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Cognitive Complexity, Mindfulness, and Reflection in Mental Health Professionals

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By

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This dissertation has been examined and approved by the following members of the

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Abstract

In this cross sectional quantitative investigation, the relationships among mental health professionals' cognitive complexity, mindfulness, and reflection were explored. To determine if there was a correlation between mindfulness and cognitive complexity, a Pearson's correlation was conducted: There was a strong positive correlation between mindfulness and cognitive complexity. To determine whether observing and describing (two key variables of mindfulness) could predict counselor overall cognitive complexity, a simultaneous multiple regression was conducted. The observing subscale significantly predicted counselor cognitive complexity and the describing subscale did not significantly predict mindfulness. To determine if there is a correlation between mindfulness and reflection, a Pearson's correlation was conducted. There was a strong positive correlation between mindfulness and reflection. In accordance with the findings of this study, limitations, recommendations for future research, and implications for future practice are discussed.

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Chapter 1: Introduction

Conceptualizing and evaluating client concerns to provide effectual treatment in counseling is often a complex process, mainly because the variables that influence client issues are multifaceted (Stoltenberg, McNeill, & Delworth 1998; Welfare, 2007). Consequently, in order to be effective, counselors need to identify these multifaceted variables that influence the client's presenting concern and integrate these arbitrary factors into a meaningful framework. In doing so, it is imperative that the counselor have effectual case conceptualization skills (Borders, 1989; Stoltenberg et al., 1998), comprehension of the process of developing a therapeutic alliance, attending to multicultural dynamics (Stoltenberg et al., 1998; Wendler & Nilsson, 2009), and the ability to integrate theoretical perspectives in to practice (Granello, 2010; Stoltenberg et al., 1998). Furthermore, the counselor must self-monitor during these processes; specifically, maintain thorough awareness of their thoughts and feelings and how they may interrelate with the tasks at hand (Granello, 2010). Counselors must be aware of the multifaceted nature of client concerns and manage the complex nature of these concerns when providing effectual services to their clients. In doing so, it is imperative that counselors have the ability to comprehend intricate information in order to recognize the numerous therapeutic variables at play. In comprehending such information to provide effectual client services, counselor cognitive ability is unquestionably significant. Therefore, when navigating complexities in the counseling process, a counselor must demonstrate advanced cognitive ability (Stoltenberg et al., 1998), more specifically, cognitive complexity (Welfare, 2007).

Cognitive Complexity

Over the past 60 years, an individual's level of cognitive complexity has been used as a measure of conceptual/cognitive ability. Cognitive complexity, a term coined by Bieri (1955), is defined as one's ability to formulate an understanding of social behaviors in a multidimensional way. A large part of Bieri's work was based on the Theory of Personality developed by his mentor Kelly (1955), which explored how humans interact with one another. Another student of Kelly's, Crockett (1965), also defined cognitive complexity as one's ability to perceive a situation utilizing multiple angles while assessing relevant and irrelevant information to the issues being addressed.

Built on the notion that individuals are bound by their own subjective reality, Kelly (1955) theorized that these notions of reality influence how individuals develop a sense of identity and in turn, interact with their world around them (Walker & Winter, 2007). Kelly noted this process occurs when an individual explores their surroundings through transparent patterns (or templates) they have created, which they attempt to fit into the realities of which the world is composed. Kelly's Theory of Personality hypothesizes that human beings develop *construct* systems that could include unlimited units of knowledge linked together to form a map for interacting with the world. A *construct* refers to a cognitive template through which an individual understands their world or assigns meaning. Thus, apart from the knowledge one has about a subject, how that information is structured in a particular domain determines how that individual interacts with the world. In comprehending this, cognitive complexity is a variable that quantifies the structure within an individual's construct system (Rigali-Oiler, 2013).

Bieri (1955) theorized that if an individual has a complex cognitive system, then they are more capable of forming highly differentiated impressions of others, compared to individuals with simplistic cognitive systems. Furthermore, if an individual uses more independent constructs during this process, this individual is theorized to be more cognitively complex (Bieri, 1955). Individuals who demonstrate higher levels of cognitive complexity are more likely to recognize subtleties within social situations and to develop more appropriate, coherent behavioral responses when faced with ambiguity (Spengler & Strohmer, 1994). Moreover, Crockett (1965) inferred that an individual's cognitive system is capable of becoming more complex as they gather more novel experiences over time.

Borrowing from the theorists of cognitive complexity, it is imperative to note that counselors need to create conceptual templates utilizing their training and experiences to perceive what they observe, especially with their clients (Welfare & Borders, 2010). Accordingly, describing the primary principles of professional development and stagnation of counselors, Rønnestad and Skovholt (2013) identified the imperative nature of cognitive complexity in counselor education. They noted that having a capacity for cognitive complexity and reflectivity enabled counselors to further reflect on experiences in the professional life sphere and engage in metacognitions that presuppose optimal professional development. Furthermore, Rønnestad and Skovholt stated that among a few other significant variables, cognitive complexity's role as a moderator in the processes of counselor development and stagnation is particularly imperative. A general assumption that has been supported by research over the years is that counselors move towards more nuanced, differentiated, hierarchically organized, and more complex ways

of conceptualizing and organizing knowledge over time (Blocher, 1983; Borders & Brown, 2005; Loganbill, Hardy, & Delworth, 1982; Rønnestad & Skovholt, 2013; Stoltenberg, 1981). Thus, it's expected that these movements take time to progress due to numerous pertinent complexities.

The Therapists' Cognitive Complexity Model (TCCM) is a stage model that proposes three levels of cognitive and metacognitive complexities that a counselor moves through during their development: session thoughts, metacognitions, and epistemic cognitions (Owen & Lindley, 2010). Session thoughts are basic cognitions used by counselors (e.g., observations of client behavior, interactions by client/therapist, hypothesis testing, and monitoring changes following an intervention). The TCCM emphasizes that "session thoughts reflect the ability to identify session activities, differentiate between these activities, and integrate salient versus irrelevant information" (Owen & Lindely, 2010, p.131). Metacognitions are the "therapists' ability to monitor their progress when engaged in session thoughts, or to evaluate their own thoughts and reactions as they occur in the session" (Owen & Lindely, 2010, p.131). Epistemic cognitions are the counselor views about the nature of knowledge and learning; they are developmental in nature and reflect a movement from dualistic-relativistic to constructivist beliefs about knowledge (Owen & Lindely, 2010). The researchers theoretically assume that counselors progress through three developmental stages of increasing cognitive complexity over time (Phase I, Phase II, Phase III), where aforementioned complexities are present in varying degrees (Owen & Lindely, 2010, p.132).

Comparing results of their investigation with the TCCM, Rønnestad and Skovholt (2013) noted that their findings did not support a stage model of the development of cognitive complexity, as suggested by Owen and Lindely (2010). The changes that occur are more continuous in nature, and some changes (e.g., ability to integrate and differentiation of information) occurred earlier than Owen and Lindely suggested. Yet, Rønnestad and Skovholt noted that there were some similarities of changes mentioned in the TCCM and their results. In relation to cognitive complexity, they noted that metacognitive abilities (which enhance one's level of cognitive complexity) of novice counselors are limited and increase with experience; while advanced students are more capable of hierarchically organizing knowledge, and thus more complex ways of conceptualizing client information from a multidimensional perspective.

Despite variations in comprehending theoretical assumptions (Owen & Lindely, 2010; Rønnestad & Skovholt, 2013) and measures (Welfare, 2007), a majority of the research emphasized the significance of cognitive complexity to be fundamental and central to a counselor's professional development. A noteworthy study in illuminating this, Stoltenberg (1981) identified that cognitive complexity represents a qualitative cognitive developmental process affecting counselor performance. A higher level of cognitive complexity has been demonstrated to facilitate integration of content from a variety of perspectives and enable access, organization, and conceptualization of counseling variables (Jennings & Skovholt, 1999). Moreover, looking at the fundamental role that the cognitive complexity takes in counselor development and counseling outcomes, researchers have concluded that the level of cognitive complexity among counselor trainees is positively correlated to one's ability to formulate clinical hypotheses

(Borders, 1989). Additionally, Wendler and Nilsson (2009) found that counselors with higher levels of cognitive complexity are capable of (a) being more open-minded, (b) perceiving clients in more complex terms, (c) providing appropriate feedback to their clients, (d) performing better in ambiguous circumstances and environments, (e) being more flexible, (f) exhibiting greater self-efficacy, (g) having greater self-other awareness, (h) practicing empathic communication, and (i) exhibiting multicultural desirability (Wendler & Nilsson, 2009). Also, these counselors find working with their clients less difficult (Borders, 1989). Discussing characteristics of effectual therapists, complex cognitive skills have been identified as an imperative characteristic that contributes to better counseling outcomes (Borders, 1989; Borders & Brown, 2005; Duys & Hedstrom, 2000; Goldberg, 1974; Granello, 2010; Holloway & Wampold, 1986; Little, Packman, Smaby & Maddux, 2005; Meyer, 1996; Rigali-Oiler, 2013; Rønnestad & Skovholt, 2013; Stoltenberg et al., 1998; Wendler & Nilsson, 2009). Furthermore, these researchers note that cognitive complexity is imperative in counselor training and facilitating effectual counseling outcomes. The significance of cognitive complexity and related studies is discussed further in the literature review section.

Thus far, cognitive complexity among counselors has been understood as a natural developmental progression gained with experience. Though, the imperative nature of cognitive complexity in counseling has been recognized, there is limited research exploring how one's level of cognitive complexity is enhanced and what contributes to increased cognitive complexity. Addressing this concern, a few researchers (Duys & Hedstrom, 2000; Granello, 2002; Little et al., 2005) found that counseling skills training and participation in practicum and internship would

significantly enhance a counselor's level of cognitive complexity. The researchers attributed the increased cognitive complexity levels by counselor trainees to the supervision received and experiential counseling activities. Furthermore, the number of years practicing in the counseling profession was identified as the best predictor of counselor cognitive complexity (Granello, 2010). The researchers clarify that it is not the years of experience that contributes to having higher levels of cognitive complexity per say, but instead it is the counselor's level of engagement in the profession despite the area of professional practice (i.e., clinical, educational, supervision).

As noted, there was a limited amount of research that (Duys & Hedstrom, 2000; Granello, 2002, 2010; Little et al., 2005) investigated what contributes to enhancing cognitive complexity among counselors. The knowledge accumulated thus far on the subject is limited and undoubtedly warrants further exploring, because facilitating counselor cognitive complexity levels enhances and promotes optimal professional development and yields better counseling outcomes. Yet, it's noteworthy to recognize that the aforementioned methods could be used for intentional facilitation of counselor's cognitive complexity development during counselor training as well as increasing the efficacy of practicing counselors.

Hypothesizing what other factors may influence counselor specific cognitive complexity, there could be several that may contribute to such facilitation. Borders (1989) and Welfare (2007) speculated that general cognitive complexity could have a ceiling effect on counselor specific cognitive complexity. Influences on cognitive complexity such as organic factors like chronological age, level of education, and personality traits, as well as cognitive variables such as intelligence and state of mind

(anxiousness, attentiveness, concentration, etc.) are a few speculations. Investigating these variables is an overwhelming task; thus, the current study was designed to investigate the relationship between one's attentive state of mind, specifically mindfulness or mindful attention and cognitive complexity.

Mindful Attention

Emphasized by cognitive complexity theorists, counselors, too, utilize training and experiences to create conceptual templates to comprehend the presenting problems of their clients. To formulate a better understanding about their clients, counselors need to utilize multidimensional viewpoints. Thus an effective counselor recognizes a variety of pertinent characteristics about the client (Welfare, 2007; Wilkinson, 2011). Strategically-placed attention during a session is among the skills considered to be essential in conducting such a task (Lambert & Barley, 2001; Orlinsky, Grawe, & Parks, 1994; Wampold, 2001). Recognized as an internal skill (as opposed to external skills such as reflecting content, paraphrasing, and summarization; Greason & Cashwell, 2009), strategically-placed attention assists counselors in purposefully processing multifaceted information. Negligence in cultivating this skill may result in decreased counseling self-efficacy, increased anxiety, decreased counseling performance, and decreased ability to learn new skills (Bandura, 1986; Larson & Daniels, 1998). Furthermore, it is logical to hypothesize that if a counselor is inept in sustaining attention during this process, they are less likely to process relevant information and comprehend data in an effectual manner. Therefore, strategically controlling attention during this process is imperative to better understanding client variables.

