of mental activity (clinging, concentration, and awareness). He proposed that

mindfulness is the "behavior of the mind" that includes the "moving and sharpening" of

awareness within consciousness (p. 5). This differs from other definitions because it

specifically excludes concentration and training in single point focus. However, Mikulas

agreed that the inclusion of attitudes in the definition of mindfulness may increase

confusion; therefore, it is better to define mindfulness strictly in terms of the process of

consciousness (p. 3).

Many scholars believe that mindfulness practices are more than just enhanced

attention and/or awareness skills (Bishop et al., 2004; Germer, 2005; Kabat-Zinn, 2005;

Leary & Tate, 2007; Shapiro et al., 2006). As noted earlier, the operational definition

proposed by Bishop et al. included cognitive processes of attention and awareness as

well as attitudes to be cultivated during practice. Although Mikulas (2011) proposed

excluding acceptance and nonjudgment from the operational definition of mindfulness,

he agreed that the way practice is approached has important implications and described

the optimal attitude as "persistent dedication, a welcoming openness to experience, a

readiness to let go, making friends with oneself, and being in the here and now" (p. 3).

Leary and Tate (2007) began their discussion by stating that mindfulness is a

"multifaceted construct" that is not easily separated into its components. They presented

a reasoned argument to expand the understanding mindfulness by identifying five

factors that may be contributing to effects suggested by training and practice. These

components include: (a) mindful attention; (b) diminished self-talk; (c) nonjudgment; (d)

nondoing; and (e) a set of philosophical, ethical, or therapeutic beliefs. First, they

proposed mindfulness includes attending to a particular external stimuli, a variety of

internal stimuli, and/or an open receptivity to whatever arises in the moment; and

acknowledge that whether or not there is internal commentary regarding what is in the

field of awareness varies by tradition and training. Second, they contended that reduced

inner commentary or self-talk about the past, future, judgments, and reactions allow

mindful attention to be directed to current experience. Through meditative experience, inner chatter is replaced by returning attention to present tangible experience, often through the use of "concrete, nonevaluative labels" (p. 252). The third component highlights the importance of being nonjudgmental, which is comprised of not evaluating, clinging to, or rejecting current experience. This task is important because it is in direct contrast to normal states of experience and is most difficult to achieve when experience includes something uncomfortable or distressful. Leary and Tate suggested that perceiving reality and achieving nonjudgment involves realizing the distinction between an event and a manufactured response to an event. The fourth proposed component, nondoing, involves letting go of any expectation or effort during mindfulness practice, which is equated with "a state of creative quietude" where everything happens without any personal agency (p. 252). And finally, they stressed the importance of including a philosophical and ethical underpinning of increased well-being primarily through the reduction of negative affect, stress, inaccurate understanding of the world, damage to self, and harm to others.

Along with clear mental activity, some scholars believe a mindfulness definition should also include clear understanding and heedfulness (Cullen, 2008). In this definition, clear understanding includes both lack of distortion by emotion, and the ability to attend to the quality of attention; heedfulness includes awareness of mental states associated with happiness and suffering that arise during the meditation (Cullen, 2008). According to this definition, mindfulness includes a perceptual leaning towards the cultivation of experiences that are conducive to a sense of well-being.

Shapiro et al., (2006) proposed a model of mindfulness by breaking it into "simple, comprehensible" core components (p. 374). They suggested three core components: intention, attention, and attitude. Intention is described as bring a self-defined reason to practice mindfulness. They suggested that experienced practitioners and researchers support the importance of a flexible and "personal vision" for positive outcomes (p. 375). The second component, attention, includes a variety of attentional qualities including: (a) concentration, vigilance, and focus; (b) flexibility, switching, and shifting of attention; and (c) inhibition of elaborative processes. Finally, this model includes the attitude as an essential foundation to mindfulness practice. These attitudes include qualities related to affection, compassion, openheartedness, friendliness, curiosity, and openness.

With some asserting the attentional components are enough, and other claiming that it is precisely the attitude, especially being non-judgmental, that sets mindfulness practices apart from other types of cognitive activities, a lack of consensus is not surprising (Bishop et al. 2004; Chiesa & Malinowski, 2011; Germer, 2005). In an attempt to work with this conflict, some have suggested that it is best to postpone inclusion of multifaceted components until it is clear whether these facets are attitudinal, mediator, or outcomes from mindful states (Brown et al., 2007a, p. 277). Whether they agree or disagree on the components that should be included in a model of mindfulness, all scholars agree there is still a dearth of evidence regarding the importance and function of various components associated with mindfulness practices (Brown et al.; Chiesa & Malinowski; Leary & Tate, 2007; Shapiro et al. 2006).

Styles of Practice

Some of the difficulty in defining mindfulness occurred because a variety of

methods and focuses have emerged as mindfulness practices have evolved over time

(Carmody, 2000; Chiesa & Malinowski, 2011; Kabat-Zinn, 2003a; Mikulas, 2011).

Recent integration into Western psychological interventions has resulted in even more

variability in practice and terminology (Brown et al., 2007; Chiesa & Malinowski; Rapgay

& Bystrisky, 2009). Therefore many terms associated with mindfulness and

mindfulness-based practices have become loosely associated with overlapping, but

significantly different, styles of practice (Chiesa & Malinowski; Kabat-Zinn). These

different styles of meditation include concentration or single-pointed focus (i.e., on the

breath), mindfulness of the changing nature of experience (i.e., insight meditation), and

visualization of a particular goal or quality (i.e., loving-kindness meditation); with many

practices falling somewhere between these three types (Chiesa, 2009; Chiesa &

Malinowski; R. Siegel et al., 2009).

In addition, some mindfulness-based interventions include both formal practice

(setting aside time to 'sit' in meditation) and informal practices (mindful attention applied

to ordinary tasks). While it is human nature to describe things in terms of what they are

and are not, Kabat-Zinn (2003a) cautioned that particular sets of techniques are best

considered "launching platforms" (p. 147). In other words, these techniques are only

guides for ways to pay attention and the only true way to know mindfulness is through

practice. The following descriptions are an attempt to untangle these mental processes

and establish a terminology for the remainder of the discussion.

Concentration

This practice is best described as maintaining a single point of focused attention (Germer, 2005; Lazar, 2005; Marlatt & Kristeller, 1999; Olendzki, 2009). Any object, internal or external, can be used, though the majority of trainings use the breath. When the mind wanders, attention is returned, gently, to the chosen object (Germer, 2005; Rapgay & Bystrisky, 2009). Therefore, focused attention meditation can be described as a contraction of awareness (Malinowski, 2008) where there is an intention to control attention (Chiesa & Malinowski, 2011). During concentration meditation, practitioners are instructed to detach from interpersonal involvement and come to understand the object of focus unencumbered by any elaboration (Germer; Rapgay & Bystrisky). The terms commonly associated with this type of practice include mindfulness, attention, bare attention, sustained attention, focused attention, single pointed, one-pointedness, vigilance, concentration, concentrative meditation, absorption, *Su-soku,* Transcendental Meditation, controlled attention, and one-pointedness *(*Brown & Ryan, 2003; Brown et al. 2007b; Chiesa, 2009; Chiesa & Malinowski; Malinowski; Marlatt & Kristeller; Mikulas, 2011; Rapgay & Bystrisky; Shapiro et al., 2006).

Challenges to maintaining focus include the tendency of the mind to be attracted to pleasure, withdraw from discomfort or pain, become over or under aroused, and doubt the ability to achieve focus (Olendzki, 2009). Some practitioners suggested that it may be easier to focus attention on something pleasant (Olendzki, 2009), though the notion of including an evaluative component could be considered counter to the fundamental intention of developing a nonevaluative practice (Rapgay & Bystrisky,

2009). Chiesa and Malinowski suggested that concentrative practices have been integrated in mindfulness-based interventions, particularly with the inclusion of breath meditations and the breath and the body scan.

Open-awareness and Meta-awareness

This practice can be described as a particular way of paying attention, not to a single object, but to the entirety of the perceptual field, including the fluidity and process of current experience (Bishop et al., 2004; Olendzki, 2009). Marlatt and Kristeller (1999) described open awareness meditation as a two part process: (1) there is awareness and direct experience of the flow of perceived reality, and (2) engagement in the observation of one's own mental processes.

The first part of the process is described as holding a searchlight that highlights whatever arises in the present moment (Germer, 2005); sitting on the "bank of our own mindstream" watching and listening to the stream of thoughts, emotions, and sensation that flow by (Kabat-Zinn, 2005); or a relaxed "choiceless awareness in which conscious attention moves instantly and naturally among the changing elements of experience" (Germer, p. 16), and where all thoughts, feelings, and sensations are treated as equal (Malinowski, 2008). Open-awareness has also been described as differing from concentrative meditation because there is no intention to control attention (Chiesa & Malinowski, 2011). Germer stressed that this practice is not about avoiding difficulties, but about encountering them with an open heart (p. 16). Terms commonly associated with awareness of the changing flow of experience include: mindfulness, insight meditation, mindful types of meditation, awareness, clear awareness, nonjudgmental

awareness, attention, and *Shikantaza* (Bishop et al., 2004; Brown & Ryan, 2003; Brown et al., 2007b; Carmody, 2009; Chiesa, 2009; Chiesa & Malinowski; Malinowski; Marlatt & Kristeller, 1999; Mikulas, 2011; Rapgay & Bystrisky, 2009, Shapiro, 2009).

The second part of the process involves observing the processes of the mind (Marlatt & Kristeller, 1999). It is this observation skill that allows focus to shift between an object and the entire field of awareness, alerts us that the mind has wandered, and deepens understanding of the way the mind works (Rapgay & Bystrisky, 2009; Shapiro et al., 2006). Lazar (2005) described this as the process of noticing the "distractions" that tend to disrupt concentration types of practice (p. 220). Additionally, many descriptions of this component of practice include reference to attitudes that should be cultivated including: open, nonjudgmental, compassionate, curious, meta-awareness, or observation of the ongoing contents of thoughts (Bishop et al. 2004; Chiesa & Malinowski, 2011; Leary & Tate, 2007; Shapiro et al.). Terms associated with the process of meta-awareness include mindfulness, metacognitive awareness, decentering, introspective awareness, switching, monitoring, meta-attention, insight knowing, and witness level (Brown et al., 2007b; Mikulas, 2011; Rapgay & Bystrisky; Shapiro et al.).

Mindfulness

Dividing meditation practices into the above categories is fairly consistent across research. While most scholars make a distinction between concentration and insight meditation (Chiesa & Malinowski, 2011; Malinowski, 2008), many styles and traditions of meditation practice are a combination of these two types of meditation. For example,

Zen meditation training typically begins with training in concentrative forms and advances to insight meditation after concentration and focus are achieved (Chiesa, 2009; Chiesa & Malinowski). Also, 10-day Vipassana meditation retreats typically begin with three days of concentration meditation, followed by seven days devoted to awareness practices (Marlatt & Kristeller, 1999). Recently, scholars have suggested that concentration and awareness practices are no longer being considered separately but are recognized as existing on a continuum, with the perception flowing from single-pointed focus to awareness of mental processes, and back again (Carmody, 2009; Chiesa & Malinowski; Rapgay & Bystrisky, 2009). Whether the intention is to practice one style over the other, both conditions are likely to arise due to the nature of the mind. For that reason, Lutz et al. suggested that mindfulness practice naturally incorporates concentration methods with awareness and attention to the process of experience. Similarly, Rapgay and Bystrisky stated clearly that mindfulness is the combination of concentration and insight meditation.

Furthermore, Mikulas (2011) stated concentration and awareness are often confused because they are intertwined. He explained that concentration quiets the mind so more open awareness is possible. While maintaining focus, an inherent awareness arises that the mind is engaged in concentration. This, in turn, makes the task of developing concentration easier (p. 3). Mikulas also stressed the importance of including concentration instruction because it helps engender the feeling of the here and now, whereas this sensation may be difficult to grasp if only awareness instruction is given. Terms that are most typically used to describe the combination of these practices include: mindfulness, insight meditation, mindful attention, consciousness, classical

mindfulness, and Vipassana (Brown & Ryan, 2003; Kabat-Zinn, 2003a; Leary & Tate, 2007; Malinowski, 2008; Rapgay & Bystrisky, 2009; Shapiro, 2009).

In addition to concentration and open-awareness, several other types of practice are associated with meditation and mindfulness-based practices, namely the cultivation of positive states and informal mindfulness practices.

Cultivation of Positive States

Some meditation practices focus on the development of specific qualities associated with well-being, for example allowing the intentional cultivation of "kindness, compassion, appreciative joy, and equanimity" (Olendzki, 2009, p. 43). Scholars are also integrating several specific meditation practices into clinical interventions and research including loving-kindness (*metta*), self-compassion, and heart opening (*tonglen*) (Chödrön, 1994; Germer, 2009; Kabat-Zinn, 2005; Morgan & Morgan, 2005; Salzberg, 1995). While these are not identical to mindfulness practices, they are enhanced by concentration, open-awareness, and meta-awareness skills. Carmody (2009) noted the commonality and cohesion between these practices when he wrote "intensive practice of mindfulness runs parallel with the cultivation of other qualities, such as compassion, generosity, and nonharming" (p. 271).

Informal Practice

The previous examples were of formal practice, which involves specifically setting aside time with the intention to engage in the observation of the mind, typically in an environment that is quiet and removed from distractions. Conversely, informal

practice means extending mindfulness practices to tasks of everyday in order to induce a "continuity of awareness" (Kabat-Zinn, 2003a, p. 147). Although the quality of mindfulness can be extended into any experience, two common forms of informal practice are mindful eating and mindful walking (Germer, 2005; Kabat-Zinn).

Moreover, Germer (2005) stated that all moments of mindfulness, both formal and informal, share the qualities of: (a) awareness without absorption; (b) present moment without thought about this moment; (c) nonjudgmental acceptance, i.e., the quality of not desiring it to be any other way; (d) with intention to attention; (e) an intimate engagement with this moment; (f) silence; (g) exploratory openness; and (h) liberation from suffering (p. 9). Recent popularity of mindfulness-based practices has resulted in a variety of these practices to be introduced and integrated into several interventions models. The following section will review two of the most widely researched interventions that include formal meditation practices as part of the training (Chiesa, 2009; Chiesa & Malinowski, 2011).

Clinical Interventions

Mindfulness-based stress reduction (MBSR) was one of the first well researched mindfulness interventions (Chiesa, 2009). Therefore, many of the subsequent interventions and outcome studies have been based on the practices and philosophies included in this training. (Chiesa & Malinowski, 2011). While MBSR is based primarily on Eastern traditions, subsequent interventions include other psychological frameworks more conducive to Western philosophies (Brown et al., 2007b; Chiesa & Malinowski).

Mindfulness-based Stress Reduction (MBSR)

This intervention was developed in the behavioral medicine setting as a complementary treatment for the relief of suffering through pain management and stress reduction. It is taught in an eight week educational group of up to 30 members. Meetings are 120-150 minutes weekly with 45 minutes of guided daily home practice to supplement the formal training; typically, a six to seven hour retreat is included around the sixth week (Baer 2003; Chiesa & Malinowski, 2011; Chiesa & Serretti, 2009; Ivanovski & Malhi, 2007; Kabat-Zinn, 2003a). Training includes mindfulness-based practices and skills for coping with stress and pain, often through changing the relationship with present experience. Practices include body scan, sitting insight meditation, yoga, and informal practices of walking, standing and eating. The body scan practice involves noticing each area of the body and attending non-critically to sensations including any tension, tingling and discomfort. This practice is often considered a concentrative type of meditation (Chiesa & Malinowski). Insight meditation includes instruction regarding mindful attention to the breath, which may be facilitated by attending to the rise and fall of the abdomen. In addition, non-judgmental awareness of the contents of consciousness, including thoughts and distractions that arise is encouraged (Chiesa & Malinowski; Chiesa & Serretti). This type of practice is considered an open-awareness practice. Hatha yoga is taught utilizing simple stretches and breathing exercises designed to engage the musculoskeletal system (Chiesa & Malinowski; Chiesa & Serretti). This movement meditation combines concentration and open-awareness. Audio recordings are provided, but participants are encouraged to practice without audio assistance early in the training. Attitudes taught include

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observation, curiosity, non-judgmental acceptance, returning to present moment, labeling, and awareness of the unending flow of thoughts, feelings, and sensations. Compared to other Western mindfulness approaches, this intervention is more closely rooted in Eastern philosophy due to its emphasis on meditative practices as the primary vehicle for change (Brown et al., 2007b; Chiesa & Malinowski, 2011). Although this intervention is most often conducted utilizing the group setting, Kabat-Zinn (1998 as cited in 2003b) conducted an early research study using only audio instruction in order to reduce the confounding variable of social support. Due to the overall success of the program, both formats of MBSR are now offered in schools, workplaces, corporate offices, law schools, prisons, inner city health centers, and other community settings (Kabat-Zinn, 2003a).

Mindfulness-based Cognitive Therapy (MBCT)

MBCT was developed to utilize the attentional control skill developed in mindfulness practice to mitigate relapses of depression (Baer 2003; Brown et al., 2007b; Chiesa & Malinowski, 2011). This intervention is an eight week group, based on MBSR, with training in sitting and movement-based meditative practices utilizing the concepts of a decentering view of cognition, emotion, and physical sensations (i.e., "thoughts are not facts"). Attitudes taught include those of MBSR, with an emphasis on the process of non-judgmental acceptance of thoughts as mental events that are not necessarily accurate and are inherently changing (Baer). In addition to formal and informal practices derived from MBSR, there is another intervention called the three-minute breathing space which integrates formal practice with daily life (Chiesa &

Malinowski). This intervention also includes techniques and exercises utilized in classic cognitive-behavioral therapy (Chiesa & Malinowski).

Several other recent interventions are often included in discussions of mindfulness-based practices, dialectical behavior therapy (DBT) and acceptance and commitment therapy (ACT). These interventions incorporate informal mindfulness practices and/or mindfulness-based skills including non-judgmental observation, acceptance, and decentering as tools imbedded in the larger process of therapeutic change, but do not teach formal meditation practices (Baer, 2003; Brown et al., 2007b; Chiesa & Malinowski, 2011),

In understanding mindfulness in the context of current scholarly inquiry, I felt it was important to explore several of the prominent areas of unresolved controversy within the field. These include conceptual differences and disagreements about terms being used to describe important concepts. These contradictions are pervasive throughout the literature and contribute to the difficulty of interpreting, applying, and generalizing findings from the research. I also felt it was important to understand which areas are interpreted in different ways in be clear in describing the intervention that is being developed. Following a review of these divergences, I define the terminology and conceptual choices that were used in the development of the training.

Fundamental Disagreements

Attempts to define, and therefore unravel the process of mindfulness has resulted in many inconsistencies in the way these practices are understood. Following is a tour of some of the major areas of disagreement regarding the meaning, uses, and

implementation of mindfulness practices. This review is presented in order to point out

the complexity of defining and teaching of mindfulness practices, and to clarify and

support the decisions regarding the description, structure, and focus of the intervention

proposed in Appendix C.

Classical Roots vs. Current Integration

Some of the difficulties in defining mindfulness arise because mindfulness is

rooted in ancient contemplative and monastic practices. This has resulted in differences

in translation and difficultly to separating the practice of mindfulness from the other

foundational concepts taught alongside these traditional teachings, such as

compassion, generosity and non-harming (Carmody, 2009; Shapiro et al., 2006). In

addition, researchers have yet to determine which elements are related to change

(Chiesa & Malinowski, 2011). Where some believe it would be best for researchers to

strip away as much as possible in order to start a simple foundation (e. g., Brown &

Ryan, 2003; Carmody), others suggest that it seems prudent continue to acknowledge

the traditional forms of practice, so as not to lose track of the elements that are

imbedded in practice (e. g., Rapgay and Bystrisky, 2009; Shapiro et al.).

Rapgay and Bystrisky (2009) raised several concerns regarding potential errors

and unintended consequences that come from moving too far from the original

teachings. These authors noted several significant differences in the way mindfulness is

currently being used and researched. First, they stated concern regarding

misunderstandings of the original theory of mindfulness, and stated that in trying to fit

"Western mindsets" some applications may have led to "watered down" versions of

practice (p. 149). Furthermore, they expressed concern that with each iteration, the intention to simplify and make mindfulness more "accessible" has led to the removal of formal practice. They also pointed out that in an attempt to understand mindfulness within the context of cognitive theories there have been some basic misunderstandings about the conscious experience; noting that mindfulness is an intentionally active and engaged process rather than one of detachment. They cautioned that as research progresses into the underlying mechanism responsible for change, it will be important to return to the foundational understandings of practice.

Drawing on the writings by Gunaratana (1993) on classical mindfulness practices, Chiesa and Malinowski (2011) summarized how original intention of meditative practices was to gain insight about the true impermanent nature of the self in order to achieve freedom from suffering. This is achieved through a series of practices starting with concentrative practice, followed by mindfulness practices. These practices are supported by adopting a non-judgmental stance towards what is observed, thereby increasing the number of adaptive thoughts that arise. In addition, they noted that classic meditation practices encourage the development of a compassionate stance toward self and others.

Additionally, Kabat-Zinn (2003a) pointed out that original mindfulness practices were nested in an ethical framework that stressed non-harming, just like the Hippocratic traditions of Western medicine (p. 146). This framework also includes a prescription for increasing calm, clarity, and attention including ways to open the heart. He cautioned the behavioral sciences to be sensitive to the origins and deeper more subtle features of

mindfulness practices so that essential elements are not lost in the pursuit of defining the practice only in terms of consciousness.

Conversely, Carmody (2009) stated that mindfulness teachings were brought along with the mindfulness practice without much examination for how they influence and change the practices and outcomes. Therefore, he suggested that an attention-based model for mindfulness research would help to return the inquiry to its simplest element and allow for easier clinical explanations for practice. Carmody capitulated and stated that qualities, like compassion, generosity and non-harming, should not be completely abandoned, but added back into the model if and when it became apparent that the attentional training alone was not accounting for the changes being observed (p. 272).

State or Trait

Another area lacking clarity is whether mindfulness is a trait, a state, or an activity to bring about a state or trait (Malinowski, 2008; Rapgay & Bystrisky, 2009). According to Bishop et al. (2004) mindfulness is a state that is brought about and sustained by regulating attention; and as such, it ceases when attention is no longer being controlled.

Brown and Ryan (2003) identified mindfulness as a "state of consciousness" (p. 814) but proposed that mindfulness is a state subject to variability across time as well as a trait that is variable between people. For some scholars, the question seems to be complicated by the inability to easily measure state mindfulness; therefore, much of the

research outside of neuroscience and neuroimaging is confined to self-report state measures and evaluating trait mindfulness (Chiesa & Malinowski, 2011).

Although this issue seems to have strong support on both sides, several scholars have provided some freedom from this issue. For example, Davidson et al. (2003) asserted that meditation "alters everyday behavior, effects that are by definition not restricted to the times during which formal meditation itself is practiced" (p. 564); and moreover, these more enduring changes are worthy of investigation. Furthermore, Shapiro (2009) encouraged researchers to recognize mindfulness as both state and trait. She stated that mindful awareness is both an outcome "an abiding presence or awareness, a deep knowing that manifests as freedom of mind" and a process "the systematic practice of intentionally attending in an open, caring, and discerning way, which involves both knowing and shaping the mind" (p. 556). Also speaking to the dual nature of mindfulness, Hick (2008) stated mindfulness is "cultivated, sustained, and integrated into everything that one does, including one's therapy or community work" (p. 5). Shapiro et al. (2006) suggested including practices of mindfulness meditation and the traits of being mindful in daily life in the definition, stating that mindfulness meditation is the essential tool for developing greater capacity for being mindful.

Training vs. No Training

Another area of disagreement seemed to be whether or not mindfulness is an "inherent capacity of human consciousness" that can occur naturally without any particular training or practice (Brown et al., 2007a, p. 276), or a skill that must be learned. Despite the lack of research to decide, training does increase mindfulness and

other related qualities (Brown & Ryan, 2003; Malinowski, 2008; Olendzki, 2009), and is

a skill which can be learned by anyone (Germer, 2005). Even Brown et al., who

contended that mindfulness is a natural human capacity, agreed that formal and

informal training enhances these abilities. Kabat-Zinn (2003a) expressed agreement

that the ability to be present is inherently human, but he believed it takes formal practice

to establish the ability to generate this state, particularly in difficult situations.

Goal vs. No Goal

There is also disagreement about whether or not mindfulness practice should

have goals. Rapgay and Bystrisky (2009) believed emphatically that mindfulness

practice should not be stripped of goals. First, they stated that there must be intention to

practice attention, awareness, and engage the introspective awareness. Second,

during practice there must be an intention to decrease maladaptive mental processes

while increasing adaptive mental processes. In summary, they supported a two goal

model, the goal to practice and the goal of cultivating positive mental states.

Shapiro et al., (2006) stressed the importance of having an intention or goal to

practice. These authors acknowledged that this aspect somehow got lost in the process

of bringing the practice to Western medicine but pointed out the importance of intention

is found in a variety of psychological models including mindfulness. In support of this

position they cited an early study by the first author in which outcomes from practice

were highly correlated with the initial intentions set by the participants.

Countering the notion of goals during practice, Baer (2003) stated that

mindfulness has the "paradoxical attitude" whereby the goal during practice is to let go

of any goals (p. 130). Relating to this question of goals, Kabat-Zinn (2003a) stated he

acknowledged that people have goals and expectations, but challenged participants to

let go of them in order to engage more fully in the present moment. Kabat-Zinn wrote

that a commitment is made to be present with "an open heart, a spacious, nonjudging,

nonreactive mind, and without trying to get anywhere, achieve anything, reject anything,

or fall into either the stream of conceptual thought" or negative emotions (p. 150).

However, on the topic of having an intention to practice, he agreed that a commitment

to engage in practice is necessary.

Attention vs. Awareness

In some ways, this area of confusion resulted from using "attention" and

"awareness" interchangeably without clear distinction. For example, Chiesa and

Malinowski (2011, citing Gunaratana, 2003) stated that mindfulness is defined as "clear

awareness of inner and outer worlds, including thoughts, sensations, emotions, actions,

or surroundings as they exist at any given moment" and stated that this awareness can

be referred to as "bare" attention because it is the perception of experience prior to any

cognitive or emotional, conceptualization or categorization about the experience (p.

406). As with this example, mixing and matching of these terms was found throughout

the literature; therefore, it is inevitable that miscommunications arise regarding these

two distinct processes.

It seems important to find a way to differentiate attention and awareness in a

more precise way. Rapgay and Bystrisky (2009) tried to make the distinction by

returning to the classical texts, where attention refers to an "every-changing factor of

consciousness" and awareness refers to "a stable and specific state of consciousness" (p. 149). They further clarified by stating that primary attention is in the foreground, and secondary awareness is what fades into the background, and that finding a balance between the two is achieved through the use of introspective awareness. The combination of attention and awareness results in "bare attention" (p. 154), a concept foundational to mindfulness practice.

Shapiro et al., (2006) included attention as a primary descriptor in their mindfulness model. They described attention as the act of observing internal and external experience in the present moment. Attention, according to these authors, encompasses both aspects of attention and awareness as described by Rapgay and Bystrisky (2009). They stated it includes the abilities to focus on a single object, to shift between objects, and to "inhibit elaborative processing"; and contended that mindfulness practices enhanced all three abilities (p. 376).

Using a different model, Mikulas (2011) proposed the following to help disentangle these processes. First, he made a distinction between *contents* of the mind (perceptions, memories, thoughts and feelings) and *behaviors* of the mind (clinging, concentration, and awareness). He used the term concentration to describe the behavioral process of focused attention. Awareness, on the other hand, is the behavior of the mind most closely related to the way mindfulness is described in ancient texts, and is "one's conscious experience of the contents, including properties of breath and clarity" (p. 1). Furthermore it is "simply observing the contents and processes of the mind" (p. 2). Mikulas agreed that these are two very distinct behaviors of the mind and

acknowledged that Western psychology may have neglected the importance of attention when integrating mindfulness practices from eastern traditions (p. 2).

Acceptance vs. Equanimity

For some scholars, the inclusion of acceptance in a definition for mindfulness is unnecessary, and for others it a critical dimension. For example, Carmody (2009) proposed that the use of the terms like present-moment, non-judgmental, and acceptance are redundant because these conditions are subsumed if the goal of mindfulness is to promote a state of meta-cognitive awareness. In other words, if there is only this cognition right here, then any evaluation is just an evaluative type cognition. Moreover, Carmody stated that when this occurs there can be an "enduring perceptual shift" and a world of possibilities becomes available.

Mikulas (2011) agreed that a definition of mindfulness should not include acceptance, instead only the awareness of acceptance and non-acceptance. He stated that "mindfulness has nothing to do with accepting or rejecting; mindfulness is simply observing any accepting or rejecting that is done by some other part of the mind" (p. 3). He supported his position by pointing out accepting a condition of mindfulness could have the unintended result of rejecting the state of non-acceptance. Instead, he suggested use of the term equanimity because it means "equal acceptance and receptivity toward all objects of consciousness, an evenness of mind in which one is not more interested in or drawn to some objects of consciousness than others" (p. 4). Rapgay and Bystrisky (2009) also agreed that instruction of acceptance may be confusing and inhibit the development of mindfulness. Instead, practice must be

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associated with openness to experience, just as it is, without the intention to be one way or the other.

To clarify this issue, Shapiro et al. (2006) proposed that there should be a component of mindfulness called "attitude." The "how" or attitude of attention, according to this model, is what is critical and should include explicit instruction to bring an attitude that includes acceptance, kindness, openness, patience, compassion, non-striving, and curiosity to practice. Instruction should also include caution that without positive intentions practice could result in reinforcing negative patterns instead of producing positive outcomes. Kabat-Zinn (2003a) asserted that because it is more usual to fall into habitual thinking, it is important during practice to extend compassion towards oneself whenever we realize that we are caught up in anything but mindful presence.

Summary

It is apparent that different traditions, theoretical perspectives, and clinical applications of mindfulness-based skills have resulted in a variety of conceptualizations which have contributed to a vast array of teaching and training designs, strategies, and implementations (Brown et al., 2007a, p. 276; Chiesa & Malnowski, 2011). The debate continues despite attempts to understand, refine, and agree on mindfulness in the context of current research (Chiesa & Malnowski, 2011). At this stage, it may be best to heed the advice of some of the leading scholars in this field. For example, Shapiro (2009) stated that "taking into consideration differing philosophical spiritual cultural and intellectual traditions" is paramount to advancing the research (p. 558). She also reminded us that the debate is not futile and that although "consensus has not yet been

achieved … the process of scholarly brainstorming has challenged and deepened understanding of how to conceptualize mindfulness in a way compatible with both its philosophical roots and the scientific method" (p. 559). Even Kabat-Zinn (2009) recently wrote that mindfulness is an emerging field of study; not fully understood yet; "we are all beginners" (p. xxvi).

The following is a review of how mindfulness and mindfulness-based practices are related to change. I begin with the recent findings in neuroscience, which has shown both structural and functional changes to the brain; followed by evidence of change in clinical populations, and then counselors.

Neuronal Evidence of Change

Neuroscientists have been studying effects of meditation and mindfulness practices for over 50 years, both as a way of determining regional neural function and as a way to discover the underlying mechanisms that may be responsible for positive changes associated with meditation. They have utilized a variety of methods including electroencephalography (EEG), evoked potential and cognitive event-related potential (ERP), functional magnetic resonance imaging (fMRI), and diffusion tensor imaging (DTI; Cahn & Polich, 2006; Fletcher, Schoendorff, & Hayes, 2010; Ivanovski & Malhi, 2007; Lutz, Dunne, & Davidson, 2007; Treadway & Lazar, 2009). By examining and comparing long-term practitioners, novices, and pre-post mindfulness-based intervention participants, researchers have increased knowledge of structural and functional properties of the brain as well as state and trait differences related to

meditation practice (Chiesa & Malinowski, 2011; Cahn & Polich; Fletcher et al.;
Ivanovski & Malhi; Treadway & Lazar).

Although the research started some time ago, it is still considered preliminary and plagued by a variety of limitations including the nearly complete lack of longitudinal research, variety of meditation practices, variety of parallel training components, complexity of neural functions, yet undiscovered neural pathways, dynamic nature of the brain, complexity of neural allocations, impact of age related declines, limited imaging capabilities, participant self-selection, correlational analysis, and personal characteristics associated with the choice to meditate. As well, much of the research has been focused on examining changes in long-term mindfulness practitioners, so evidence related to how much practice is needed to produce change is very limited.

Conversely, studying advanced practitioners can be framed as an advantage for learning about neural correlates of qualities associated with meditation (Lutz et al., 2007). First, experienced practitioners can generate states like bodily awareness, relaxation, and emotions based on their extensive meditation training. Also, they have traits related to lasting changes from practice, can accurately reproduce previous states, and have refined descriptions of their subjective experiences. Combined, these abilities enable researchers to more easily match features with neurophysiological counterparts. All of these aspects support the current research agenda related to neuroplasticity, interaction between mind and body, and neural counterparts to subjective experience (Lutz et al.).

Despite these limitations, there is early support for neurologic changes in brain areas related to **attention and concentration tasks** (Brefczynski-Lewis, Lutz,

Schaefer, Levinson, & Davidson, 2007; Brefczynski-Lewis, Lutz, & Davidson, 2004 as cited in Lutz et al., 2007; Creswell, Way, Eisenberger & Lieberman, 2007; Farb et al., 2010; Farb et al., 2007; Hölzel et al., 2011; Hölzel et al., 2008; Hölzel et al., 2007; Kilpatrick et al., 2011; Lazar et al., 2000; Lazar et al., 2005; Luders, Clark, Narr, & Toga, 2011; Luders, Toga, Lepore, & Gaser, 2009; Manna et al., 2010; Pagnoni & Cekic, 2007; Pagnoni, Cekic, & Guo, 2008; Slagter et al., 2007; Wang et al., 2011), **emotional regulation** (Brefczynski-Lewis et al., 2007; Creswell et al., 2007; Davidson et al., 2003; Farb et al., 2010; Farb et al., 2007; Goldin & Gross, 2010; Hölzel et al., 2011; Hölzel et al., 2008; Hölzel et al., 2007; Kilpatrick et al., 2011; Lazar et al., 2000; Lazar et al., 2005; Luders et al., 2011; Luders et al. 2009; Manna et al., 2010; Pagnoni & Cekic, 2007; Taylor et al., 2011; Vestergaard-Poulsen et al., 2009; Wang et al., 2011), **and interpersonal exchanges including empathy and compassion** (Hölzel et al., 2008; Luders et al., 2009; Manna et al., 2010; Vestergaard-Poulsen et al., 2009; Wang et al., 2011). Although these research findings must be interpreted with caution, most researchers presented strong arguments for interpretation of their findings and would agree that the changes in brain structure are responsible for subjective changes reported (Lazar et al., 2005, p. 1896) and that "mindfulness training leads to increased activation of structures known to be relevant for attention and emotion regulation" (Hölzel et al., 2007, p. 21), as well as empathic responses (Lutz et al., 2008).

Although this research will not examine neurological changes directly, this area of research lends support to the underlying biological mechanisms of change achieved through meditation practices. A complete review of all 500+ research studies in this area is beyond the scope of this review. Therefore, the following section will include

conclusions from several reviews in which I highlight general findings in areas related to the training qualities and meditation styles proposed by this research. Details regarding measurement method, neurological structures, participants, practice experience, style of practice, and summary of findings are located in Table F.1. as part of the supplemental materials appendix.