Attention appears to be related to a variety of cognitive processes (e.g., perception, memory, organization, and verbalization), hence it is a difficult construct to define (Greason & Cashwell, 2009). Rather than regarding attention as a single function, neuropsychologists consider attention to be a system of cognitive sub-processes. A comprehensive understanding of how these sub-processes operate is yet to be identified (Greason & Cashwell, 2009; Gopher, 1993; Zimmerman & Leclercq, 2002) and needs further exploration. However, investigating the correlation between attention and our capacity in forming perceptions through processing multiple perspectives is fundamental in further understanding and facilitating counselor cognitive complexity. According to Greason and Cashwell (2009),

> The process of paying attention includes four primary mental capacities: selective attention (i.e., the ability to attend to some aspect of experience while ignoring others), divided attention (i.e., the ability to simultaneously hold attention on two different objects or tasks), sustained attention (i.e., the ability to hold attention over some period of time), and attention switching (i.e., the ability to change focus from one object to another). (p.4)

These four capacities are interrelated. The ability to divide attention appears to be regulated by one's ability to switch attention from one object to another (attention switching), and the ability to sustain attention appears to be regulated by the ability to avoid distractions (selective attention). Thus, one's ability to strategically control attention in the counseling session is defined as the ability to sustain and divide attention (Greason & Cashwell, 2009). Though capacity for attention has universal applicability in that everyone has capacity for attention, individuals vary in their ability to sustain and

regulate attention. Because strategically controlling attention is essential in forming authentic perceptions, counseling students need to master attention skills to enhance counseling outcomes. In cultivating the core attention skills of counselors, mindfulness techniques have proven to improve counselors' ability to sustain and regulate attention to a higher degree (Bögels, Sijbers, & Voncken, 2006; Greason & Cashwell, 2009; Shapiro, Brown, & Biegel, 2007; Valentine & Sweet, 1999). Additionally, there is vast overlap between being mindful and strategically regulating attention.

Mindfulness has been defined as a process of intentionally placing attention on the present moment with a non-evaluative stance and acceptance (Allen, Blashki, & Gullone, 2006; Bishop et al., 2004; Shapiro, Carlson, Astin, & Freedman, 2006). Also, mindfulness is known as the clear and single-minded awareness of what actually happens to an individual and what actually happens within an individual at the successive moments of perception (Nyanaponika, 1972). Mindfulness captures a quality of consciousness that is characterized by clarity and vividness of one's current experiences and functioning; thus, mindfulness stands in contrast to the mindless, less "awake" states of habitual or automatic functioning that may be chronic for many individuals (Brown & Ryan, 2003). Amidst several working definitions for mindfulness, Bishop et al. (2004) identified two components to mindfulness: (a) intentional focus of attention on a present experience (thoughts, feelings, and physical sensations) and (b) taking a particular orientation toward that experience (an orientation of acceptance and interested investigation) as essential mechanisms. Therefore, to be mindful is to intentionally direct (or strategically place) attention of the present experience with acceptance. It is evident that intentionally placing attention (or strategically sustaining and regulating attention) is

a key result and a characteristic of having a mindful experience; thus, being mindful and strategically regulating attention overlay.

Consequently, when a counselor is working with a client, being in the present moment, actively paying attention, intentionally and strategically regulating their attention (being mindful) in response to the client's story is vital in forming pertinent perceptions. Thus, the practice of mindfulness during a session has been shown to produce counselors with advanced therapeutic presence (Geller & Greenberg, 2002; McCollum & Gehart, 2010; McDonough-Means, Kreitzer, & Bell, 2004) and effectual counseling outcomes (Grepmair, Mitterlehner, Loew, & Nickel, 2007). Consequently, it appears that being mindful (or having mindful attention) is necessary and has an impact on forming pertinent perceptions utilizing multidimensional angles. For counselors to effectually process information presented by the client, they must utilize multidimensional angles constantly (i.e., cognitive complexity). If a counselor lacks the ability to intentionally observe what is really going on and sustain intentionally placed attention during that moment (be mindful), it is likely that the task of holding and processing relevant information by utilizing multidimensional angles in that moment will be overwhelming and ineffectual. Therefore, being mindful during a counseling session appears to be imperative in facilitating counselor capacity for cognitive complexity.

Statement of the Problem

As noted, only a few studies (Duys & Hedstrom, 2000; Granello, 2002, 2010; Little et al., 2005) have been conducted to investigate what contributes to enhancing cognitive complexity among counselors. The knowledge accumulated thus far on the subject is limited and undoubtedly warrants further exploring. Yet, it is noteworthy to

recognize that these methods could be used for intentional facilitation of counselor's cognitive complexity during counselor training as well as furthering effectiveness of practicing counselors. The current study explored the position of mindfulness as a means to intentionally facilitate and accelerate cognitive complexity among counselors. Furthermore, the impact of counselor observational skills and ability to interpret experiences, as well as the influence of cognitive complexities on counselor reflection was explored.

Purpose of the Study

The purpose of the investigation was to determine whether there was a relationship between counselor cognitive complexity and mindfulness. It is plausible that counselor's capacity for cognitive complexity is positively correlated with being mindful. As previously mentioned, there have been a few who have investigated (Duys & Hedstrom, 2000; Granello, 2002; Little et al., 2005) what may aid advanced counselor cognitive complexity, yet being mindful has not been explored as a practice that develops a counselor's ability for cognitive complexity. Thus, one aspect of this investigation was to explore whether mindfulness and cognitive complexity are positively correlated.

In addition, this investigation also explored if a counselor's ability in observing and describing experiences could predict that counselor's cognitive complexity. Referring back to the TCCM's (Owen & Lindley, 2010) three levels of cognitive complexities (i.e., session thoughts, metacognitions, and epistemic cognitions), session thoughts are the basic cognitions used by counselors that include observations of client behaviors and changes that occurs through the counseling process (Owen & Lindley, 2010). Session thoughts reflect the ability to recognize session activities, differentiate

between activities, and integrate salient versus irrelevant information via meticulous and

mindful observation. More importantly, an effective counselor must have the ability to

recognize a variety of pertinent characteristics about the client (Welfare, 2007;

Wilkinson, 2013) and that requires superior observation skills (Greason & Cashwell,

2009). Metacognitions also demand that therapists observe their progress when engaged

in session thoughts, or to evaluate their own thoughts and reactions as they occur in the

session (Owen & Lindely, 2010). Therefore, it is safe to conclude that effective

observation skills are one of the foundational practices of forming perceptions that are

much needed in counseling.

Operationalizing mindfulness as a construct, Baer et al. (2008) analyzed a series

of effectual and often used mindfulness scales, which resulted in the development of the

Five Facet Mindfulness Questionnaire (FFMQ; Baer, Smith, Hopkins, Krietemeyer, &

Toney, 2006), an instrument used to assess mindfulness. Baer et al. (2006) empirically

evaluated popular mindfulness assessments and discovered several significant factors

associated with mindfulness; observation was a significant predictor in developing

mindfulness. Observing is defined as being aware of or attending to internal and external

experiences, such as sensations, cognitions, emotions, sights, sounds, and smells.

Another significant factor found in developing mindfulness was the ability to describe

one's own experiences (Baer et al., 2008). Describing is defined as identifying internal

experiences with words. Both observing and describing are crucial elements in

mindfulness. However, not investigated were two variables that may play a significant

role in an individual's level of cognitive complexity. These essential functions are (a)

when an individual constructs perceptions from multiple sources of data and (b)

observation and description of experiences. Thus, it is possible that these two variables could predict a counselor's level of cognitive complexity. Subsequently, the relationship between observing, describing, and cognitive complexity will be explored. More specifically, this investigation will explore whether the counselor's capacity for observing and describing an experience could predict the counselor's level of cognitive complexity.

Capacity for reflection is another important variable that fosters counselor development (Rønnestad & Skovholt, 2013). Reflection is essential in understanding and evaluating novel or day-to-day mundane experiences. Thus, along with being mindful, a counselor's ability to reflect appears to be important to providing effectual counseling services. Reflection has been recognized as "a continuous and focused search for a more comprehensive, nuanced, and in-depth understanding of oneself and others, and of the processes and phenomena that the practitioner meets in his or her work" (Rønnestad & Skovholt, 2013, p. 149). Schön (1983, 1987) identified two types of reflective activities: (1) *reflection-in-action,* where one reflects during their experience, and (2) *reflection-on-action,* where one reflects after an experience about what happened. Expanding on this, Rønnestad (2009) presented the term *reflection-pre-action*, which is the preparatory planning activity a counselor goes through that precedes a counseling session.

Reflection is a broad concept that includes thinking about a counselor's life sphere comprehensively. It has been theorized that the quality of reflection is contingent upon a counselor's capacity for cognitive complexity (along with tolerance for ambiguity, openness to experiences, and ability to process unpleasant and uncomfortable experiences) to a greater degree (Rønnestad & Skovholt, 2013). Adding validity to this

notion, Seggelen-Damen (2013) found a significant relationship between reflection and cognitive complexity: the higher the degree of reflection, the more cognitively complex outcomes are produced. Also, Seggelen-Damen found that reflection mediates the relationship between certain personality traits (i.e., private self-consciousness and the need for cognition) and cognitive complexity. Thus far, Seggelen-Damen's research has been the only empirical investigation that explored the relationship of reflection in relation to cognitive complexity. Furthermore, there has been no investigation that investigated a possible relationship between reflection and mindfulness as well. Additionally, due to the introspective nature of being mindful, there is a high possibility that being mindful may increase or further facilitate one's ability to be reflective. Therefore, this investigation explored the relationship between being mindful and a counselor's ability to reflect. Hence, this investigation was designed to address the following research questions.

Research Questions (RQ)

RQ1: Is there a correlation between mindfulness and cognitive complexity?

RQ2: Could counselor ability for observing and describing an experience predict counselor cognitive complexity?

RQ3: Is there a correlation between counselor's mindfulness and their ability to be reflective?

Empirical findings addressing the aforementioned variables will be discussed in the context of becoming effectual counseling professionals who facilitate effectual counseling outcomes.

Chapter 2: Literature Review

Based on the Personal Construct Theory (Kelly, 1955), the role of cognitive complexity in relation to how an individual make sense of their surroundings will be discussed first in this literature review section. Second, the significance of cognitive complexity in counselor cognitive development will be discussed using three key supervision models of counselor development. Third, research findings that have made significant contributions to the field of counselor cognitive complexity will be discussed in detail. Next, the significance of mindfulness attention and its possible impact on forming pertinent perceptions will be discussed briefly. Then, significant research findings of mindfulness in relation to counselor development and performance that yields better therapeutic outcomes will be discussed.

Role of Cognitive Complexity

Cognitive complexity encompasses one's ability to perceive social behaviors or situations in a multidimensional way while assessing relevant and irrelevant information to the issues being addressed (Bieri et al., 1956; Crockett, 1965). Flexible thinking and encompassing a multidimensional worldview have been recognized to be essential in accomplishing cognitive complexity (Borders, 1989). If a person uses more independent constructs during this process, the individual is recognized to be more cognitively complex (Bieri, 1955). Based on the Personal Construct Theory, Kelly (1955) noted that individuals create conceptual constructs (or templates) to understand their experiences. Kelly defined a *personal construct* as an awareness of how two things are alike in a way that differentiates that from another. This theory is built on the notion that individuals perceive the world by their own subjective reality and this perception is utilized to

interact with the world that surrounds them. Activated by stimuli, a construct is used by an individual to perceive their experiences, ascribe a meaning to the experiences, and respond accordingly. Individuals are able to refine these ascribed meanings to a stimulus by learning from experiences. Consequently, over time, a complex system of cognitive constructs is a possibility (Kelly, 1955). Having a cognitively complex system allows one to better understand the environment, relationships, and allows one to respond appropriately. The theory is that the more a person becomes cognitively complex, the more they further their cognitive development.

As mentioned before, a student of George Kelly, Bieri (1955) introduced the term cognitive complexity (Mayo & Crockett, 1964; Welfare, 2007). Bieri identified cognitive complexity as one's ability to understand social behaviors in a multidimensional manner. He theorized that if an individual has a complex cognitive system, then they are more capable of forming highly differentiated impressions of others, compared to individuals with simplistic cognitive systems. As an individual gathers more experiences, they are capable of developing more complex cognitive systems, which enables them to form more sophisticated perceptions of their experiences. Consequently, this allows one to understand others better and respond more accurately.

Expanding on Kelly's Personal Construct Theory, another student of George Kelly (Welfare, 2007), Crockett (1965), inferred that one's assessment of another individual depends on several factors: conduct and presence of the perceived person, the affiliation between the perceived and the perceiver, cognitions, beliefs, motives, intentions, personality, and psychological state of the perceiver. Though, one may detect only a few characteristics of an individual, the perceiver generally forms extended

inferences about the perceived individual in their cognitive system (Crockett, 1965; Welfare, 2007).

Crockett (1965) defined cognitive complexity (in relation to impression formation) as a complex cognitive system that contains a large number of constructs that are integrated hierarchically. Expanding on Kelly's (1955) idea of personal constructs, he addressed the degree of integration and differentiation as two aspects of cognitive complexity in understanding one's experiences. Integration is one's ability to recognize relationships among these conceptual constructs in a particular domain. Differentiation is the number of different constructs that exist in one's cognitive system about a particular domain. Cognitively complex individuals are capable of separating and combining numerous independent constructs appropriately (Welfare, 2007) in order to form better perceptions of their experiences. Crockett (1965) also inferred that an individual's cognitive system is capable of becoming more complex as they gather new experiences.

However, Crockett (1965) noted that if one were deprived of stimuli from new experiences in a particular domain, their cognitive system in that domain would not develop further complexity. Therefore, he concluded that cognitive complexity in one domain does not represent cognitive complexity in other domains, or overall cognitive complexity; thus, cognitive complexity is domain specific (Crockett, 1965; 1982).

Another theorist who explored cognitive complexity was Loevinger (Loevinger & Blasi, 1976), who addressed the relevance in one's cognitive development in the theory of ego development. She viewed ego development as increasing differentiation and integration of one's perspectives in one's world, a master trait that is significant to the person's functioning (Welfare, 2007). This definition closely overlaps with Crockett's

(1965) definition of cognitive complexity. Individuals who are more advanced in their

ego development have an integrated perception of the world, self-awareness, tolerance

for ambiguity and differences, recognize the need for autonomy, and are fully actualized;

whereas, individuals with lesser ego development are impulsive, egocentric, and self-

protective.

Conducting a series of interviews with more than 500 Harvard undergraduates

during a 20-year period, Perry (1970) also concluded that as a student proceeds through

their university experience, their assumptions about the nature of knowledge, the

instructor's role, and perceptions about their responsibilities as a student change.

Characterized by the cognitive developmental progression, Perry grouped these

perceptions and reasoning into categories or cognitive structures. Perry presented a series

of nine positions along a concrete-abstract continuum: schemas of cognitive and

intellectual development. This was further organized into four main categories: dualistic

(characterized by dichotomous thinking), multiplistic (experience uncertainty and all

knowledge seems equally valid), relativistic (knowledge is seen as contextual and use of

metacognitive abilities), and committed relativistic thinking (having ethical and lifelong

moral standards based on beliefs). As a student progresses through these stages, their

metacognitive ability enhances. Later this model was used by Blocher (1983) to explain

counselor cognitive development, specifically cognitive complexity.

The domain specific nature of cognitive complexity, as originally theorized by

Crockett (1965, 1982), is essential in understanding and conducting research on

counselor cognitive complexity. Accurately assessing cognitive complexity in the

counselor domain with measures that are specific to counseling and intentional learning

experiences that stimulate counselor cognitive development is critical (Welfare, 2007).

Though general cognitive complexity is relevant to counselor efficacy and perhaps has a

ceiling effect on domain-specific cognitions (Welfare, 2007), exploring domain

specificity of cognitive complexity appears to be essential in understanding cognitions

that is specific to the counselor domain. Exploring cognitive complexity and its

pertinence to therapeutic constructs of counseling will aid in better assessment and

facilitation of counselor's cognitive development.

Significance of Cognitive Complexity in Counselor Cognitive Development

Most theorists and researchers have recognized that counselors' cognitions,

feelings, behaviors, and needs change over their professional life. Specifically, some of

the well-recognized counselor developmental models are embedded in the theories of

cognitive development (Welfare, 2007). Facilitating counselor cognitive development is

a recognized objective in counselor education programs and in counselor supervision.

Over the past two decades there has been a growing interest in mapping counselor

cognitive development throughout a counselor's professional career (Granello, 2010;

Welfare, 2007; Welfare & Borders, 2010). Theorists and researchers have often

addressed this by monitoring changes that occur in one's cognitive process as they

develop professionally.

Three of the models that historically appeared throughout the literature, creating

an interest in cognitive developmental approaches to counselor supervision are: the

Integrated Developmental Model, previously known as Counselor Complexity Model

(Stoltenberg & McNeil, 2010), the Conceptual Supervision Model (Loganbill, Hardy, &

Delworth, 1982), and the Cognitive Development Model (Blocher, 1983). These models

provide the supervisor with a meta-framework that views counselor growth as sequential and hierarchical moving towards greater complexity (Borders & Brown, 2005). The perspective of each model is discussed in the following section.

Integrated developmental model. Originally called the Counselor Complexity Model (Stoltenberg, 1981), the model has originating roots in cognitive and schema development, motivation, human development, expertise research, and social intelligence (Stoltenberg & McNeil, 2010). Addressing a need for a systematic, comprehensive, and developmental conceptualization of the supervisory process, Stoltenberg developed this model of supervision on the notion that a counselor trainee is an individual who is on a path forming a professional identity. Hence, professional and personal growth are seen as aspects of an individual that are developing (Wilkinson, 2012), not just as developing the required counseling skills (Stoltenberg, 1981). Perceived as a non-linear developmental occurrence, the change that transpires encompasses periods of smooth growth, stagnation, and repression (Stoltenberg & McNeil, 2010). With continuous revisions, the model is presently identified as the Integrated Developmental Model (IDM; Stoltenberg & McNeil, 2010). The IDM is one of the most frequently cited developmental models in counselor education and supervision literature (Bernard & Goodyear, 2009; Borders & Brown, 2005).

Placing a strong emphasis on comprehending how one's cognitive processes have an effect on learning, the IDM addresses the transformation of knowledge from ambiguous information to condition-action pairs that become increasingly complex over time. Based on the feedback received if one spends more time on refining skills, the implementation and increased expertise of that skill is likely to increase. Therefore,

encouragement to reflect continuously and appropriate feedback that is well timed by the supervisor is paramount to this process (Stoltenberg & McNeil, 2010).

Counselor cognitive complexity was identified as fundamental to the development of expertise. Cognitively complex individuals exhibit greater efficiency with their cognitive processing (Blocher, 1983; Crockett, 1965; Stoltenberg & McNeil, 2010). An extremely important component of the IDM to consider is Stoltenberg and Delworth's (1987) assertion that the speed with which the counselor trainee progresses through the IDM stages depends in large part on the individual's cognitive complexity. Consequently, all novice counselors, they argued, start at the same point in basic level. However, for those with greater cognitive complexity, the basic level tends to be a very short-lived stage. Furthermore, expertise of a topic is viewed as a natural outcome of highly developed complex cognitive functioning. Therefore, attempting to understand how cognitions, specifically schemas, develop in relation to the level of supervisee skills and identity development is central to the IDM. This model recognizes self/other-awareness (i.e., level of awareness of self and of others), motivation, and autonomy (Stoltenberg & McNeil, 2010) as important factors for one's skills and identity development, as well as for the supervisee's development as a whole. This is a difficult, complex, and ambiguous construct to monitor; yet Stoltenberg and McNeil (2010) provide markers to influence the supervisee's level of development.

With the assumption that the world and experiences are ambiguous and complex (Stoltenberg & McNeil, 2010), development of skill alone is inadequate to address complex idiosyncratic client issues (Schön, 1983). Therefore, a counselor's ability to understand the immediate situation at hand and how they comprehend themselves in

relation to that particular situation is imperative when providing effective services (Wilkinson, 2012). In other words, the IDM addresses the relevance of the supervisee's ability to process scattered information into meaningful patterns, and how that understanding impacts their cognitive and affective responses (Stoltenberg & McNeil, 2010).

Since the creation of the IDM, there has been interest in the counseling field regarding the development of cognitively complex counselors (Bernard & Goodyear, 2009; Borders, 1989; Borders & Brown, 2005; Choate & Granello, 2006). Specifically, Stoltenberg's (1981) model seeks to match the instructional environment to the individual's level of cognitive development; thus optimizing the supervisee's developmental potential (Wilkinson, 2012).

Conceptual supervision model. Recognized as one of the comprehensive models in supervision (Holloway, 1987) the Conceptual Supervision model addresses the importance of supervisee-supervisor relationship (Wilkinson, 2012) from a supervisee's cognitive developmental perspective (Welfare, 2007). Progressing through three stages of development (stagnation, confusion, and integration) across eight critical concerns (competence, emotional awareness, autonomy, identity, respect for individual differences, purpose and direction, personal motivation, and professional ethics), the supervisee's personal and professional identity formation is seen as a central component in their overall development (Loganbill et al., 1982). Thus, supervisors must pay attention to the development of these characteristics within each of these stages while paying attention to variables within the supervisee, the nature of the relationship, and the supervisory environment (Wilkinson, 2012).

The task of supervision is to enhance supervisee's knowledge of facts, theoretical concepts, counseling skills, and self-awareness by facilitating this developmental process that occurs throughout ones professional lifespan. There are four key theoretical assumptions that form the foundation of this developmental model: (a) core concepts in developmental theory, such as cognitive complexity, apply to the development in counselors; (b) distinct stages in development of the counselor exist; (c) the stages exist in a sequential order; and (d) growth within and between stages assumes a careful sequence of experience and reflection (Wilkinson, 2012).

Addressing five types of supervisory interventions that facilitate supervisee development, Loganbill et al. (1982) identified facilitative, confrontive, conceptual, prescriptive, and catalytic interventions to be significant. Facilitative, confrontive, and conceptual approaches seem more relevant to supervisee's cognitive development (Welfare, 2007). Facilitative Interventions require a supportive supervisory relationship that provides a safe environment for the supervisee and room for reflective thinking. Confrontive interventions force the supervisee to address incongruences in the counseling process and create dissonance that will propel cognitive change. Conceptual interventions link practice with theory, a process that enhances supervisee's comprehension of the counseling process (Welfare, 2007).

Though many factors need to be considered and may overwhelm a new supervisor (who is also in an early developmental stage), Loganbill et al. (1982) offers a systematic model for working with supervisors at any stage of development. Wilkinson (2012) identified this model as an excellent reminder of the complex and idiosyncratic nature of counseling and supervision, and the need for supervisors to be well trained.

Cognitive development model. Often utilized in counselor supervision, Blocher (1983) addressed a model based on the psychology of human learning and human cognitive development. This is primarily based on Kelly's (1955; Welfare, 2007) and Perry's (1970; Granello, 2010) models. Using Kelly's (1955) Personal Construct Theory he addressed the importance of the role of counselor cognitive development in supervision. Blocher (1983) emphasized the significance of the counselors' ability to actively perceive and comprehend complex client issues to better understand client needs and provide effectual services. This is accomplished by developing cognitive structures or schemas and by integrating multiple unambiguous information. He presumed that in order for counselors to optimally perform in conducting therapy, a very high level of cognitive functioning is in need.