Neuroplasticity and Patterns of Change

The brain remains capable of growth and change in response to learning throughout the lifespan (Pascual-Leone, 2009; Slagter, Davidson, & Lutz, 2011), and experience shapes brain organization. This "capacity to dynamically change" in response to changes in the environment and experience (Pascual-Leone, p. 141) means that the brain is continuously undergoing remodeling through shifts in communication between neurons, creation of new neurons, and structural changes to neurons that allow them to communicate more efficiently (Pascual-Leone; Siegel, 2010). This change is influenced by internal and external experience which includes exchanges between people (Siegel, 2001). Given that the brain is a dynamic and complex integrated system, it follows that meditation training that includes focus, deep introspection, and the cultivation of empathy and compassion will have an impact on brain structure and function.

Measures of Change

There are several technologies that can measure brain structure and activity. First, the electroencephalography (EEG) measures changes in electrical signals that are

used by the brain to communicate between different brain areas locally and regionally (Lutz, et al., 2007). Although there is still not enough knowledge to determine the precise meaning, a number of studies provide evidence of state changes during meditation and trait changes in long-term practitioners (Cahn & Polich, 2006; Chiesa & Serretti, 2010; Davidson et al., 2003; Fletcher et al., 2010; Ivanovshi & Malhi, 2007; Lutz et al.). For example, Transcendental Meditation researchers have found increased slow frequency changes that may be associated with a relaxed state or compatible with the "active exclusion" of particular brain areas in order to allow the increased activity in the areas related to attention and working memory.

Another way to measure state and trait changes in neuronal activity is through imaging technologies that provide evidence of structural and functional changes of state and trait changes due to meditation practices (Cahn & Polich, 2006; Chiesa & Serretti, 2010; Davidson et al., 2003; Fletcher et al., 2010; Ivanovshi & Malhi, 2007; Lutz et al., 2007). These methods include positron emission tomography (PET), magnetic resonance imaging (MRI), and functional magnetic resonance imaging (fMRI). With these technologies, researchers can track brain activity across time through changes in blood flow, oxygen and glucose metabolism; and with PET track neurochemical changes as well (Fletcher et al.; Lutz et al.). With the newest technology, diffusion tensor imaging (DTI), researchers can examine the connectivity of neural systems in order to assess structural and interactional changes (Luders et al., 2011).

Changes Associated with Meditation

To facilitate the readability of this review, I refrained from naming brain structures associated with these research findings and instead refer to the regions by their currently understood function.

Attentional Regulation

Studies of attentional regulation have found that practitioners with varying amounts of experience across many different styles of meditation exhibit increased concentration and attentional skills (Cahn & Polich, 2006; Chiesa & Serretti, 2010; Ivanovshi & Malhi, 2007; Lutz et al., 2007; Treadway & Lazar, 2009). As well, researchers have found both structural and functional changes in brain areas associated with attentional processes.

Structural changes have primarily been examined in long-term meditation practitioners (Hölzel et al., 2008; Lazar et al., 2005; Luders et al., 2011; Luders et al., 2009; Pagnoni & Cekic, 2007); however, Hölzel et al. (2011) found changes after just eight weeks of training. Structural changes included significant differences in cortical thickness (Lazar et al., 2005; Pagnoni & Cekic, 2007), gray matter concentration (Hölzel et al., 2011; Hölzel et al., 2008; Luders et al., 2009), and connectivity (Luders et al., 2011). These changes have been reported in areas associated with attention to internal and external stimuli (Lazar et al., 2005; Pagnoni & Cekic, 2007), attentional direction and control (Hölzel et al., 2011; Hölzel et al., 2008; Luders et al., 2011; Luders et al., 2009; Pagnoni & Cekic, 2007), and attentional flexibility (Hölzel et al., 2011; Luders et al., 2009).

Pagnoni and Cekic (2007) compared meditators with non-mediators and found that meditators experienced significantly fewer changes in age-related decline in brain structures responsible for the conscious regulation of attention, posture, attentional flexibility, and attentional processing. Although Hölzel et al. (2008) also expected to find density changes in these areas they did not; however, their lack of significant findings may be related to differences in meditation styles and neurogenesis potentials in different brain regions.

Of particular interest to this research, Hölzel et al. (2011) examined changes in novice practitioners pre-post participation in an eight week mindfulness-based stress reduction (MBSR) group and found increased gray matter concentration in the brain stem, particularly in the area associated with the synthesis and release of the neurotransmitter norepinephrine, which helps to regulate arousal, attentional focus and flexibility, and the scanning and selection of the present environment. This area has also been associated with the mediation of the stress response (Hölzel et al). In addition to structural changes, these authors reported significant pre-post differences in three subscale measures of the Five Factor Mindfulness Questionnaire (FFMQ): Acting with Awareness, Observe, and Nonjudge.

Other researchers have examined functional differences related to meditation practice. Again, most of the research has examined changes in long-term practitioners only (Lazar et al., 2000; Wang et al., 2011) or compared to novices (Brefczynski-Lewis et al., 2007; Brefczynski-Lewis et al., 2004; Hölzel et al., 2007; Manna et al., 2010; Pagnoni et al., 2008; Slagter et al., 2007). Only three studies examined changes pre-post eight week MBSR intervention (Farb et al., 2010; Farb et al., 2007; Kilpatrick et al.,

2011). In addition, Creswell et al. (2007) examined the correlation between trait mindfulness and brain functioning during an affective labeling task.

Overall, increased activity in brain regions associated with attention are fairly consistent across research studies (Treadway & Lazar, 2009), and imaging research supports the activation of areas associated with aiming and sustaining attention (Brefczynski-Lewis et al., 2007; Hölzel et al., 2007; Lazar et al., 2000; Manna et al., 2010; Slagter et al., 2007; Wang et al., 2011). Furthermore, activation of brain regions associated with sustained attention changed in a u-shaped curve, whereby it was proposed that long-term practice eventually results in less effort to sustain attention; therefore, this skill is thought to become habitual with practice, a claim supported by original meditation texts. Moreover, those without experience were shown to have greater activation in brain regions associated with mind wandering and self-narrative mental activity (Brefczynski-Lewis et al.; Manna et al.). I believe enhanced attention is an important skill for attending to clients during counseling sessions, particularly the ability to perceive closely spaced non-verbal cues and rapidly evolving narratives.

In another study designed to clarify some of the potential meditation style dependent differences, Manna et al. (2010) compared neural activation during focused attention and open awareness styles in same experienced meditators. They found that focused meditation activity increased in areas that involved conflict monitoring and focused awareness. Conversely, open awareness meditation engaged brain areas more closely related to emotional processing, which will be discussed in the next section. This was the first study to compare specific differences produced by each type practice, and findings support the usefulness of engaging in more than one style of meditation.

More closely related to this proposal, Kilpatrick and colleague's (2011) research included participants of an eight week MBSR group. They hypothesized that meditation would change the functioning of neural networks associated with attention and level of awareness of physiological sensations, sensory perceptions, and emotions. In addition to fMRI they used the Mindfulness Attention Awareness Scale (MAAS) to measure trait changes in mindfulness at pre- and post- training. In addition to significant trait mindfulness increases, MBSR participants displayed changes in connectivity in areas that indicated greater attentional and reflective awareness of auditory experience; these changes are likely related to the ability to achieve a greater state of relaxation. Also noted in the MBSR group were changes suggestive of an increased ability to reduce sensory intrusion between auditory and visual input; Kilpatrick et al. stated this ability has been linked to better performances on cognitive tasks, improved learning, and brain efficiency. Results supported underlying neural changes responsible for the increased attentional abilities found in other mindfulness research and demonstrated how relatively short mindfulness training can begin to impact internal brain communication, particularly in areas related to attentional focus, enhanced sensory processing, and greater reflective awareness. I believe these are changes which may help counselors focus, attend, respond, and reflect on their clients. For this research, attentional changes were assessed using measures of trait mindfulness qualities including observing, describing, and acting with awareness.

Emotional Processing

In addition to activation of attentional processes, there is considerable evidence that meditation practice involves neural resources related to emotional arousal, regulation, and reactivity, and changes related to emotional awareness through interoception and processing of sensory input. Just as with areas associated with attentional processes, structural changes associated with emotional processes have been found in long-term meditation practitioners who engage in a variety of meditation styles (Hölzel et al., 2008; Lazar et al., 2005; Luders et al., 2011; Luders et al., 2009; Pagnoni & Cekic, 2007; Vestergaard-Poulsen et al., 2009) and reported after just eight weeks of training (Hölzel et al., 2011). Structural changes have included significant differences in cortical thickness (Lazar et al.), gray matter density (Hölzel et al., 2011; Hölzel et al., 2008; Luders et al., 2009; Vestergaard-Poulsen et al., 2009), and connectivity (Luders et al., 2011). In general, these structural changes are in areas thought to be related to interoception (Hölzel et al., 2008; Lazar et al., 2005; Vestergaard-Poulsen et al.), self-awareness (Lazar et al.), and emotional regulation (Hölzel et al., 2011; Hölzel et al., 2008; Luders et al., 2009).

In particular, Lazar et al. (2005) measured structural changes in long-term meditation practitioners and found cortical areas associated with interoception, emotion and cognition integration, breath awareness, and self-awareness significantly thicker when compared with controls. These authors noted that researchers have linked these enhancements with a greater capacity to navigate and manage stress, particularly with "emotionally salient material and adaptive decision making" (p. 1896). As well, these findings have been theoretically linked to emotional and cognitive control, particularly as

they relate to stress, anxiety, or depression (Brefczynski-Lewis et al., 2007). Also related to emotional processing are greater volume in areas related to interceptive accuracy and visceral awareness (Hölzel et al., 2008); emotional arousal, responsiveness, reappraisal and behavioral regulation (Hölzel et al.; Luders et al., 2009); communication between structures to help regulate emotional processes and emotional memory (Hölzel et al.); down regulation of emotional responses and emotional stability (Hölzel et al.; Luders et al.); and relaying of sensory input from the body to the cortex (Vestergaard-Poulsen et al., 2009).

Of particular interest to this research, Hölzel et al. (2011) examined changes in novice practitioners' pre-post participation in an eight week mindfulness-based stress reduction group and found increased gray matter concentration in areas of the brain associated with changes in arousal, responsiveness, and regulation of emotion. Moreover, Hölzel and colleagues noted that decreased size of this area has been associated with depression, post-traumatic stress disorder, and stress-related psychopathology. While no other concentration changes were found in the hypothesized regions of interest, exploratory analysis indicated other significant differences post intervention. These included areas associated with: (a) experience of the self, social cognition, and compassion; (b) evaluation of stimuli as it relates to the self, as well as integration of this information in personal narratives due to increased introspective awareness; and (c) regulation of emotional and cognitive processes through the modulation of several neurotransmitters involved in the optimization of arousal and mediation of the stress response. I believe these structural changes point to the usefulness of meditation practices for enhancing a wide variety of emotional processes

important to the flow of counseling and creation of a strong therapeutic alliance. In addition, I believe increased volume in the areas previous shown to decrease depression, post-traumatic stress disorder, and stress-related psychopathology has the potential to provide longer-term protection from vicarious traumatization, compassion fatigue, and burnout.

Other researchers examined functional differences associated with emotional processes and meditation practice. Again, most researchers examined changes in long-term practitioners only (Lazar et al., 2000; Wang et al., 2011) or compared to novices (Brefczynski-Lewis et al., 2007; Hölzel et al., 2007; Manna et al., 2010; Taylor et al., 2011), but several studies looked at changes pre-post eight week MBSR intervention (Davidson et al., 2003; Farb et al., 2010; Farb et al., 2007; Goldin & Gross, 2010; Kilpatrick et al., 2011). In addition, one study examined the correlation between trait mindfulness and brain functioning during an affective labeling task (Creswell et al., 2007).

Studies including long-term practitioners have found increased activity in areas related to arousal/autonomic systems (Lazar et al., 2000); decreased emotional intensity (Taylor et al., 2011); increased interoception (Manna et al., 2010; Wang et al., 2011); increased emotional regulation and stability (Hölzel et al., 2007; Lazar et al., 2000; Taylor et al.; Wang et al., 2011); increased emotional responsive flexibility (Brefczynski-Lewis et al., 2007; Taylor et al.; Wang et al.); and greater happiness and well-being (Hölzel et al.; Manna et al.; Taylor et al.).

Of particular interest to the current research, Taylor et al. (2011) found that experienced meditators and participants who were given mindfulness instruction just

seven days prior to testing and asked to practice just 20 minutes per day, reported

decreased emotional intensity during meditation when viewing emotionally salient

pictures. Closer examination of the neural activation revealed that subjective experience

corresponded to less activity in brain areas associated with self-referent reflections and

mind wandering, and no changes in the areas associated with emotional reactivity for

experienced meditators. Conversely, those without meditation experience showed less

activity in the brain area associated with emotional reactivity. Although the neural

strategies were different, both groups reported the ability to exhibit some emotional

stability when asked to use mindful strategies when viewing emotional content. These

findings suggest that with experience, mindfulness practices may assist with learning to

experience strong emotional content with acceptance and without elaborative personal

narrative, which would be beneficial for counselors.

In addition, deactivation in areas associated with personal narrative in long-term

meditators suggested that emotional intensity is mediated by acceptance of experience,

rather than an attempt to control or change experience (Taylor et al., 2011). This

deactivation supports the ability of mindfulness practices to increase present moment

awareness, reduce distractibility, and reduce ruminative self-referent processes;

whereby, resulting in the ability to process the next event as it arises. Fletcher et al.

(2010) also noted that their research has shown how increased ability to perceive

present moment bodily sensations, including emotion, allows for increased ability to

tolerate present experience with fewer avoidance behaviors. I believe that the ability to

accept emotionally salient stimuli, at the same time reducing self-reflective processes,

can be very helpful as counselors work to stay present with clients in distress.

Several researchers have examined changes after participation in an MBSR group. For example, Davidson et al. (2003) examined changes in a non-clinical population, randomly assigned to participate in a group led by the developer of MBSR Kabat-Zinn. Consistent with the MBSR intervention, participants attended eight weekly group meetings, received instructions for formal and informal mindfulness practice, and were encouraged to complete an hour of daily practice using guided audiotapes provided for home practice. In addition, participants attended a seven hour silent retreat during the sixth week. Changes were assessed using self-report measures of anxiety and affect; and EEG measurements were recorded at baseline, post-intervention, and at 4-month follow-up. Davidson et al. found decreased trait anxiety and negative affect in the meditation group following the intervention and at follow-up. Changes in meditators EEG, at post-intervention and at follow-up, showed significantly greater relative left side activation at rest, and during positive and negative emotion induction. This finding supports previous research that left-side activation is associated with both state and trait positive emotions (Kabat-Zinn, 2003b). This research represented the first attempt to document changes in EEG asymmetries related to mindfulness practices. Addtionally, researchers found reductions in perceived anxiety and negative affect along with increased positive affect (Davidson et al.; Kabat-Zinn). Kabat-Zinn suggested findings also supported the hypothesis that changes observed with MBSR training may lead to increased regulation of negative affect, particularly during stress. I believe the enhancement of positive affect states and traits can help counselors reduce the amount of lingering emotional after-effects from sessions, and increase expressions of hope in the presence of client distress.

Farb et al. (2010) also used MBSR to evaluate the effectiveness of mindfulness training in reducing emotional reactivity. They proposed that mindfulness strategies to increase metacognition, reduce negative cognition, demonstrate the transitory nature of emotional experiences, and increase tolerance of sadness should result in a greater capacity to regulate emotion. Also, they referred to neuroimaging studies that suggested areas in the brain work differently in those who struggle to regulate emotion to propose that mindfulness training may change the function of these areas. To demonstrate neural underpinnings of this perceptive shift, they assessed participants' subjective emotional experiences and utilized fMRI imaging to assess neural responses to negative emotional experiences. Farb et al. used randomized selection to assign volunteer participants to either a MBSR training or wait-list, and utilized a typical MBSR training with weekly meetings, guided homework, and instructions for informal practice. In addition, instruction included strategies for accepting uncomfortable emotions with acceptance, and participants were encouraged to take a metacognitive perspective on the impermanence of mental and perceptual events. During imaging tests, participants were shown neutral and unhappy film clips and asked to rate their level of sadness at pre-set intervals. Results confirmed the testing procedures reliably induced sadness, and subjective sadness ratings during the imaging procedures were not different between mindfulness participants and the control group. However, pre- post- testing comparisons showed "substantial" reductions in depressive symptoms, anxiety symptoms, and somatic distress in the mindfulness group (p. 27). Imaging results confirmed that MBSR participants showed significantly different neural reactivity during sadness induction than control group; despite equal reports of sad feelings. These

differences in neural activation suggested less autobiographical memory retrieval, less self-referential processing, reduced activity in language centers, and greater internal awareness. Farb et al. suggested that because both groups reported equal levels of sad feelings, the neural activity of the mindfulness group are likely related to changes in emotional regulation rather than suppression or denial of negative affect. They attributed the change to the inclination to view emotional experiences as "innocuous sensory information rather than as an affect laden threat to self" (p. 31).

Farb et al. (2010) also pointed out that the development of meta-cognitive skills may be associated with detached processing of emotions, instead of amplification and non-productive reappraisal. Further correlational analysis of both groups indicated higher depression inventory scores were predictive of increased deactivation of the area of the brain associated with interoception, sense of self as a feeling entity, emotional awareness, self-reflection, and empathy. Increased emotional awareness, increased emotional regulation, and increased empathy are all vital skills for counselors and can greatly enhance relational skills.

Goldin and Gross (2010) also found MBSR training useful in enhancing the ability to monitor and stay present during emotionally salient input by reducing activation of the self-referential neural networks. This change was evidenced by decreased activity in this area even prior to instruction for intervention participants to shift from focus of the of negative self-belief cues to the breath, indicating the shift to reduce self-referential rumination began without external prompting. Again, I believe the ability to remain present during emotionally laden stimuli, as well as monitor self-referent responses, are important skills for counselors.

Creswell et al. (2007) examined the relationship between neural activity and trait mindfulness during a task of affect labeling. The use of labeling to describe on-going mental activity and perceptual input during mindfulness is a traditional part of practice (Rapgay & Bystrisky, 2009) and is hypothesized to be one of the mechanisms related to beneficial effects of mindfulness (Creswell et al.). Creswell also noted that recent neuroscience research supports labeling for increasing emotional regulation by recruiting a variety of brain areas to reduce intensity and duration following emotional stimuli. These authors used neuroimaging to investigate the association between trait mindfulness and neuronal activation during two labeling tasks. Their findings supported previous research showing decreased activation in the emotional centers during affect labeling. In addition, their findings showed significant correlations between levels of trait mindfulness and use of neural activation patterns associated with greater affective regulation. Further analysis of communication between identified brain areas found that higher trait mindfulness was significantly correlated with more efficient control of emotional centers during the affect labeling task than those with low trait mindfulness. These findings represented initial neural evidence that trait mindfulness is associated with brain areas known to be related to the ability to monitor current intrapersonal emotional states, reduce emotional responsiveness, and enhance emotional decision making. I believe that these qualities can help a counselor stay present, empathic, and genuine with clients during emotionally salient moments rather than becoming overwhelmed.

Self-focus Style

Another internal processing component that is important for interpersonal relationships is related to both attention and emotional regulation. There is evidence of two distinct neural processes involved in mindfulness practice, one that allows for the experience of the present moment and one that attends to the experience of a personal narrative (Farb et al., 2007; Siegel, 2001). It has been suggested that meditation may deactivate areas responsible for personal narrative experiences and thus increase attentional capacities by decreasing mind-wandering, increase capability to shift between first and third person perspective, and lower emotional reactivity (Chiesa & Malinowski, 2011). For example, Pagnoni et al. (2008) found that experienced meditators were able regulate mental activity and return to breath focus following a semantic distraction task more rapidly than controls, as evidenced by reduced activation in this area. However, these findings are still largely inconsistent across the research given that Hölzel et al. (2007) did not find related differences between expert and novice practitioners. Instead, they reported that increased activation in one part of the network could be associated with stronger engagement in emotional processing, "reflecting their improved ability for emotional regulation" instead of attentional skill (p. 20). These authors stated that these inconsistent findings are part of the nascent nature of neuroimaging inquiries and encouraged future researchers to help clarify these processes.

Farb et al. (2007) examined neural activation differences between post MBSR participants and controls when asked to focus on their experience of self in the present moment or engage in a narrative self-focus. They stated it is well known the mind will

engage in narrative processes when there are not external demands on attention. Participants trained in mindfulness were hypothesized to be more skilled at disengaging self-narrative processes; so, they were compared to novice controls in order to identify the neural networks associated with these two forms of self-referential activity. When instructed during imaging, participants alternated between present-moment experiential self-focus and narrative self-focus. Post imaging, all participants reported narrative tasks were easier, and the mindfulness trained group reported greater ease than novices at both tasks. As expected, analysis revealed that only the mindfulness trained group showed differentiation in area activation between tasks, indicating that activity in these participants was a more accurate representation of the different neural areas recruited. Farb et al. postulated that increased activity in the mindfulness group was likely due to greater executive control over attentional allocation, possibly related to attempts to stop narrative processes. Farb et al. noted several regions of deactivation and speculated the cause to be suppression of self-narration or greater ease at maintaining self-referent present experience. Either way, mindfulness training resulted in less neural recruitment while attempting present moment focus. Overall, changes in neural activity suggested that mindfulness training increased the ability to shift from narrative to present moment experience, which resulted in a more "self-detached and objective analysis" of sensory events, instead of subjective self-referential activity. Furthermore, these neural differences support the ability to more accurately assess somatic conditions in a way that is different from perceptions during narrative processes. I believe this ability to disengage from personal narrative can enhance the ability to stay present and focused with clients. I also believe this enhanced ability to

differentiate between self and other can make it easier to determine when emotionally salient feelings are an empathic response to the client or an emotional response related to a past personal experience of the counselor.

It also was suggested that changes in voluntary regulation accounted for increased attentional qualities and emotional regulation seen in other research (Chiesa & Serretti, 2010; Hölzel et al., 2007); and increased activity in the area associated with the integration of attention, motor control, and motivation was also found (Treadway & Lazar, 2009). In their review of this research, Cahn and Polich (2006) suggested that, when taken together, these results "hint" at increased attentional resources and increased processing speeds in experienced meditators (p. 190). They also agreed that the fMRI studies they reviewed suggested significant increases in attentional area activation during non-guided meditation practice; although the central nervous system is clearly affected by meditation, "specific neural changes and differences in practices are far from clear" (p. 203). These researchers suggested changes in counselors' ability to regulate self-related thoughts can reduce anxiety, increase focus on the client, and thereby facilitate the therapeutic connection. As well as attention and emotional processing, neuroscience investigation is also beginning to explore changes related to empathy and compassion.

Empathy and Compassion

Research related to how meditation on loving-kindness and compassion impacts neural areas associated with interpersonal processes is sparse, however several preliminary studies have shown differences in long-term practitioners compared to

novices (Hölzel et al., 2008; Luders et al., 2009; Manna et al., 2010; Vestergaard-Poulsen et al., 2009; Wang et al., 2011). Although these brain areas are some of the same associated with emotional awareness, it has been proposed that the systems of intrapersonal and interpersonal emotional awareness overlap to allow for empathic perception and responses (Fletcher et al, 2010; Singer & Leiberg, 2009).

Structural and functional changes that have been identified in long-term practitioners in areas related to empathy (Hölzel et al, 2008; Wang et al., 2011); spiritual experiences associated with deep pleasure, feelings of unity, and connectedness (Hölzel et al, 2008; Hölzel et al, 2007; Luders et al., 2009; Manna et al., 2010); and imagery (Luders et al.). As well, Vestergaard-Poulsen et al. (2009) reported increased grey matter density in the areas associated with self-relation, self-awareness, and memory retrieval. After participation in an MBSR group, Hölzel et al. (2011) found significantly increased gray matter concentrations in areas typically associated with visceral awareness, empathy, social cognition, and compassion. Furthermore, these authors suggested that structurally changed areas were strongly recruited during tasks related to "the perception of alternative perspectives" (p. 41). Given that accurate empathy, the ability to manage countertransference, and interpretations of themes and patterns are vital to good therapeutic relationships (Norcross, 2010), the ability to really see alternative perspectives, through increased self and other understanding is key.

Only one study has focused exclusively on brain activity during the task of loving-kindness/compassion meditation (Lutz et al., 2008). During imaging novice and experienced practitioners were instructed to generate feelings of wishing well-being and freedom from suffering towards a person they cared about; then, auditory stimulus

related to positive, negative, and neutral human emotional vocalizations were presented. During the compassion meditation, both expert and novice participants demonstrated a stronger response to emotional sounds in neural areas associated with empathy then when at rest; however, expert responses to negative emotional sounds in brain regions typically associated with affect and feelings were significantly greater than novices. Lutz et al. suggested these findings strongly supported the use of compassion meditation to enhance empathic response to emotional stimuli. Also, they found increased activation of the neural circuits associated with reading other's mental states, self-reported altruism, and understanding the intentions of another. Activity in these circuits is also associated with appraisal of emotional stimuli, which Lutz et al. suggested may indicate experienced meditators were more "primed to detect salient events", in particular the suffering of others. These skills can be interpreted as enhancing counselors' ability to express accurate empathy and compassion.

Summary of Neural Findings

In general, neuroscience research has demonstrated how brain structure and function can be impacted through the practice of meditation; although affective experience does not currently have the same empirical evidence as other changes related to learning, it has still been strongly demonstrated (Cahn & Polich, 2006; Chiesa & Malinowski, 2011; Fletcher et al., 2010; Lutz et al., 2007; Treadway & Lazar, 2009). In addition, evidence supported cultivation of positive states, including feelings of love and compassion, produced functional and structural changes in the brain while increasing empathic understanding (Lutz et al.; Slagter et al., 2011). Although findings are still

inconsistent and highly variable, both state and trait changes have been demonstrated

over time (Cahn & Polich; Chiesa & Malinowski; Fletcher et al.; Lutz et al.; Slagter et al.;

Treadway & Lazar; Wang et al., 2011). Additionally, because functional changes

typically lead to structural changes over time (Slagter et al.) and increased grey matter

is associated with improved functioning (Hölzel et al., 2011), evidence strongly suggests

meditation leads to better attentional skills, emotional processes, and greater capacity

for empathy and compassion.

Furthermore, evidence for trait changes in long-term practitioners was

demonstrated by the lack of difference between activated areas during open awareness

and resting states (Manna et al., 2010). This finding matched reports by experienced

monks of the "ongoing phenomenal awareness of sensory fields" even when there is no

intention to practice mindfulness states (p. 53). Additionally, experienced meditators

have significant changes in the neural fibers between brain areas and this is generally

interpreted as evidence of greater efficiency, enhanced connectivity, and overall better,

faster communication between brain regions (Luders et al., 2011). Based on these

findings, it can be assumed that practice will lead to trait changes over time.

Despite these assertions, most researchers still recognize that this research is in

its infancy, there are many methodological short-comings, and it is still early to make

generalized assumptions (Chiesa & Serretti, 2010; Lutz et al., 2007, Slagter et al.,

2011). In a review on neurological findings related to mindfulness, Fletcher et al. (2010)

cautioned against assuming that there are hard-wired, biological systems that function

the same in all humans. Fletcher et al. proposed that as internal experiences with the

present moment, acceptance, open awareness (*defusion* by these authors), and meta-

awareness (*self-as-context* by these authors) increases, changes are also likely to occur in practitioners' interactions with the world. They also noted findings related to an overlap in areas associated with self-reflection and attunement with others supports the notion that meditation might increase activity in the same brain areas as empathy. In summary, they agreed that despite current limitations of this research, meditation practice has been shown to modify brain areas associated interoceptive, attentional, cognitive, empathic, and self-referential networks in a dynamic interplay.

Although researchers have not yet demonstrated the generalizability and transferability of meditation training, they have reasoned it may be an exception to previous findings related to task specific learning (Slagter et al., 2011). In their theoretical review, Slagter et al. examined the potentials of systematic mental training, specifically meditation, to produce process-specific, transferable learning. They proposed meditation is potentially a potent cognitive skills training model because it trains core cognitive skills like focus and optimal arousal; provides naturally evolving complexity and challenge; naturally progresses with experience over time; and provides stimulus and task variability. They argued that all of these factors combined provide evidence that meditation may be a process-specific learning mode, instead of task specific (Slagter et al.). If this assertion is verified, the ability of meditation training to be generalized and transferred is greatly increased, and will mean training in mindfulness-based skills is highly advantageous for training better counselors.

In summary, mindfulness qualities related to therapeutic effectiveness can be cultivated; therefore, meditation training has the potential to enhance counselor functioning. Several studies have demonstrated how different meditation styles activate

different neural structures (Cahn & Polich, 2006; Chiesa & Malinowski, 2011; Ivanovski & Malhi, 2007; Manna et al., 2010; Wang et al., 2011) indicating that training and practice should include a variety of styles including concentration, open awareness, and the cultivation of positive states. Although greatest changes were seen in long-term practitioners, there is evidence that change begins after only eight weeks of training.

I have presented neurophysiological evidence of change through mindfulness-based practices in order to demonstrate that reported changes go beyond subjective experience and that these changes lead to trait changes over time. In addition to biological evidence, there is also an abundance of research on experiential changes due to mindfulness-based interventions (Baer, 2003; Brown & Ryan, 2003; Chiesa & Malinowski, 2011; Chiesa & Serretti, 2009; Grossman, Neimann, Schmidt, & Walach, 2004). The following will briefly review some of these findings.

Reviews and Meta-Analyses of Efficacy

Research on the efficacy of mindfulness-based practices has focused on the use of MBSR with clinical populations, primarily because it is standardized and manualized (Chiesa & Malinowski, 2011). Due to the depth and breathe of this research, a complete review of the efficacy of mindfulness practices is beyond the scope of this literature review. However, important patterns can be seen from this research as it relates to benefits from mindfulness practices. In the following section, I review findings from several meta-analyses.

In 2003, Baer reviewed studies ($n = 21$) that used mindfulness-based practices with clinical and non-clinical populations. Meta-analysis of all dependent measures

completed post treatment and at follow-up intervals were reported using Cohen's *d*. For post treatment measures, effect sizes were between medium ($d = 0.15$) and large ($d = 1.65$) with an overall mean large effect size ($d = 0.74$, $SD = 0.39$); follow-up measures also resulted in a wide range of effect sizes between medium ($d = 0.08$) and large ($d = 1.35$) with an overall large mean effect size ($d = 0.59$, $SD = 0.41$). Baer noted that these effect size calculations were likely conservative because some values had to be derived due to lack of published statistical data. In addition, she reported clinical significance across studies indicated mild to moderate reductions in distress. Overall, most studies indicated that participants who completed mindfulness-based training considered it useful and planned to continue some form of practice. In conclusion, Baer cautiously supported a "probably efficacious" designation for MBSR and MBCT based on criteria set by the Division 12 Task Force on Promotion and dissemination of Psychology Procedures.

In another meta-analysis, Chiesa and Serretti (2009) identified 10 studies that investigated the efficacy of MBSR on the reduction of stress and enhanced spirituality in non-clinical populations. Stress assessments included measures of psychological and psychological distress symptoms, mood states, interactional stress evaluation, and perceived stress. Spirituality was defined as a sense of connection with something greater than self or an attitude related to openness, awareness, or acceptance of present experiences; spirituality was measured using either a mindfulness attention scale or core spiritually measure. Chiesa and Serretti found that MBSR had high positive nonspecific effect on stress ($d = 0.74$), and that this effect was significantly greater when compared to wait list controls ($d = 1.39$). In addition, they found that

MBSR had a large effect on enhancing spirituality ($d = 0.82$), and this effect was significantly greater than when studies included control groups ($d = 0.96$). Although not included in effect size calculations, secondary outcome measures of rumination, empathy, self-compassion, state anxiety, and other psychological changes were analyzed and found to be significantly changed by mindfulness-based practices. Chiesa and Serretti concluded that MBSR participation provided a significant nonspecific effect on stress reduction, enhanced spirituality, and was likely to provide other benefits to healthy people.

Grossman et al. (2004) also completed a meta-analysis of the stress reduction and health benefits associated with mindfulness practices in medical patients ($n = 20$). In controlled studies, they found in medium effect sizes for impact of mindfulness practices on mental health ($d = 0.54$) and physical health ($d = 0.53$). In observational studies, they found medium effect sizes for mental health ($d = 0.50$) and physical health ($d = 0.42$). Grossman et al. concluded that MBSR training can improve functioning for a broad range of chronic health problems, especially challenges of coping with distress and disability.

Attempts to research mindfulness in relation to the Big Five personality traits and affective traits have been inconsistent; therefore, Giluk (2009) completed a meta-analysis to help clarify these relationships. The goal of this analysis was to discover how mindfulness traits were related to constructs of interest, not how training changed these aspects, so only pre-intervention results were analyzed. Correlational analysis showed large negative correlations between mindfulness and neuroticism ($\rho = -.58$); and moderate negative correlations with negative affect ($\rho = -.51$); and positive correlations

with conscientiousness ($\rho = .44$) and positive affect ($\rho = .41$). Giluk indicated that most of her findings were consistent with expectations. For example, neuroticism and mindfulness are opposite in the dimensions of distress and psychological adjustment. Additionally, conscientiousness and mindfulness share the traits of self-discipline and self-regulation. What was surprising was only a moderate relationship with agreeableness because these traits share aspects of empathy and concern for others; however, several studies included negative correlations, which resulted in a lower correlational total. Also, a large correlation with openness to experience was expected since both traits include attention, curiosity and receptivity; however, only a small correlation was found ($\rho = .20$), perhaps because openness to experience is a complex set of features and may be unrelated to mindfulness due to some of the other dimensions. Unfortunately, this analysis did not include the potential for change after mindfulness-based interventions.

Despite limitations of the current research, there is still "consistent evidence" that mindfulness and mindfulness-based practices are related to beneficial effects on clinical and healthy populations (Chiesa & Malinowski, 2011, p. 414; Chiesa & Serretti, 2009, p. 598). That said, it should still be considered that the practice of mindfulness itself has not been sufficiently studied in isolation from the other factors related to clinical interventions; therefore, it is still premature to state that meditation is the "main active ingredient" in the benefits noted in the current studies (Chiesa & Malinowski, p. 414).

Training Counselors in Mindfulness

Although many scholars have suggested that mindfulness practices may be beneficial for mental health professionals, research evidence is still lacking (Greason & Cashwell, 2009). As with most nascent research, the examination of mindfulness practices for counselors' benefits from qualitative studies that enhance understanding of "nuanced" impact of these practices on individuals (Schure et al., 2008, p. 48). I will review these studies and then discuss quantitative findings that have focused primarily on counselor wellness.