Utilizing Perry's model (1970) for counselor supervision, Blocher (1983) argued that counselors move toward higher levels of cognitive complexity as they progress through their professional training. Counselors who are more cognitively developed, and therefore who are more cognitively complex were identified to be less likely to stereotype their clients, and have a superior ability to integrate complex, inconsistent, incomplete, sometimes contradicting, client information. Accordingly, these counselors are cognitively well developed; they are better able to comprehend client issues, empathize with them, and able to facilitate effective client change. Therefore, Blocher encouraged supervisors to facilitate supervisee's cognitive development, as doing so might result in a well-developed comprehensive cognitive system for understanding client issues. Providing an optimal balance of challenge and support by the supervisor identified to be effective in this facilitation.

Further clarifying this, Blocher (1983) noted that supervisees who are not challenged by their experience might not experience further development; supervisees who are challenged by their experiences exceedingly may become overwhelmed and will be unable to learn as well, thus hinder further development. Therefore, this model addresses a process that encompasses evaluating supervisee needs and promoting growth by selecting interventions based on the supervisees current level of cognitive development (Welfare, 2007). Blocher used the level of cognitive complexity as an indicator of supervisee cognitive development, which is a goal in counselor supervision. This inherently constructive model calls for unique developmental learning environments that are created to match the supervisee's developmental level and learning styles (Wilkinson, 2012). Ultimately, the goal of supervision is to acquire an increasingly complex cognitive schema that results in superior functioning and effectual outcomes in the counseling realm (Holloway, 1987).

Summary

In summary, aforementioned developmental models contend that counselor trainees advance through developmental stages as they go through their training. Each model demonstrates a synchronicity between supervisee's developmental level and the supervisory style as the conduit to enhance supervisee's professional growth. In doing so Loganbill, Hardy, and Delworth (1982) noted the significance of cognitive development in counselor growth. Stoltenberg (1981) and Blocher (1983) also recognized the significant role of cognitive development, specifically counselor cognitive complexity to be fundamental and central to counselor's professional development.

Significance of Counselor Cognitive Complexity

As the aforementioned key models have discussed the notion that cognitive complexity impacts counselor professional development is not controversial. Since these developmental models have addressed the importance of cognitive complexity as an indicator of counselor cognitive development, several other studies have begun to contribute to the literature on counselor cognitive complexity. Moreover, developing methods to enhance cognitive complexity and to link counselor cognitive complexity to counseling effectiveness or acquirement of counseling skills has gain momentum (Granello, 2010; Vidas, 2008). Researchers and counselor educators have recognized cognitive complexity's role in counselor effectiveness as imperative (Vidas, 2008).

In providing effective services, conceptualizing clients and their issues in counseling is often a complex process. Accurately perceiving and integrating ambiguous, inconsistent, and sometimes paradoxical data a client presents during this process is essential to understanding (Blocher, 1983; Stoltenberg, 1981; Welfare, 2007) client needs, interpersonal dynamics, and treatment implications (Blocher, 1983; Stoltenberg, 1981; Owen & Lindley, 2010). Comprehensive client conceptualization (Borders, 1989), openness to experiences (Rønnestad & Skovholt, 2013; Wendler & Nilsson, 2009), flexibility, empathy, multicultural awareness (Wendler & Nilsson, 2009), maintaining a process-oriented approach, ability to self-monitor, and meticulously self-awareness (Granello, 2010) are well utilized by the cognitively complex counselor. These qualities all point to perceiving significant therapeutic constructs accurately, thus providing effectual counseling services.

Similarly, differentiating information is also vital in understanding therapeutic constructs to address client needs accurately (Owen & Lindley, 2010). Differentiating client data, conceptualizing what is not relevant (as well as what is relevant), and perceiving information about salient therapeutic constructs are internal processes that occur in the counselor's cognitive system. Counselors with highly developed cognitive systems are theorized as more capable of processing information effectually, hence possess superior case conceptualization skills in comparison to counselors with less developed cognitive systems (Owen & Lindley, 2010; Welfare, 2007). Superior case conceptualization leads to better understanding of client issues and salient therapeutic constructs, which ultimately impact the therapeutic outcome in a positive manner. Having a well-developed cognitive complex system is, therefore, essential and central in delivering effectual client services (Welfare, 2007).

Role of Cognitive Complexity in Counseling

In reviewing research conducted on counselor cognitive complexity over the years, it appears that empirical findings have been conducted more in relation to counselor trainees than to new professionals and practicing therapists. Aside from attempting to map cognitive complexity across counselor graduate training (Borders, Fong & Neimeyer, 1986; Goldberg, 1974; Granello, 2002; 2010), some researchers have also explored methods to enhance cognitive complexity (Duys & Hedstrom, 2000; Lovell, 1999) and to link cognitive complexity to enhanced counseling outcomes (Borders, 1989; Vidas, 2008; Wendler & Nilsson, 2009) or skill acquisition (Little et al., 2005; McAuliffe & Lovell, 2006). These studies also addressed the significance of

cognitive complexity in counselor education and supervision. In the following section these empirical findings will be discussed in detail.

Mapping counselor cognitive complexity across graduate training. One of the earliest studies that investigated the significance of cognitive complexity during counselor's training year was conducted by Goldberg (1974). Specifically, Goldberg explored the relationship between counselor's conceptual system and style of relating to a client in a simulated counseling session. Using 86 first year master's counseling students as participants, the researcher used Harvey's Conceptual Systems Test (Harvey & Hoffmeister, 1967, as cited in Goldberg, 1974), an objective measure of counselor trainees' conceptual levels. This measure categorizes participants into four hierarchical systems, where counselor cognitive complexity increases from simple to more complex, as one ascends from System 1 to System 4.

Concluding, Goldberg (1974) noted that students with lower conceptual levels were more likely to provide direct feedback, less open minded, more controlling, and less exploratory during the sessions, compared to students with higher conceptual levels. Counselor trainees who are more cognitively complex were more open minded, less controlling, likely to respond to client feelings (affect), sensitive, understanding, capable of dealing with core concerns than unimportant concerns (i.e., more specific), encouraged the client to explore their feelings/attitudes through open ended questions (i.e., exploratory), and facilitated a counseling session that fosters more client responsibility. It is significant to notice that counselor trainees with advanced cognitive complexity responded more therapeutically. Consequently, Goldberg concluded that counselor conceptual level (i.e., cognitive complexity) is imperative in training new counselors;

thus contains training implications for counselor educators. These findings and

conclusions are in concordance with the counselor developmental models that came

several years later (Blocher, 1983; Loganbill, Hardy, & Delworth, 1982) that emphasized

cognitive complexity as a fundamental and central criterion in counselor's professional

development. Though Goldberg recognized the importance of training implication this

has, how to intentionally facilitate the process of increasing counselor cognitive

complexity in training new counselors was not addressed.

Another study that investigated the nature of cognitive complexity in training

counselors was conducted by Borders et al. (1986). Investigating the relationship of 63

counseling students' level of ego development and level of experience in relation with

their perceptions of their clients, Borders et al. (1986) assessed students' cognitive

complexity (identified as ego development level in this study) and client cognitions.

They investigated the relationship of students' level of ego development and cognitions

about their clients, specifically, the ego development level's relation to structural

complexity and content of client perceptions. Five levels of ego development were

found, including delta, conformist, self-aware, conscientious, and individualistic (lowest

to highest cognitive complexity level). Also, they found that level of experience among

the students was not a factor in forming client perceptions, but the level of ego

development was an influencing factor.

Students at higher ego levels appeared to have a greater awareness of the

interactive nature of the counselor-client relationship and perceived their clients often in

terms of this process compared to students with lower ego levels (Borders et al., 1986).

Providing some descriptive data about these counseling students, the researchers noted

that most of these students function at the conscientious level of complexity, a model stage for counseling graduate students. They have completed a major shift from Self-Aware level to Conscientious level, a transition that is critical for counseling students. At these levels and above Borders et al. (1986) noted that these students use internalized moral principles, understand psychological causality, sense a longer time perspective, and view interpersonal relationships in terms of deeper feelings and the need of others. Also, though the experience level was not significantly related to structural complexity (i.e., cognitive complexity) or the content of students' client construct system, the impact of experience level should not be ignored, nor be equated with the counseling students' developmental level. The results of the study supported the significance of counselor cognitive development in training and supervision, and the need for additional research into the intricate impact of counselor cognitive complexity on performance (Welfare, 2007). Yet, the dialogue of how to intentionally guide counseling students from one level to another was not addressed in this cross sectional investigation either.

In another cross sectional analysis of counseling students' cognitive development at different levels in their training program (beginning, middle, and the end of their programs) Granello (2002) used Perry's schema of cognitive development (1970) to assess trainee counselor cognitive complexity. Perry's model is a series of nine positions along a concrete-abstract continuum, further organized in to four main levels: dualistic (characterized by dichotomous thinking), multiplistic (experience uncertainty and all knowledge seems equally valid), relativistic (knowledge is seen as contextual and use of metacognitive abilities), and committed relativistic thinking (having ethical and lifelong morals stands based on beliefs).

Granello (2002) studied masters' level counseling students ($N = 205$) from 13 colleges and universities across nine states. Students were enrolled in community mental health counseling, clinical mental health counseling, marriage and family counseling, school counseling, and rehabilitation counseling programs. Attempting to discover broad differences in cognitive development between student groups at different levels of a master's degree program, Granello hypothesized that the students at the near end of their program would be at a higher level of cognitive complexity compared to the students at the beginning of their program. The effects of many demographic variables such as age, number of years in this field, and grade point average (GPA) were also investigated as previous researchers have queried their effects on cognitive complexity.

To assess the level of cognitive development, a slightly modified version of Learning Environment Preferences (LEP; Moore, 1989) that is more related to counselor education was used. A measure of cognitive complexity, the LEP contains 65 statements that are related to epistemological approaches to learning. These statements were allocated in to five domains: (a) view of knowledge and course content, (b) role of the instructor, (c) role of the peers in the classroom, (d) the classroom atmosphere, and (e) the role of evolution. Each domain consisted of 13 statements where the participants rated each statement using a Likert-type scale for its significance or highest importance. The participants also ranked the top three statements according to their importance, at the end of each domain. The scoring method was based on an assumption that participants at different levels of cognitive complexity preferred different learning environments.

Analysis of the results indicated that students who were at the end of their program had a slightly higher scores compared to the students at the beginning of their

program. Yet, what Granello (2002) noted was that these counseling students tended to

begin their training in the transition period between Perry's (1970) levels 3 and 4, except

for a few trainees (9%) who began their training at level 1 (dualistic). The researcher

also concluded that the counselor trainees who are at the beginning of their program still

inherently believe that there is a *truth* about counseling an individual, and that is yet to be

discovered. In contrast, counselor trainees who were at the end of their program more

firmly established in Perry's level 4, and have a multiplistic perspective that is

characterized by the belief that there is no absolute truth (or a right answer) about

counseling an individual, but an answer that can be supported by collected data.

Furthermore, Granello stated that she did not find significant differences in cognitive

complexity in students at the beginning and middle of the program, yet, overall, students

at the end of their programs scored higher than students at the beginning of their

programs. Granello attributed this to trainee practicum/internship experience. The

researcher suggested that participation in internship, which occurs in the second year of

the program, could be the catalyst for significant cognitive development. Neither age nor

GPA was related to cognitive complexity (i.e., cognitive development), but years of

academic training in the appropriate field were the only factor related to cognitive

development for that subject. Therefore, Granello hypothesized that even students who

are cognitively advanced in other areas of life may regress to earlier developmental states

when they begin to pursue their studies in counseling graduate program. This is also

consistent with the Crockett's (1965; 1982) notion of domain specific nature of cognitive

complexity. This implies that when training counselors to be skilled practitioners who

are more cognitively complex, supervisors has to pay specific attention to facilitating and providing counselor specific experiences.