Qualitative Analyses

To date, three qualitative studies have examined counseling students' experience with mindfulness-based trainings. In the first two studies, Schure et al. (2008) and Chrisman et al. (2009) analyzed final journal entries of first and second year master's students enrolled in mental health counseling, school counseling, and marriage and family counseling programs ($n = 33$ and $n = 31$) at the end of a 15-week elective course entitled "Mind/Body Medicine and the Art of Self-Care". This class met twice weekly, and each class included approximately 75 minutes of mindfulness practices including hatha yoga, sitting meditation, qigong and conscious relaxation methods as well as didactic instruction related to self-care. Students were also required to practice some form of mindfulness activity at least 45 minutes, four times per week. Schure et al. focused on students' experiences with the overall impact from course participation, and Chrisman et al. focused on student's experiences with Qigong, a mindfulness-based "movement, meditation, and visualization" practice (p. 237). Conducted by McCollum and Gehart (2010), the third study included mindfulness

practices as an integrated part of a clinical practicum course. Students completed

weekly journal reflections on their experiences with learning mindfulness practices as

well as ways these practices impacted their personal and clinical experiences. During

the course, students were introduced to both formal (mindfulness of breath, ice

meditation, toglen and compassionate partner meditation) and informal (mindful eating

and mindful walking) practices, with 15 – 30 minutes of class time devoted to practice

each week (Gehart & McCollum, 2008). In addition, participants were asked to practice

at least 5-10 minutes per day. Results from these three studies overlapped and included

the following themes.

Students in all studies (Chrisman et al., 2009; McCollum & Gehart, 2010; Schure

et al., 2008) reported increased awareness and acceptance of emotional experiences,

increased mental clarity, decreased anxiety, and fewer judgments both of self and

others. Experiences of increased acceptance and tolerance for difficulties translated into

an improved ability to cope with strong or threatening emotions. Students noticed they

were less reactive and less attached to emotional experiences resulting in more flexible

responding, and a greater sense of ease and peace. Students also reported increased

awareness, greater ability to observe and process the present moment, and increased

ability to make meaningful personal reflections. Also, they noted attitude changes

including greater self-understanding, self-acceptance, self-trust, and self-confidence.

Interpersonally, students reported more empathy and compassion with better

interpersonal attunement. Some reported a greater recognition of shared humanity and

connection with the world (McCollum & Gehart). In particular, students seeing clients

reported increased abilities to: (a) tolerate therapeutic silence, (b) remain present with

intense and difficult materials and not become overwhelmed, (c) attend to the emerging

therapeutic processes (d) attend to inner process while remaining engaged with the

client (e) be responsive to the client (f) quiet their own inner dialogue, (g) generally slow

down and feel at ease in session, and (h) consider new perspectives on therapy as a

healing process (McCollum & Gehart). As a result, they reported less desire to control

the counseling process and decreased tendency to engage in ruminative thinking about

sessions and their clients. Students participating in qigong practices (Chrisman et al.;

Schure et al.) reported increased physical awareness and an enriched understanding of

the connection between the mind, body, and emotion.

Specifically related to meditation practices, students reported increased self-

reflection, in particular the increased willingness to examine difficult emotions in a non-

judgmental, non-threating way resulting in increased recognition of their personal

capacity for pain. Many of these students were able to experience directly how their

self-directed feelings of acceptance and compassion translated into compassion and

acceptance towards others, including their clients. Additionally, McCollum and Gehart

(2010) reported their students were more productive because they were better able to

"simply be" with their clients, instead of trying to do something "to" their clients (p. 355).

All three studies found that students would use what they learned to recommend or

incorporate practices with their clients, as well as continue their own personal practices.

Another qualitative study examined professional clinicians' experience with

Mindfulness-Based Role-Play (MBRP) supervision, a program developed to increase

mental health professional's empathic understanding by engaging in session role-play

during supervision. Andersson, King, and Lalande (2010) combined these techniques

with mindfulness training in order to increase supervisees' ability to become mindfully aware of the therapeutic process. Participants were licensed professionals ($n = 12$) working in a variety of clinical settings with an average of nine years of practice experience. Mindfulness practices and MBRP supervision procedures were introduced in a workshop setting that included both theory and experiential activities. Following the workshop, participants engaged in a MBRP supervision session with the principal researcher. During post intervention interviews with a neutral party, clinicians reported greater empathy, compassion, and awareness of their roles as mental health professionals; the majority remarked that the experience made a difference in their ability to be present during subsequent sessions with clients. These findings supported how even brief introductions to mindfulness practices can enhance presence and empathy, personally and in the therapeutic process.

Although these scholars acknowledged that mindfulness practices may be useful to increase counselor relational qualities, quantitative research into these changes is still lacking (Andersson et al., 2010; Chrisman et al., 2009; McCollum & Gehart, 2010; Schure et al., 2008). Instead, most of the studies have focused on the relationship between mindfulness-based practices and self-care, primarily as a method for reducing stress and increasing wellness.

Counselor Wellness

While decreased burnout and compassion fatigue are important to the success of counseling, these studies do not provide the direct evidence of how mindfulness training impacts counselor relational effectiveness (Shapiro, Schwartz, & Bonner, 1998).

However, several of these studies have included measures of relational qualities. The following review will discuss outcomes of these studies with a primary focus on changes related to counselor characteristics.

Shapiro et al. (1998) examined the effects of a seven-week mindfulness-based group with medical and premedical students as part of their elective coursework. Seventy-eight students were randomly assigned to the intervention group or a wait-list control. The group intervention was an early version of the empirically supported mindfulness-based stress reduction (MBSR) training with two unique elements: a forgiveness meditation and a mindful listening skill and empathy exercise. Participants attended seven 2.5-hour sessions, participated in home practice and kept daily journals. Measures included empathy, psychological distress, depression, state anxiety, trait anxiety, and spirituality. Findings from the original group, and later the wait list control group, indicated: (a) reduced distress, (b) lower depression, (c) reduced state and trait anxiety, and (d) increased number of spiritual experiences. Of particular interest to this current research were increased levels of empathy in the first group, which was replicated with the wait-list control group. Shapiro et al. stated that increased empathy scores were indicative of the ability of students to develop "new, more compassionate perspectives and paradigms to approach their own lives as well as their future patients' lives" (p. 594). Magnitude of change was examined through a series of multiple regressions, and a path analysis was constructed. Results indicated that increased compliance was related to decreased trait anxiety ($\beta = -.44$); and, as trait anxiety decreased, depression decreased ($\beta = .53$), state anxiety decreased ($\beta = .54$), and empathy increased ($\beta = -.39$). Depression was also predictive of global symptom index

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(β = .70), and spirituality (β = -.31). Finally, state anxiety was predictive of spirituality (β = -.25). Shapiro et al. stated the resulting path diagram was meant to provide a causal theory model to serve as the beginning stages of understanding the mechanism of change related to mindfulness-based practices.

In a similar study, Shapiro et al. (2005) examined the effects of mindfulness training on reducing levels of stress with health care professionals. Participants were health care professionals including physicians, nurses, social workers, physical therapists and psychologists actively engaged in clinical practices at a veteran's hospitals. Thirty-eight participants were recruited and randomly assigned to a mindfulness group or wait-list control. The mindfulness intervention was based on the eight-week MBSR training model consisting of eight 2-hour sessions and included a loving-kindness meditation. Of the 18 participants assigned to the intervention group, only 10 completed the training. Results comparing changes between the intervention group and controls showed significant reductions in perceived stress (27% vs. 7%) and increased self-compassion (22% vs. 3%), with non-significant trends towards greater satisfaction with life (19% vs. 0%), decreased job burnout (10% vs. 4%), and decreased distress (23% vs. 11%). Moreover, 88% of participants who completed the training reported decreased perceived stress, and 90% reported increased self-compassion. Based on these results, it was suggested there are potential benefits to meditation-based interventions for this population. Additionally, an open-ended question regarding the impact of training suggested that mindfulness can provide an "increased sense of living more fully", a "method of stress reduction especially in times of emotional difficulty", and that "practice is vital to living with compassion and loving-kindness" (p.

176). Feedback regarding participant dropout suggested that it was not lack of interest, but the burden of 2-hr weekly group meetings and daily home practice that prevented many of these professionals from completing the training. Therefore, authors suggested that more creative means of incorporating mindfulness-based training may be useful.

Shapiro et al. (2007) conducted a study more closely related to this research. Participants were students in a master's level counseling psychology program enrolled in a course entitled Stress and Stress Management (n = 22) who received MBSR intervention as part of the curriculum. Students in two other counseling psychology courses served as controls (n = 32). This intervention involved weekly 2-hour didactic and experiential instruction in formal and informal mindfulness practice, including loving-kindness, as outlined in the MBSR treatment manual. The MBSR intervention curriculum occurred over eight of the ten weeks of class. Pre- and post- measurements included trait mindfulness, distress, well-being, stress, and rumination. Participants were also asked to keep daily practice diaries. Results indicated significant reductions in perceived stress, negative affect, state and trait anxiety, and rumination; as well as significant increases in positive affect when comparing participants to controls. Changes in self-compassion and trait mindfulness were also significant. Additionally, regression analyses revealed that increased mindfulness was predictive of present anxiety (β = .59), anxiety over the previous month (β = -.79), and perceived stress (β = -5.56), as well as rumination (β = -.57), and self-compassion (β = 2.95).

Due to the strength of these results, Shapiro et al. (2007) suggested that MBSR training may enhance professional skills. In particular, decreased rumination aids the ability to regulate emotional states, and increased self-compassion may increase well-

being and help to increase acceptance, kindness, and compassion towards clients. Furthermore, they cited previous research suggesting "therapists who lack self-compassion and are critical and controlling toward themselves, are more critical and controlling toward their patients and have poorer patient outcomes" (Henry, Schacht, & Strupp, 1990 as cited in Shapiro et al., 2007), indicating another way this increase in compassion can enhance the therapeutic presence of mental health professionals.

Gökhan et al. (2010) utilized a mixed-methods study to examine experiences of undergraduate students in clinical field placements. Students participated in six 20-minute experiential mindfulness exercises including body scan, sitting, standing, walking, compassion and focused attention meditation; additionally, they were asked to practice 30 minutes daily at home and engage in mindfulness at their placement sites by trying to stay in the here and now while monitoring their thoughts and emotions. Results from the qualitative analysis were similar to themes discussed above with additional reflections on the students' ability to utilize mindfulness skills with themselves, their clients, and in relationship with staff at their placement sites. This result speaks to the overall ability of mindfulness training to enhance interpersonal skills in all dimensions. These students also reflected on an increased sense of personal professionalism; cultural sensitivity; and listening, empathy, and compassion in their personal relationships. Quantitative measures included the Mindfulness Attention and Awareness Scale (MAAS), Freiberg Mindfulness Inventory (FMI), and the Kentucky Mindfulness Scale (KMS). Results indicated significant increases on all scales with the exception of the ability to Describe Without Reacting subscale of the KMS measures.

Finally, May and O'Donovan (2007) examined relationships among mindfulness, well-being, burnout and job satisfaction among psychologists, counselors and social workers ($n = 55$) currently practicing in private or public mental health settings. About 35% of the participants reported practicing some form of meditation, and 16% reported participating in yoga prior to participating in this study. May and O'Donovan utilized two separate trait mindfulness measures to capture a wide range of mindfulness traits including attention in everyday experiences (using the MAAS); and attention to internal experiences and non-judgmental attitudes (using the Cognitive and Affective Mindfulness Scale – Revised, CAM-R). Their results indicated that mindfulness was moderately negatively correlated with emotional exhaustion (MAAS: $r = -.33$, $p = < .05$ and CAM-R: $r = -.31$, $p = < .05$) and negative depersonalized feelings and attitudes towards clients (MAAS: $r = -.27$, $p = < .05$ and CAM-R: $r = -.28$, $p = < .05$). Authors stated these results indicated mindfulness qualities can help avoid the negative impact of burnout, particularly its impact on the therapeutic relationship. In addition, they reported a moderate positive correlation between mindfulness and life satisfaction (MAAS: $r = .30$, $p = < .05$ and CAM-R: $r = .30$, $p = < .05$). When considering a reciprocal emotional sharing with clients, it is possible that counselors' higher life satisfaction may transfer to clients in the form of increased hopefulness and well-being.

In summary, these self-care studies confirmed that mindfulness practices are beneficial for mental health professionals, while also increasing relational qualities of compassion, empathy, and decreasing rumination, anxiety and several dimensions of burnout. Besides these wellness related studies, a few researchers have directly examined the impact of mindfulness on relational qualities and skills of the counselors.

Three of these studies measured changes related to formal and informal mindfulness practices, and one study explored the predictive relationship between trait mindfulness and counseling self-efficacy.

Counselor Skills and Characteristics

An early study by Lesh (1970) examined the relationship between meditation and development of empathy in psychology students. In addition, openness to experience and self-actualization levels were measured pre-post a meditation intervention. Fifteen of the sixteen participants were first year psychology master's students. The control group consisted of students enrolled in counseling psychology courses but not necessarily counseling majors. Participants in the intervention group were given audio-recorded instructions in the Zen practice of *zazen*, a focused attention meditation. Audio instructions encouraged participants to continue the practice despite the inherent difficulties they would encounter, like the tendency of the mind to wander. They were also given instructions to return to the breath when the mind wandered instead of trying to stop their internal dialogue. Participants practiced together, but did not interact with each other, for 30 minutes each weekday for four weeks; at the end of each session, they wrote down subjective impressions of the practice. Later, these impressions were scored from 0 – 5 based on level of consciousness reported. Following the training period, Lesh found that the meditation practice significantly increased empathy as measured by the ability to accurately perceive emotions expressed by a videotaped client. In addition, participants reported non-significant increased openness to experience. Further analysis indicated that level of consciousness was positively

correlated with openness to experience (pretest, $\tau = .56$, $p < .01$; posttest, $\tau = .41$, $p < .05$) and empathy (reported as Z score: pretest, $\tau = 3.88$, $p < .001$; posttest, $\tau = .3.99$, $p < .001$). Lesh (1970) also found a significant positive correlation between empathy and openness to experience (reported as Z score: pretest, $\tau = 2.63$, $p < .01$; posttest, $\tau = 3.37$, $p < .001$). Based on these results, Lesh contended that the ability to relate to one's own personal experiences is likely associated with the ability to feel what another person is experiencing. In this study, the openness to experience measure also included a nonjudgmental component; the author asserted that the ability to be empathic can be blocked by projection when a counselor is not aware of his own inner states. Therefore, he suggested that practicing meditation increased empathy through the path of increased self-awareness (Lesh). Although this research occurred over 40 years ago, it provided an important basis from the newly revitalized research related to using meditation to increase counselor effectiveness.

Seeing a need for a training aimed at mental health professionals, Aggs and Bambling (2010) developed a new program called Mindful Therapy (MT). This training program incorporated mindfulness theory from several models, experiential practices based on MBSR, and integration of these qualities as they relate to therapeutic skills and improving the therapeutic alliance. They recruited 47 mental health professionals to participate in an eight-week group that taught mindfulness skills, as well as relationship applications including "managing the therapeutic alliance, client-centered delivery of therapeutic techniques, therapist empathy, working with ruptures and strains, and the use of the Self" (p. 279). Groups met 1.5 hours per week and time was divided between approximately 40 minutes of training material, 30 minutes of mindfulness-based

practice, and group discussion. Mindfulness-based practices included guided meditations based on those used in MBSR and a three-minute breathing space exercise. In addition, participants explored ways for integrating mindfulness into practice. Following the training, Aggs and Bambling measured declarative knowledge of course content, well-being, willingness to use mindfulness with clients, and self-reported capacity to be more mindful in session. Findings included significantly higher knowledge regarding mindfulness-based practices, and higher ratings of the relevance of mindfulness-based practice for use in clinical practice. Although participants reported no changes in their intention to use mindfulness practices, the authors noted that pre-training scores were already high. In addition, participants reported reduced stress and an increased ability to be mindful. Clinicians reported feeling less judgmental of themselves and their clients' processes in counseling; increased capacity to let go of unsettling thoughts, feelings, or images as they arose; and feeling more relaxed within therapeutic work. Participants did not note changes in their ability to pay attention in session, notice their own internal feelings, or verbalize their understanding to clients. It is possible that participants had already developed these skills earlier in their careers; however, Aggs and Bambling suggested that the training may not have been long enough to achieve these attention related skills. In conclusion, Aggs and Bambling proposed their mindfulness-based training was successful at providing a therapy specific training that has the potential to improve therapeutic outcomes.

Rimes and Wingrove (2010) also modified a mindfulness-based training for mental health professionals. Their training followed the empirically supported MBCT but was changed to focus on stress reduction instead of reducing depressive relapse.

Participants (n = 20) were doctoral students in a clinical psychology program. Overall, attendance in groups was less than ideal with only seven participants attending all eight sessions, and two attending only five. Despite the attendance rates, pre-post comparison found significant reductions in rumination and increases in mindfulness and self-compassion. Additionally, Rimes and Wingrove compared level of training with changes and found significantly larger increases in self-compassion among first year students. Correlational analyses showed stress reduction to be moderately significantly related to reduced rumination (r (19) = .63, p = .004), reduced anxiety (r (19) = .53, p = .020), and increased empathy (r (19) = -.55, p = .015). Participation in home practice was related to better outcomes. Through the use of multiple choice and open-ended questions, over half of participants reported: (a) greater acceptance of thoughts and feelings; (b) greater awareness of thoughts, feelings, behaviors, and bodily sensations; (c) increased understanding of self and patterns of responding; and (d) increased understanding of what it is like to be the client. Over 40% reported increased ability to be non-judgmental, more compassionate, more accepting of themselves, and better able to pause before responding therefore not react automatically. In general, these finding indicate both personal and professional benefits from mindfulness training.

Although it did not include a pre- post intervention design, findings from Greason and Cashwell (2009) also contributed to the understanding of how mindfulness traits are relevant to counselor education. Participants (n = 179) were master's level students who had already completed at least one semester in a professional counseling internship placement. Correlational findings indicated significant positive associations between mindfulness and counselor attentional skills (r = .53, p < .01); empathy (r = .27, p < .01);

and counselor self-efficacy ($r = .34$, $p < .01$). Furthermore, path analysis revealed that mindfulness predicted counseling self-efficacy, with attention mediating this relationship. In summary, Greason and Cashwell stated that mindful attentional skills are likely to increase the ability of counselors to be empathic because the ability to sustain non-judgmental attention allows counselors to attend to verbal and non-verbal expressions without getting lost in personal narratives. In addition, they suggested that mindfulness traits enhance the ability to stay present with clients, tolerate difficult emotional experiences, and avoid worrying about providing solutions; therefore, mindfulness may be in important tool for developing the "internal skills" necessary for cultivating the counseling relationship (p. 15).

Therapeutic Outcomes

Only two research studies have examined the relationship between therapist mindfulness practices and client outcomes (Grepmair, Mitterlehner, Loew, Bachler, Rother, & Nickel, 2007; Grepmair, Mitterlehner, Loew, & Nickel, 2007). Both studies were completed in an inpatient hospital setting. Therapists in the meditation group of both studies were trained in a form of focused attention Zen meditation. Grepmair, Mitterlehner, Loew, and Nickel (2007) recruited therapists ($n = 9$) for both phases of the study; with client outcomes examined pre- and post- meditation training. In contrast, Grepmair, Mitterlehner, Loew, Bachler, et al., compared client outcomes for the meditation group ($n = 9$) to those of therapists ($n = 9$) not engaged in meditation practices. Meditation was done on site for one hour before the beginning of each work day. Both studies found that patients treated by the meditating therapists reported

significantly fewer symptoms, higher assessment of individual therapy, and more positive ratings to the entire treatment experience. Again, these results strongly support the use of mindfulness-based practices for mental health professionals.

In general, this research is the foundation for understanding how mindfulness-based practices can enhance counselor's effectiveness in a variety of ways. However, strong evidence of change and training specific to clinicians is still lacking in the field.

Qualities Intersection of Counselors and Mindfulness

As illustrated in this review of literature, the personal qualities enhanced by mindfulness practice intersect well with the qualities that enhance counselor effectiveness. Specifically, attention, emotional regulation, empathy and compassion are closely related to the characteristics possessed by master therapists (Jennings & Skovholt, 2004) and identified as enhancing therapeutic relationships. In this concluding section, I present a model of how these qualities overlap, connect the model with mindfulness research, and illustrate how mindfulness-based training can be used to enhance counselor efficacy, thereby increasing the likelihood of positive therapeutic relationships and outcomes (e. g., Germer, 2005; Hick, 2008).

Based on evidence provided by neurological changes, I have categorized therapist relational skills and characteristics (Ackerman & Hilsenroth, 2003; Halinski, 2009; Jennings & Skovholt, 2004; Lambert & Barley, 2001; Lambert & Ogles, 2004: Norcross, 2010; Siegel, 2001) as they relate to changes in attention, emotional processing, empathy and compassion (see Figure B.1). These categories are closely

aligned with and enhanced by formal and informal mindfulness-based practices of

concentration, open-awareness, and cultivation of positive states.

Attention

One primary activity of mindfulness meditation is to concentrate and focus

attention, notice when the mind wanders, and return again to the chosen object. For

counselors, this practice will enhance the ability to stay engaged with the client, thus

facilitating active listening and reflective dialogue. It will also increase the ability to give

accurate interpretation and attend to the client's experience in counseling. Particularly

for beginning counselors who may be struggling to learn these most basic skills,

increased attentional skills will facilitate this learning.

The ability to shift attention is also practiced in meditation and there is evidence

of increased attentional flexibility in mindfulness practitioners (e.g., Shapiro et al. 2006).

This ability allows the counselor to not only attend to the client but also notice his or her

personal internal responses (e. g., Brown et al., 2007b; McCollum & Gehart, 2010).

Flexibility also means the counselor is less likely to get caught up in his or her own

personal narratives, and instead shift between perceptions allowing attention to all

aspects of the interaction. This capacity to observe, perceive, and let go means the

counselor is able to notice more, give more accurate feedback, and is thus better

equipped to notice patterns, themes, and formulate interpretations that can be
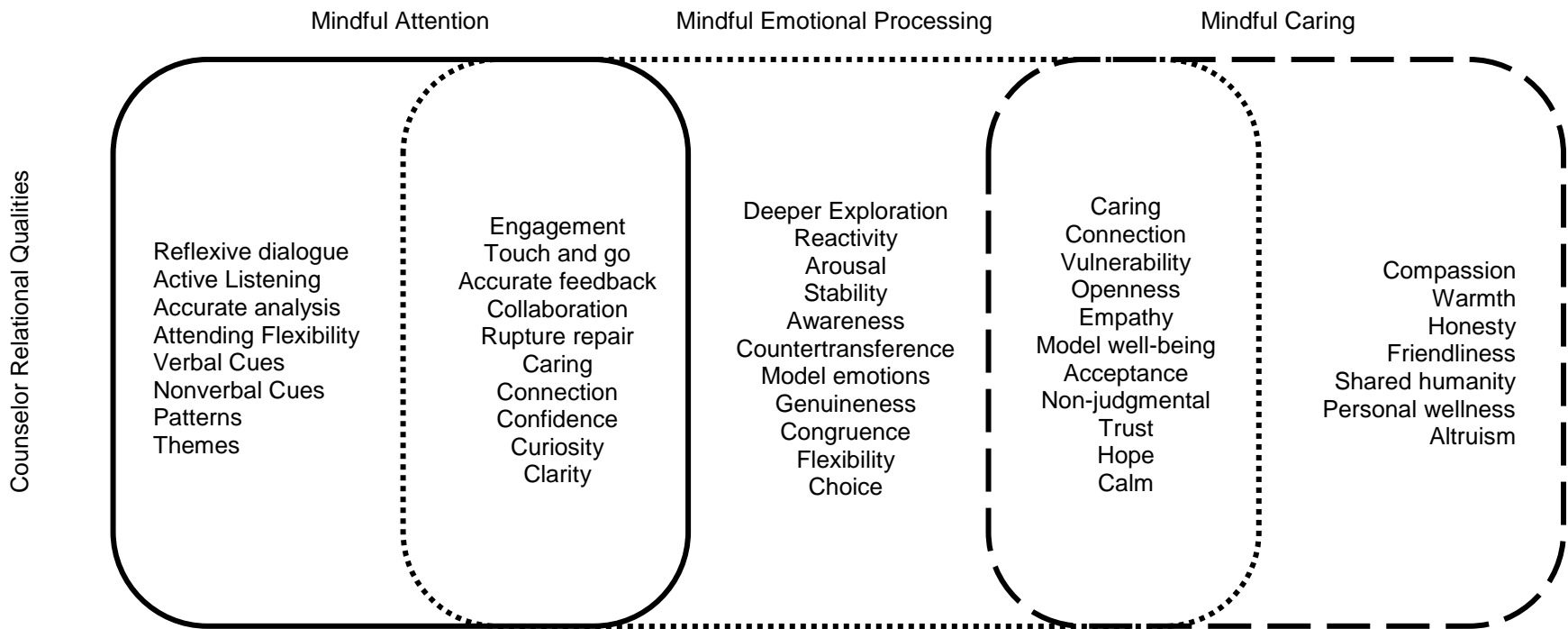
communicated to the client.

Mindful Attention   Mindful Emotional Processing   Mindful Caring

Counselor Relational Qualities

Reflexive dialogue
Active Listening
Accurate analysis
Attending Flexibility
Verbal Cues
Nonverbal Cues
Patterns
Themes

Engagement
Touch and go
Accurate feedback
Collaboration
Rupture repair
Caring
Connection
Confidence
Curiosity
Clarity

Deeper Exploration
Reactivity
Arousal
Stability
Awareness
Countertransference
Model emotions
Genuineness
Congruence
Flexibility
Choice

Caring
Connection
Vulnerability
Openness
Empathy
Model well-being
Acceptance
Non-judgmental
Trust
Hope
Calm

Compassion
Warmth
Honesty
Friendliness
Shared humanity
Personal wellness
Altruism

Figure B.1. Conceptual representation of the intersection between mindfulness qualities and counselor relational qualities.

Being attentive allows deeper understanding, thus providing increased ability to collaborate, which also increases the likelihood of goal consensus. Attention helps memory and therefore facilitates the ability to point out client progress and success. As well, the non-judgmental quality practiced during mindfulness activities facilitates understanding from the client's perspective, increases empathy and compassion, and aids in the ability to repair the relationship if a rupture occurs. In addition, client perception of counselor attentiveness facilitates personal connections and communicates caring, curiosity, and active engagement in the mutual goal to relieve the client's suffering.

Emotional Processing

A variety of enhancements in emotional processing have been linked to mindfulness practices including changes in arousal patterns, reactivity, stability, flexibility, and awareness. Counselors are embedded in the emotional lives of their clients, and many believe that emotional presence is vital to the healing process (Geller & Greenberg, 2002). Mindfulness practices increase the ability to be present with emotional experiences (e. g., Goldin & Gross, 2010). By increasing this ability, counselors are more equipped to encourage deep exploration, facilitate expressions of deep affect, repair relationship ruptures, manage countertransference, and self-disclose, thereby supporting the therapeutic relationship. Being emotionally present also facilitates personal connection, honesty, confidence, curiosity, and openness between the client and the counselor.

Furthermore, when uncomfortable experiences are recognized and met with acceptance, the need to respond in defensive ways is diminished and insight is expanded (Brown et al., 2007b). For the counselor, this means greater control and choice over responses, facilitating the relationship and modeling emotional stability. In addition, greater clarity allows counselors to recognize their own values and beliefs, and creates the space for more genuine and targeted responses based on clients' values and needs. Furthermore, the experience of remaining present with emotionally intense material increases congruence, genuineness, authenticity, vulnerability and openness; qualities associated with strengthening the relationship and modeling psychologically health (e. g., Jennings & Skovholt, 2004).

Experience with mindfulness practice enables counselors to model coping strategies related to the ability to be less reactive to present experience, and free from old patterns of thought and emotion (Germer, 2005). Furthermore, students reported that learning to accept and let go of negative emotions and thought patterns was challenging and frustrating, but resulted in an overall positive outcome (Schure et al., 2008). I see this as mirroring the client's experience in counseling, a point that could be made to counselors to increase their empathic understanding and compassion toward clients and the therapeutic process.

As previous noted, because the natural tendency is for the mind to process and evaluate perceptions automatically, often in a self-centered manner, inaccurate and distorted understanding of what is actually occurring can occur (Brown et al., 2007b). Conversely, mindfulness involves an open, non-judgmental stance where examination of present experience is not precluded by evaluation and personal history. For

counselors, this mindful ability to remove self-referent impressions and automatic reactions allows clearer understanding of the client and allows more consciousness and flexible responses.

In addition, master therapists have the quality of using the safety they have engendered in the therapeutic relationship to discuss clients' most difficult and painful issues (Jennings & Skovholt, 2004). This requires counselors trust in their capacity to stay present with the client's experience and regulate their emotional responses when personal material is triggered. This capability can be modulated by reducing self-referent processing during interactions with the client, a skill that mindfulness practices promote.

Positive affective relational qualities like a sense of humor, hope, courage, and belief in the client's ability to change are also important changes linked to mindfulness practices. Findings support the potential for increased acceptance and self-awareness as precursors to increased self-compassion (Chrisman et al., 2009). I also believe that empathic responding is bidirectional and the sense of calm, compassion, hope, and groundedness that is cultivated through mindfulness practices can be shared with the client.

Empathy and Compassion

The relationship between mindfulness practices, empathy and compassion is perhaps the easiest to comprehend, primarily because mindfulness-based practices include direct cultivation of these qualities (e. g., Shapiro & Islett, 2008). Relational qualities counselors must foster including collaborating to relieve client suffering, being

supportive and respectful, and expressing accurate empathy fall naturally into this category. As well, personal qualities of trustworthiness, warmth, honesty, friendliness, and acceptance are all directly cultivated through practice.

Additionally, empathy and compassion encourage recognition of a shared humanity and can engender a sense of hope and trust in the possibilities of change. Loving-kindness and compassion meditations specifically direct these emotions towards the self and towards others. These qualities also facilitate vulnerability, openness, and altruistic tendencies identified as characteristics of master therapists (Jennings & Skovholt, 2004). In addition, master therapists tend to have a deep understanding and appreciation of the ways their own well-being impacts their work; as discussed previously, the evidence that mindfulness is related to well-being is solid (e. g., Shapiro et al., 2005).

Although not specific to any one category, engaging in mindfulness-based practice is related to other qualities found in master therapists (Jennings & Skovholt, 2004). These include being engaged in a continual learning process because by their very nature, mindfulness practice involves introspection and examination of on-going mental processes and require openness to learning from experience and a willingness to self-examine. Adopting a non-judgmental appreciation for the complexity of life through self-examination leads to a willingness to accept and enjoy the ambiguity and complexity of human nature. These valuable qualities were identified in master therapists (Jennings & Skovholt) and are likely to be important for counselors to cultivate.

Reflections by Mindfulness Scholars

Mindfulness scholars have begun to describe the intersection between mindfulness qualities and qualities related to counselors' abilities, in particular the value of acceptance, equanimity, empathy, affect tolerance, tolerance of ambiguity, nonjudgmental attitudes, and attention (e. g., Fulton, 2008; Hick, 2008). Brown et al. (2007b) stated mindfulness is "associated with enhanced executive functioning, better self-regulation, greater autonomy, and enhanced relationship capacities" leading to a way of being that supports more healthy, adaptive function, with better self and other relationships (p. 227). Therefore, these scholars highly recommend personal mindfulness practices to enhance counselor functioning (e.g., Greason & Cashwell, 2009; Shapiro & Islett, 2008).

As Woods (2009) reflected, personal experience with mindfulness practice models the ability to be patient, friendly, curious, and compassionate towards discomfort in the moment and that takes "attention, receptivity, patience, and trust", as well as time, to develop through the practices of loving-kindness and compassion (p. 469). Moreover, by having met themselves again and again, the counselor's ability to meet clients where they are is enriched. Furthermore, when the clinician has a mindfulness practice the entire enterprise of counseling is surrounded by the benefits of a keener attention, acceptance, values, and understanding of a path towards well-being, which includes a changed relationship to experience (Fulton, 2009, p. 410).

Woods (2009) stated that because the therapist has personal experience with "attending to and allowing for what is here" with an attitude of kindness, this skill can be expressed and modeled within the therapeutic relationship (p. 468). Other mindfulness

scholars acknowledge that the ability to be accepting and non-judgmental comes directly through the practice and personal experience of grappling with one's own difficulties, and accepting one's own mind (e. g., Germer, 2005). Furthermore, Woods stated "it is only through the instructors' own experience with mindfulness practice, that she/he improves the possibilities of representing these qualities of acceptance, nonjudgment, kindness, continuing investigation, self-inquiry and compassion in their fullness" to their clients (Woods, 2009, p. 469).

In his reflections of the intersection between mindfulness and empathy, Walsh (2008) stated that while empathy has frequently been thought of as an innate quality, there has also been an assumption in clinician training modalities that it can be enhanced and refined through practice. He suggested that the teaching of reflective responses has been an attempt at increasing this skill and is core to the counselor training models currently in use. However, while this may convey an empathic response to the client, the overriding focus on the communication of empathy does not enhance the internal processes necessary for accurate understanding of the client (Walsh, 2008). Instead, training programs should also provide ways for new clinicians to generate true empathy and compassion.

R. Siegel et al. (2009) suggested that part of the reason clients come to therapy is to seek understanding, acceptance, and compassion; therefore, it is essential that counselors be trained in these skills. He also contended that when counselors offer acceptance and compassion through a lens of understanding, healing can begin. The ability to offer this to others is enhanced through cultivating a healthy relationship with

ourselves (R. Siegel et al.). Germer (2005) also stated that learning to have a good relationship with self, naturally leads to developing good relationships with others.

Although this field of inquiry is still in its infancy, it seems apparent that mindfulness qualities and counselor qualities are similar, if not identical on many dimensions. However, the mindfulness-based interventions currently being used are designed to focus primarily on ameliorating clinical disorders, decrease stress and increase well-being. While these outcomes can be beneficial for counselors, shifting the focus slightly toward developing strong relational qualities can help fulfill the needs of counselors in ways that are different than current interventions. In Appendix C, I review methods and procedures used to assess the effectiveness of a new mindfulness-based training designed to develop foundational characteristics including mindfulness qualities, more reflective less ruminative self-focus style, empathy, and self-compassion.

APPENDIX C

DETAILED METHODS AND PROCEDURES

Using a quasi-experimental design, this study examined the effects of the Mindfulness-Based Learning Management System for Counselors (MBLMS-C). This training was designed to be easily incorporated into clinical training curriculums for enhancing counselor qualities and attitudes known to be conducive to forming strong therapeutic relationships. This appendix includes the detailed methods and procedures including the research question, definition of terms, instrumentation, procedures, and data analysis strategy utilized in this research.

Research Questions

1. To what degree does the MBLMS-C intervention affect student counselors' (a) mindfulness traits, (b) empathic perspective taking and empathic concern, (c) empathic personal distress, (d) self-focus style of rumination, (e) self-focus style of reflection, and (f) self-compassion?

2. Will exploration of descriptive changes and individual participant narratives lend support for the viability of training in mindfulness-based practices as delivered through the MBLMS-C curriculum?

Mindfulness Training

Although scholars continue to examine various dimensions of mindfulness practice, it is not the purpose of this research to answer these questions. Instead, the purpose of this research was to introduce a variety of formal and informal mindfulness practices as a means of enhancing skills and characteristics important for counselors. As such, it was not the first intervention to place a particular focus or emphasis on those

areas of mindfulness practice which are most likely linked to desired outcomes, including self-control, emotional regulation and compassion (Brown et al., 2007b, p. 215). For the purposes of this research, I incorporated the following positions.

Mindfulness was described as "paying attention, on purpose, to experiences in the present moment, with an attitude of nonjudgmental, nonreactive curiosity and compassion; while also engaging in meta-awareness of the process." This description included all of the concepts described earlier in this chapter, and used terms most commonly found in mindfulness research.