Taking a slightly different focus than investigating counselor trainees, Granello (2010) noted that thus far, very little is known about the counselors after their graduate training and their normative professional development over the course of their career. She argued that so far only one study (Skovholt & Rønnestad, 1992) attempted to map these changes after graduate training, where the researchers found that most significant developmental changes occurred after graduate school. Therefore, Granello attempted to map the cognitive complexity of practicing counselors and how their thinking changes with experience. Specifically, she explored whether years of experience in the counseling profession would assist in predicting levels of cognitive complexity among the practicing counselors. Predicting levels of other variables (highest degree obtained, age, gender, and race) was also explored. Granello used Perry's model (1970) as a guide to her quantitative analysis. A randomly selected sample ($N = 122$) of licensed counselors from one Midwestern state was used to assess cognitive complexity and the LEP (Moore, 1989) was used as an instrument.

Results supported the research hypothesis, that number of years in the counseling profession helped predict the levels of cognitive complexity among practicing counselors. Among all the predictor variables, years in the counseling profession were identified as the best predictor of counselor cognitive complexity. Granello (2010) noted that, more specifically, there are two points along the continuum of professional experience at which significant developmental shifts occur. The first is during the 5 to 10 years of experience category, during which counselors are more likely to be in an early multiplistic stage of

development. The second developmental shift occurs for counselors with 10 or more years of professional experience. These counselors are far more likely to be in the late multiplistic or early relativistic stages of development. These findings are consistent with the qualitative research by Skovholt and Rønnestad (1992), who found that by their own self-report, practicing counseling psychologists do not move into a period of deeper authenticity and individuation until they have been practicing for 10 years or more.

Furthermore, being part of the profession in any capacity, regardless of specific roles (in practice, as a supervisor, as an administrator, or as a counselor educator), was the critical factor in cognitive development (i.e., cognitive complexity); years spent in direct versus indirect service was not a significant contributor. Though, having a doctoral degree in counselor education did not contribute to the prediction ability in a *highly* meaningful way, it was found to be the second contributor to enhanced cognitive complexity. Age, gender, and race were found as nonrelated factors to cognitive complexity, which was consistent with previous research (Granello, 2002). The researcher concluded that cognitive complexity does not come with aging and the passage of time; it was engagement in the profession that was connected to higher levels of cognitive complexity.

Thus far this analysis has been the only study that has explored cognitive complexity among practicing counselors beyond the initial counselor-training period. These findings add significant authority to the notion that relevant experiences in the counseling profession (regardless of specific roles) further enhance cognitive complexity of counselors.

Enhancing counselor cognitive complexity. In providing counselor specific experiences, there were two noteworthy studies that examined what facilitates or could enhance counselor cognitive complexity during their training years. Exploring the correlation between counselor cognitive development and empathy, Lovell (1999) surveyed 340 graduate student members of a large professional counseling association in the United States. Lovell utilized Perry's model (1970) to conceptualize the cognitive development of the counseling students, where he measured empathic disposition using the Hogan Empathy Scale (Hogan, 1969) and cognitive complexity using the Learning Environmental Preference (Moore, 1989).

A nonparametric analysis of the results denoted a moderate positive correlation between cognitive complexity and empathy among these counseling students. Furthermore, the researchers argued that a legitimate way to enhance student cognitive development (i.e., cognitive complexity) would be through the advancement of empathy and social awareness, and calls for a curriculum that incorporates intentional interventions explicitly aimed at promoting student cognitive complexity. This association adds further authority to the role of cognitive complexity in counselor education and the importance of intentional facilitation of increased cognitive complexity among the counseling trainees.

Secondly, conducting a pre-post experimental analysis of the relationship between fundamental counseling skills training and levels of cognitive complexity Duys and Hedstrom (2000) collected data from two groups; a treatment group and a control group ($N = 72$). The students in the treatment group were enrolled in a counseling skills class ($n = 36$) that addressed microskills training and counseling simulation sessions. The

students in the control group ($n = 36$) were enrolled in other coursework (group counseling, research methods, assessment, and ethics) and had not taken a counseling skills class yet. Counselor cognitive complexity was examined using the Role Category Questionnaire (RCQ), developed by Crockett, Press, Delia, and Kenney (1974), which is a general measure of cognitive complexity. The RCQ questioned respondents of their impressions of a liked and a disliked peer where the number of characteristics recorded was the construct differentiation score (Duys & Hedstrom, 2000).

The treatment group exhibited an increase in construct differentiation when compared with the control group, indicating a higher ability in cognitive complexity. Because RCQ captures cognitions about their peers instead of their clients, the researchers indicated that it was unclear if cognitions about peers are representative of cognitions about clients. Nonetheless, the results indicated that training in counseling skills may result higher cognitive complexity and superior counselor conceptualization skills (Duys & Hedstrom, 2000).

Findings of the study supported the conclusion that counseling skills training was related to higher cognitive complexity levels. The researchers attributed the increases in cognitive complexity levels by counselor trainees to the supervised, experiential counseling activities that were the main instructional component of the skills based training experience. The researchers recommended that skills-based training be provided early in the counselor education curriculum to better prepare trainees to use more complex levels of conceptualization in later course work, practicum, and internships. The results of this study also supported the importance of cognitive complexity in counselor development, and its role in counselor training and supervision. Thus far, this

study was the first empirical investigation addressing an intentional method aimed at increasing counselor cognitive complexity.

        Cognitive complexity and counseling outcomes. Another aspect of empirical explorations that was conducted in cognitive complexity in relation to counselors in training was to look at the relationship between cognitive complexity and counseling outcomes. Conducting a study on developmental cognitions of first year practicum supervisees on the influence of their ego development on in-session cognitions of supervisees ($N = 27$), Borders (1989) explored a full range of in-session cognitions of supervisees. Categories in the Dole coding system (Dole et al., 1982), were used in hypothesizing the following six different factors in in-session cognitions of the supervisees at higher and lower ego levels (time, place, focus, locus, orientation, and mode). The overall cognitive complexities of the participants were assessed using the Sentence Completion Test of Ego Development (SCT; Loevinger & Wessler, 1970, as cited in Borders, 1989). Three ego levels were represented in the study: self-aware, conscientious, and individualistic. Actual counseling sessions of the supervisees were videotaped and reviewed immediately, followed by a standardized recall procedure (thinking aloud; Dole et al., 1982). The counseling and recall sessions were taped, transcribed, and reviewed to code the retrospections of the participants.

        Results of this study did not provide significant effects of ego levels and the in-session cognitions of the supervisees in relation to five of the six hypotheses. However, participants at higher ego levels had significantly less negative thoughts (mode) and more objective and positive thoughts about their clients and themselves during the counseling session. Supervisees at lower ego levels reported frustration or irritation with their clients

or with themselves during the counseling session. The results signified the effect of ego

developmental level on some aspects of the counselor performance (e.g., counselor

objectivity). Conceivably, these aspects of counselor performance are more impacted by

training or experience level (Welfare, 2007). Despite the limitations of the investigation,

the results had important implications for counselor cognitive development. Regardless

of levels of training and experience, individuals at higher levels of ego development

perform some important counseling tasks better than individuals at lower levels of ego

development. These outcomes insinuated the importance of addressing continuous

facilitation of counselor cognitive development (i.e., cognitive complexity) of a

supervisee from a developmental perspective in training and in supervision.

Another study that examined the role of cognitive complexity in relation to

counselor outcomes was conducted by Vidas (2008). Vidas examined the self-rated

development in cognitive complexity, autonomy, and self-other awareness (ability to

appropriately focus on both the self and the client, including differentiating between

personal issues and those of the client) of master's-level counselor trainees ($N = 77$)

during their internship year. The theoretical framework for this study involved two

developmental models: Perry's (1970) schemas of cognitive development and complexity

and Stoltenberg et al.'s (1998) IDM of counselor development. The framework also

included Snyder's (1974) concept of self-monitoring, which is conceptualized as a

relatively enduring personality trait, but one that can be influenced by external factors.

The LEP (Moore, 1989) was used to measure cognitive complexity, the Self-

Monitoring Scale (Snyder & Gangestad, 1986) was used to evaluate self-other awareness,

and the Supervisee Levels Questionnaire-Revised (McNeill, Stoltenberg, & Romans,

1992) was used to measure autonomy of the trainee. Researchers collected data at the

beginning of the internship year and obtained follow-up data during the end of their

internship experience. It was hypothesized that cognitive complexity, self-other

awareness, and autonomy would increase over the course of the year. It was also

hypothesized that cognitive complexity at the beginning of the year would predict self-

other awareness and autonomy at the end of the year.

Results indicated partial support for these hypotheses. While self-other awareness

and autonomy significantly increased over the course of the year, cognitive complexity

did not. Yet, higher levels of cognitive complexity at beginning of the year predicted

greater self-other awareness at the end of the year, but did not predict a trainee's sense of

autonomy. It was noted that there was a main effect for race/ethnicity on cognitive

complexity, with White students scoring significantly higher than non-White students;

causality for this phenomenon was unsupported. The researchers alluded to research

limitations and validation of the instruments used to assess these variables with diverse

body of trainees and called for multi-perspective assessments.

Yet, in sum, higher levels of cognitive complexity at the beginning of the year

were able to predict greater self-other awareness at the end of the internship year. In

other words, trainees with higher levels of cognitive complexity were capable of high-

level self-awareness and awareness of others, including differentiating between personal

issues and those of the client yielding better counseling outcomes.

To address progressive diversifying of the United States from a counselor

preparation point of view, Wendler and Nilsson (2009) investigated the relationship

between cognitive complexity level and sociopolitical advocacy of counselor trainee as

predictors of universal-diverse orientation. Operationalizing the construct Miville et al. (1999) described universal-diverse orientation (UDO) as awareness and acceptance of both the similarities and differences among people. Miville et al. further noted that those who adopt a UDO appreciate the universal similarities and are aware of important differences (race, gender, and age) among people, which is conceptually and theoretically paramount in providing multicultural sensitive servicers. Utilizing this description of UDO, Wendler and Nilsson used a sample of 120 master's level (N = 84) and doctoral level (N = 36) trainees from four Midwestern universities that had both counselor education and counseling psychology programs. Miville-Guzman University-Diversity-Scale-Short-Form (Miville, 1999) was utilized to assess counselor trainee's awareness and acceptance of both the similarities and differences among people. A 4 x 6 version of Bieri et al.'s (1966; as cited in Wendler & Nilsson, 2009) original 10 x 10 Repertory Grid Test was used to measure trainee cognitive complexity. The Activity Scale (Kerpelman, 1969; as cited in Wendler & Nilsson, 2009) was used to measure trainee's level of sociopolitical advocacy. The Multicultural Social Desirability Scale (Sodowsky, 1996; as cited in Wendler & Nilsson, 2009) was used to assess the social desirability of the participant.

Results did not indicate trainee cognitive complexity as a predictor of UDO. Wendler and Nilsson (2009) continued to explain research limitations (e.g., measures used) that may have influenced the results of trainee cognitive complexity and UDO. They noted that the Repertory Grid Test initially was used to measure cognitive complexity in attitude towards individuals with disability. They also noted the influence of using such a measure (a general measure instead of diversity specific) on research

findings. This conforms to Welfare's (2007) rationale in using a domain specific

instrument in measuring cognitive complexity due its domain specific nature.

Nonetheless, the several researchers discussed thus far have used general measures to

assess general cognitive complexity yielding significant results; measuring general

cognitive complexity instead of counselor specific cognitive complexity. Thus, rationale

for the findings in relation to cognitive complexity is questionable, yet using a domain

specific instrument to measure counselor cognitive complexity is upheld.

However, Wendler and Nilsson (2009) reported a significant relationship between

cognitive complexity and multicultural social desirability. Compared to trainees with

higher levels of cognitive complexity, trainees who had lower levels of cognitive

complexity were more susceptible to presenting themselves as more aware of

multicultural issues than they actually are. It appeared that trainees with higher levels of

cognitive complexity are more self-aware and possess more accurate approximations of

self. Therefore, it is safe to conclude that these results still contributed to the importance

of cognitive complexity in counselor education and counselors with higher levels of

complexity may contribute to better counseling outcomes.

Moreover, similar to Goldberg (1974), Holloway and Wolleat (1980), too,

investigated the relationship between counselor's conceptual system (cognitive

complexity) and processing of client information. Specifically, they explored the direct

relationship between counselor's levels of cognitive complexity, the use of types of client

information, and a counselor trainee's professional counseling experience in crafting

clinical hypotheses. The specific hypotheses under investigation were (a) there is a

significant relationship between cognitive complexity and the use of informational

referents in forming clinical hypotheses, and (b) there is a significant relationship between the amount of professional counseling experience and the use of informational referents in forming clinical hypotheses.

Thirty-seven first-semester counselor trainees of a Midwestern university participated in the study. The Paragraph Completion Method (PCM; Hunt, Butler, Noy, & Rosser, 1978, as cited in Holloway and Wolleat, 1980) is an instrument used to measure cognitive complexity and was completed by the participants. The PCM scores represented four levels of cognitive complexity; zero being the lowest level of cognitive complexity and three as the highest. A month later, the counselor trainees viewed a 20-minute videotape of a counseling session, which was immediately followed by completion of the Clinical Assessment Questionnaire (Watson, 1976, as cited in Holloway and Wolleat, 1980), a measure that assessed forming clinical hypotheses by any of the seven categories of the questionnaire. Protocols are scored for the presence or absence of the following six categories of information: (a) elements of understanding the client's behavioral and personal characteristics, (b) time frame used in understanding the client, (c) categories of information used to support conclusions, (d) number of instances used to support conclusions, (e) categories of information sought, and (f) number of divergent questions asked. The seventh category, overall, was scored on a scale of 1-3 and this was added to Watson's (1976) original scheme.

The results indicated that level of experience was not significantly related to characteristics of the students' clinical hypotheses formation. Yet, the results revealed a significant relationship between the level of cognitive complexity being related to the overall quality and clarity of expression in clinical hypotheses and the number of

divergent questions asked about the client's problems. Therefore, the researchers

concluded that cognitive complexity, not professional experience, is related to quality and

clarity of expression, which is prominent in counselor's clinical judgments and how the

trainee probed client information. This investigation added further validation to the

imperative nature of the role of cognitive complexity in training new counselors, thus

yielding better counseling outcomes.

Cognitive complexity and skill acquisition. Investigating cognitive complexity

and counselor skills acquisition, the pre-post experimental analysis using the RCQ to

measure counseling student cognitive complexity was conducted by Little et al. (2005).

They explored the effectiveness of the Skilled Counselor Training Model (SCTM)

developed by Smaby, Maddux, Torres-Rivera, and Zimmick (1999) to teach counseling

skills and foster counselor cognitive development. The SCTM curriculum emphasizes

modeling, mastery, persuasion, arousal, and supervisory feedback during counseling

training as key elements to promote skills acquisition, self-appraisal of counseling skills,

self-monitoring behavior, and cognitive complexity. The model systematically teaches

mastery of counseling skills while promoting accurate assessment of counseling skills of

self and others, attending to the flow of the counseling interaction, and fostering

confidence to learn and apply counseling skills.

First year masters' counseling students ($N = 59$) enrolled in three counseling

classes were studied. Students who were enrolled in three sections of a counseling

theories and processors class ($N = 40$) served as the experimental group and received

instruction in the SCTM. While the control group was made up of students who were

enrolled in an introduction to counseling class ($N = 19$) that did not receive SCTM training.

The RCQ post-test scores of students in the experimental groups were significantly higher than the control group. The researchers concluded that the SCTM was successful in increasing student cognitive complexity and similar to the findings of Duys and Hedstrom (2000), the growth in cognitive complexity might be due to the intense supervision the students received of experiential activities. Concluding further, the researchers noted that the training used in the present study may result early enhanced skill attainment while also promoting other desired counseling attributes such as self-monitoring of behavior, counseling self-efficacy, and cognitive complexity. They recommended that these skills and attributes could be further refined and enhanced in practicum and internships classes as students advance in their counselor education programs. This study added further value to skills-based training and intense supervision in facilitating intentional growth of counselor trainees' cognitive complexity.

Another study done by McAuliffe and Lovell (2006) examined the relationships between counselor trainees' personal epistemological levels and their behavior in counseling interview sessions. The theoretical assumption that underlined this investigation was that the effectiveness of counseling lies more in the personal qualities of a counselor than in the techniques used. McAuliffe and Lovell used the LEP (Moore, 1989), an inventory that measured individual cognitive complexity, in a first semester counseling skills class ($N = 30$) to determine their epistemological development. The authors then selected six trainees who had low LEP scores (lower levels of cognitive complexity) for dualism (a more rigid or authoritarian position) and another six trainees

who had high LEP scores (higher levels of cognitive complexity) for relativism (to a pluralistic and context sensitive position). Their 30-minute counseling sessions were taped and transcribed. Along with the trainees' written self-commentaries, the transcriptions were analyzed. The sessions used for qualitative analyses were factual concerns instead of simulated sessions.

Five overall categories that characterized the trainees' interview behaviors were identified: (a) source of point of view, (b) depth, (c) reflectiveness, (d) relationship to ambiguity, and (e) use of evidence. They named two themes for each these categories, one for dualists and one for relativists. In the first category (source of point of view) the dualists had the tendency to merge their own point of view with the client's or of an external authority's views. The relativists were able to differentiate their own views from the client's point of view, were able to recognize that a counselor is always approximating, not receiving, another's experience, and demonstrate great empathy.

In the second category (depth) the dualists were more oriented towards the superficial aspects of the client's experience; they focused more on specifics (persons, places, things) that the client mentioned. There was a lack of ability to probe for mixed feelings, implicit emotions or meanings, and patterns in client behavior. Whereas the relativists were more flexible in their ability to use concrete, momentary cues to identify cross-situational client themes and patterns, the dualists were flexible to use cues given by the client in momentary situations. They were also subtle and used metaphors.

In the third category the dualists showed *automatization*, where they were habitual and had automatic modes of thought of action. They were unable to show evidence for their own thoughts and action. Relativists contrastingly exhibited

metacognitive abilities where they were able to think of their own thought process and action, as well as considering alternate helping strategies.

In the fourth category the dualists were inclined to search for a single correct explanation (reductionism) in uncovering an answer to a client concern without exploring the feelings and meanings related to the issue. They applied a singular approach to a complex problem. Where relativists recognized the uncertainty of the issue (had more tolerance for ambiguity) and the possibility of several perspectives for a client issues. Also, they collected more evidence before coming to a conclusion and proceeding with an intervention.

In the final category that emerged, the dualists were reluctant to investigate with their clients further, favoring a premature solution-focused approach without considering evidence for their actions. Whereas the relativists considered the evidence before taking action and were able to identify reasons for interventions used, and thereby demonstrated a clearer comprehension of their rationales for doing so.

In sum, counselor trainees who had higher levels of cognitive complexity were effective in providing counseling services compared to trainees who had lower levels of cognitive complexity. The researchers investigated these as a part of individual epistemological development. They concluded that training and supervision must operate from a developmental epistemological point of view in order to provide better client services. These findings add undoubted validation for the significant role cognitive complexity play in counselor education and effective counseling skills acquisition.

Taking a new direction in exploring cognitive complexity, Seggelen-Damen (2013) explored its relationship with a counselor's ability for reflection. Considered an

individual tendency, Dewey (1933, p. 9; as cited in Seggelen-Damen, 2013) identified

reflection as "the active, persistent, and careful consideration of any belief or supposed

form of knowledge in the light of the grounds that support it and the further conclusions

to which it tends." Another definition by Seibert and Daudelin (1999, p. 20; as cited in

Seggelen-Damen, 2013) describe reflection as "the process of stepping back from and

experience carefully and persistently ponder its meaning to the self through the

development of inferences."

The author highlighted that reflection has several synonyms: metacognition, self-

evaluation, self-reference, critical thinking, and introspection. All definitions and views

combined, it appears that reflection involves the cognitive activity of questioning via

identified cognitive personal pathways that leads to understanding the role of self by

making sense of one's own experiences. Thus far it has been established that cognitive

solutions are considered complex if they demonstrate the integration of multiple

perspectives. Yet, the author noted that research has not addressed how people develop

and integrate multiple frames of reference. Thus, Seggelen-Damen (2013) further

investigated whether reflection contributes to the adoption of multiple frames of

reference. More specifically, Seggelen-Damen (2013) explored the relationship between

reflection and ones need for cognition, openness to experience, and private self-

consciousness, as well as whether reflection mediates the effects of cognitive complexity.

Participants were (N = 178) Dutch university students from six social science

programs who were working on their final thesis. They answered a comprehensive

questionnaire that included items on need for cognition, openness to experience, private

self-consciousness, reflection, and cognitive complexity. The data stressed a mediating

role of reflection in the relationship between particular personality traits and cognitive complexity. The author concluded that people who are highly self-conscious and those with a high need for cognition exhibit more reflection. In addition, Seggelen-Damen (2013) found that the more one reflected, the more cognitively complex their outcomes were. The author noted that the findings clarify that reflective personalities are driven by the enjoyment of cognitive activity and self-examination. Thus, they are more likely to create complex solutions to problem.

Though the participants were not counseling students, they were from a variety of social science programs, which had some relevance to the counseling field. Thus, they were undergraduate students and most counseling programs were at the master's level, where the maturity of the students could be significant to the outcome of the results. Yet, one cannot deny the importance of these results where there is a correlation between these personality traits (could be argued as relevant for counseling students) and reflection, as well as its meditating role on cognitive complexity.

Summary

Past research, as discussed, addressed the crucial role of counselor cognitive complexity (an indicator of one's cognitive development) upon counselor's therapeutic presence during counseling sessions and how cognitive complexity may influence their performance efficacy. The majority of empirical findings supported the notion that there was at least some advancement in the counselor trainee's level of cognitive complexity over the course of training. Moreover, these researchers concluded that the level of cognitive complexity among counselor trainees is positively correlated to many factors that help increase a counselors therapeutic efficacy including, one's ability to formulate

clinical hypotheses, perceive clients in more complex terms, provide appropriate feedback to the client, remain objective during sessions, perform better in ambiguous circumstances and environments, develop greater self-efficacy and greater self-other awareness, and find working with their clients less difficult. Evidence also suggested that certain classes nurture and accelerate counselor trainee's cognitive complexity; specifically, having a practicum/internship or a counseling skills call help build cognitive complexity. These courses could be used as methods of intentional facilitation of trainee cognitive complexity. Thus far, a majority of the researchers investigated a counselor trainee's cognitive complexity across the continuum of professional development, where Granello (2010) explored impact of cognitive complexity of professionals who were already practicing in the field.

The instruments used to measure cognitive complexity and its validity across diverse groups has been debated (Vidas, 2008). Questioning the concept of cognitive complexity, Vidas (2008) noted that cognitive complexity is primarily a Western perspective, where its orientation to non-western cultures and other ethnic groups has not been discussed in detail. Moreover, due to the domain specific nature of cognitive complexity, measuring general cognitive complexity, and their relationship to each other was also questioned (Welfare, 2007). Despite these significant queries, results of the aforementioned empirical studies have highlighted the importance of cognitive complexity, its significant role on performance efficacy, and counselor therapeutic presence.

Mindfulness: A Way to Enhance Counselor Cognitive Complexity?

Referring back to the literature on cognitive complexity that discussed thus far, the significance of counselor cognitive complexity has been undoubtedly established. Moreover, when a counselor works with a client, being mindful of the client information presented is also vital in forming pertinent perceptions. As established in Chapter 1, it appears that being mindful (or having mindful attention) is necessary and could have an impact on forming pertinent perceptions by differentiating and integrating information. To effectually differentiate and integrate information presented by the client, one must have the ability hold multiple data at ones (i.e., capacity for cognitive complexity) and process the information gathered effectually. If a counselor lacks the ability to intentionally sustain and regulate attention (be mindful) during sessions, it is likely that the task of holding and processing information (by differentiating and integrating relevant data) in that moment will be overwhelming and ineffectual. This may result a deficiency of appropriate therapeutic presence and comprehension of significant therapeutic constructs. Hence, being mindful during a counseling session appears to be essential in facilitating/enhancing counselor capacity for cognitive complexity. Before exploring empirical studies in relevance to mindfulness and counselor education, it's important to understand the history of mindfulness.