I utilized the operational definition proposed by Bishop et al. (2004) with the addition of the ethical considerations addressed by Leary and Tate (2007). The ethics incorporated were the same as those principled ethics of the counseling profession, which are also the same as the ethics drawn from ancient texts: autonomy, nonmaleficence, beneficence, justice, and fidelity (Kitchener, 1984).

I adopted the model proposed by Shapiro et al. (2006), which defined the mechanisms of mindfulness as: (a) having a dynamic, evolving intention to practice; (b) paying attention by observing moment to moment experience, and (c) cultivating an attitude of nonevaluative curiosity, openness and compassion. All three styles of practice were included and referred to as concentration, open awareness, and cultivation of positive states; informal practices were also introduced and encouraged. Together these practices were referred to as mindfulness-based practices.

It is beyond the scope of this research to determine which components of classical mindfulness are most important to evoke positive change. Instead, based upon desired outcomes for counselor training, I included an introduction to all three types of

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formal practice: (a) attention, (b) open-awareness, and (c) the cultivation of positive

states including loving-kindness, self-compassion, and open-heartedness, as suggested

by ancient practices, and included in both MBSR and MBCT interventions.

Mindfulness was considered both a state and a trait. The training involved

producing state mindfulness through guided formal practices. Because integration of

mindful traits into counselor qualities was proposed to enhance counselor training,

measurement involved determining changes in trait mindfulness pre- and post- training.

In addition, teaching and encouragement of informal practices was intended to increase

the potential for trait mindfulness.

It seems that the uncertainty regarding the inclusion of goals may be intertwined

with cultivating attitudes during practice. For example, in order to be accepting and

nonjudgmental regarding the ability to sustain attention and awareness, participants

must temporally suspend the goal to do it right. However, the truth is that being

accepting and nonjudgmental is in itself a goal. Therefore, for the purpose of this

training, participants were instructed to bring an *attitude* of acceptance, compassion,

and equanimity to practice, with the implicit goal being to develop a positive attitude

towards themselves and their experiences. Because it has been shown that the

intention of practice is an important component in achieving positive outcomes (Shapiro

et al., 2006), participants were asked to set the goal of improving mindfulness qualities

as a purpose for practice

In order to minimize confusion, I used the following terms to distinguish

attentional skills from perceptual awareness. *Attention* referred to the ability and

experience of focus and concentration, described as that which is currently in the

forefront of the mind. *Awareness* meant a particular way of paying attention, not to a single object, but to the entirety of the contents, perceptions, and processes of the mind; as well as the fluidity and process of perception; described as what happens in the background of the mind. *Meta-awareness* referred to the ability to watch and observe the on-going flow between attention and awareness.

Regarding the use of acceptance in the description of mindfulness practice, it seems to me although Carmody's (2009) contention that these terms are redundant when referring to the properties of meta-cognitive awareness; it is my position that it is unlikely that most participants will fully understand meta-awareness, let alone have abundant experience with the process of watching the mind. Also, I agree that it is human nature to evaluate our ability, particularly when taking on a new task (Kabat-Zinn (2003a). Therefore, I believed it was important to include instructions that described not only the process but the qualities needed to cultivate meta-awareness. So I decided including instruction about acceptance of experience was necessary to help point out one way mindfulness practice differs from typically human experience. This was also a way of inviting acceptance of the human condition.

The flow and content of the MBLMS-C training was influenced strongly by the Mindfulness-based stress reduction (MBSR) model used extensively the mental health field (Shapiro et al., 2005). The training incorporates introductions, concepts, and experiential practices including: (a) definitions, (b) research overview, (c) links to counseling, (d) expectations and barriers, (e) attitudes, (f) instructions for formal practices including, concentration, open awareness, and positive states; and (g)

instructions for informal mindfulness practices. More details for the training are given in the intervention section below (see also Table C.1).

Mindfulness Qualities

For the purposes of this research, mindfulness qualities were defined as the multifaceted construct tested by Baer, Smith, Hopkins, Krietemeyer, and Toney (2006). These qualities included observing, describing, acting with awareness, nonreactivity, and nonjudging**.**

Observing

This component of mindfulness is associated with the act of noticing, observing and attending to experiences. These include experiences of bodily sensations, thoughts, feelings, and other perceptions. For example, endorsing the statement "I notice how foods and drinks affect my thoughts, bodily sensations, and emotions" would be related to a high observing quality.

Describing

This aspect of mindfulness is related to the ability to use words to describe experiences. For example, endorsing the statement "My natural tendency is to put my experiences into words" would be related to a high describing capacity.

Table C.1

Curriculum Outline for Mindfulness-Based Learning Management System for Counselors (MBLMS-C)

| | Formal Practices | | | |
Weekly Lesson Content [a]	Title	Style	Min Per	Informal Practices
Week 1	Wheel of Awareness	Introduction	10	Mindful Travel
Introduction: Mindfulness and mindfulness-based practices				
Research overview: mental, physical, and neurobiology				
Counseling Link: attention, emotional processing, and positive states				
Introduction: Types of practice and course overview				
Expectations: Common early practice experiences				
Attitude: Non-judgment				
Instructions: Formal and informal practice details				
Week 2	Mindful Breathe	Concentration	10	Mindful Eating
Introduction: Focused Concentration practice				
Research overview: Changes in attention and setting intentions				
Counseling Link: attention and relational connection				
Introduction: Ways to practice focused concentration				
Expectations: Common practice experiences				
Attitude: Patience				
Instructions: Formal and informal practices details				
Week 3	Body Scan[b]	Concentration	15	Mindful Hygiene
Introduction: Body scan practice				
Research overview: Stress reduction				
Counseling Link: Empathy and interoception				
Introduction: Common misperceptions				
Expectations: Potential abreactions from pain and trauma, common barriers				
Attitude: Gratitude				
Instructions: Formal and informal practices details				
Week 4	Labeling	Open Awareness	15	Mindful Walking
Introduction: Open awareness practice				
Research overview: Empathy and emotional labeling				
Counseling Link: Emotional presence and attuned communication				
Introduction: Mental patterns, grasping, rejecting, and ignoring				
Attitude: Curiosity				
Instructions: Formal and informal practices details				

(table continues)

Table C.1 *(continued).*

Weekly Lesson Content [a]	Formal Practices			Informal Practices
	Title	Style	Min Per	
Week 5				
Introduction: Meta-awareness practice				
Research overview: Interpersonal neurobiology and self-focus style	Watching the Mind	Open Awareness	15	Emotional Curiosity
Counseling Link: Touch and go, counseling relationship				
Introduction: Noticing how the mind works				
Attitude: Acceptance				
Instructions: Formal and informal practices details				
Week 6				
Introduction: Loving-kindness practice				
Research overview: Cultivating kindness	Loving-Kindness	Positive States	20	Listening
Counseling Link: Caring environment creation and self-care				
Introduction: Resistance and responding with kindness				
Attitude: Gentleness				
Instructions: Formal and informal practices details				
Week 7				
Introduction: Self-compassion practice				
Overview: Self-compassion components and habitual responding				
Research overview: Emotional well-being	Self-Compassion	Positive States	20	Extending Kindness
Counseling Link: Relationship benefits				
Introduction: Negativity bias, self-criticism, and backdraft				
Attitude: Kindness				
Instructions: Formal and informal practices details				
Week 8				
Introduction: Open hearted practice				
Overview: Being open to pain				
Counseling Link: Open to discomfort and window of tolerance	Tonglen	Positive States	20	Common Humanity
Review of Key Concepts: Mental habits and normal challenges				
Attitude: Courage				
Instructions: Formal and informal practices details				

Note. Training content was derived from comprehensive review of the literature. Contact first author for specific references.

Acting with Awareness

This dimension of mindfulness is associated with the tendency to focus on the task at hand, and not be distracted by other things, including thoughts about the past or worries about the future. For example, not endorsing the statement "I don't pay attention to what I am doing because I am daydreaming, worrying, or otherwise distracted" would be related to an ability to act with awareness.

Nonreactivity

This component consists of the ability to remain neutral to inner experiences. For example, endorsing the statement "I perceive my feelings and emotions without having to react to them" would be related to the tendency to remain nonreactive to internal experiences.

Nonjudging

This element of mindfulness is associated with the frequency that a person places an evaluation on themselves. For example, not endorsing the statement "I criticize myself for having irrational or inappropriate emotions" would be related to a nonjudging attitude.

Empathy

For the purposes of this study, empathy included both the cognitive and affective components of this multidimensional construct as described by Davis (1983) during the development of the Interpersonal Reactivity Index (IRI). The cognitive component

consists of an intellectual, thought-based understanding of another person's experience. The affective dimension is an emotional, spontaneous response that mirrors the emotive state of another person (Davis, 1983). Both cognitive and affective elements were further divided into three components that concern the ability to relate to others and yet are distinctive from one another. These components are labeled as perspective taking, empathic concern, and personal distress.

Perspective Taking

This component is a measure of the cognitive ability of a person to understand the viewpoint of another person. Davis (1983) found that this dimension of empathy was positively correlated with interpersonal functioning and social competence. In addition, it is related to a selfless concern for another person's feelings and reactions.

Empathic Concern

This component is a measure of the affective dimension related to warmth, compassion, sympathy and concern for another; particularly as it relates to the other person's misfortune or negative emotions. This aspect of empathy was demonstrated to be strongly related to the ability to possess a non-egocentric concern for others (Davis, 1983).

Personal Distress

This component is also a measure of the affective dimension; however, measures the responder's personal feelings of anxiety and tension in social situations.

This quality was consistently associated with poor interpersonal skills, like shyness and social anxiety; as well as being strongly related to feelings of vulnerability, uncertainty and fearfulness.

Self-focus Style

For the purposes of this research self-focus style was defined as the multifaceted construct described by Trapnell and Campbell (1999). Two different self-focus styles are defined as rumination and reflection.

Rumination

This type of self focus style is characterized as being motivated by fear related to potential threats, loss, or injustices to the self. Aspects of rumination include an inability to shut off unwanted thoughts and a tendency to worry about things from the past.

Reflection

This type of self attentive process is characterized as being motivated by curiosity or interest in gathering knowledge about the self. Aspects of reflection include a tendency to be introspective, and spend time contemplating personal attitudes, and feelings.

Self-compassion

For the purposes of this research self-compassion was defined as the multifaceted construct described by Neff (2003). This multi-faceted construct has three

components self-kindness vs. self-judgment, common humanity vs. isolation, and mindfulness vs. over-identification.

Self-kindness vs. Self-judgment

This aspect of self-compassion is described as directing kindness and understanding instead of criticism and judgment towards oneself. Self-kindness is characterized by being loving to oneself when in pain and extending tenderness during difficult times. Conversely, self-judgment includes being disapproving of personal flaws and inadequacies, and being tough on the self when things are hard.

Common Humanity vs. Isolation.

This aspect of self-compassion is related to recognizing experiences as being part of the human condition versus an attitude of separateness from others. Common humanity is characterized by recognizing difficulties as being a part of life others experience too and reminding oneself that others sometimes feel the same way when facing challenges. Conversely, isolation is related to feeling like others are happier and life is easier for everyone else.

Mindfulness vs. Over-identification

This part of self-compassion is about meta-cognition which allows one to understand the nature of painful thoughts and emotions versus becoming immersed and self-absorbed in them. Mindfulness is characterized by keeping emotions in balance, and taking a balanced view of troubles and difficulties. Conversely, over-identification is

characterized by obsessing and fixating on troubles, and having a tendency to blow things out of proportion.

Instrumentation

Demographics

Demographic information gathered included age, sex, ethnic identity, religion, university affiliation, major counseling program focus, credit hours earned towards master's degree, and previous mindfulness/meditation experience. Participants who indicated previous mindfulness experience were asked to specify type of experience, style/tradition of practice, number of years of experience, and current average weekly time spent in formal and informal practice. See Table F.2 in Supplemental Materials appendix for the detailed demographic questionnaire including response choices.

Five Factor Mindfulness Questionnaire (FFMQ)

This instrument was constructed by Baer et al. (2006) by combining five separate mindfulness measures. The authors thorough analysis resulted in a five factor model for measuring the mindfulness dimensions of observing, describing, acting with awareness, nonreactivity and nonjudging. Exploratory factor analysis supported the multifaceted nature of the mindfulness construct, and only the items with the highest loadings were included in the final instrument.

The resulting instrument is a 39 item self-report measure. Responses are a 5-point Likert scale with responses ranging from 1 (*never or very rarely true*) to 5 (*very often or always true*). The FFMQ has 19 reverse-scored items. The Nonreact subscale

contains 7 items, and has a score range from 7 – 35. All other subscales contain 8 items and have a score range from 8 – 40. Higher scores indicate greater degrees of mindfulness on each of the five facets. There are no score interpretations for this instrument; therefore it was used only to measure direction and strength of change following the intervention.

Correlational analysis confirmed that four of the five subscales were related to similar constructs. The fifth construct showed unexpected relationships in the confirmatory analysis for those without previous meditation experience. Baer et al. suggested the complexity of this construct may mean it is interpreted differently due to meditation experience. Subsequent research by Baer et al. (2008) confirmed the observing construct was predictive of mindfulness experience. The FFMQ has evidence of divergent validity as validated by correlational analysis confirming the five facets are measuring separate characteristics. In addition, planned contrasts between non-meditators and meditators revealed significant differences on all subscales indicating meditation experience has a significant effect on all five factors being measured (Baer et al., 2006, 2008). In previous samples, internal consistency for each subscale was demonstrated to be from .75 to .91. Baer et al. (2006) reported reliability on total instrument to be .96. Internal consistency, as measured by Cronbach's α, for the full scale entry and exit survey were excellent (α = .93 / .95 respectively). See Table C.2 for detailed information regarding observed subscale reliabilities.

Table C.2

Exploration of Subscale Means and Univariate Post Hoc[a] Tests and Subscale Reliability for Variables of Interest

Measures	Pre M (SD)	Post M (SD)	Mean Change	F	p n = 10	partial η²	p[c] n = 30	Cronbach's α Pre	Post
FFMQ									
Observe	26.0 (5.44)	30.0 (3.97)	+ 4.0	4.80	.056	.348	<.001	.84	.71
Describe	28.0 (6.13)	30.3 (5.23)	+ 2.3	3.13	.111	.258	.004	.94	.90
Act with Awareness	25.2 (5.75)	25.8 (3.26)	+ 0.6	0.09	.772	.010	.596	.94	.68
Nonjudge	26.0 (6.67)	27.8 (7.24)	+ 1.8	0.67	.435	.069	.154	.91	.95
Nonreact	22.0 (5.40)	23.4 (5.21)	+ 1.4	2.09	.182	.188	.015	.92	.89
IRI									
Perspective Taking	20.0 (4.57)	21.1 (4.33)	+ 1.1	.51	.491	.054	.207	.74	.71
Empathic Concern	23.2 (1.48)	22.9 (3.74)	- 0.3	.07	.796	.008	.636	-1.19	.51
Personal Distress	12.2 (7.39)	11.0 (5.10)	- 1.2	1.27	.288	.124	.052	.91	.82
RRQ									
Rumination	3.6 (0.99)	3.2 (0.70)	- 0.4	2.70	.135	.230	.006	.96	.90
Reflection	3.8 (0.52)	3.9 (0.71)	+ 0.1	.382	.552	.041	.277	.87	.91
SCS									
Self-Kindness	3.4 (0.79)	3.6 (0.78)	+ 0.2	.858	.378	.087	.107	.72	.72
Self-Judgment	3.2 (1.10)	2.8 (1.06)	- 0.4	3.90	.080	.302	.001	.92	.88
Common Humanity	3.6 (0.80)	3.8 (0.33)	+ 0.2	.742	.411	.076	.133	.67	-.38
Isolation	3.3 (1.06)	3.0 (0.93)	- 0.3	5.062	.051	.360	<.001	.91	.81
Mindfulness	3.4 (0.67)	3.4 (0.72)	0	.114	.743	.012	.549	.62	.70
Over-identification	3.5 (0.98)	2.8 (0.73)	- 0.7	5.704	.041	.388	<.001	.88	.67

Note. FFMQ = Five Factor Mindfulness Questionnaire Total; IRI = Interpersonal Reactivity Index; RRQ = Rumination-Reflection Questionnaire; SCS = Self-Compassion Scale. [a]Post hoc analysis completed by univariate repeated measures analysis of variance for exploration only. [b]effect size determined by partial eta squared obtained from post hoc univariate test following multivariate repeated measures analysis. [c]'what if' results obtained by performing an analysis of n = 30.

Interpersonal Reactivity Index (IRI)

The Interpersonal Reactivity Index (IRI; Davis, 1983) was designed to utilize a multidimensional approach to measure both the cognitive and affective dimensions of empathy utilizing four distinctive subscales. This 28 item self-report measure consisted of four 7-item subscales: (a) Perspective Taking; (b) Empathic Concern; (c) Personal Distress; and (d) Fantasy. For the cognitive domain, Perspective Taking measured the propensity to take another person's point of view. For the affective dimension, Empathic Concern measured the penchant to feel warmth, compassion, and concern for others. The Personal Distress subscale measured anxiety and discomfort reactions to others which is thought to impede the ability to connect to another person. The Fantasy subscale was designed to rate the propensity to put oneself into the feelings and actions of fictional characters; however, because this tendency was perceived as not associated to counselor relational qualities, it was not used in this research. This instrument utilizes a 5-point Likert scale with responses ranging from 0 (*does not describe me*) to 4 (*describes me well*). Nine items are reverse scored with scores ranging from 0 – 28 on each subscale.

For this study, results from the Perspective Taking and Empathic Concern subscales were combined as a measure of cognitive and affect empathic tendencies considered beneficial for counselors. The Personal Distress subscale was used as a measure of empathic distress, which was considered non-beneficial. There are no score interpretations for this instrument; therefore it was used only to measure direction and strength of change following the intervention.

Validity of this scale was supported by investigating the relationship among the subscale items, between the subscales, and as compared to similar psychological measures; analyses found predicted relationships among subscales, and strong relationships to other empathy measures. In addition, support for the four separate empathy constructs was demonstrated by strong relationships with other specific and related measures. Davis (1983) reported the internal reliability to be between .70 - .82; and test-retest reliability between .62 - .71 for each of the subscales.

In this study, internal consistency for the entry survey, as measured by Cronbach's α, of the Perspective Taking was acceptable (α = .74), Empathic Concern was unacceptable (α = -1.19), combined Perspective Taking and Empathic Concern was questionable (α = .62), and Personal Distress excellent (α = .91). Low internal consistency on the Empathic Concern subscale was due to inconsistent responses to the question "Sometimes I don't feel very sorry for other people when they are having problems." Small sample size likely contributed to the impact of the inconsistent responding on the internal consistency calculated; indeed, closer inspection of the individual responses revealed that two of the participants responded paradoxically to this question. Therefore, interpretations using this subscale must be considered with extreme caution. Internal consistency of the exit survey Perspective Taking was acceptable (α = .79), Empathic Concern was unacceptable (α = .52), the combined Perspective Taking and Empathic Concern acceptable (α = .79), and Personal Distress good (α = .82). Closer examination of the individual item responses in the Empathic Concern subscale revealed a variety of inconsistent responses across several of the

questions; interpretation of the findings using this subscale should be considered with extreme caution.

Rumination-Reflection Questionnaire (RRQ)

This instrument was constructed by Trapnell and Campbell (1999) and was designed to measure two styles of private self-attentiveness. The resulting 24 item self-report measure consisted of two 12-item subscales, Rumination and Reflection. Responses were given on a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Eight negatively worded items are reverse scored, and mean scale scores result in two subscale scores between 1 – 5. There are no score interpretations; therefore it will be used only to measure direction and strength of change following the intervention.

Factor analysis confirmed the items loaded highly and uniquely in their separate factors and were only minimally correlated indicating that these self-focus factors are fundamentally separate dispositions. Construct validity testing confirmed expected relationships to similar constructs including social anxiety, self-consciousness, internal state awareness, and self-reflection. Correlational analysis also confirmed significant predictive relationships between rumination and neuroticism; and reflection and openness. Trapnell and Campbell (1999) reported internal consistency for Reflection of .91 and Rumination of .90. In this study, internal consistency, as measured by Cronbach's α, for the entry survey for Rumination was excellent (α = .96) and Reflection was good (α = .87). Internal consistency for the exit survey, for the both Rumination and Reflection scales was excellent (respectively α = .90 and α = .91).

Self-Compassion Scale (SCS)

This instrument was constructed by Neff (2003) and was designed to measure self-compassion on three dimensions: self-kindness vs. self-judgment, common humanity vs. isolation, and mindfulness vs. over-identification. This 26 item self-report measure consists of six subscales, with Self-Kindness and Self-Judgment subscales containing 5-items and the remaining subscales containing 4-items: (a) Self-Kindness; (b) Self-Judgment; (c) Common Humanity; (d) Isolation; (e) Mindfulness; and (f) Over-identified. Responses were given on a 5-point Likert scale from 1 (*almost never*) to 5 (*almost always*). Items were scored with the subscale scores calculated as mean scores of item responses. Negative subscales (Self-Judgment, Isolation, and Over-identification) were reverse scored before computing overall scores. Overall self-compassion score was calculated as the sum of the six subscale mean scores and ranges from 5 – 30. Higher total scores indicate higher self-compassion. Score interpretations for this instrument are given as 3.5 – 5.0 high; 2.5 – 3.5 moderate, and 0 – 2.5 low.

During scale development, subscales were included to measure the theoretically separate components but were found to be highly inter-correlated and confirmed a single construct of self-compassion. Confirmatory factor analysis supported a six factor model with items in each of the three dimensions loading on two separate factors. Higher order confirmatory factor analysis and inter-correlations between the factors indicated an adequate fit for a single higher-order factor of self-compassion. Construct validity testing confirmed expected relationships to similar constructs including self-criticism, social connectedness, and trait-meta mood scale. Correlational analysis also

showed self-compassion to have significant predicative relationships with a variety of mental health measures including depression, anxiety, and life satisfaction. Additionally, results from a comparison with Buddhist practitioners experienced with self-compassion cultivation confirmed the sensitivity of the measure including a significant correlation to number of years of practice. Test-retest reliability was .93 for the overall scale, with a range of .80 - .88 for individual subscales. Neff (2003) reported internal consistency for complete instrument of .92, with a range of .75 - .81 for the six individual subscales. In this study, internal consistency, as measured by Cronbach's α, for the entry survey total scale was excellent (α = .96). Subscale reliabilities were as follows: Self-Kindness α = .73, Self-Judgment α = .92, Common Humanity α = .67, Isolation α = .91, Mindfulness α = .62, and Over-identification α = .88. Internal consistency, for the exit survey total scale was excellent (α = .92). Subscale reliabilities were as follows: Self-Kindness α = .72, Self-Judgment α = .88, Common Humanity α = -.38, Isolation α = .81, Mindfulness α = .70, and Over-identification α = .67. Due to the nature of inter-item correlations, it is sometimes difficult to achieve an acceptable Cronbach's α with a small number of items (Pallant, 2007). In addition, there were only 10 participants, further confounding the impact from each participant's responses. Closer inspection of participants' individual responses revealed inconsistent responding to the question "When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people" for two participants. Therefore, interpretations including the changes noted in the Common Humanity subscale should be interpreted with extreme caution.

Formal Practice Log

The intention was for the website to track and record participant log-in times and time spent in formal practice; however, early software development problems prevented accurate accounting of participant formal practices times. Instead, engagement with formal practice was assumed if participants responded to the optional reflection journal or recorded informal practice times, as these options appeared on the same page as the audio playback for the daily guided practice. Due to unreliability of these data, analyses were not conducted on the relationship between changes in pre- post- scores as a function of time spent in formal mindfulness practice.

Informal Practice Log

Following each practice session, participants were given the opportunity to enter time estimates for engaging in informal practice suggestions given during the didactic instruction. Additionally, a link on the main page of the website allowed access to the participants informal practice log, so entries can be made at times other than immediately following formal practice sessions. Again, this option and lack of log-in data contributed to the unavailability of reliable practice time data.

Personal Reflections Journal

Participants were given the opportunity to reflect on their experiences. A text box labeled "Personal Reflections" was available on the daily guided practice page. Journal responses were not limited in size. Reflection journal entries were saved including the previous week and lesson completed by the participant. Open-ended responses were

used to support conclusions and outcomes, and examples can be found in the extended discussion in Appendix E.

Procedures

The population of interest for this study included students who were admitted or provisionally admitted to CACREP-accredited counseling programs and enrolled in their first essential or helping skills course. Following approval from the university Institutional Review Board (IRB), email invitations were sent to 123 faculty members, resulting in 15 CACREP-accredited sites returning letters of cooperation and receiving student recruitment materials. Instructors were asked to email, post, and/or announce the participation opportunity in introductory counseling skills courses. Eligible students received a brief overview of training content, time commitment expectations, and information for contacting the investigators via email or website.

At the website, potential participants were asked to provide email contact, a password, and agree to the informed consent. A unique participant ID was emailed, and participants completed survey data including a demographic questionnaire, the Interpersonal Reactivity Index (IRI), Five Factor Mindfulness Questionnaire (FFMQ), Rumination-Reflection Questionnaire (RRQ), and Self-Compassion Scale (SCS). Following completion of the surveys, participants were instructed to begin the training. Several non-counseling students enrolled in an introductory course expressed interest and were given access to the training through the use of an administrative participant ID. Logging in with these manually assigned IDs bypassed the informed consent and survey collection in order to ensure that data from these students was not obtained.

Training material was presented as weekly lessons available at 7 day intervals, and daily guided practices opened consecutively, by week, based on the prior completed practice and training week. Participants were given the opportunity to repeat any previously accessed materials, provided unlimited space to reflect on the daily experience, and asked to provide estimates on time spent in informal practice. Last known website access date and time were recorded, and email reminders sent if the website was not accessed for 5 days. An email link was provided on the website for email communication with the student investigator, and this email inbox was monitored daily. Several problems with internet browser compatibility and access problems were noted early on and resolved. All data were stored in a separate database by the web administrator and not linked to participants' identities in any way.

Following the final week of training, participants received an email reminder to complete the exit interview (see Supplemental Table F.3) and post- surveys. Participants who did not complete exit surveys were given two additional reminders at approximately 7 day intervals, after which no more communication was initiated. Those completing the exit survey were voluntarily entered into a random drawing for one of ten $50 gift cards to an on-line book store.

Additionally, links on the website were available with university specific counseling resources and for opting out of the research. Over the course of the training, four participants chose to opt-out. Participants were reminded throughout the course of the importance of monitoring emotional impact and intensity. Instructions were given for returning to concentration style practices for stability when needed and they were

encouraged to seek outside support, either through their professor or other mental health resource, if they experienced on-going concerns.

Mindfulness Training

Training consisted of weekly 12 - 38 minute (total over 8 weeks = 164.4 minutes; $M = 20.6$) narrated lessons developed using SlideRocket Pro, an on-line presentation development tool, and accessed through the MirrorTools.com website. Weekly lessons consisted of introductory material support through visual reinforcement. Information presented included definitions, current research, counselor related concepts, and introductions to a different formal and informal mindfulness practice weekly (see Table C.1 for course outline).

Guided formal practices were accessed by logging in and clicking on the next available link. Although the traditional MBSR program typically asks members to do 45 minutes of daily formal practice, some researchers have suggested the average length of time for beginning a mindfulness practice is 10 to 20 minutes a day (Gehart & McCollum, 2008; Siegel, 2010); therefore formal practice times began at 10 minutes and increased to 20 minutes by week 6 (*M=15.63; total = 875)*. In order to support increased self-directed processes, timing between guided prompts increased as training progressed. Participants were given specific instructions for informal practice and asked to record practice time estimates. At the end of each formal practice exercise, participants were given the opportunity to note any thoughts, feelings or experiences that have impacted their mindfulness practice. Most participants took advantage of this opportunity.

Introduction to the three primary styles of meditation were concentration, open awareness, and positive states, in that order, based on several training models (Gunaratana, 2002; Rapgay & Bystrisky, 2009; Stahl & Goldstein, 2010). Concentration was introduced first to provide stability and calmness, as well as foundation for the other practices. Open-awareness practices are the heart of mindfulness and were introduced starting in week 4, along with instructions for encouraging meta-awareness. The final three weeks were devoted to the cultivation of positive states associated with kindness and compassion. Participants were asked to choose a best time and place for completing formal practice and encouraged to maintain a consistent schedule in order to develop a routine. To lend continuity to results, overall participant demographics and attrition rates are discussed in Appendix D.

Data Analysis

The appropriate use of a multivariate design was made based on the following considerations: (a) conceptually linked variables of interest of counselor relational skills empirically linked to mindfulness-based practices, (b) not more than 10 – 12 variables considered (c) quality measures were selected, and (d) variables of interest are not so highly correlated that they may be measuring the same construct (Huberty & Olejnik, 2006). Furthermore, a repeated measure test has the advantage of participants serving as their own controls, error variance is reduced because variability from individual differences is removed, and fewer participants are needed (Stevens, 2009, p. 413). For these reasons, a multivariate repeated measures analysis was selected.

Measurement scores were combined where psychometrically indicated as follows. Mindfulness was measured using Five Facet Mindfulness Questionnaire (FFMQ), which delineates five distinct facets of mindfulness and with total scores reliably predicting between groups with varying levels of mindfulness experience (Baer et al., 2006, 2008, 2011). The measure of empathy was divided into two components. First, a combined score of the Interpersonal Reactivity Index (IRI) Perspective Taking and Empathic Concern subscales was used to represent cognitive tendencies to understand the point of view of another while generating an affective response of care and compassion (Davis, 1983). Conceptually, these variables represent the tendency to generate an empathic response that would be beneficial in a counseling relationship. Also, the IRI Personal Distress subscale was used to measure feelings of anxiety and discomfort that can be experience in the presence of other persons' negative emotions (Davis). Conceptually, this type of empathic response may impede the counseling relationship. Self-focus style was divided into two psychologically distinct styles of internal self-talk, rumination and reflection, and was measured with the subscales of the Rumination-Reflection Questionnaire (RRQ; Trapnell & Campbell, 1999). And finally, self-compassion was measured using a total of the six subscales of the Self-Compassion Scale (SCS; Neff, 2003).

G*power 3.1.3 was also consulted to estimate an adequate sample size. Given the criteria: F test MANOVA repeated measures, within factors; with effect size .5, α err prob = 0.05, power (1 - β err prob) = .95, number of groups = 1, and number of measurements (pre/post) = 2, a sample size of n = 28 was estimated to give adequate power. As will be discussed in Appendix D, usable sample size in this study was n = 10.

Therefore, an adequate sample size was not achieved. Consequently, it was unlikely that statistical significance could be obtained; however, because this was a pilot study of a new intervention exploratory, *'what if'* analyses were completed in order to determine general viability of the training, assess effect sizes, and discuss potential clinical significance.

General assumptions for multivariate repeated measures analysis were included in the research design including the use of continuous variables, random sampling, and independent observations. Multivariate normality was assumed satisfactory by observing univariate normality through the visual examination of histograms (Huberty & Olejnik, 2006, p. 279). Data were observed to be minimally contained within the normal curve; however, multivariate repeated measures tests are considered fairly robust against normality violations (Stevens, 2009) and observations were considered typical of this population (Huberty & Olejnik); therefore, data normality was considered sufficient for exploratory analysis. Exploration of descriptive statistics and participant journal reflections was used to give further support for impact from training participation.

APPENDIX D

COMPLETE RESULTS

Based on empirical evidence that mindfulness-based practices may be a method for improving counselor relational qualities (Chrisman, Christopher, & Lichtenstein, 2009; Greason & Cashwell, 2009; McCollum & Gehart, 2010; Shure, Christopher, & Christopher, 2008), a counselor targeted, web-based eight-week introduction to mindfulness-based practices training program was developed, implemented, and evaluated. Participants were asked to access the training website weekly for a 20 – 30 minute didactic presentation, participate in daily guided formal practice, and incorporate suggested informal practice techniques into their daily lives. Training effectiveness was evaluated by measuring pre- post- training changes in trait mindfulness, empathy, self-focus style, and self-compassion. In this appendix, results from data analysis are reviewed.

Participants

Master's-level graduate students enrolled in their first skills course were recruited from 15 CACREP-accredited counseling programs across the United States, with 46 students initially giving informed consents and being assigned participant IDs. Of these 37 participants from 11 universities completed the entry survey. Of these initial participants, 12 completed exit surveys 8 weeks after their entry into the study (see Table D.1 for participation rates). Due to early website problems two entry surveys were lost leaving ten participant datasets for analyses.

Table D.1

Participant Completion Rates by Week

Week	*n*	Lessons	Formal Practice		Informal Practice	
			Qty	Mins	Qty	Mins
0[a]	46					
1[b]	37	26	141	1410	138	2214
2	17	17	86	860	78	1102
3	15	13	73	1095	66	1147
4	14	13	67	1055	62	1131
5	14	11	57	855	52	1094
6	14	11	40	800	39	1357
7	14	10	40	800	40	1239
8[c]	12	8	35	700	34	1059

Note. Four participants opted out and are not counted beyond initial informed consent agreement.
[a] includes all participants who gave informed consent. [b] includes all participants who completed entry survey. [c] entry survey data was incomplete for two participants who completed exit survey

Final participants (*n* = 10) were all females who ranged in age from 22 - 28 (*M* = 24.80, *SD* = 2.70) years of age. Participants self-identified as White (*n* = 5); biracial (*n* = 2), and one each Black, Asian, and Latino. Four participants each reported a religious background of Christian-Not Catholic and none; two identified as Christian-Catholic. The majority (*n* = 6) indicated their counseling major focus was clinical mental health with *n* = 3 studying community and *n* = 1 studying school counseling. Four participants indicated previous mindfulness experience, 3 with brief exposure, and 1 with a regular practice for a total of 3 – 36 (*M* = 13.50, *SD* = 15.59) months of experience, 0 – 60 minutes (*M* = 30.00) minutes of weekly formal practice time, and 0 – 90 minutes (*M* = 42.50, *SD* = 40.32) weekly informal practice time.

Results

Multivariate repeated measures analysis was conducted using SPSS version 20, comparing participants (n = 10) enrolled in the eight-week on-line Mindfulness-Based Learning Management System for Counselors (MBLMS-C). Pre- and post- changes in counselor relational qualities (CRQ) were compared. The composite variable CRQ consisted of the Five Facet Mindfulness Questionnaire Total (FFMQ-T), Interpersonal Reactivity Index Perspective Taking and Empathic Concern Subscales Combined (IRI-C/A); Interpersonal Reactivity Index Personal Distress Subscale (IRI- PD); Rumination-Reflection Questionnaire Rumination Subscale (RRQ-RUM); Rumination-Reflection Questionnaire Reflection Subscale (RRQ-REF); and Self-Compassion Scale Total (SCS-T).

Exploratory Observations by Variable of Interest

Exploratory observations showed overall mean changes in hypothesized directions for all five subscales of the FFMQ (see Figure D.1). Additionally, subscale mean scores for Observe, Describe, and Nonreact, compared to sample populations for students and meditators (Baer, 2008) indicated study participants pre- scores were above students, and post- scores were closer to mediators. Although Act with Awareness and Nonjudge subscales scores did not approach sample meditators scores, changes were in a positive direction indicating some gains in these mindfulness traits (see Figures D.2 - D.6).
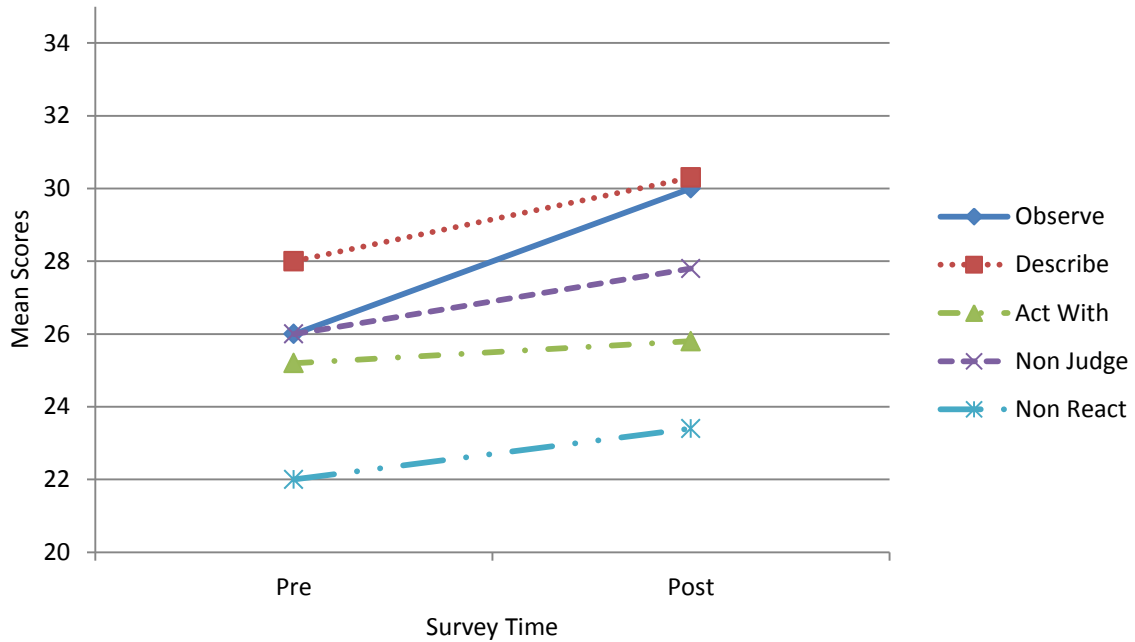
Figure D.1. FFMQ subscale mean scores pre- and post-training (*n* = 10). Slope of line indicates all mindfulness trait scores increased.
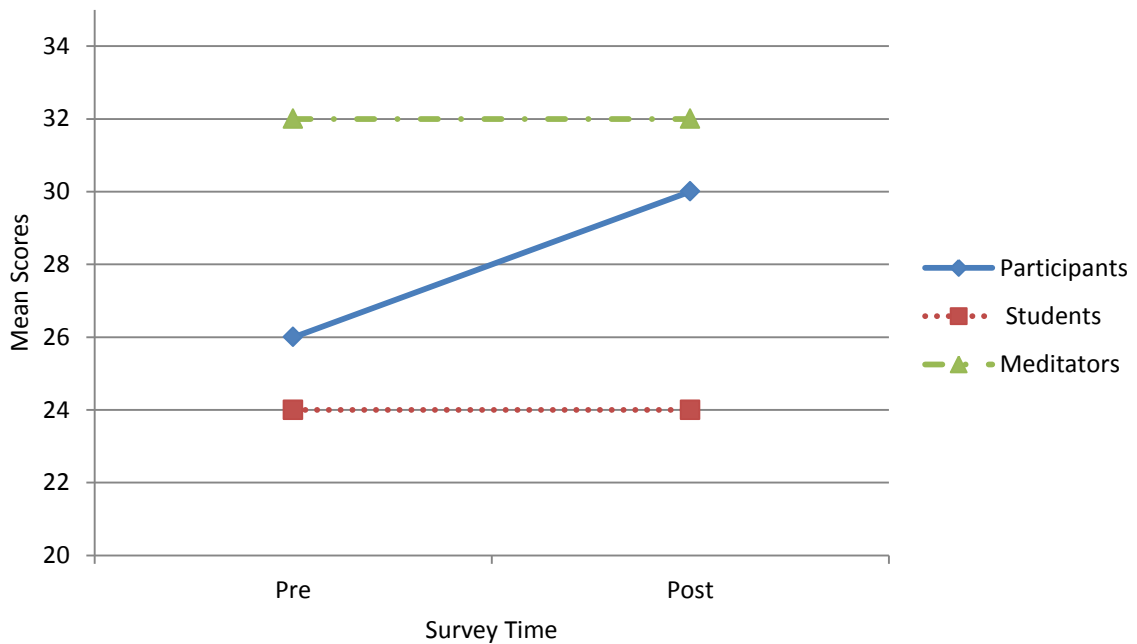
Figure D.2. FFMQ Observe subscale mean scores pre- and post- training (*n* = 10) compared to sample populations of students and meditators (Baer, 2008).
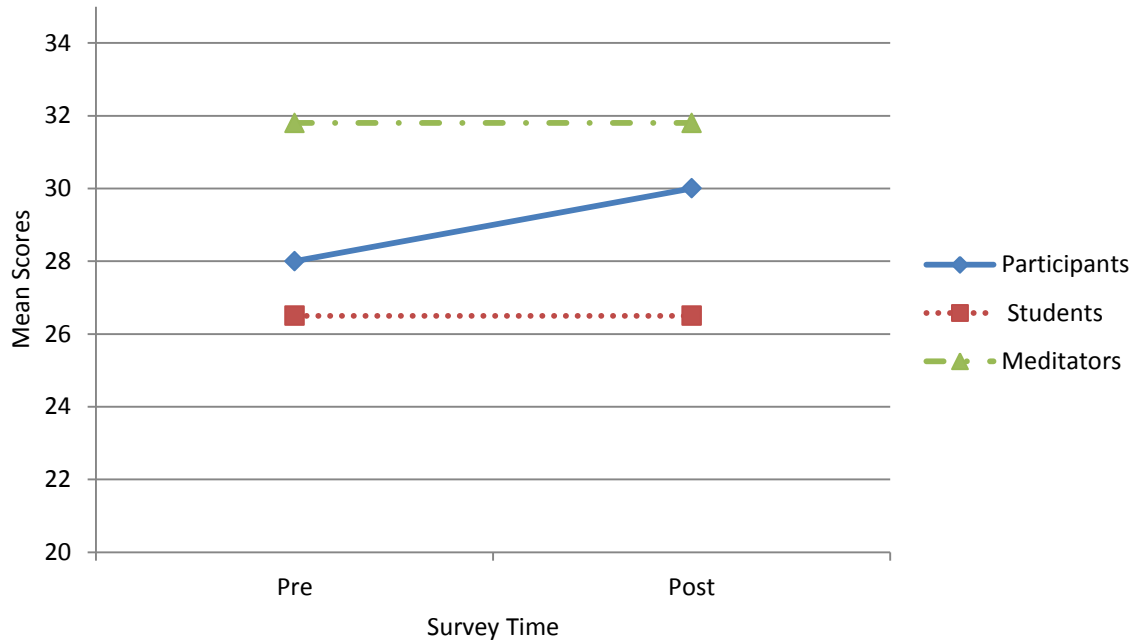
Figure D.3. FFMQ Describe subscale mean scores pre- and post- training (*n* = 10) compared to sample populations of students and meditators (Baer, 2008).
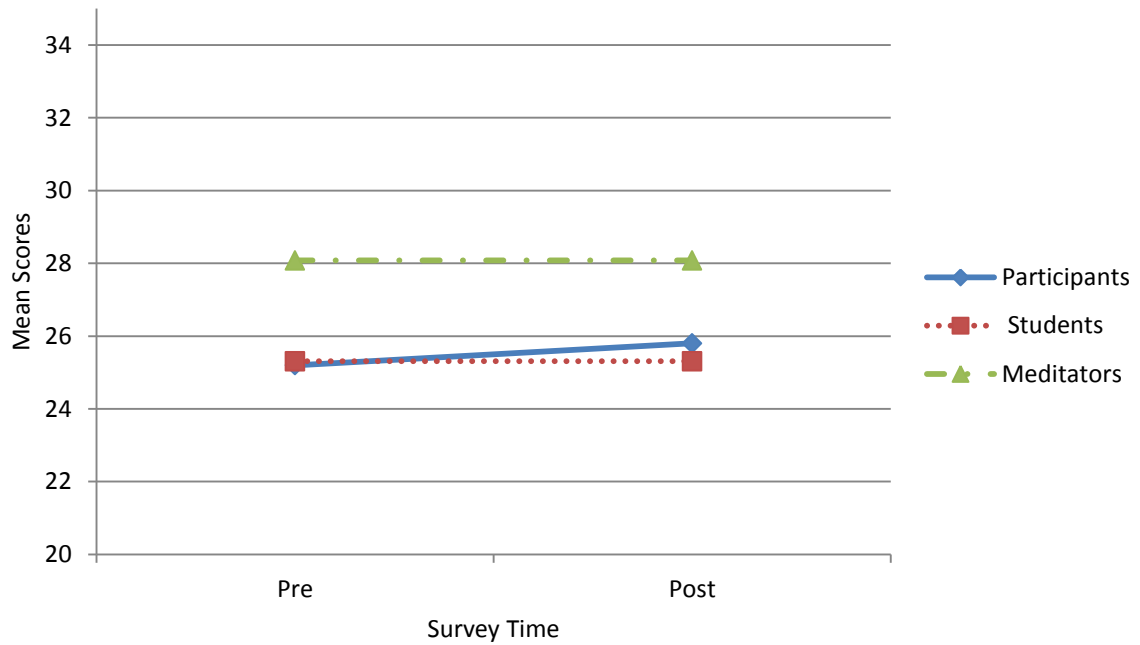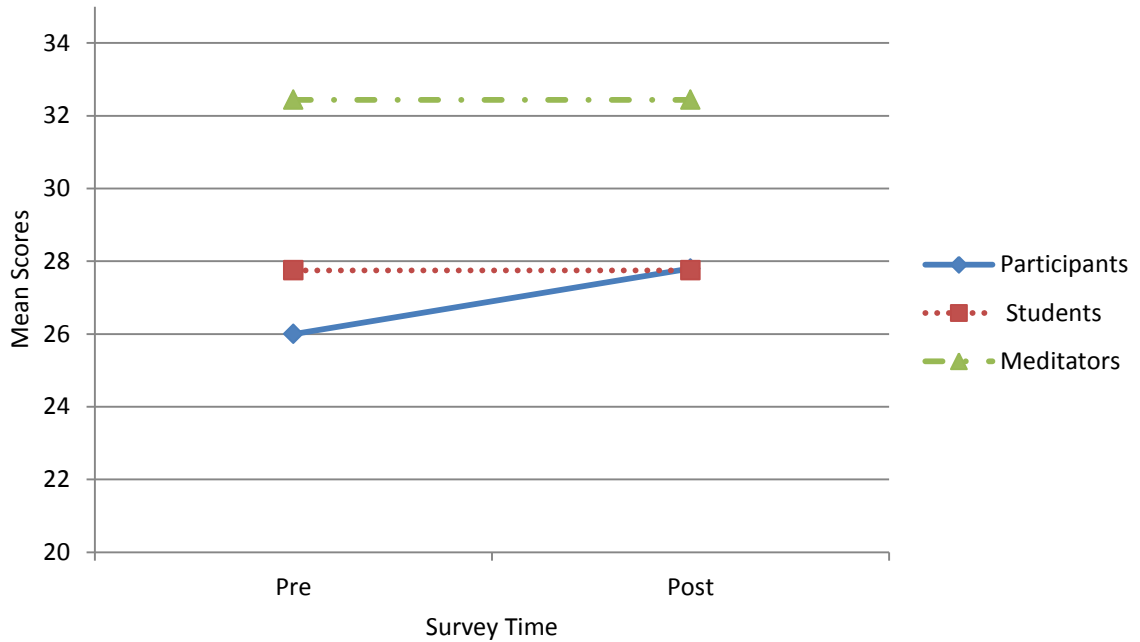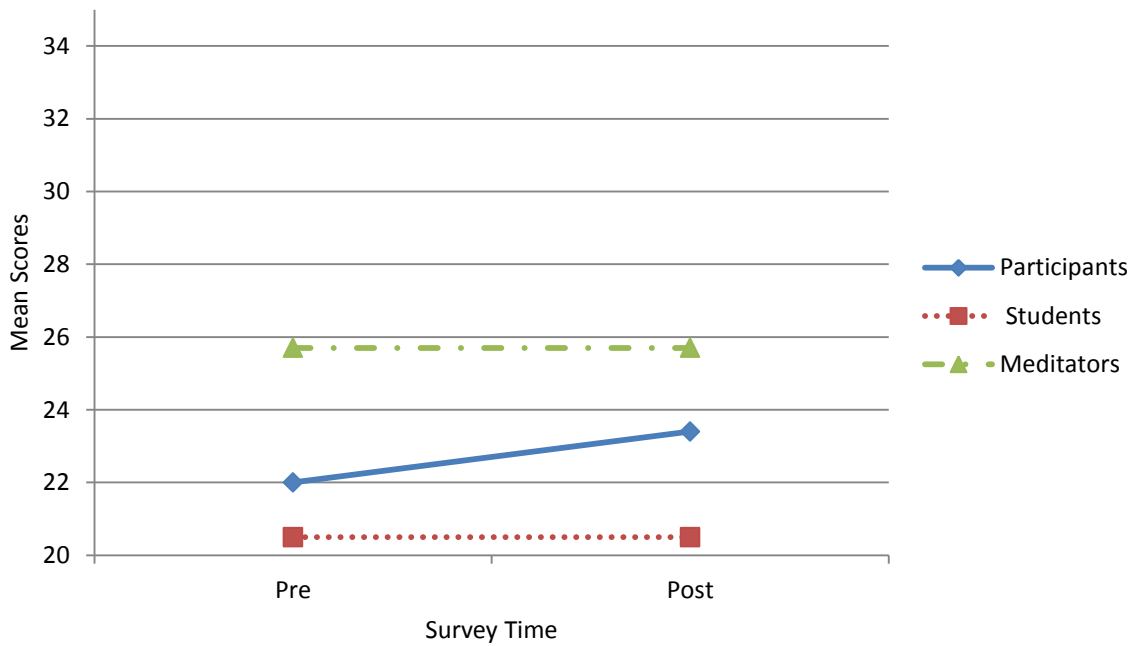

Figure D.4. FFMQ Act with Awareness subscale mean scores pre- and post- training (*n* = 10) compared to sample populations of students and meditators (Baer, 2008).

Figure D.5. FFMQ Nonjudge subscale mean scores pre- and post- training (*n* = 10) compared to sample populations of students and meditators (Baer, 2008).

Figure D.6. FFMQ Nonreact subscale mean scores pre- and post- training (*n* = 10) compared to sample populations of students and meditators (Baer, 2008).

For the IRI subscales, only Perspective Taking and Personal Distress scores changed in the expected direction (see Figure D-7). However, comparisons with population sample scores showed pre- mean scores for Perspective Taking and Empathic Concern were initially higher than both male and female samples (see Figures D-8 and D-9). Additionally, although Personal Distress scores were the same as the female population sample, these scores decreased indicating a reduced tendency to experience empathic distress following the training (see Figure D-10).
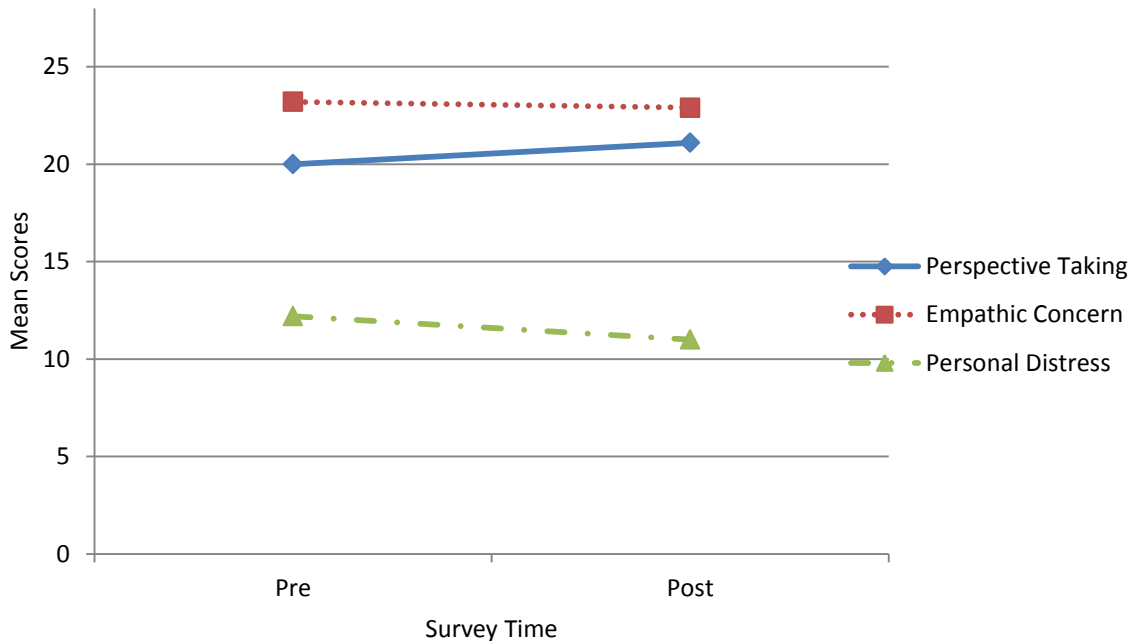
Figure D.7. IRI subscale mean scores pre- and post-training (*n* = 10). Slope of line indicates only Perspective Taking and Personal Distress subscale scores changed in the expected direction.
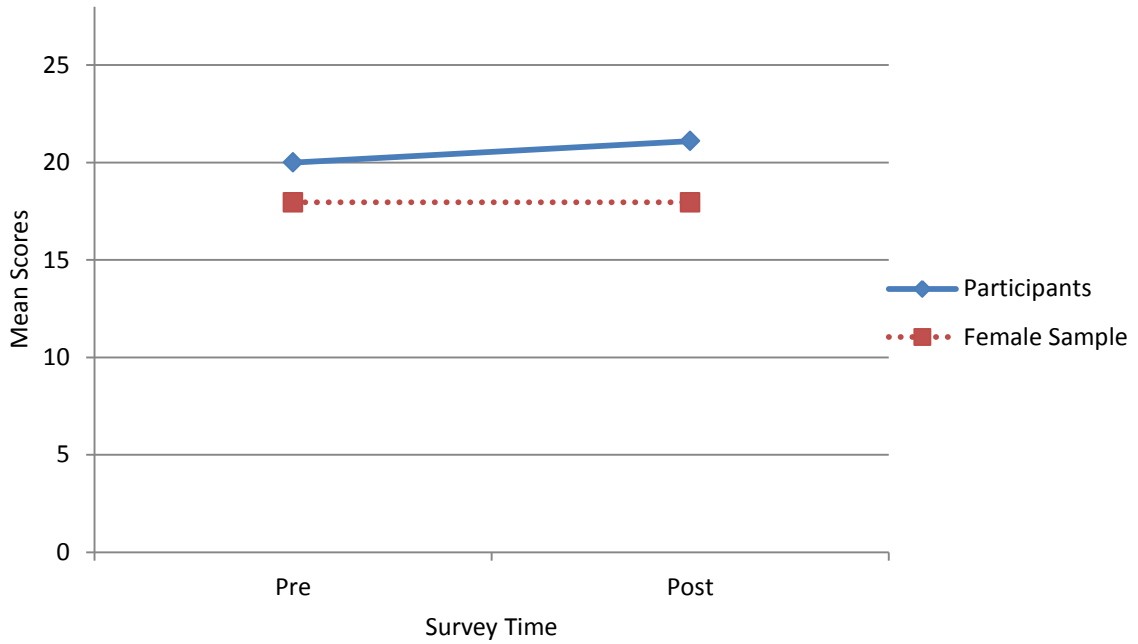
Figure D.8. IRI Perspective Taking subscale mean scores
pre- and post- training (*n* = 10) compared with female
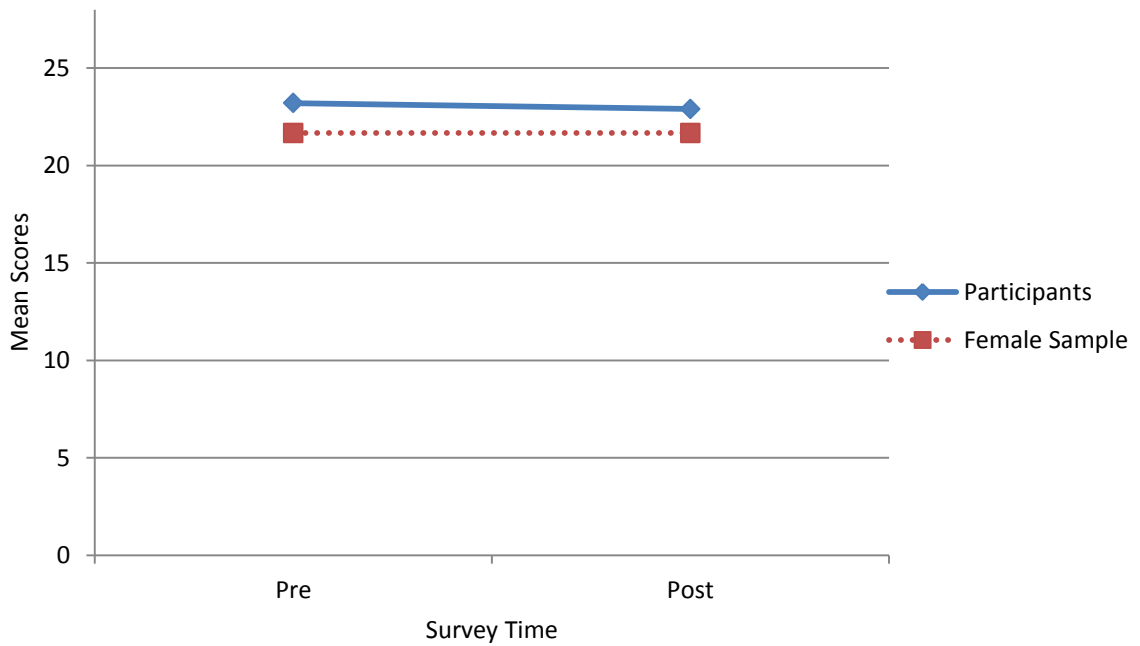normed sample (Davis, 1983).

Figure D.9. IRI Empathic Concern subscale mean scores
pre- and post- training (*n* = 10) compared with female
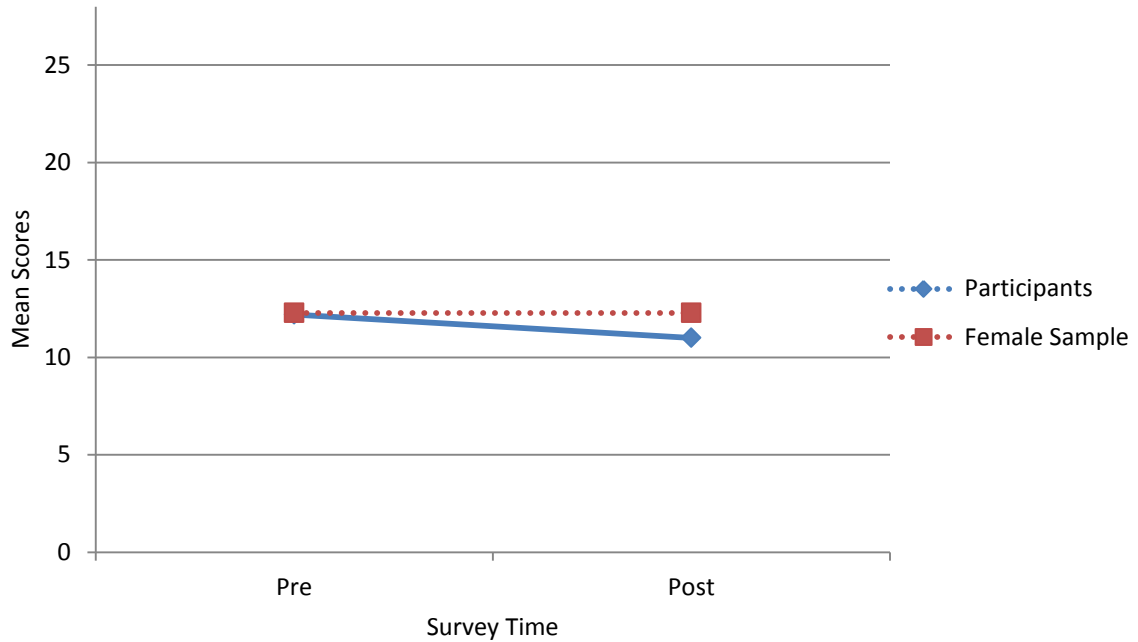normed sample (Davis, 1983).

Figure D.10. IRI Personal Distress subscale mean scores pre- and post- training (*n* = 10) compared with female normed sample (Davis, 1983).

Both RRQ Rumination and RRQ Reflection subscale scores changed in expected directions, with Rumination showing the largest shift (see Figure D-11). Comparisons with sample populations indicated participants' mean pre- scores on the Reflection subscale were initially an entire point higher than norm groups indicating a large shift may have been less likely to occur (see Figure D-12). Although the Rumination mean pre- scores were higher than the sample, post- training subscale scores were lower than female sample population groups (see Figure D-13).
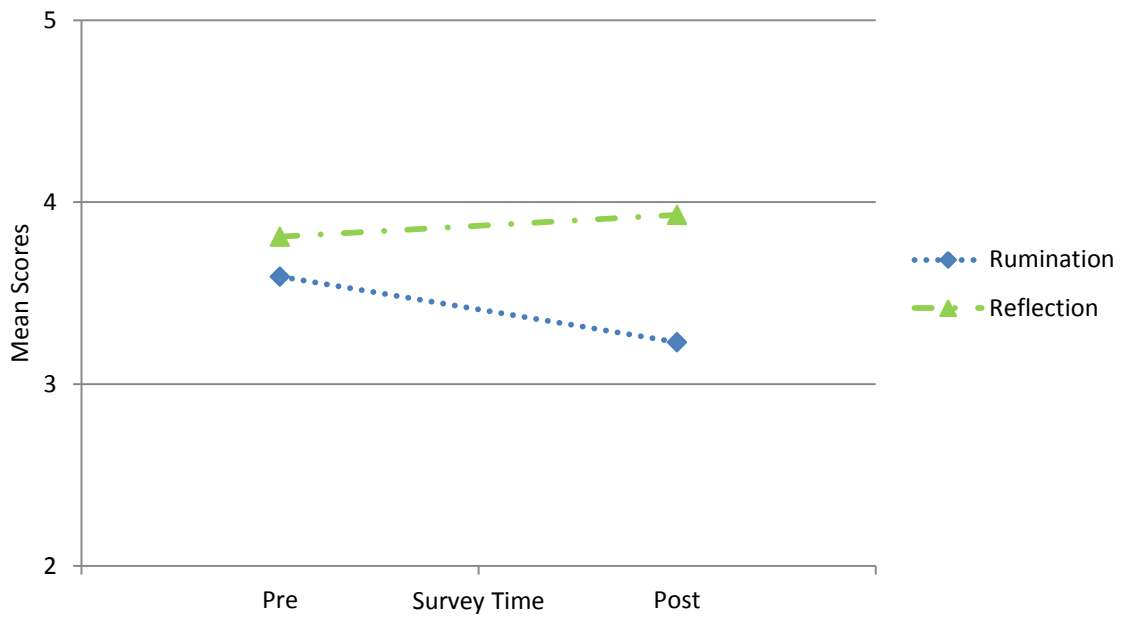
Figure D.11. RRQ subscale mean scores pre- and post-training (*n* = 10). Slope of line indicates changes in the expected direction with decreased Rumination and with a minimal increase in Reflection.
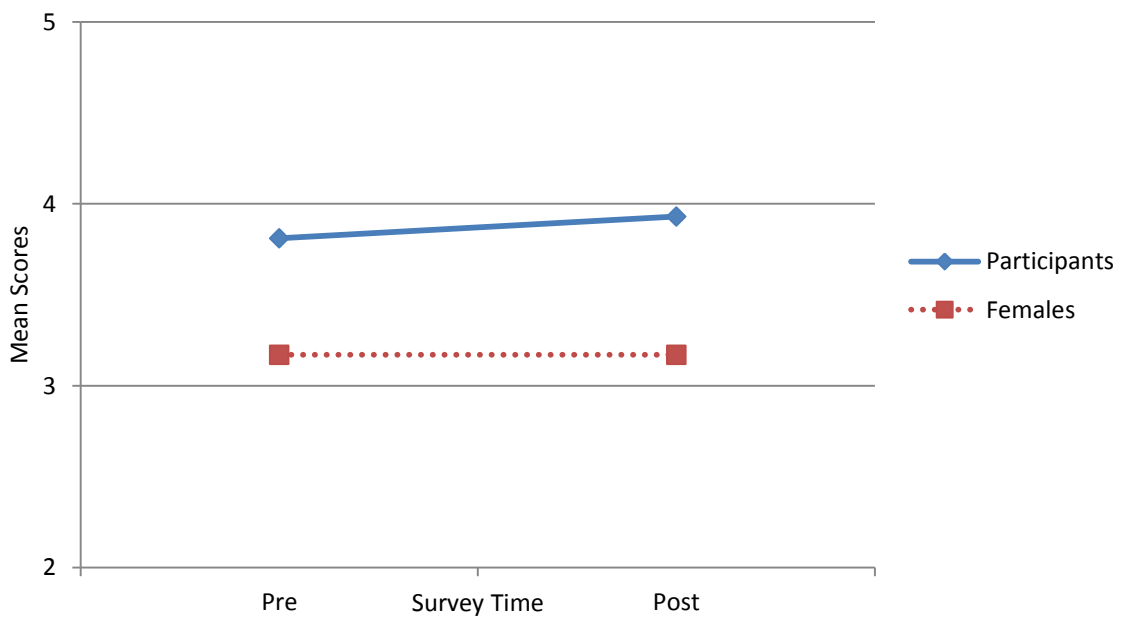

Figure D.12. RRQ Reflection subscale mean scores pre- and post- training (*n* = 10) compared with female population sample (Trapnell & Campbell, 1999).
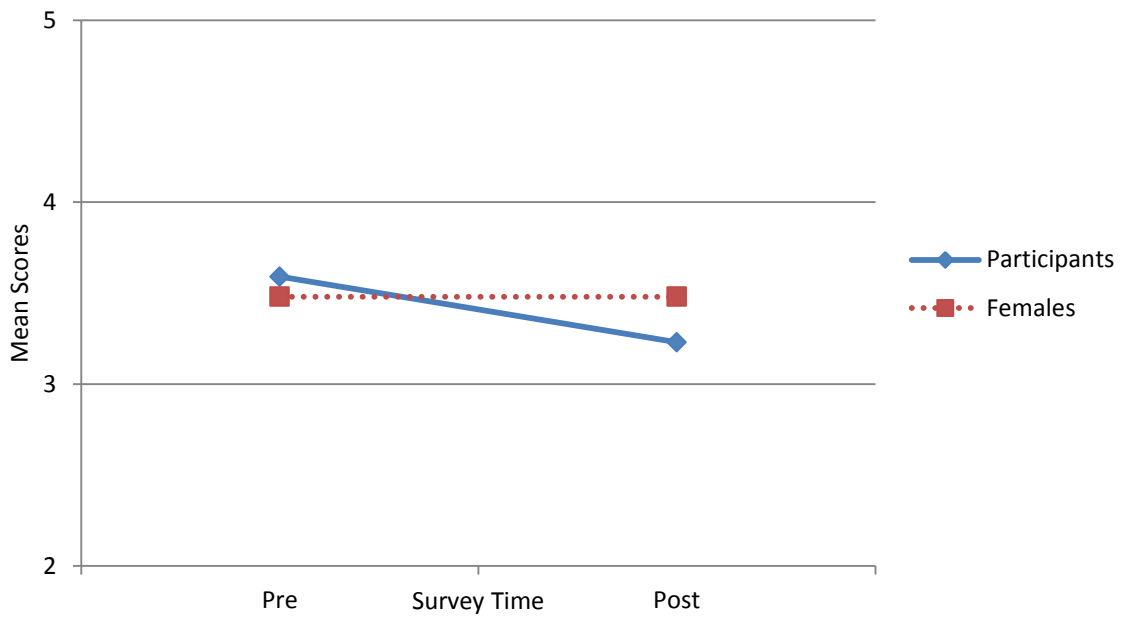
Figure D.13. RRQ Rumination subscale mean scores pre- and post- training (*n* = 10) compared with female population sample (Trapnell & Campbell, 1999).