A Brief Context of Mindfulness

The practice of being mindful and it benefits is not an unfamiliar concept to most eastern countries.   Triggered by the cultural exchange between the east and the west in the 1960s and 1970s (Bodhi, 2011), the practice of mindfulness found its way to the west where its popularity has increased considerably over the past several decades. Jon Kabat-

Zinn presented "Mindfulness Based Stress Reduction" (MBSR) in 1979, which was the

first systematic use of mindfulness-based practices in the United States that primarily

focused on its therapeutic benefits in a therapeutic setting. Since then there has been an

increasing interest and attention concerning concepts of mindfulness and its therapeutic

use among mental health professionals (Bodhi, 2011; Herbert & Forman, 2011; Kabat-

Zinn, 2003; 2011).

The concept of mindfulness has historical roots in the field of psychology itself,

as well as in the eastern and western traditions. Transpired through Hindu practices, both

Hindu and Buddhist practitioners address the benefits of being mindful. Nevertheless,

the origin of the existing concepts of mindfulness is deeply rooted within the core

Buddhist teachings (Herbert & Forman, 2011). Buddhist teachings or "Dhamma" [in

Pali, an ancient language used in the Indian region] are the teachings introduced by

Buddha, a spiritual teacher who lived during the sixth century B.C.E. in northeast India.

"Dhamma" is not a set of doctrines that demand belief, but a body of ethics and practices

that sustains human beings in their quest for happiness and spiritual enlightenment.

"Dhamma" is also loosely translated as the "truth" or the reality of the world that one

exists in (Bodhi, 2011).

"Four Noble Truths" are one of the fundamental concepts of the Buddhist

teachings (Bodhi, 2010). Recognizing the presence of "dukka" [in Pali] or "existential

anguish" is the first of these four noble truths. "Dukka" refers to the unsatisfactory nature

that exits in the cycle of existence of all living beings (Nyanaponika, 1991). Often

existential anguish or "dukka" is loosely translated as suffering or pain that living beings

experience. The second truth is recognizing the origin of existential anguish, which is the

result of one's desire; a formation of an attachment that results a state of mind that keeps one from being present in the moment. One of the other basic concepts of the Buddhist teachings is that "all things are transient." As all things are transient, forming an attachment to a transient object or a person may result in existential anguish. The third truth is recognizing that one can cease the existential anguish. The fourth truth is realizing the way or the path to cease existential anguish (Bodhi, 2010, 2011; Nyanaponika, 1991).

This path is known as the "Noble Eightfold Path," which outlines the path that leads to the end of existential anguish and attainment of spiritual enlightenment, also known as Buddhist path to liberation. Harmonious (or accurate) mindfulness or "Samma Sati" [in Pali] is the seventh of the eight components in the Noble Eightfold Path (Bodhi, 2011; Collard, Avny & Boniwell, 2008). In Buddhist teaching "Sati" or mindfulness is an activity (Gunaratana, 2011) that signifies the presence of one's mind, attentiveness to the present, rather than the faculty of memory regarding the past (Bodhi, 2010).

Another definition is that mindfulness is the clear and single-minded awareness of what actually happens to us and in us at the successive moments of perception (Nyanaponika, 1991). It has the characteristics of not wandering or floating away from the elect object, absence of confusion, non-forgetfulness. Mindfulness guards and confronts the objective field and its proximate cause is strong cognizance or the four establishments of mindfulness (Bodhi, 2010; 2011). The four establishments of mindfulness are: the establishment of the mindfulness in contemplation of the body, contemplation of feelings, contemplation of consciousness, and contemplation of mental

objects. This forms a complete system of meditative practices of development of mindfulness and insight (Bodhi, 2010).

In the therapeutic world of mental health, mindfulness has been defined as observing, describing, participating, taking a nonjudgmental stance, focusing on one thing in the moment, and being effective (Linehan, 1993); a state of being attentive to and aware of what is taking place in the present (Brown & Ryan, 2003, p. 822); a meditation practice that involves bringing the practitioner's awareness fully into the present moment and paying attention in a particular way, without judging or evaluating that experience (Kabat-Zinn, 2011); and, to simply "drop in" on the actuality of [one's] lived experience and then to sustain it as best moment by moment, with intentional openhearted presence and suspension of judgment and distraction (Kabat-Zinn, 2003). Another descriptive definition is that mindfulness captures a quality of consciousness that is characterized by clarity and vividness of current experience and functioning and consequently stands in contrast to the mindless, less "awake" states of habitual or automatic functioning that may be chronic for many individuals (Brown & Ryan, 2003).

Also, mindfulness has been defined as a process of regulating attention in order to bring a quality of non-elaborative awareness to current experience and a quality of relating to one's experience within an orientation of curiosity, experiential openness, and acceptance (Bishop et al., 2004). Furthermore, mindfulness is a process of gaining insight into the nature of one's mind and the de-centered perspective (Safran & Segal, 1990) on thoughts and feelings so that they can be experienced in terms of their subjectivity (versus their necessary validity) and transient nature versus their permanence (Bishop et al., 2004).

Among several working definitions for mindfulness Bishop et al. (2004) identified two components to mindfulness: (a) intentional focus of attention on a present experience (thoughts, feelings, and physical sensations) and (b) taking a particular orientation toward that experience (an orientation of acceptance and interested investigation) as essential mechanisms. Therefore, to be mindful is to intentionally direct (or strategically place) attention of the present experience with acceptance.

Historically and therapeutically mindfulness can be cultivated by a variety of techniques, all of which have a contemplative component. Aside from formal mindfulness meditation (normally a period of sitting or lying-down focusing on one's breath), these techniques include mindfulness of movement (incorporating both yoga and 'mindful walking'), and brief periods of 'mini-meditations' that focus on breathing throughout the day. They also incorporate the concept of everyday mindfulness; like being aware and in the present moment as much as possible, even during seemingly mundane tasks as eating, cleaning or brushing one's teeth (Allen et al., 2006). By learning, practicing, and teaching these techniques of mindfulness one is expected to consciously observe and skillfully understand how one thinks, feels, and behaves and how these contribute to psychological distress, pain, and suffering (Kabat-Zinn, 2003). The focus is to alter the way people relate to their experiences and increasing their self-compassion. As a result, one can change the way they relate to their circumstances, consequently lessens the impact of those circumstances on their well-being and reducing stress (Kabat-Zinn, 2003), psychological distress and pain (Herbert & Forman, 2011). In the present day, therapeutic use of mindfulness is promoted worldwide (Aggs & Bambling, 2010; Allen et al, 2006; Bodhi, 2011).

Contemporary research has identified a variety of well-being outcomes of a mindfulness practice (Allen et al, 2006; Brown & Ryan, 2003; Herbert & Forman, 2011; Kabat-Zinn, 2003). As a result of well-being outcomes as well as due to the growing influence of the eastern ways of thinking on western views, mindfulness, its application and related research in the United States has come to the foreground during the last two decades (Bodhi, 2011; Brown & Ryan, 2003; Collard et al. 2008).

Since then, mindfulness training has been incorporated into hospital clinics and community settings offering pain management and stress reduction programs often using Mindfulness-Based Stress Reduction (MBSR; Kabat-Zinn, 2003). Mindfulness is a central component of Dialectical Behavior Therapy (DBT), applied in the treatment of borderline personality disorder (Linehan, 1993), and of Acceptance and Commitment Therapy (ACT), an intervention with broad applications ranging from formal psychiatric disorders to "low life satisfaction" (Hayes, Strosahl, & Wilson, 1999). Other documented applications of mindfulness training include reductions in levels of anxiety (Kabat-Zinn et al., 1992), and of disordered eating (Kristeller & Hallett, 1999). Moreover, a recent surge of interest regarding mindfulness in therapeutic techniques can be attributed to the publication of some well-designed empirical evaluations of Mindfulness-Based Cognitive Therapy (MBCT), a group-based intervention designed to prevent depressive relapse (Herbert & Forman, 2011).

Mindfulness Based Stress Reduction was first introduced by Jon Kabat-Zinn in 1979; it is a structured group training program primarily designed to reduce one's stress through being mindful. It is generally spreads over an eight-week period with weekly sessions of approximately two- to two-and-a-half hours at time and a whole-day mindful-

based retreat between week six and seven. The MBSR is a program that employs mindfulness meditation to alleviate suffering (or psychological distress) associated with physical, psychosomatic, and psychiatric disorders. Participants are invited to focus with an interested, accepting, and non-judgmental attitude on their pain, difficult sensations, emotions, cognitions, and behavior (Kabat-Zinn, 2003). The program focuses on cultivating mindfulness through formal practices (sitting meditation, body scan, and mindful yoga) and on integrating this capacity into everyday life as a coping resource for dealing with intensive physical symptoms and difficult emotional situations (Kabat-Zinn, 2003).

To a greater degree this process is identical to the four establishments of mindfulness addressed in the traditional Buddhist teachings. It also includes group interactions concerning the challenges and achievements that participants experience upon integrating mindfulness into their lives and stressful situations. Participants are asked to practice daily home assignments for 45–60 minutes a day (Kabat-Zinn, 2003). The practice of mindfulness may lead to change in thoughts and behavioral patterns or in the attitudes towards thoughts, sensations, and emotions. The improved self-observation may promote use of better coping skills that result in superior psychological wellbeing (Baer, 2003).

Dialectical behavior therapy is a comprehensive psychotherapy approach developed by Dr. Marsha Linehan in late 1990s. It is based on a central dialectic of change and acceptance (Swales, 2009). The practice can be identified as one of the most favored systematic programs in treating people with a diagnosis of borderline personality disorder that assist the regulation of ones affect with in a range of presentations (Mardula

& Larkin, 2014). With a strong emphasis on acceptance, DBT balances the problem-solving procedures with validation, by accepting the client as they are in the moment and the inherent wisdom of their thoughts, emotions and actions (Swales, 2009). Users are introduced to seven skills that may assist them in the process of developing a therapeutic mindfulness practice. The idea of having a 'wise mind' is the first of these seven skills that speaks to having a sense of intuitive wisdom developed through practicing the mindfulness skills of observing, describing, participating in, and adopting a non-judgmental approach to oneself. In DBT, mindfulness skills are taught in a more didactic way than in MBSR and MBCT, through shorter practices that often include a distinct focus that varies with the client personality and needs (Mardula & Larkin, 2014).

Acceptance and Commitment Therapy (ACT) is based on Relational Frame Theory (Montgomery, Kim, & Franklin, 2011), and encourages individuals to accept rather than try to control unpleasant sensations (Mardula & Larkin, 2014). Nonetheless, ACT does not describe its treatment methods in terms of mindfulness or meditation (Montgomery et al., 2011). Yet, it is often identified at one of the mindfulness-based interventions because several of its strategies have a much closer connection to mindfulness approaches (Baer, 2003). ACT endorses exposure to past-avoided incidents by asking people to pay their complete responsiveness on different elements of their experience. "Cognitive diffusion," one of the key concepts, involves teaching clients to observe their thoughts and the process of thinking without always assuming that the thoughts are true and behaving in accordance with their content. ACT uses mindfulness exercises to encourage noticing and observing whatever is present without excessive

judgment or evaluation, regardless of how pleasant or unpleasant experiences feel (Mardula & Larkin, 2014).

Mindfulness-Based Cognitive Therapy (Segal, Williams & Teasdale, 2012) is an adaptation of the MBSR program (Williams, 2007). It incorporates elements of CBT, facilitating a detached or decentered view of ones thoughts and is designed to prevent depressive relapse (Baer, 2003). Therefore, MBCT (Williams, 2007) combines training in MBSR with cognitive therapy and consists of eight weekly two-hour sessions. MBCT is similar to the MBSR program, but it focuses more on thoughts. The participants learn to notice when they are ruminating and to identify specific thought patterns. MBCT is a prevention program, not a treatment program for acute depression. MBSR is intended to be delivered in heterogeneous groups, while MBCT is designed to target homogenous group; but, the aim of the present review is to summarize the evidence lumping in chosen for inclusion and splitting in the conclusion (Segal et al., 2012).