For SCS, five of the six subscale scores changes in expected directions indicating increased Self-Kindness and Common Humanity; and decreased Self-Judgment, Isolation, and Over-identification (see Figure D-14). When comparisons were made to student and Buddhist sample populations, Self-Kindness, Self-Judgment, Common Humanity, and Isolation pre- training mean scores began above student scores and with all except Isolation ended closer to Buddhist sample scores (see Figures D-15 – D-20). Also, post- training mean scores of Self-Kindness and Common Humanity were in the high range for self-compassion tendencies (Neff, 2008).
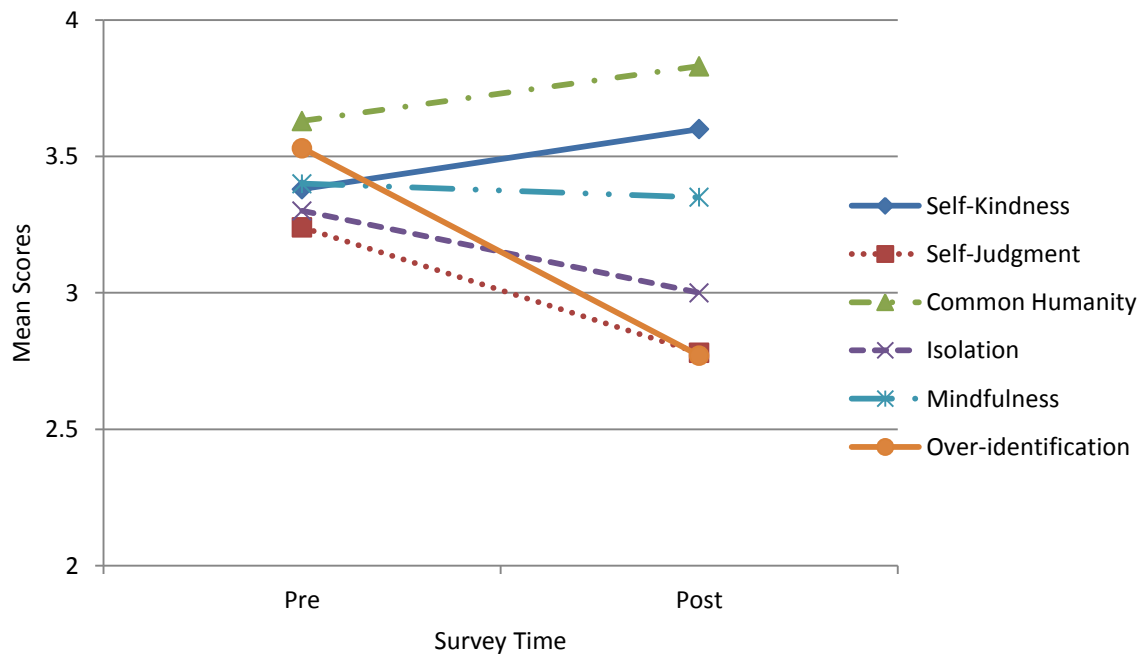

Figure D.14. SCS subscale mean scores pre- and post-training (*n* = 10). Slope of line indicates changes in the expected direction with the exception of a slight decrease in Mindfulness.
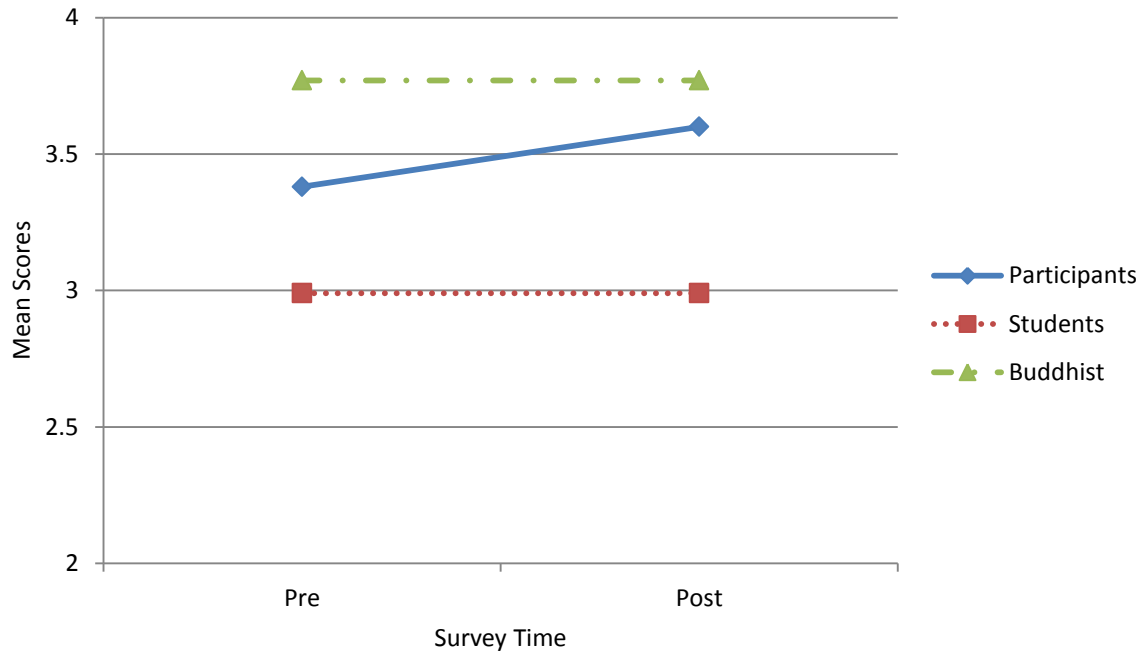
Figure D.15. SCS Self-Kindness subscale mean scores pre- and post- training (*n* = 10) compared with population sample of students and Buddhists (Neff, 2003).
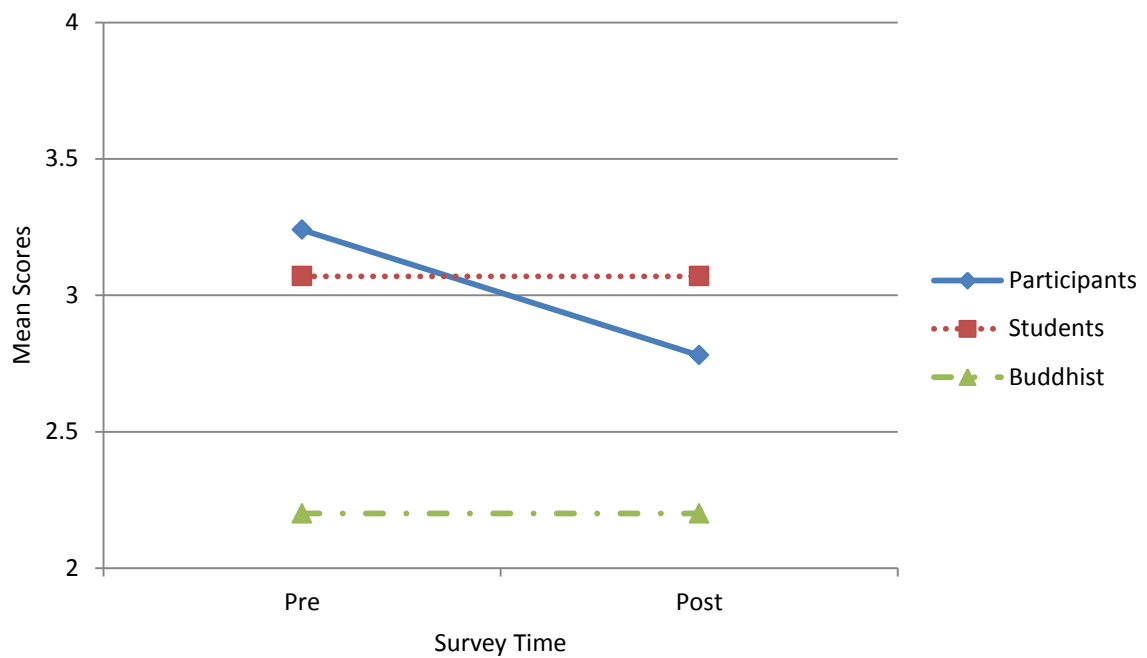

Figure D.16. SCS Self-Judgment subscale mean scores pre- and post-training (*n* = 10) compared with population sample of students and Buddhists (Neff, 2003).
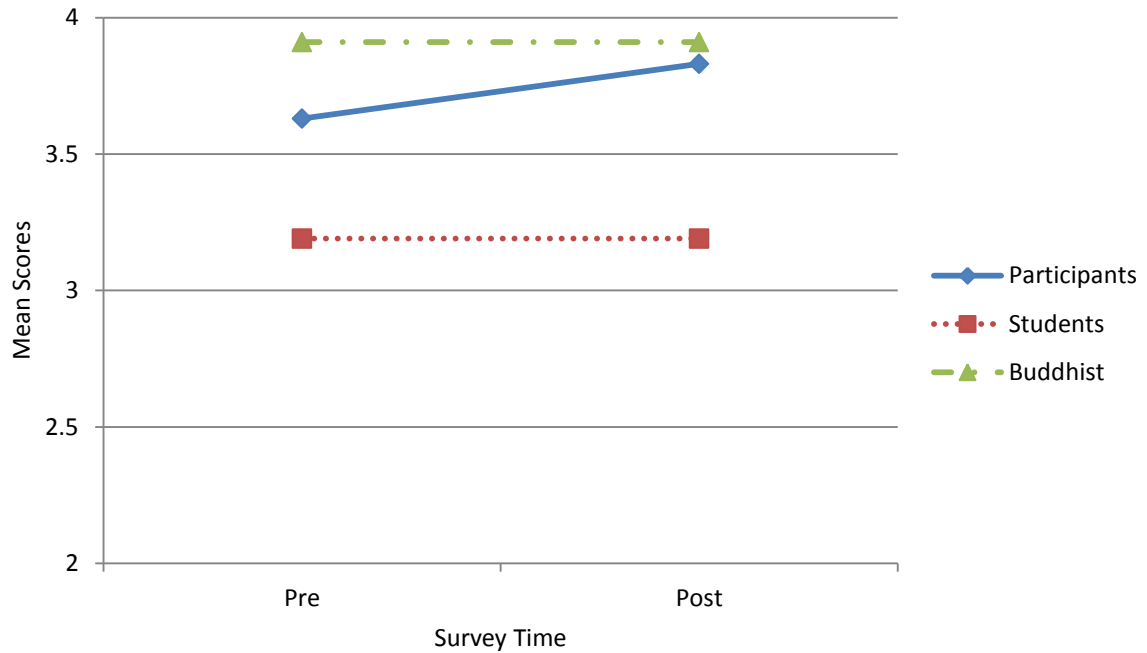
Figure D.17. SCS Common Humanity subscale mean scores pre- and post- training (*n* = 10) compared with population sample of students and Buddhists (Neff, 2003).

Figure D.18. SCS Isolation subscale mean scores pre- and post- training (*n* = 10) compared with population sample of students and Buddhists (Neff, 2003).

Figure D.19. SCS Mindfulness subscale mean scores pre- and post-training (*n* = 10) compared with population sample of students and Buddhists (Neff, 2003).

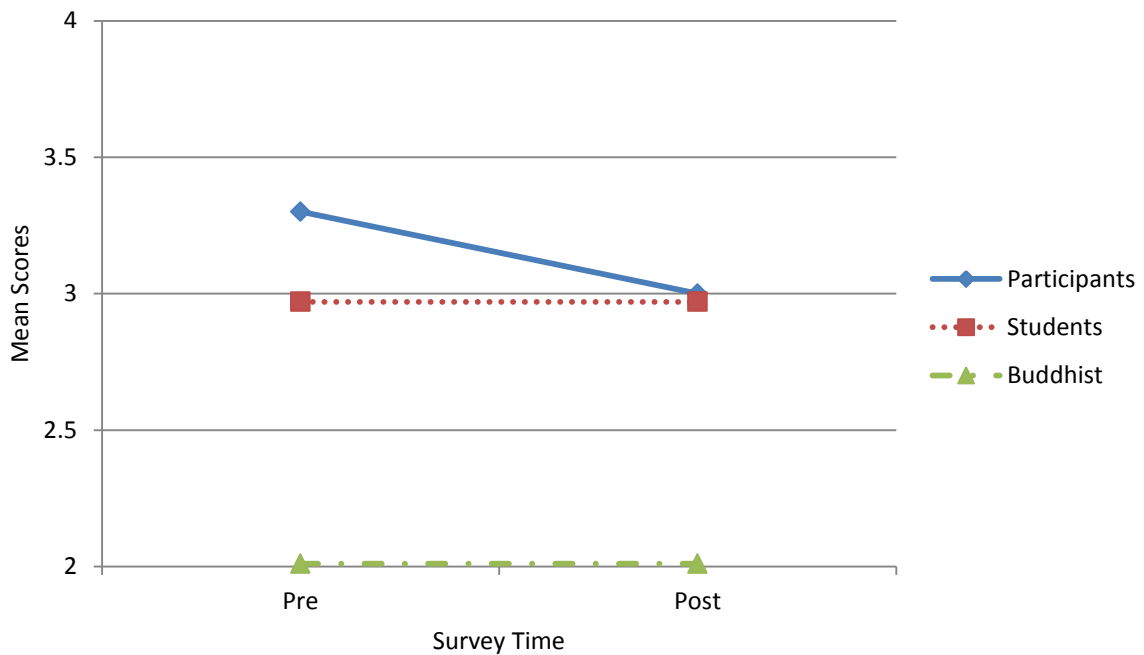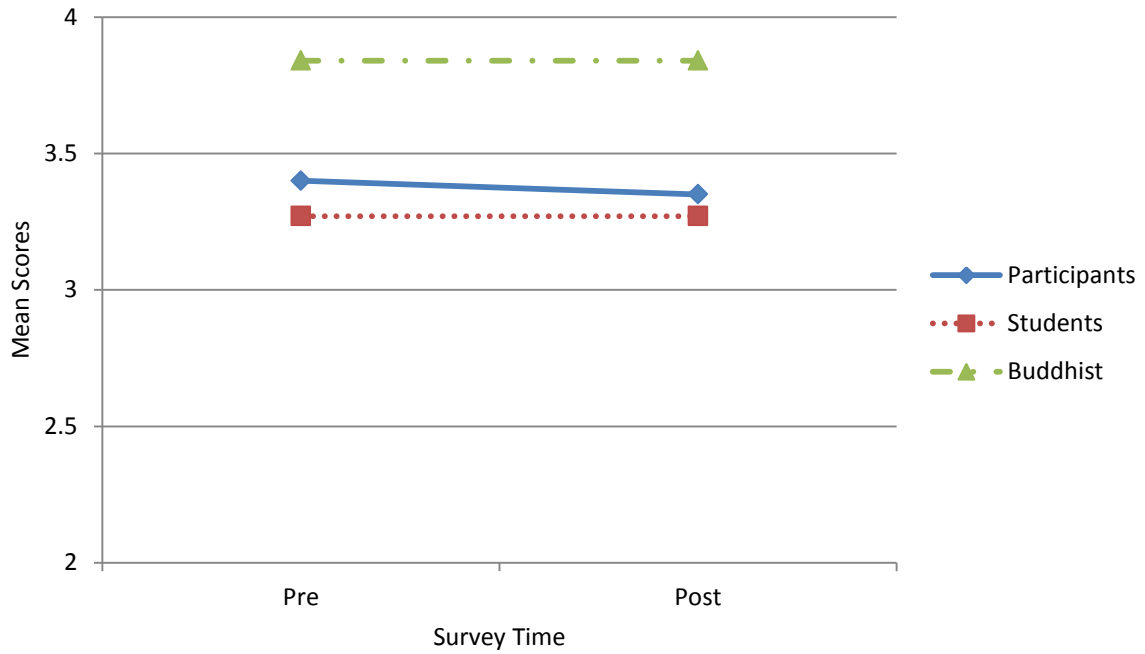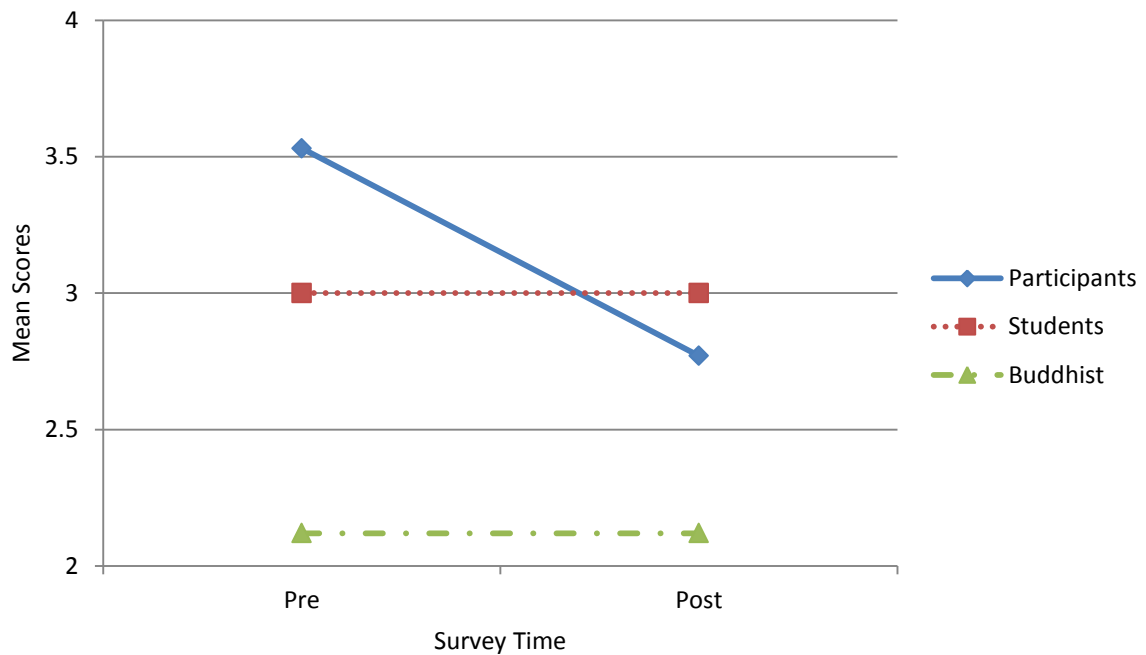*Figure D.20.* SCS Over-identification subscale mean scores pre- and post- training (*n* = 10) compared with population sample of students and Buddhists (Neff, 2003).

Analysis of Counselor Relational Qualities Composite Variable

Results indicated no statistically significant difference between pre- and post-measures of CRQ (Wilk's λ = .266, F(6, 4) = 1.84, p = .288); however, percent of variance explained was approximately 73% (partial η^2= .73). Due to the lack of statistical significance, no post hoc tests were completed; however, investigative observations were made in order to determine the source of the large effect size and explore potential clinical significance. Based on an initial power analysis indicating a sample size of at least 28 to detect a moderate effect size, a data set was created by using the scores from each participant three times (n = 30) and subsequent *what if* analyses were conducted using this data set.

What if analyses of the full model resulted in statistically significant differences between pre- post- results (Wilk's λ = .266, F(6, 24) = 1.84, p < .001) indicating that a statistically significant difference may have been obtained given a larger sample. In addition, univariate post hoc *what if* analyses indicated statistically significant differences between SCS-T (p = .001), FFMQ-T (p = .001), RRQ-RUM (p = .006), and IRI-PD (p = .006), also supporting the supposition that a larger sample size could have resulted in statistically significant findings (See Table D.2 for expanded results).

Exploration of the CRQ composite variables found a large effect size for SCS-T (partial η^2= .34). Further examination of the SCS subscales indicated this variance was primarily due to reductions in scores on Self-Judgment, Isolation, and Over-identification. Additionally, FFMQ-T explained approximately 31% of the variance (partial η^2= .31) primarily from increased Observe and Describe FFMQ subscale scores. Furthermore, the large effect size (partial η^2= .23) accounting for 23% of the variance

found for RRQ-RUM, and a moderate effect size (partial $\eta^2 = .12$) explaining

approximately 12% of the variance for IRI-PD (See Table D.2 for expanded results of

multivariate repeated measures and Table C.2 for subscale comparisons).

Table D.2

Exploration of Counselor Qualities of Mean (SD) and Univariate Post Hoc Tests

Measures	Pre M (SD)	Post M (SD)	F	p n = 10	partial η^{2a}	p^b n = 30
Counselor Qualities[c]			.266	.288	.734	<.001
FFMQ-T	127.2 (19.34)	137.3 (20.46)	4.064	.075	.311	.001
IRI-C/A	43.2 (5.33)	44.0 (7.39)	0.101	.758	.011	.573
IRI-PD	12.2 (7.39)	11.0 (5.10)	1.276	.288	.124	.052
RRQ-RUM	3.6 (0.99)	3.2 (0.70)	2.696	.135	.230	.006
RRQ-REF	3.8 (0.52)	3.9 (0.71)	0.382	.552	.041	.277
SCS-T	3.1 (0.82)	3.4 (0.60)	4.649	.059	.341	.001

Note. FFMQ-T = Five Factor Mindfulness Questionnaire Total; IRI-C/A = Interpersonal Reactivity Index Perspective Taking and Empathic Concern subscales combined; IRI-PD = Interpersonal Reactivity Index Personal Distress subscale; RRQ-RUM = Rumination-Reflection Questionnaire Rumination subscale; RRQ-REF = Rumination-Reflection Questionnaire Reflection subscale; SCS-T = Self-Compassion Scale total.
[a]effect size determined by partial eta squared obtained from post hoc univariate test following multivariate repeated measures analysis. [b]*'what if'* results obtained by performing an analysis of *n* = 30. [c]results of multivariate repeated measure analysis.

Observations Regarding Individual Differences

Additionally, observations of patterns of individual participant pre- post- training

scores were made for each of the CRQ measures. Three participants who completed all

eight weekly lessons, most formal practices, and reported an average amount of

informal practice showed changes in pre- post- mean scores typical of group mean

changes, with all three indicating the most change in the IRI-RUM subscale (see

Figures D.23, D.24, and D.26). A fourth participant with similar engagement in the training responded to the survey items in a way indicative of a social desirability bias with pre- training mean scores for positive traits well above group means and negative traits well below group means; with post- training scores for most measures except FFMQ-T and IRI-C/A in the opposite direction of expectation indicating a movement toward group means (see Figure D.25). One participant who disengaged from the training after four weeks still reported changes in expected directions for all measures with the largest changes in FFMQ-T (see Figure D.27). In general, participants with the least amount of participation in the training showed the smallest changes (see Figures D.28, D.29, and D.30). Several participant changes were more complex, despite full participation, with no discerning pattern emerging (see Figures D.21 and D.22). At the time of the exit survey, all participants reported plans to continue using the mindfulness-based practices they had learned.

The following discussion includes a review of the findings including examination of participant feedback regarding training experience. Study limitations and implications for counselor education, professional enhancement, and suggestions for future research are also offered.

Figure D.21. Individual participant *A* with training use of: 8 lessons, 875 minutes formal practice, 1678 minutes informal practice. Pre- Post-changes across six criterion variables Five Facet Mindfulness Questionnaire Total (FFMQ-T); Interpersonal Reactivity Index Cognitive/Affect Total (IRI-CA); Interpersonal Reactivity Index Personal Distress (IRI-PD); Rumination-Reflection Questionnaire Rumination Subscale (RRQ-Rum); Rumination-Reflection Questionnaire Reflection Subscale (RRQ-Ref); Self-Compassion Scale Total (SCS-T) compared to mean scores of training participants.

Figure D.22. Individual participant *B* with training use of: 8 lessons, 875 minutes formal practice, 1520 minutes informal practice. Pre- Post-changes across six criterion variables Five Facet Mindfulness Questionnaire Total (FFMQ-T); Interpersonal Reactivity Index Cognitive/Affect Total (IRI-CA); Interpersonal Reactivity Index Personal Distress (IRI-PD); Rumination-Reflection Questionnaire Rumination Subscale (RRQ-Rum); Rumination-Reflection Questionnaire Reflection Subscale (RRQ-Ref); Self-Compassion Scale Total (SCS-T) compared to mean scores of training participants.
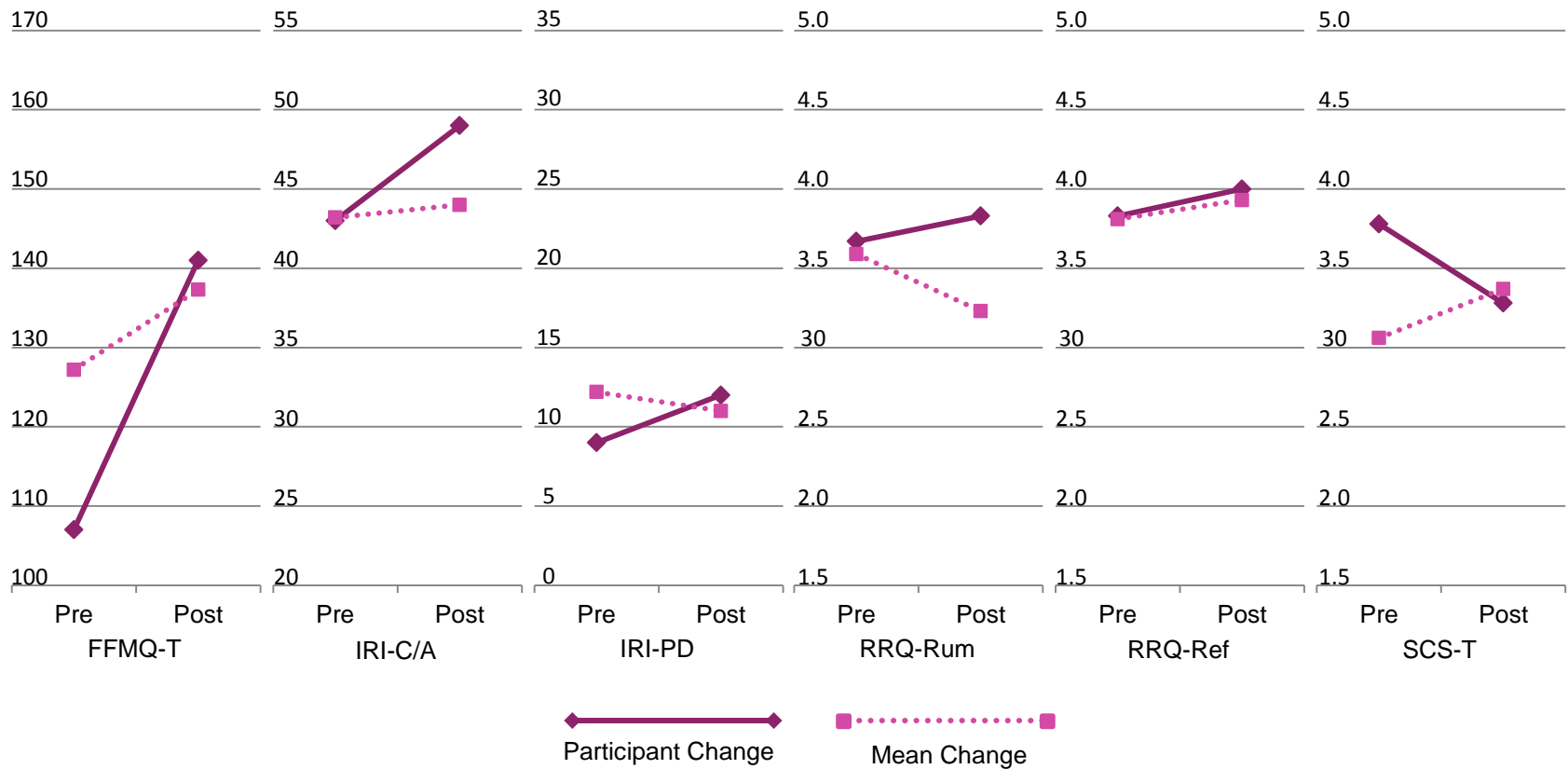
Figure D.23. Individual participant *C* with training use of: 8 lessons, 795 minutes formal practice, 721 minutes informal practice. Pre- Post- changes across six criterion variables Five Facet Mindfulness Questionnaire Total (FFMQ-T); Interpersonal Reactivity Index Cognitive/Affect Total (IRI-CA); Interpersonal Reactivity Index Personal Distress (IRI-PD); Rumination-Reflection Questionnaire Rumination Subscale (RRQ-Rum); Rumination-Reflection Questionnaire Reflection Subscale (RRQ-Ref); Self-Compassion Scale Total (SCS-T) compared to mean scores of training participants.
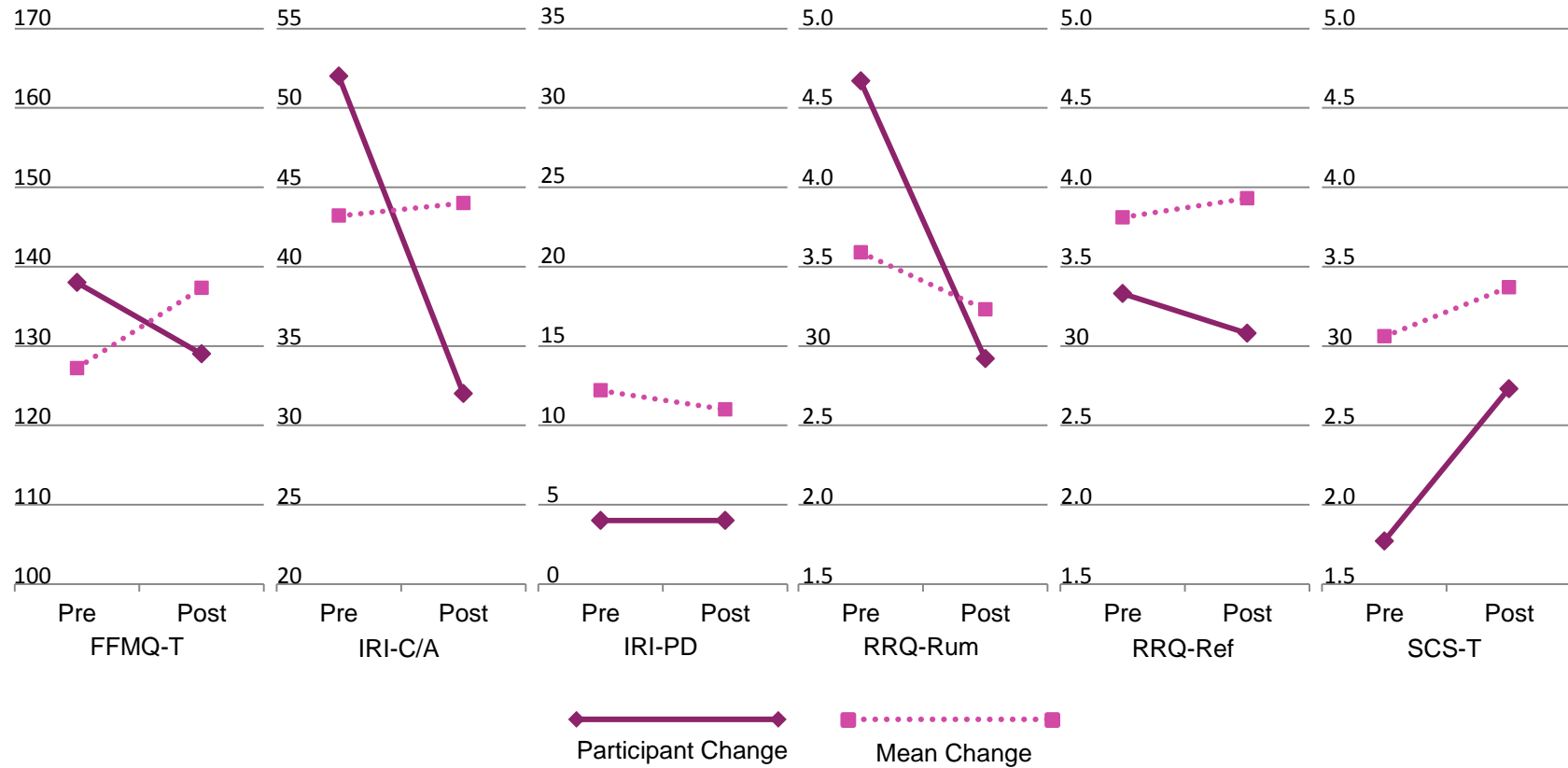
Figure D.24. Individual participant *D* with training use of: 8 lessons, 750 minutes formal practice, 400 minutes informal practice. Pre- Post- changes across six criterion variables Five Facet Mindfulness Questionnaire Total (FFMQ-T); Interpersonal Reactivity Index Cognitive/Affect Total (IRI-CA); Interpersonal Reactivity Index Personal Distress (IRI-PD); Rumination-Reflection Questionnaire Rumination Subscale (RRQ-Rum); Rumination-Reflection Questionnaire Reflection Subscale (RRQ-Ref); Self-Compassion Scale Total (SCS-T) compared to mean scores of training participants.
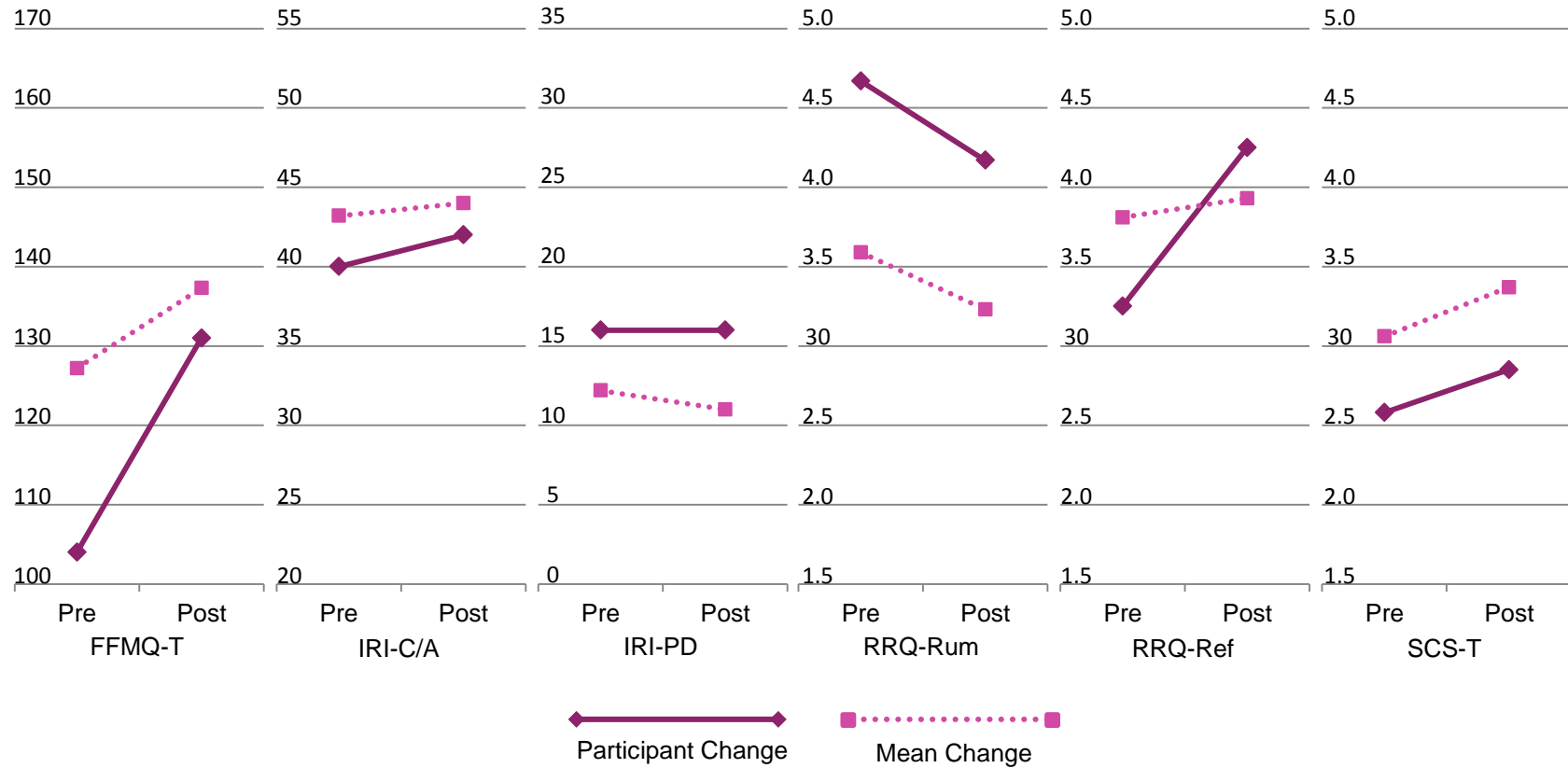
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Figure D.25. Individual participant *E* with training use of: 8 lessons, 795 minutes formal practice, 441 minutes informal practice. Pre- Post- changes across six criterion variables Five Facet Mindfulness Questionnaire Total (FFMQ-T); Interpersonal Reactivity Index Cognitive/Affect Total (IRI-CA); Interpersonal Reactivity Index Personal Distress (IRI-PD); Rumination-Reflection Questionnaire Rumination Subscale (RRQ-Rum); Rumination-Reflection Questionnaire Reflection Subscale (RRQ-Ref); Self-Compassion Scale Total (SCS-T) compared to mean scores of training participants.

Figure D.26. Individual participant *F* with training use of: 8 lessons, 365 minutes formal practice, 255 minutes informal practice. Pre- Post- changes across six criterion variables Five Facet Mindfulness Questionnaire Total (FFMQ-T); Interpersonal Reactivity Index Cognitive/Affect Total (IRI-CA); Interpersonal Reactivity Index Personal Distress (IRI-PD); Rumination-Reflection Questionnaire Rumination Subscale (RRQ-Rum); Rumination-Reflection Questionnaire Reflection Subscale (RRQ-Ref); Self-Compassion Scale Total (SCS-T) compared to mean scores of training participants.
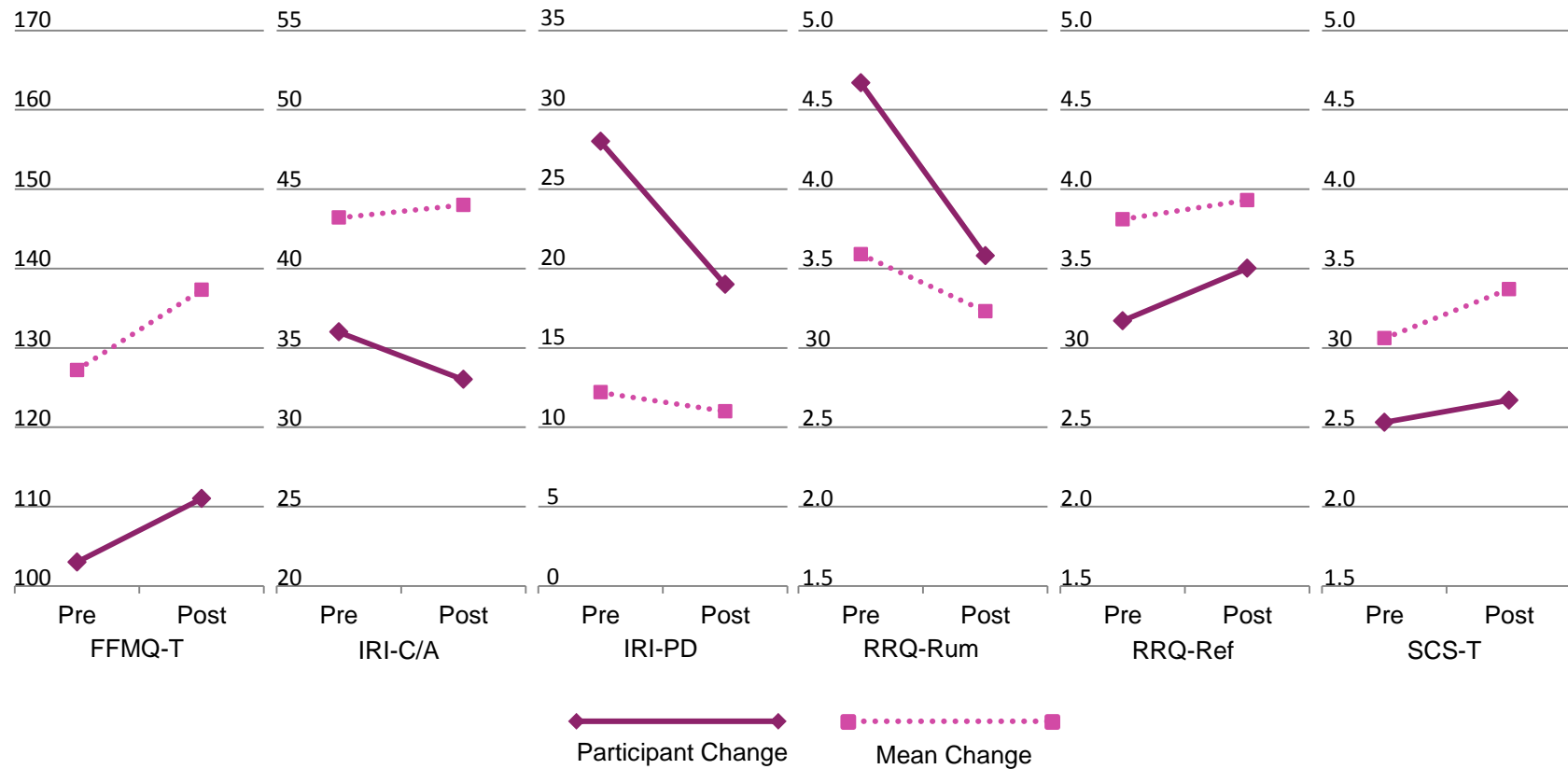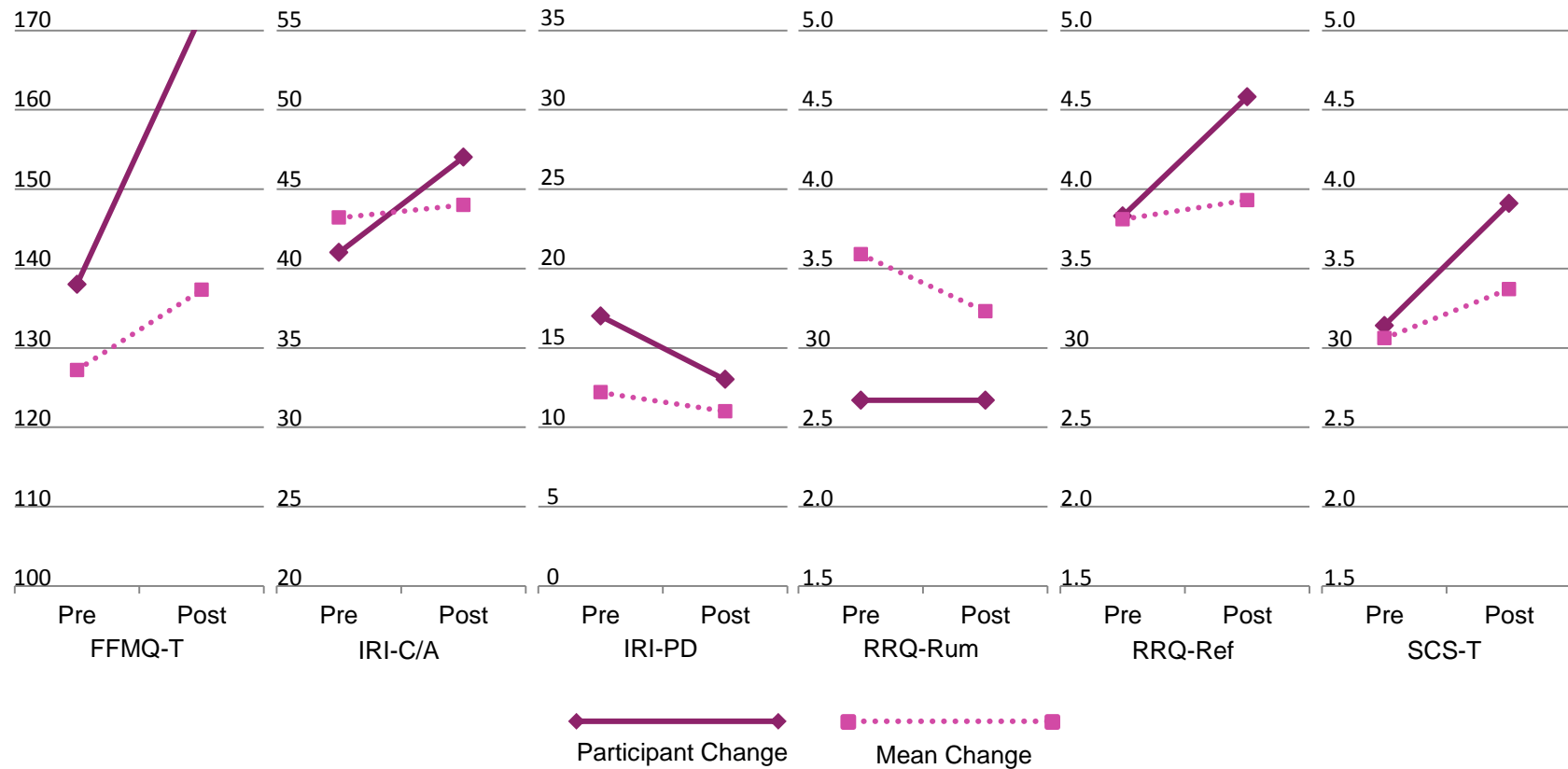
Figure D.27. Individual participant *G* with training use of: 4 lessons, 90 minutes formal practice, 105 minutes informal practice. Pre-Post- changes across six criterion variables Five Facet Mindfulness Questionnaire Total (FFMQ-T); Interpersonal Reactivity Index Cognitive/Affect Total (IRI-CA); Interpersonal Reactivity Index Personal Distress (IRI-PD); Rumination-Reflection Questionnaire Rumination Subscale (RRQ-Rum); Rumination-Reflection Questionnaire Reflection Subscale (RRQ-Ref); Self-Compassion Scale Total (SCS-T) compared to mean scores of training participants.
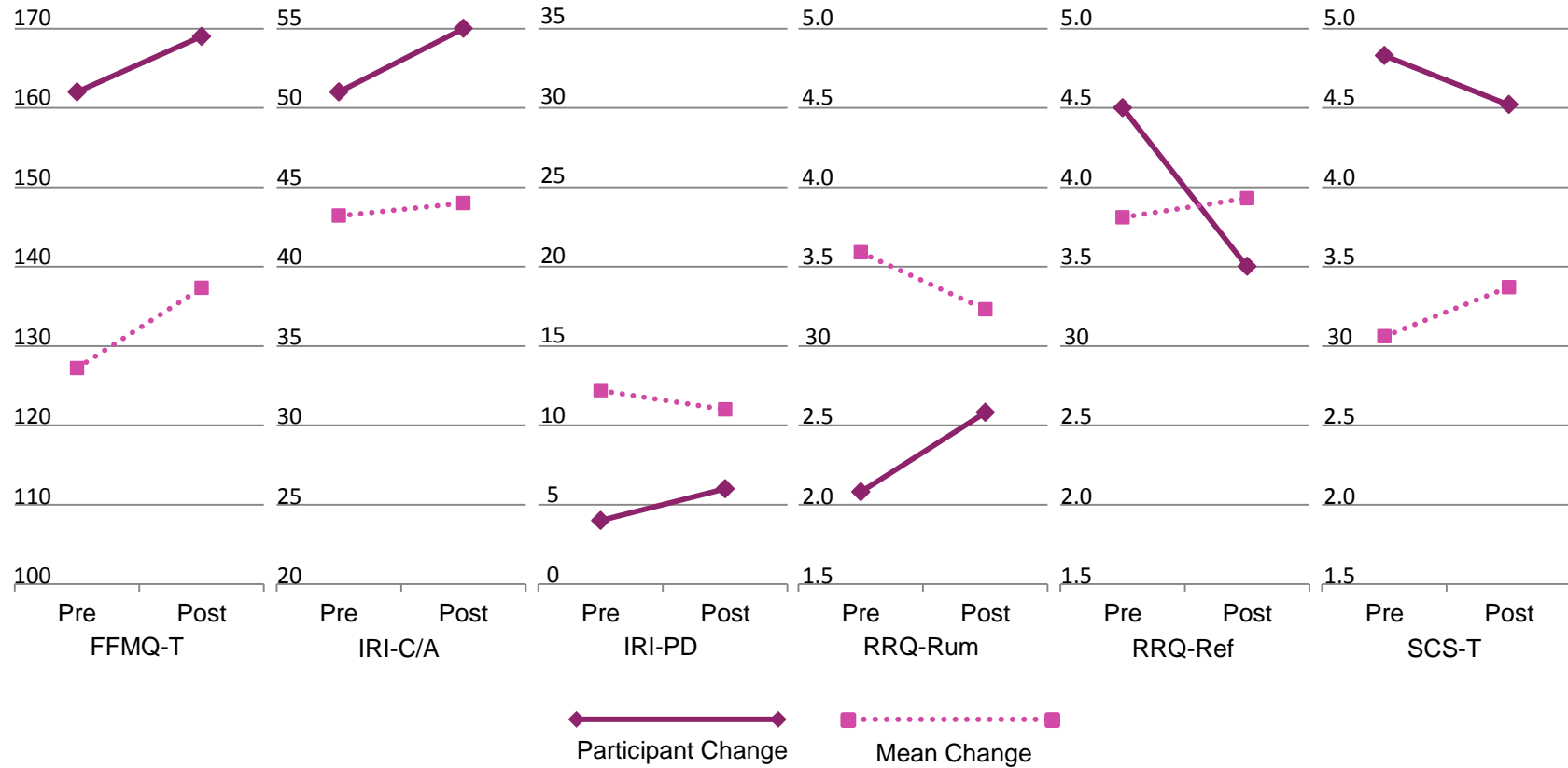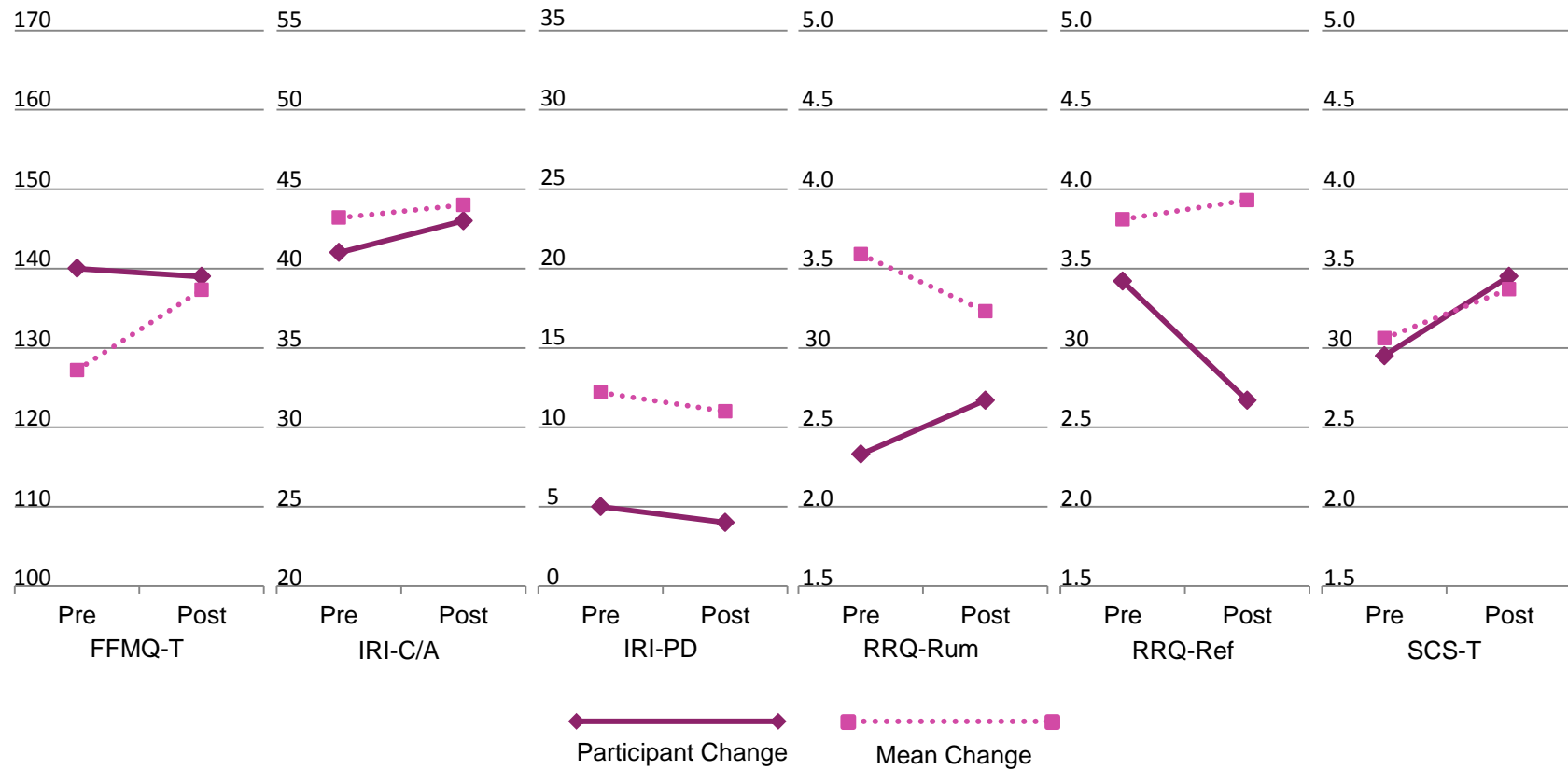
Figure D.28. Individual participant *H* with training use of: 5 lessons, 90 minutes formal practice, 90 minutes informal practice. Pre- Post- changes across six criterion variables Five Facet Mindfulness Questionnaire Total (FFMQ-T); Interpersonal Reactivity Index Cognitive/Affect Total (IRI-CA); Interpersonal Reactivity Index Personal Distress (IRI-PD); Rumination-Reflection Questionnaire Rumination Subscale (RRQ-Rum); Rumination-Reflection Questionnaire Reflection Subscale (RRQ-Ref); Self-Compassion Scale Total (SCS-T) compared to mean scores of training participants.
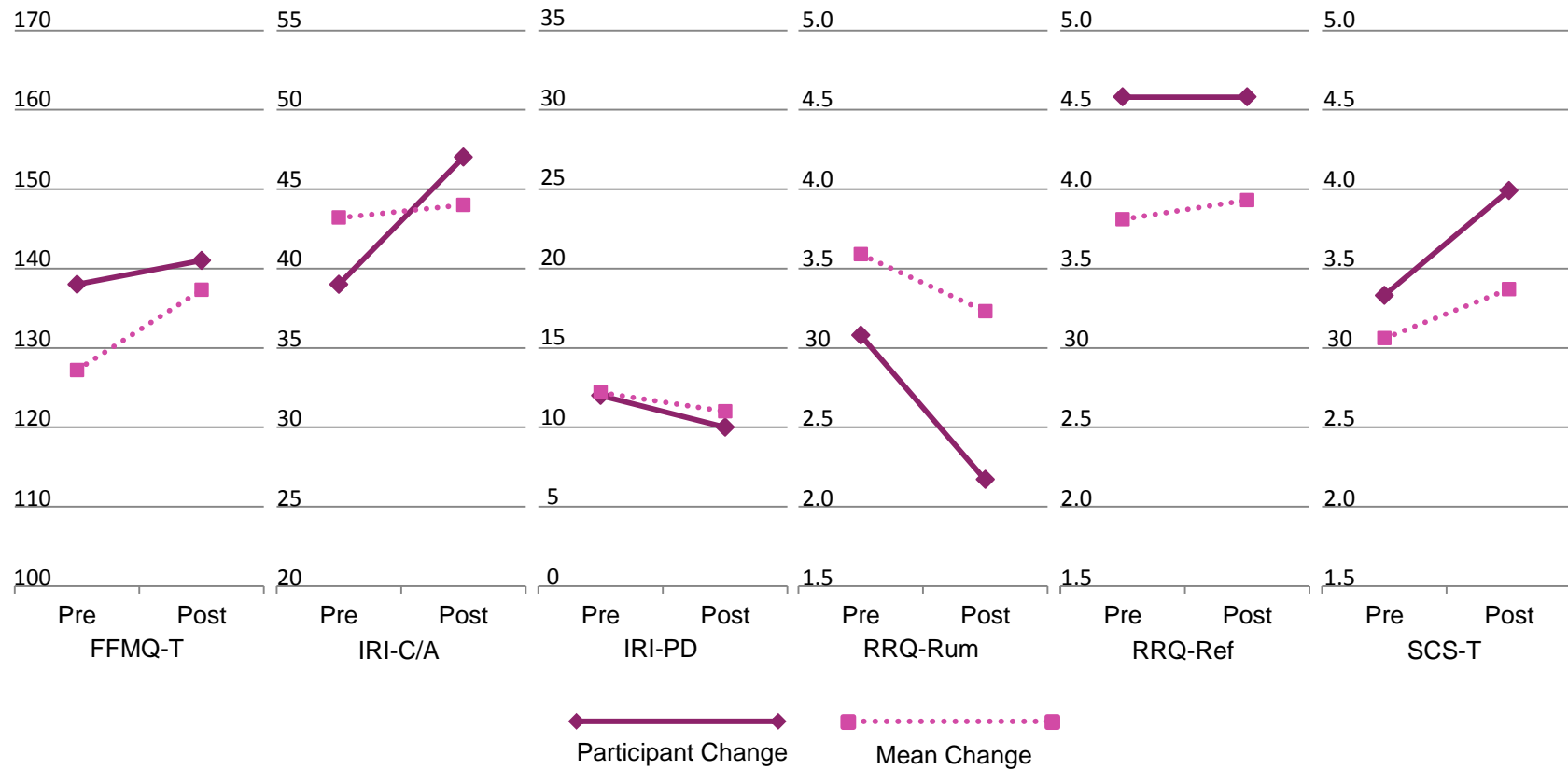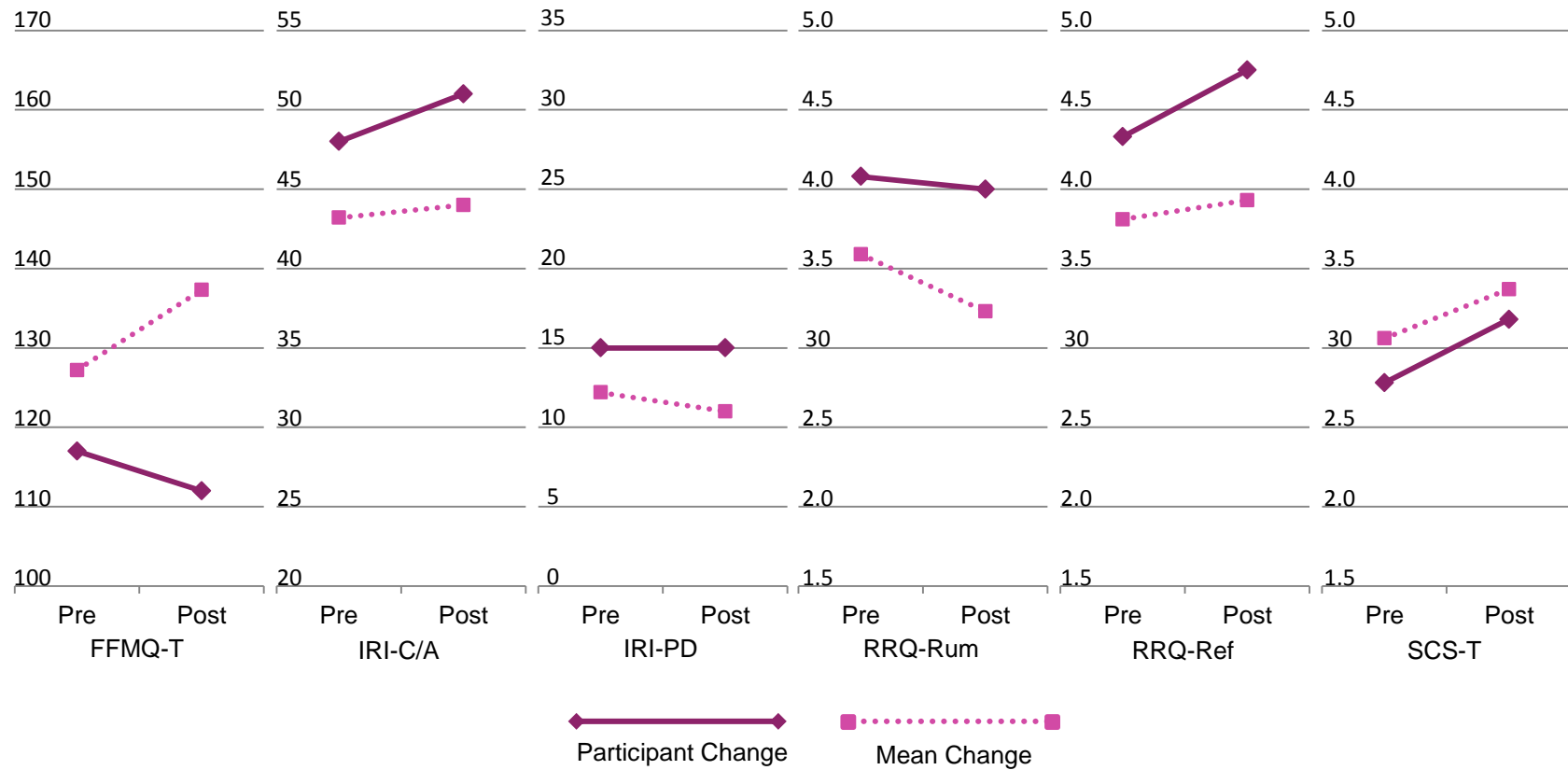
Figure D.29. Individual participant *I* with training use of: 2 lessons, 90 minutes formal practice, 68 minutes informal practice. Pre- Post- changes across six criterion variables Five Facet Mindfulness Questionnaire Total (FFMQ-T); Interpersonal Reactivity Index Cognitive/Affect Total (IRI-CA); Interpersonal Reactivity Index Personal Distress (IRI-PD); Rumination-Reflection Questionnaire Rumination Subscale (RRQ-Rum); Rumination-Reflection Questionnaire Reflection Subscale (RRQ-Ref); Self-Compassion Scale Total (SCS-T) compared to mean scores of training participants.

Figure D.30. Individual participant *J* with training use of: 8 lessons, 10 minutes formal practice, 20 minutes informal practice. Pre- Post- changes across six criterion variables Five Facet Mindfulness Questionnaire Total (FFMQ-T); Interpersonal Reactivity Index Cognitive/Affect Total (IRI-CA); Interpersonal Reactivity Index Personal Distress (IRI-PD); Rumination-Reflection Questionnaire Rumination Subscale (RRQ-Rum); Rumination-Reflection Questionnaire Reflection Subscale (RRQ-Ref); Self-Compassion Scale Total (SCS-T) compared to mean scores of training participants.
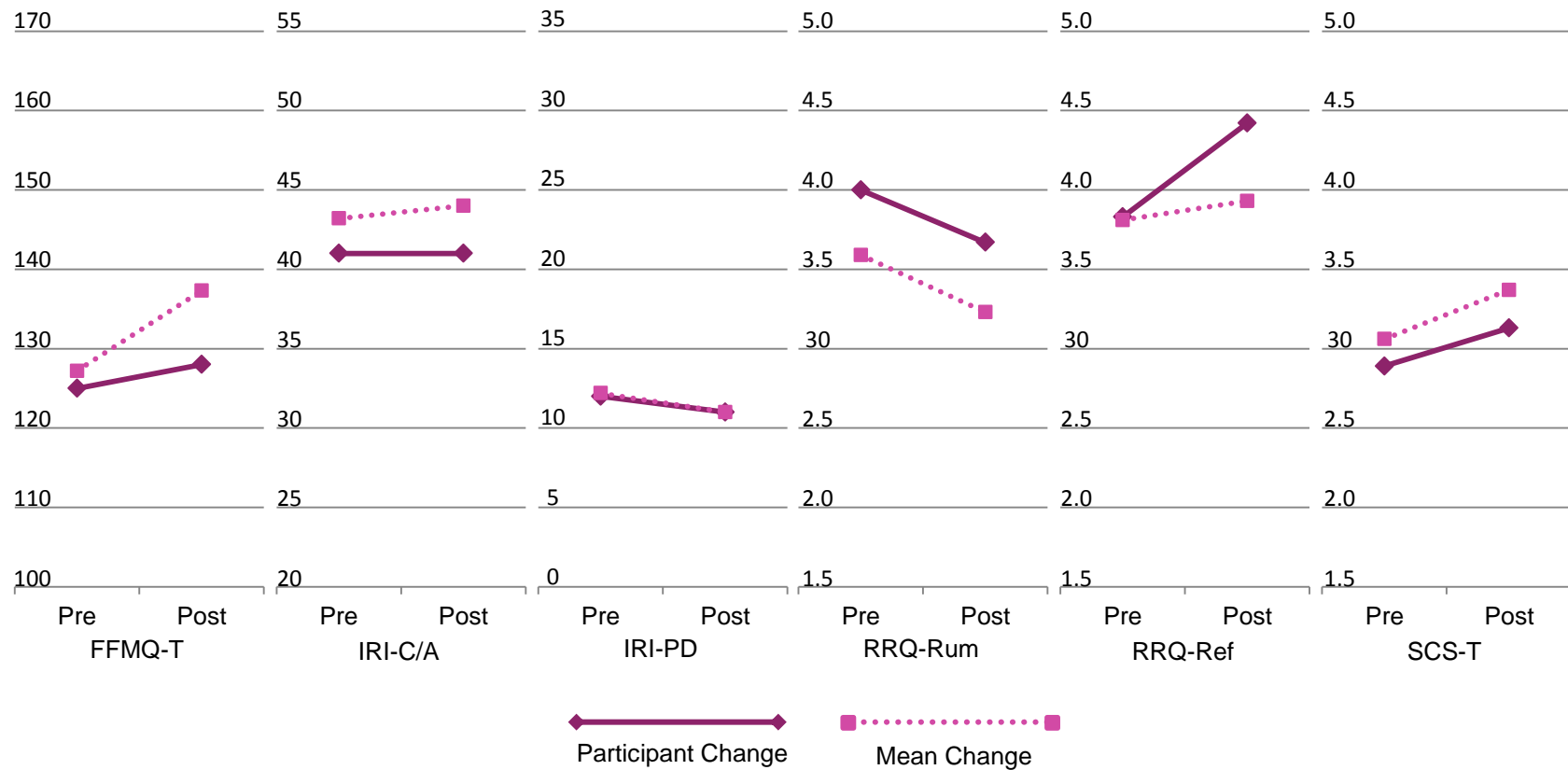
APPENDIX E

EXTENDED DISCUSSION

I need to preface this chapter by saying that to assume and articulate a linear and/or one-to-one relationship between measured traits, tendencies, and outcomes is entirely inadequate to contain the complex and dynamic process that occurs both intra- and inter- personally, especially in the context of the counseling relationship. A conceptual picture of the intersection between mindfulness-based practice and counselor relational qualities is offered as Figure B.1, but even this is an incomplete representation of what occurs and what benefits might be realized by bringing mindfulness-based practices to counselor training. That said, I offer some observed relationships and links to previous inquiries as they relate to the findings from this research.

Based on empirical evidence that mindfulness-based practices may be a method for improving counselor relational qualities (Chrisman et al., 2009; Greason & Cashwell, 2009; McCollum & Gehart, 2010; Shure et al., 2008), a counselor targeted, web-based eight-week introduction to mindfulness-based practices training program was developed, implemented, and evaluated. Participants were asked to access the training website weekly for a 20 – 30 minute didactic presentation, participate in daily guided formal practice, and incorporate suggested informal practice techniques into their daily lives. Training effectiveness was evaluated by measuring pre- post- training changes in trait mindfulness, empathy, self-focus style, and self-compassion. In this appendix, findings, implications, limitations, and suggestions for future research are reviewed.

Participants were counseling masters students enrolled in their first clinical course and recruited through support of counselor educators from 11 CACREP programs across the United States Initially, 46 students accessed the website, with

weekly attrition resulting in 12 participants completing the exit survey (see Table D.1).

Early website server difficulties resulted in two incomplete entry surveys leaving 10

participants for final analyses.

A multivariate repeated measure design did not result in statistically significant

differences in pre- post- test scores (p = .288); however, a very large effect size (partial

η^2= .73) was noted, and a *what if* analysis indicated results would be statistically

significant with n = 30 participants (p < .001). Exploratory observations and additional

what if analyses were conducted to assess general trends and potentials. The following

sections include discussion regarding variable changes observed over the course of the

study.

Changes in Self-Compassion

Nearly all participants reported gains in self-compassion in all six dimensions as

measured by the SCS, with these gains accounting for 34% of the variance between

measures (see Figure D.14). Self-compassion is about treating ourselves kindly with

patience gentleness, understanding that being imperfect is part of being human, and

acknowledging that feeling bad is an opportunity to comfort ourselves. Despite some

mistaken beliefs that self-compassion is a form of self-indulgence, researchers have

shown that greater self-compassion has been linked to well-being, life satisfaction and

social connectedness (Patsiopoulos & Buchanan, 2001) and increased empathic

concern for others, greater desire to end suffering, and decreased controlling and

critical behaviors direct towards clients (Germer, 2009; Neff, 2011; Shapiro & Islett,

2008). Although the research is just beginning in this area, self-compassion may have

the potential to enhance counselor effectiveness by contributing to better therapeutic relationships.

The didactic portion and practice in intentionally cultivating self-compassion was presented in the last three weeks of the course. Because not all participants completed these weeks, an exploration of individual self-compassion scores was warranted. Interestingly, the two participants who reported decreased self-compassion completed these later weeks, and the three who did not complete these weeks reported increased self-compassion. Several factors may explain these findings. First, the gains in self-compassion, despite the lack of intentional practice, may be because mindfulness practice includes adopting an attitude of non-judgmental acceptance, and this may be sufficient to encourage self-compassionate care. This contention is supported by noting the three participants who did not complete the later weeks reported gains in the FFMQ Nonjudge subscale. Also, extending self-compassion has been found to be particularly difficult in Western cultures (Germer, 2005; Neff, 2001). Beginning practitioners often struggle with self-criticism as noted in this typical early journal entry "[a]nd when my mind got sidetracked I got mad that I couldn't even focus. I wasn't very nice to myself this morning" (Participant I). It is possible that confronting self-criticism in the process of trying to generate self-compassion increased personal insight about tendencies that were not acknowledged in the beginning. This phenomena is reflected in this journal entry

> [t]his session made me more aware to judgments and how sneaky they can be. By this I mean how we may experience them throughout the day and aren't even aware of this. I don't consider myself a particularly judgmental person, except in

terms of myself, but throughout the day I noticed that I possess a bunch of small

judgments that are for the most part innocent. I realize now, however, the

importance of acknowledging those judgments, dismissing them, and moving

forward. (Non-finishing participant).

Given the limited time of this training, and the small number of participants, it is

hard to determine strong patterns and themes; however, several participants recognized

benefits as seen in these later reflections:

I really like that with the mindfulness practice I don't have to deny that life is hard,

or challenging, or feel bad if I feel that way. This perspective makes adapting

mindfulness practices a little easier for me sense [sic] I am so self-critical (Non-

finishing participant).

 and

I am a very giving, caring person and do a lot to show my love for those close to

me. I thought of my husband during the session, and afterwards wanted to

cuddle with him. It was still very hard for me to give the same kind of caring back

to myself. This is what I feel I need to improve upon the most, particularly to

avoid burn out in the future (Non-finishing participant).

The courage to confront and the challenge to over-come harsh self-criticism may take

time. Understanding the distinct contributions between practicing non-judgment and the

intentional cultivation of kindness and compassion is a topic for future research. Also, it

will be important to explore whether greater gains can be achieved with practice over

time.

Changes in Mindfulness Traits

      Overall changes in mindfulness traits, as measure by the FFMQ, accounted for 31% of the variance between pre- post- measures, with changes in subscales scores for Observe, Describe, and Nonreact accounting for the majority of these differences. Although minimal, positive directional changes in Act with Awareness and Nonjudge were also noted (see Figure D.1). Overall, qualities associated with mindfulness traits are linked to both attentional abilities (Observe, Describe, and Act with Awareness), and adopting attitudes of acceptance and equanimity towards self and experience (Nonjudge, and Nonreact; Baer, 2006). It is encouraging, but not surprising, that changes in mindfulness traits can be measure after a relatively brief exposure to mindfulness-based practices. Previous evidence for increased attentional strength and non-reactivity from engaging in mindfulness-based practices were supported by both the neuroscience research (Cahn & Polich, 2006; Chiesa & Serretti, 2010; Fletcher et al., 2010; Ivanovski & Malhi, 2007; Lutz et al., 2007; Treadway & Lazar, 2009) and the counseling literature (Chrisman et al., 2009; McCollum & Gehart, 2010; Shure et al., 2008).

      Relational benefits associated with these changes are at the apex of many qualities needed by counselors in order create and maintain an intimate interpersonal environment where clients feel accepted and safe to express their deepest emotional concerns. Attentional abilities allow counselors to be fully present, shift attention between themselves and the client, and to notice when their mind wanders thus facilitating active listening and reflective dialogue. As well, cultivating an accepting and non-judgmental attitude facilitates change. Indeed, by simply rephrasing Rogers's

(1992) concept of unconditional positive regard within context of mindfulness it could be said that developing equanimity toward the person of the client is one of the necessary and sufficient conditions for therapeutic change. Because adopting and rehearsing equanimity is at the heart of mindfulness practice, it is then apparent that these practices are a natural fit for counselors (Bien, 2008).

Although this research involved no measures from client interactions, evidence from the counseling literature indicated that mindfulness traits transfer to the therapeutic setting (Aiken, 2006; Chrisman et al., 2009; Grepmair, Mitterlehner, Loew, Bachler, et al., 2007; Grepmair, Mitterlehner, Loew, & Nickel, 2007; McCollum & Gehart, 2010; Schure et al., 2008). Future research will be needed to determine if benefits of mindfulness traits acquired early in counselor training are maintained throughout the training process. Additionally, longitudinal research is necessary to determine whether continual nurturing of these qualities benefits retention of these skills and attitudes.

Changes in Empathy

Participants endorsed changes in the empathy measure for personal distress, which accounted for approximately 12% of the variance between pre- post measures. Reductions in the amount of tension, uncertainty and fearfulness felt in social situations is important for counselors because it is necessary to be open and available to facilitate expressions of deep affect and encourage deeper exploration within the therapeutic encounter (Bien, 2008; Gehart & McCollum, 2008; Wegela, 2011). Also, maintaining a stable emotional presence encourages and facilitates honesty, confidence, and curiosity which are important in modeling emotional stability and healthy coping strategies

(Germer, 2005). As Bien (2005) stated it is important to resist over-identifying with clients' distress in order not to get lost or overwhelmed because if someone is drowning, help is best given by a person with "both feet clearly planted on terra firma" (p. 46).

No considerable pre- post changes in IRI Perspective Taking and Empathic Concern scores were found in this study. However, pre- post- scores were higher than normed samples (see Figures D.8 and D.9), indicating those attracted to counseling, and/or those most interested in engaging in mindfulness-based practices, may already have higher overall empathic tendencies. This is important because Rogers (1992) established empathy as a hallmark of the counseling relationship and understanding the client's internal framework, the cognitive and affective components, is critical for conveying understanding and making interpersonal connection. When considering the type of person who begins a graduate degree in counseling, it may not be surprising to discover a natural empathic quality, a desire to make connections with others, and to help relieve the suffering encountered. Conversely, it is possible that the IRI instrument does not adequately tap into the felt sense of empathy that would indicate actual changes in interoception as noted in the neuroscience literature (Hölzel et al., 2008; Lazar et al., 2005; Vestergaard-Poulsen et al., 2009). Future research may need to include different measures to determine changes in this phenomenological experience as a result of increased empathic abilities.

Additionally, several participants reported decreased empathic Perspective Taking and Empathic Concern (see Figures D.22 and D.24). Closer examination of similarities between these participants' responses showed decreased rumination and increased self-compassion. It is possible that decreased anxiety and a willingness to

engage in non-judgmental self-reflection resulted in a more accurate assessment of personal characteristics. Future research to determine the relationship between increased self-awareness and changes in self-report styles is needed to support these suppositions.

Because of the complex and dynamic interplay between counselors use of beneficial empathy like perspective taking and empathic concern, and non-beneficial empathic responses like personal distress, research into the ways mindfulness-based practices impact this characteristic should be pursued. Research suggestions include: (a) understanding the various stages of counselor development where mindfulness-based practices are most beneficial for increasing beneficial empathy and reducing non-beneficial empathy; (b) understanding how the felt sense of empathy is enhanced and then translated in the service of the therapeutic relationship; and (c) understanding how the counselor's empathic abilities are perceived by the client.

Changes in Self-Focus Style

Rumination, as measured by the RRQ, is a style of self-attentiveness characterized by anxious thinking motivated by fear of loss or injustice including the inability to shut off unwanted thoughts (Trapnell & Campbell, 1999). Changes in pre-post rumination scores showed a large effect size (partial η^2= .23) accounting for 23% of the variance (see Figure D.13). These findings are consistent with both neuroscience literature (Farb et al., 2007; Goldin & Gross, 2010) and changes seen in helping professionals including counselors (Shapiro et al., 2007; Rimes & Wingrove, 2010). It is postulated that mindfulness reduces rumination by reducing activity in the default mode

network responsible for generating self-referential activity (Farb et al., 2007), resulting in increased ability to stay in the present moment, shift between first and third person perspectives, and remain available during emotionally laden material (Chiesa & Malinowski, 2011).

The RRQ Reflection subscale is associated an intellectual self-attentiveness and a style of internal inquisitiveness, curiosity, or need for self-knowledge. As with previous variables, benefits from enhanced self-reflection seem to fit well with a large number of desired relational qualities within the context of the counseling relationship. Although pre- post changes were not substantial, participants' scores were already above the normed sample means (see Figure D.12). Benefits of enhanced self-awareness infuse and inform the counseling interaction, so much so that the ability to be genuine is included in the core conditions first proposed by Rogers (1992) and subsequently included as fundamental to the practice of counseling (Lambert & Ogles, 2004; Patterson, 1984). In his seminal theory of the necessary and sufficient conditions for change, Rogers proposed "the therapist should be a congruent, genuine, integrated person with his actual experience accurately represented by his awareness of himself". He went on to say that even if the counselor's experience is not ideal all the time – it is most important for there to be awareness within the counselor of their experiencing while with the client. I believe any tool that increases this ability should be explored more fully; since mindfulness-based practices are, at their core, practices in self-awareness, personal acceptance, and integration it seems a natural fit. If it holds that those drawn to the counseling profession are already more highly self-reflective,

increasing these capacities can only enhance the ability to bring a genuine self to the counseling relationship.

Dynamics between the two self-focus styles of rumination and reflection were preliminarily explored by Trapnell and Campbell (1999). According to these authors, it is possible for the relative strength of each style to differentiate internal habits. For example, a person with high rumination and high reflection may be prone to a "self-absorbed paradox" where there is high internal knowledge but also a high level of distress. On the other hand, a high reflective style paired with a low rumination style might indicate a more adaptable style of self-attentiveness. Although not reported in the results section due to a lack of previous psychometric support, a *what if* analysis of participants' ($n = 30$) pre- post changes of a calculated ratio (pre- $M = .98$; post $M = .84$) between these two self-focus styles found a statistically significant difference (Wilk's $\lambda =$ .785, $F(1, 29) = 7.96$, $p = .009$) with large effect size (partial $\eta^2 = .22$) indicating that overall, participants moved toward a high reflection, low rumination self-focus style. Without support from previous studies, implications for this shift are purely speculation; however, it is logical that less self-absorption and more a more adaptable style would be conducive to strengthening the therapeutic encounter.

Narrative Evidence of Change

In general, narrative evidence showed how learning to engage in mindfulness-based practices often begins with challenges but with time these difficulties are replaced by positive changes integration into both personal and professional identities. The following excerpts support these findings.

Early difficulties in being mindful are reflected by these participants: "I feel like there were so many distractions around that I had very little power in trying to focus and just be aware" (Participant H); "[m]y mind still wonders (sp.) around and I am unable just to watch coming in and going out of information" (Non-finishing participant), and

I find this exercise very difficult for me to do, as I find a hard time concentrating on all of my senses, because my mind keeps racing over all kinds of things, some related to this exercise, and some not. My situation is that I have never had success, previously with meditative type exercises because they are so time intensive. With this new type of learning, perhaps, that will change. (Non-finishing participant)

Participants also reflected about positive changes like increased attentional abilities "I feel like I'm seeing things now that, while I see them every day, I never notice because I'm on autopilot going about my day" (Participant H), "I've began to notice things I would have never noticed before. Sounds and smells that I normally did not pay attention to" (Non-finishing participant), and "[d]uring this session, I feel very focused on life around me I feel that I can pay attention to anything and everything" (Participant A).

Several participants noted better emotional regulation as evidenced by the following statements:

I began anxiously reflecting the details of the call, sharing my feelings, but stopped myself mid-sentence to regroup, remembering what my primary focus should be. Three days ago I would have done no such thing. Although the approach is proving to be challenging for me, it is clear that the concept is catching on. (Non-finishing participant)

Participant A noted:

> I am finding that I don't get as irritated as I used to and I don't get as angry as I
> did before. It is much easier for me to stay calm through what to some can be
> considered a crisis situation.

The following statements pointed to increased self-kindness:

> [d]uring the session, I felt at peace again I turned alot of my negative thoughts to
> positive. I also turned my pain to peace. (Participant B)

and

> So it was difficult to let those thoughts go at first, but then it became easier as I
> really began to appreciate just being and setting aside the time to just be and not
> have my mind racing for a little while each day. I really liked thanking myself for
> giving myself the time to just be at the end of the practice. (Non-finishing
> participant)

Also, Participant A wrote, "[o]ne of the things I learned throughout this process is that I
realized I deserve to be happy add that I am in complete control of this happiness."

In addition, journal entries indicated that several participants were integrating
their personal experiences. For example, one non-finishing participant reported the
following:

> During today's session I realized that I am beginning to incorporate all the skills
> that have been building since day one of training without really being aware that I
> am. In other words, breathing, counting, letting things come and go, and focusing
> on the body are all starting to merge into one skill, rather than many different

ones. Initially, I struggled to focus on breathing only... and now I'm incorporating

all throughout my day without even thinking about it at times!

Other participants reflected on how these changes could be used to become better

counselors:

> If I can focus more on complementing myself for my successes throughout the
>
> day and can focus more on personal wellness (eating right, exercising, etc.), then
>
> I will certainly be able to maintain healthier, more therapeutic relationships with
>
> my clients. (Non-finishing participant)

and

> All of the skills I am being made aware about throughout these sessions will
>
> make becoming a mirror for my clients much easier because of the heightened
>
> awareness I will have of my own being. With that awareness, I can establish
>
> appropriate boundaries and as a result be able to be more authentic in my
>
> intentions. (Non-finishing participant)

Similarly, Participant E noted:

> I'm starting to realize what great implications this practice has for my future
>
> counseling career. I say the phrases to myself throughout the day: let them be
>
> safe, let them be healthy etc. It's a nice thing to do for myself when things seem
>
> stressful.

In general, participants' reflections indicated they initially struggled with formal practice,

but quickly noticed changes in attentional tendencies and abilities outside formal

practice times. Changes in the quality of emotional responding, new insights, and

feelings related to greater well-being were also expressed. Furthermore, evidence of the

ways practiced qualities were integrated and associated with their professional development were apparent, indicating the likelihood that persistent internal changes were taking place. These findings suggest strong support for the benefits of engaging in mindfulness practices, even after relatively little experience, a finding consistent with that of McCollum and Gehart (2010).

Additional Considerations and Future Research Suggestions

Although attrition was a substantial problem, a degree of attrition was expected due to difficulties inherent in beginning a mindfulness-based practice and time-constraints on graduate students. Reasons for lapsed participation were not given, and a review of participant daily journal entries did not reveal any noteworthy insights or patterns. Early comments between those who completed the training and those who did not complete the training were similar including reflections about challenges and difficulties; for example: "I was having a difficult time to pay attention" (non-finishing participant); "I find this exercise very difficult for me to do, as I find a hard time concentrating on all of my senses, because my mind keeps racing over all kinds of things, some related to this exercise, and some not" (non-completing participant), and "[t]his was extremely difficult. My mind kept wandering. I was thinking about all the things I needed to get done before the end of the day and stressing over my school work" (Participant C). These reflections represent typical challenges of novice mindfulness practitioners (Stahl & Goldstein, 2010).

Conversely, both those who completed and those who did not complete the training included early reflections regarding growing awareness and feelings of success;

for example: "[f]elt very aware of surroundings which I don't often take time for" (non-finishing participant), "I made every effort to remain present but caught my mind wandering a few times, and gently told myself to bring my awareness back to my breath, and my center" (Participant E); "[f]elt incredibly relaxed. Excited to see what comes next" (non-completing participant), and "I felt inner peace and thought it was interesting to actually think, watch, and listen to what I am doing" (non-finishing participant). Unfortunately, it was not possible to make suppositions regarding choices for training continuation from these entries.

Examining participation by university suggested that external motivation may have been an unintentional but large contributing factor to persistence in this study. During an interaction at a conference, I learned that one faculty contact offered students in his class extra credit for participation in this research. Influence from of this type of external motivation was evident because 13 of the original 37 entry participants and 5 of 10 completers were members of this class. The second largest participation rate ($n = 5$) was from this author's university where initial recruitment was done in person, perhaps creating a more personal sense of obligation to join or sense of common group membership. However, only one of these participants completed the exit survey after having completed only four of the eight weeks of training. Further support for the importance of external motivation was found the following exit survey reflection:

It would of been helpful for me to have more incentive to do it somehow.

Because life already has so much in it, it became easier and easier for me to put

this study on the back-burner. Not enough incentive to complete it. My time being

taken over by grad school. Because emails said it was okay if we missed

portions of it, I didn't feel guilty, or feel pressured to complete it. (Participant I)

Future researchers will need to address ways to engage participants, especially in the

beginning when learning to practice mindfulness is most difficult.

End of the semester pressures might also be a contributing factor to persistence.

Several participants completed substantial portions of the training but opted-out when

asked to complete exit surveys at the end of the eight week period. Details and

reflection from their participation were not available due to their decision to be excluded

from the study; however, time pressure was a common theme in other comments.

Ironically, it is precisely the type of pressured lifestyle that can benefit from mindfulness

practices (Chiesa & Serretti, 2009; Grossman et al., 2004). Future research design will

benefit from providing an opportunity for participants to express a reason for opting-out

so that factors related to participation and attrition can be understood and addressed.

Furthermore, strategies for understanding attrition and motivation could include

opportunities for participants to explain termination reasons without requiring completion

of the entire exit survey. Additionally, larger sample sizes or assessing individual

qualities could contribute to a better understanding of intra- or inter- personal factors

that influence early success. Understanding attrition could also inform modifications to

training procedures. These modifications might include finding more targeted ways to

encourage participants to work through the hardest parts of early mindfulness-based

practices. Improvements might also include weekly group meetings, interactive

message boards, payment, or periodic individual meetings with the instructor for

guidance and encouragement.

Interestingly, attrition rates stabilized after the fourth week (see Table D.1) indicating that some type of threshold was reached regarding engagement, habit, ease of practice, or inner change. Reflections around the fifth week indicated that practice became easier, more integrated, and more personal. For example, participants noted "during this session I am more aware of the different things that surround me. More peaceful thinking" (Participant B) and:

> I was feeling a little ill during today's session and used the time of silence to focus on my breathing rather than feeling bad, letting the discomfort come and go. I know I veered away from the current lesson, but I think it shows that I am starting to be able to integrate the skills I have been learning, rather than focus on one at a time. (Non-finishing participant)

Participant A wrote:

> I find myself even when I have no energy left able to accomplish task. I've noticed that I've been mindful [o]f the things that I say. I think whether or not it is going to hurt someone feelings and if I think it is I find a better way to say it."
> Efforts to engage and retain participants might be most beneficial in the early weeks since the benefits of sustain practice over time become their own motivation.

Suggestions for specific improvements to the training were also gathered as part of the exit survey. Nearly every participant mentioned the impact of time constraints, either their own busy schedules or a desire for the lessons, training, or practices to be shorter. Moreover, several comments were made regarding the consequence of getting behind; for example, Participant G stated "[o]nce I got behind, it didn't seem practical to catch up

with my practices with the way it is set up." In addition, several participants mentioned voice tone and recording quality as things that could be improved in the future. Considerations towards the architecture of the training interface and sound recording quality could remedy this problem. In addition, dividing lesson content into daily 5-minute segments followed by daily practice might relieve some of the burden of scheduling and training structure.

Also impacting these results were participants' exposure to mindfulness principles including previous knowledge, current practice, and on-going learning opportunities. Because of the voluntary nature of this study, it is assumed that most participants had some interest in learning more about mindfulness. In the initial group completing the entry survey ($n = 37$), 11 reported previous experience and 2 indicated a current practice (see Table D.3). Of the final 10 participants, 4 reported previous experience. Future researchers might conduct separate analyses based on participants' overall knowledge and previous experience to further understand the trajectory of mindfulness experiences as it relates to beneficial changes. It was encouraging that every participant who completed the exit survey, regardless of overall participation rate, expressed a desire to continue to engage in some form of mindfulness-based activity in the future.

During the recruitment phase, several counselor educators expressed concern that their existing inclusion of mindfulness-based practices in their course curriculum might introduce confounding variables. Despite assurance that previous practice experience was expected, several of these counselor educators chose not to invite their students to participate. Future research with counseling students might benefit from

additional qualitative information regarding counselor educator's knowledge,

educational practices, and/or personal mindfulness practices in order to enrich

understanding of the results.

Table D.3

Participant Pre-Training Mindfulness-Based Practice Experience

	Participants	
Experience Details	Entry[a] (*n* = 37)	Exit[b] (*n* = 10)
Previous Experience = Yes	11	4
Type of Experience		
Brief Exposure	5	3
Regular Practice	2	1
Past Practice	2	0
N/A	2	0
Style/tradition of practice[c]		
Yoga	6	3
Meditation	7	3
Pranayama	1	0
Loving-Kindness	2	0
DBT	1	1
Experience *months; range / mean (sd)*	0 – 36 / 11.9 (12.25)	3 – 36 / 13.5 (15.59)
Weekly Formal Practice *mins*; *range / mean (sd)*	0 – 60 / 20.0 (28.02)	0 – 60 / 30.0 (34.64)
Weekly Informal Practice *mins; range / mean (sd)*	0 – 90 / 29.0 (31.85)	0 – 90 / 42.5 (40.31)

Notes. [a]participants completing entry survey. [b]participants completing training. [c]participants reported multiple types of practice

This research included only students beginning their master's level education.

Future research might explore the optimal time to introduce mindfulness-based practice

to counselors-in-training. Furthermore, a comprehensive understanding of the

usefulness of these practices for the counseling profession will need to include all levels

of counselors from beginners to professionals, including counselor educators.

Additionally, understanding the role of counselor educators' commitment to practice and modeling in order to facilitate the teaching counselors provides a separate line of inquiry into the benefits of mindfulness for the profession. Future researchers may explore alternative delivery methods, attrition prevention strategies, trainer-trainee relationships, experience of the trainer, and impact of an on-line forum for participant bonding and feedback. Ultimately this line of inquiry should include explorations of the client experience including alliance formation and clinical outcomes.

Implications for Counselor Educators and Supervisors

As theoretical support and evidence of strong intersections between mindfulness-based practices and counselor relational qualities increase, counselor educators will need to find ways of introducing mindfulness-based practices into curricula. While this will initially be challenging, it is likely that more training opportunities, like the one piloted by this research, will become available. Already the growing body of research has led to ample resources and opportunities for learning including books, articles, videos, workshops, conferences, retreat centers, and research literature.

Furthermore, wisdom scholars have pointed out that the only true way to know mindfulness is through practice (e.g., Kabat-Zinn, 2003a). If they are to build upon the benefits of mindfulness-based practices in the curriculum, counselor educators and supervisors must also begin to practice. Stauffer and Pehrsson (2012) researched and proposed competency recommendations for teaching mindfulness-based practices. Attention to these suggestions along with advanced trainer competence to insure proper transfer of knowledge is strongly recommended (Stauffer & Pehrsson). Although initially

time consuming, it is likely that the benefits to educators and supervisors engaging in these practices will mirror benefits to counselors with more attuned student relationships, as well as increased wellness and life satisfaction (May & O'Donovan, 2007; Patsiopoulos & Buchanan, 2011; Shapiro et al., 2007; Shapiro et al., 2005).

Gaining knowledge and experience will also allow counselor educators to consider imaginative ways to integrate practice into teaching in a variety of curricular areas. For example, educators might consider (a) using focused concentration practices to increase attentional abilities and decrease anxiety and ruminative thoughts for first time practicum students; (b) utilizing open-awareness practices for increasing insights into values, ethics and multicultural competencies; or (c) introducing self-compassion and open-hearted practices for working with clients who have a history of trauma or unresolved grief. Additionally, preliminary qualitative inquiries already provide suggested frameworks and activity for integration into wellness courses (Chrisman et al., 2009; Schure et al., 2008), practicum classrooms (Gehart & McCollum, 2008; McCollum & Gehart, 2010), supervisory relationships (Andersson et al., 2010) and field placements (Gökhan et al., 2010). Considerations will also need to be made towards training delivery, time commitments, homework compliance, and ethical considerations like perceived conflicts with other spiritual traditions.

Although theoretical and exploratory evidence is promising, this research has numerous limitations that must be considered.

Limitations

Results from this research should be considered in lieu of the following limitations and other limitations that may not be mentioned. These limitations include the usual

cautions associated with convenience samples, self-report measures, personality differences in participants who volunteer, and the use of counseling students in their first clinical course. It should also be taken into account that students with a provisional acceptance into a graduate program may be inclined to respond in socially desirable ways.

Small sample size and measurement reliability issues prevented accurate statistical analyses; therefore the strength of the statistical findings was severely compromised. Also, lack of a control group means changes measured may be the result of external factors unrelated to the training, such as natural maturation that occurs during the first semester of one's graduate program. Generalizing from these findings should be done with extreme caution.

The ability to isolate the mindfulness course as the primary source of change was limited by several internal validity issues. First, participants were enrolled in their first clinical counseling course may have also similar instruction, therefore insolating the impact of this mindfulness training course as not possible. It is also likely that maturation plays a role in increased relational qualities within counselor training programs. Parallel materials and educators' perceptions of mindfulness-based practices were not assessed and could have a considerable impact on student participant, attrition, and acquisition of additional training. Also, given the voluntary nature of the research design, it is likely that participants were already drawn to the potentials of mindfulness-based practices, and therefore may not represent the population of counseling students. In the future, a non-voluntary, comparison and/or control groups can strengthen these finding, and help to isolate the impact of mindfulness practices.

As a pilot study involving a new complex web-based delivery system, several errors were encountered. Although the program staff was highly responsive, several participants expressed discouragement and frustration. In addition, it was discovered that a particular web browser, commonly used on college campuses, was not compatible with the training interface. Participation and data collection were hampered at times by these problems. Actual loss was hard to estimate; however, valuable information regarding training architecture was gained and will inform future development.

In addition, analyses of actual formal practice times were complicated by incomplete web access information; therefore, conclusions regarding the impact of practice times should be interpreted with caution. Future modifications to the software could allow for more accurate tracking of participation. Additionally, compliance with daily practice has been shown to be a particularly challenging in mindfulness research (Vettese, Toneatto, Stea, Nguyen & Wang, 2009). Despite use of objective log-in information to record formal practice times, actual practice times cannot be guaranteed.

In addition, mindfulness states are difficult to measure; therefore, actual achievement of the type of mental states taught is difficult to determine. While descriptive journals of participants' experiences help to resolve this issue, it should be noted that internal experiences are, at best, highly subjective. Although efforts will be made to eliminate biases as part of the instruction, preconceived notions of mindfulness as a religious practice may have interfered with full participation.

Conclusions

Although it has been shown that personal and relational characteristics of counselors are vital to therapeutic outcome (e. g., Wampold, 2010) and that these qualities should be nurtured (Mahoney, 2005; Norcross, 2010; Skovholt, 2005), the counselor education field struggles to develop a model that includes methods for teaching basic skills paired with the development of the internal processes and inner qualities necessary to become an effective counselor. Although statistical results from this research are limited, general trends in improved mindfulness traits, empathy, self-focus style, self-compassion, and positive participant reflections indicated that incorporating mindfulness-based practices into counselor education curriculum is a viable and potentially useful method for improving counselor relational qualities. This research provided one potential avenue for incorporating mindfulness-based practices into counselor education through a web-based delivery system. Continued support and enthusiasm for the potentials for mindfulness-based practice to enhance these qualities will hopefully result in continuing to find better ways to enhance counselor development which ultimately leads strong therapeutic relationships and thereby better client outcomes.

In reflecting back on these assertions it is apparent that future research to understand the complex and dynamic nature of intra- and inter-personal experience would be helpful in creating a full model of the intricacies and impact of mindfulness-based practices on counselor relational qualities. What is offered here is just a glimmer contained in the vastness of what is still unknown. At the same time, I hope it offers curiosity, encouragement, and hopefulness to motivate continued inquiry.

APPENDIX F

SUPPLEMENTAL MATERIALS

Table F.1

Summary of Methodology for Neurological Studies Reviewed

Reference	Test	Brain Regions Associated With	Participants	Meditation Style/Experience	Findings
Brefczynski-Lewis et al., 2004 reviewed Lutz '07	fMRI	Attention	Experienced, >10,000 hrs Controls, practice daily for 1 wk	Focused Attention Concentration on an external object	Regional brain activation in all, more in experienced
Brefczynski-Lewis et al., 2004 reviewed Lutz '07	fMRI	Feeling States Planning Movement Positive Emotions	Experienced, N=8 >10,000 hrs; +15 yrs Controls, N=8, no prior exp practice daily for 1 wk Matched by age	Non-referential compassion Cultivate unconditional feelings of loving-kindness, compassion	Regional brain activation in all, more in experienced
Brefczynski-Lewis et al., 2007	fMRI	Sustained Attention	Experienced, N=12 >10,000 hrs Controls, N=12, no prior exp practice daily for 1 wk Incentive controls, no exp paid for good performance Matched by age	One-pointed focused Strengthen attentional focus, achieve tranquil state, and reduce internal preoccupation, using meta-awareness to monitor processes	Regional brain activation differences during task compared to controls
Creswell et al., 2007	fMRI	Affective Processing	Trait Mindfulness, N=27 Measured by MAAS	None - Affect Labeling	Regional brain activation in all, more in +trait
Davidson et al., 2003	EEG	Emotional Processing Affective States	Group participants, N=25 8-wk MBSR group w/ homework completion= *M*=2.52 (*sd*=2.56) days/wk *M*=16.19 (*sd*=9.7) min/per Wait-list control, N=16 Pre-post measures	MBSR 2.5-3 hr/wkly group 1 hr/day homework	Regional activation in response to emotional tasks
Farb et al., 2007	fMRI	Self Reference Present Moment Narrative	Group participants, N=20 8-wk MBSR group Wait-list control, N=16 Pre-training baseline	MBSR group *2 hr/wk *instructed to accept difficulties/discomfort as passing mentation	Regional brain activation +mindfulness trained vs. controls

(table continues)

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Table F.1 *(continued).*

Reference	Test	Brain Regions Associated With	Participants	Meditation Style/Experience	Findings
Farb et al., 2010	fMRI	Emotional Reappraisal Interoception Somatosensory	Group participants, N=20 8-wk MBSR group Wait-list control, N=16 Pre-training baseline	MBSR group *2 hr/wk *instructed to accept difficulties/discomfort as passing mentation	Regional brain activation +mindfulness trained vs. controls
Goldin & Gross, 2010	fMRI	Attention Emotional Regulation	Group participants, N=16 Diagnosed w/social anxiety disorder No prior experience *M*=2.6 (*sd*=.55) hrs/wk; + group attendance	MBSR group	Regional brain activation differences experienced during negative self-belief task
Hölzel et al., 2007	fMRI	Attention Emotional processes Emotional regulation	Experienced, N=15 > 2 yrs daily practice + 2.0 hr/day + 4 10-day retreat Controls, N=15, no exp Matched education, sex, age	Vipassana: S. N. Goenka "non-judgmental acceptance towards internal experiences that arise in each moment"	Regional brain activation differences during meditation
Hölzel et al., 2008	MRI	Attention regulation Emotional arousal Interoception Previous research Empathy	Experienced, N=20 *M*=8.6 (*sd*=5.0) yrs; 2.0 hr/day; *M*=6254 (*sd*=4529) tot/hr Controls, N=20, no exp Matched education, sex, age	Vipassana: S. N. Goenka "non-judgmental acceptance towards internal experiences that arise in each moment"	Increased gray matter concentration
Hölzel et al., 2011	MRI	Attention Emotional arousal Emotional regulation Emotional reactivity Social cognition Compassion	Group participants, N=16 8-wk MBSR group; w/homework *M*=22.6 (*sd*=6.3) hrs/tot over 8 wks (avg 27 min daily) Wait-list control, N=17 Pre-post measures	MBSR group	Increased gray matter concentration

(table continues)

Table F.1 *(continued).*

Reference	Test	Brain Regions Associated With	Participants	Meditation Style/Experience	Findings
Kilpatrick et al., 2011	fMRI	Regional functional connectivity Auditory salience Visual (medial) Visual (lateral) Executive control Sensorimotor	Group participants, N=17 8-wk MBSR group; M= 45.5 hrs/tot; (5.5 hrs/wk) Wait-list control, N=15 Pre-training baseline	MBSR group * 30 min/day homewk	Regional brain activation +trait changes MBSR group
Lazar et al., 2000	fMRI	Attention Arousal Autonomic Control	Experienced, N=5 +4 yrs daily practice	Kundalini Yoga Passive breath awareness and mantra	Regional brain activation
Lazar et al., 2005	MRI	Attention Interoception Sensory Processing	Experienced, N=20 6.2 ± 4.0 hr/wk; 9.1 ± 7.2 yrs; + 7-day retreat exp Controls, N=15, no exp Matched by age, sex, race, education	Open Awareness Cultivation of attention and nonjudgmental awareness on present moment, without cognitive elaboration	Increased cortical thickness
Luders et al., 2009	MRI	Attention Emotional Processes Self-regulation Behavioral Flexibility	Experienced, N=22 24.2 ± 12.4 yrs/tot 10 - 90 min/daily Controls, N=22, database Matched age, sex, education	Various styles Included Zazen, Samatha, Vipassana, and others	Increased gray matter concentration
Luders et al., 2011	DTI	Structural connectivity	Experienced, N=27 12.3 ± 12.2 yrs 6.2 ± 4.0 hr/wk + 7-day retreat Controls, N=27, database Matched age, sex, education	Varied and multiple types Including Shamatha, Vipassana, Zazen, Buddhist, Chenrezig, Vajrayana, Kundalini, Tibetan Buddhist Kriya, Dzogchen, not specified	Significantly greater connectivity in meditators

(table continues)

Table F.1 *(continued).*

Reference	Test	Brain Regions Associated With	Participants	Meditation Style/Experience	Findings
Lutz et al., 2008	fMRI	Empathy Compassion Emotional Attending	Experienced, N=16 > 10,000 hrs/tot > 14 yrs ~ 2.2 hr/day Controls, N=15, no prior exp Instruction/practice 1 hr/day (20 min/type) for 7 days prior Matched by age, sex	Varied but all included focused, open awareness, and compassion	Regional brain activation differences experienced vs. novice during compassion task in response to emotional stimuli
Manna et al., 2010	fMRI	Sensory awareness Self-referential Conflict monitoring Cognitive control	Experienced, N=8 M=15K (sd=9900) tot hr M=2 hr/day Controls, N=8, no prior exp Instruction for practice at 30 min/day for 10 days before scans	Focused Attention attention on breath with acceptance of distractions and return vs. Open monitoring notice w/o judgment whatever arises, no restrictions or control	Region area activations in focused vs open meditation styles also trait changes in long-term practitioners matches open style
Pagnoni & Cekic, 2007	MRI	Attention Emotional processing	Experienced, N=13 + 3 yrs daily practice Controls, N=13, no exp Matched education, sex, age	Zen meditation	Cortical thickness indicating arrest of age related declines
Pagnoni et al., 2008	fMRI	Default Mode Network	Experienced, N=12 > 3 yrs daily practice Controls, N=12, no exp Matched education, sex, age	Zen During scan focus and return to breath	Regional brain activation differences following semantic task

Table F.1 *(continued).*

Reference	Test	Brain Regions Associated With	Participants	Meditation Style/Experience	Findings
Slagter et al., 2007	EEG and task	Attention	Experienced, N=17 > 10 hr/day for 3 mos w/prior experience in various styles Controls, N=23, no prior exp Instruction/practice 20 min/day for 7 days pre-testing	Vipassana Included focused, open awareness, loving-kindness and compassion	Decreased resources used resulted in increased attentional abilities
(table continues) Taylor et al., 2011	fMRI	Emotional Regulation	Experienced, N=12 >1000 hrs Controls, N=10, no prior exp Instruction/practice 20 min/day, 7 days prior	Zen meditation	Regional brain activation differences during meditation tasks
Vestergaard-Poulsen et al., 2009	MRI	Autonomic regulation Self-reflection Memory Retrieval	Experienced, N=10 > 8000 hrs/tot > 14 yrs ~ 2.2 hr/day Controls, N=23, no exp Matched by age, sex	Dzogchen style Included focused, open awareness, loving-kindness and compassion	Increased gray matter density
Wang et al., 2011	fMRI	Attention Emotional processing Connectedness	Experienced, N=10 > 30 yrs daily practice > 20,000 hr/tot	Kundalini yoga tradition Includes 2 types: intense focusing of the mind, and relaxing of the mind	Regional brain activation differences during two styles of practice

*MBSR groups=2.5-hr for 8-wk +1 half-day retreat & 45 min/day homework via CD; informal practice instruction given, mindfulness of breath focus w/present moment non-judgmental awareness; emphasizing increased interoceptive, sensory, and mentation awareness, also included stress reduction skills (any changes to training noted with each study).

Table F.2

Demographic Questionnaire

#	Question	Response
1.	Are you currently enrolled in your first skills course in a master's level CACREP-accredited counseling program?	Yes / No
2.	Age:	Open-ended
3.	Sex:	Female/Male
4.	Ethnic Identity: (check all that apply)	White, Caucasian, or European American/Black, African American, or Negro/ American Indian or Alaska Native / Asian or Pacific Islander, including Asian Indian / Hispanic or Latino / Other (please specify)
5.	Religion:	Buddhist / Christian-Catholic / Christian-Not Catholic / Muslim / Jewish / Hindu / None / Other (please specify)
6.	What university are you enrolled in?	Open-ended
7.	What is your major counseling program focus?	Clinical Mental Health or Community Counseling / School Counseling / Student Affairs or College Counseling / Addictions Counseling / Marriage, Couple, and Family Counseling / Career Counseling / Undecided
8.	Credit Hours Earned toward Graduate Degree	Open-ended
9.	Previous Mindfulness/Meditation Experience	Yes / No
	If yes, please answer the following additional questions	
a.	Type of Mindfulness Experience:	Brief Exposure / Regular Practice / Past Practice
b.	Style/Tradition of Practice	Open-ended
c.	Number of Years of Experience	Open-ended
d.	Current Average Weekly Time Spent in Formal Practice	Open-ended
e.	Current Average Weekly Time Spent in Informal Practice	Open-ended

Table F.3

Exit Survey Questions

#	Question	Response
1.	Do you think you will continue to use the practices you learned during this training? And how often, and which practices do you think you will continue to engage in?	Open-ended
2.	What did you like about the training?	Open-ended
3.	What did you dislike about the training?	Open-ended
4.	If you could change anything about the training, what would you suggest?	Open-ended
5.	If you missed completing portions of the training, what would you say were the primary challenges that inhibited with your full participation?	Open-ended
6.	What do you think could have made it easier for you to participate or engage more fully in the training?	Open-ended
7.	Would you like to be entered into the drawing for 1 of 10 $50 gift cards?	Yes / No

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