All of these programs have reported positive therapeutic outcomes (Baer, 2003; Collard et al. 2008; Hayes et al., 1999; Kabat-Zinn, 2003; Kristeller & Hallett, 1999; Linehan, 1993; Segal et al., 2012; Williams, 2007). MBSR, DBT, ACT, and MBCT are structured to yield outcomes for the clients that address client wellbeing and focus of alleviating client's psychological distress. Following these programs, recently the practice of mindfulness have been also been utilized in enhance mental health professionals' and mental health trainees' wellbeing, their therapeutic presence, and counseling outcomes.

Mindfulness in Counselor Education

In the field of educating mental health professionals, mindfulness has been used systematically over the past decade in training programs to enhance the practitioners and the trainees' therapeutic presence (McCollum & Gehart, 2010; Christopher et al., 2011; Newsome, Christopher, Dahlen, & Christopher, 2006) and has often resulted in better therapeutic outcomes for the clients (Aggs & Bambling, 2010; Grepmair et al., 2007; Grepmair, Mitterlehner & Nickel, 2008). With the increased momentum of its usefulness in many different aspects of the helping profession, mindfulness has also been used to increase awareness of the therapist (McCollum & Gehart, 2010; Christopher et al., 2011; Rothaupt & Morgan, 2007); enhance case conceptualization skills (Christopher, et al., 2011); enhance therapist wellbeing (Collard et al., 2008; Christopher et al., 2011; Newsome et al., 2006), attitudes, skills, knowledge, and acceptability (Aggs & Bambling, 2010); self-care and therapeutic efficacy (Aggs & Bambling, 2010; Christopher & Maris, 2010; Christopher et al., 2011; Stauffer & Pehrsson, 2012) and used to increase counselor self-efficacy, attention, and empathy (Greason & Cashwell, 2009). In the following section these studies and their results will be discussed further.

One of the first studies that investigated the use of mindfulness in relation to therapists in training and treatment results of their patients came from Germany. Grepmair, Mitterlehner, Rother, & Nickel (2006) investigated whether the promotion of mindfulness in therapists in training could influence the treatment results of their patients. The researchers looked in to the therapeutic course and treatment results of patients ($N =$ 66) who were treated with an integrative psychiatric-psychotherapeutic approach by five therapists in training, over the course of nine weeks. The control group ($n = 33$) was

comprised of patients who received treatment from therapist in training that did not practice Zen meditation. The treatment group (meditation group; $n = 33$) was comprised of patients who received treatment from therapists in training that practiced Zen meditation on a regular basis. The results were evaluated with the Session Questionnaire for General and Differential Individual Psychotherapy (STEP), the Questionnaire of Changes in Experience and Behavior (VEV), and the Symptom Checklist (SCL-90-R).

The meditation group, in comparison with the control group, rated the individual therapy they received by the therapist who practiced Zen meditation significantly higher evaluations on all three STEP scales (clarification, problem solving, and relationship). They have evaluated the care they received from the therapist with Zen practice on a higher scale, compared to therapist that did not had a Zen practice. Rating changes in experience and behavior they went through, patients also highly evaluated the treatment they received from the therapist in training with the Zen meditation experience. The comparison of symptom reduction on the Global Severity Index for the both groups, the meditation group (patients treated by the therapist in training who had a Zen meditation practice) showed significantly better results. Overall they experienced a higher rate of symptom reduction compared to the control group. The meditation group also showed significantly better results in the reduction of somatization, obsessiveness, anger/hostility, phobic anxiety, and psychoticism when compared to the control group.

Grepmair et al. (2006) concluded that their results indicated the promotion of mindfulness in therapist training could positively influence their patients' therapeutic courses and treatment results and called for additional randomized trials to test whether their results could be generalized. Overall, this investigation adds validity to the notion

that counselors who have a mindfulness practice, which implies that they are capable of being more mindful in their day-to-day lives as well as in the therapy sessions, are capable of facilitating better therapeutic outcomes for the clients. These results suggest that mindfulness could be an important variable in the development of key counselor characteristics.

Similar to Grepmair et al. (2006), Newsome et al.'s (2006) study was also one of the first to investigate mindfulness and its impact on counselor trainees. They highlighted trainee physical and emotional exhaustion, compassion fatigue, and vicarious traumatization results stress in trainees' lives. As a result, counselor trainees' effectiveness and success with their client are jeopardized. They can do harm to their clients by their reduced capacity for attention, concentration, and decision-making (Shapiro, Shapiro, & Schwartz, 2000). Thus counselor educators must promote self-care in the training programs to manage the stress and burnout of counseling students during and after their training. In doing so, Newsome et al. (2006) designed a course to provide the trainees with the opportunity to learn and develop mindfulness skills, intended on managing stress, and improve their counseling practice.

This MBSR-based, 3-credit elective course was conducted over 15 weeks, and was titled as Mind/Body Medicine and the Art of Self-Care. The course was created to address personal and professional growth opportunities through trainee self-care and mindfulness practices like meditation, yoga, qigong, and conscious relaxation exercises. They met twice a week for 75 minutes at a time; practiced hatha yoga, sitting meditation, qigong, and conscious relaxation techniques. Participants were also required to practice these outside of class, 4 times a week, 45 minutes at a time. They also met in pairs

outside of class and were asked to keep a journal to process their experience during the 15-week period. The academic component of the course required students to read about mindfulness practices and its applications to psychotherapy, behavioral medicine, and current research. It also included trainee-led class facilitation and presentations in mind-body medicine.

The researchers failed to address the methodology in detail in this publication, thus, referred to another publication for details: Schure, Christopher, and Christopher (2008). Yet, they noted that there were three main methods were used to evaluate four years of data: four years of qualitative course evaluations, a focus group at the end of four years, and four years of qualitative reports. Students reported positive physical, emotional, mental, spiritual, and interpersonal changes and substantial effects on their counseling skills and therapeutic relationships. Triangulated data from all sources signified positive student responses to the course, method of teaching, and course instructor. Most students reported intentions of integrating mindfulness practices into their future profession. Though these finding are not yet supported with shared data, it appears that students found this experience to be positive. Hence, these findings strengthened the outcomes of when mindfulness is integrated to the training curriculum, which overall yielded positive effects for the counselor trainees, and inadvertently may have impacted client outcomes. The results were discussed in detail by Schure et al. (2008).

Another study by Parallel to Grepmair et al. (2006) also investigated if psychotherapists in training who have a mindfulness practice (through daily Zen meditation) could influence treatment results of their patients (Grepmair et al., 2007).

The study was conducted in a sizable (200 plus beds) psychosomatic hospital in Germany. The participants were a homogenous group of nine psychotherapists in training (PiT) who had the equivalent of a bachelor's degree in psychology and were in their second year of a 3-year clinical internship.

The study was conducted in two phases, nine weeks each, where 114 patients were recruited for both phases of the study. Both the patients and the PiTs were unaware to the research hypothesis. In the first phase there was no change in the PiT regular (control group) training program. During the second phase of the program, Zen meditation was conducted daily for an hour over nine weeks (treatment group). The objective of data collection during this period of training was revealed to the PiTs and the patients only after the completion of the last test. The patients were treated according to an inpatient integrative psychiatric-psychotherapeutic plan. This involved two individual psychotherapeutic sessions, five group sessions, two group sessions of gestalt therapy, five sessions of group body psychotherapy based on psychoanalysis, and two sessions of progressive muscle relaxation. Individual appointments were also made, where indicated, for physical therapy, nutritional counseling, co-therapy and social counseling.

At admission, prior to discharge, after completion of their treatment, and after each individual therapy session the patients filled out the following questionnaires, which included socio-demographic data. The Symptom check list SCL-90-R, which is an interpretation of an overview of a person's emotional and symptomatic stress on nine scales, was carried out at admission and prior to discharge. They completed the questionnaire of Changes in Experience and Behavior, VEV after completion of their inpatient treatment. The STEP was filled out after each individual therapy session of the

patient. A two-level, linear mixed effects model was used for analysis of the time course

for the response values and statistics software S-PLUS 6.0 was employed for data

analysis.

Thus, the treatment results of the control group and treatment group where

therapists practiced Zen meditation were compared. The comparison exhibited

significantly better results by the patients treated by PiTs during the time that they were

practicing Zen meditation (treatment group) than the control group. The results indicated

that promoting mindfulness in PiTs can influence the course of therapy positively, thus

the treatment results of the patients.

The findings are similar to a study conducted by Grepmair et al. (2006), where the

Grepmair et al. (2007) study had a larger sample size. The results added further

validation to the notion that when mindfulness is integrated to the training curriculum of

the helpers, evidently it fosters better therapeutic outcomes for the client.

Another qualitative inquiry carried out on the practice of mindfulness of

counselors and counselor educators by Rothaupt and Morgan (2007) explored the

mindfulness practices of counselors and counselor educators who identified themselves

as being mindful of their work. Specifically, they investigated how these professionals

incorporated mindfulness practice into their personal and professional activities and also

to know their perceptions of the effect of mindfulness practices on their work and lives.

The six participants—three men, three women, all White—in the study were all

counselors where four of them were also counselor educators and were of different faiths.

The three criteria included in the selection process were that all participants were licensed

mental health professionals, full time counselors or counselor educators, and that they

were self-identified as using mindfulness practices. There was much variation in terms of

their experience as counselors and practitioners of mindfulness. Face-to-face semi-

structured interviews and a follow-up via telephone were used in the process of data

collection. Initial five questions used were: How do you define mindfulness? What is the

nature of your mindfulness practices? How did you get started with the practices? How

do your mindfulness practices impact your counseling/supervision? How do your

practices impact your own self-care? A constant comparative method (Merriam, 2002, as

cited in Rothaupt & Morgan, 2007) was used to analyze data.

Several themes emerged from analyzing the data, where the main theme was the

need and effort to live in the present moment. Two other themes emerged: the use of a

variety of tools or methods in incorporate mindfulness in to their lives and the results of

their mindfulness activities. With considerable overlapping between themes, similar

mindful practices were identified by all participants: regular rituals to cultivate

mindfulness, body awareness practicing patience, pursuit of solitude, and mindful use of

one's environment. Additionally, four types of outcomes emerged from the interviews:

intentional living, connectedness, abundant gratitude, and actively inviting others to a

more mindful way of living.

The researchers stated that the main theme is not surprising given that most

definitions of mindfulness emphasize living in the present moment (Allen et al., 2006;

Bishop et al., 2004; Kabat-Zinn, 2003; Shapiro et al., 2006) as an essential component of

the practice. Other themes suggested that before professionals can help others tap into

the many reported benefits of mindfulness, they must first cultivate mindfulness within

themselves (Rothaupt & Morgan, 2007), and this has been an emerging theme in another

study (Stauffer & Pehrsson, 2012) that will be discussed in this literature review section. The results also emphasized that, despite individual variations, this group of practitioners not only shared broad practices in common with each other, but also echoed what the literature describes about mindfulness as well. Rothaupt and Morgan (2007) emphasized that the data holds another important reminder: Mindfulness is not something a person merely does, but it is a whole approach to living where the writings on mindfulness support the notion that a collection of practices is not enough-it is a way of being (Bodi, 2010; Nyanaponika, 1972; Salzberg & Goldstein, 2001).

Studying the effects of teaching MBCT with counselor trainees Collard et al. (2008) examined trainee level of mindfulness and their subjective wellbeing. This study was aimed at providing empirical evidence for the assumption that mindfulness is the mediating factor in the positive outcomes of MBCT and MBSR programs. Supporting Brown and Ryan's (2003) conclusion that the role of mindfulness enhances individual wellbeing, the researchers used the Freiburg Mindfulness Inventory (FMI; Walach, Buchheld, Buttenmuller, Kleinknecht, & Schmidt, 2006), which was a comprehensive mindfulness measure.

The researchers questioned whether an MBCT program increased participants' levels of mindfulness and satisfaction with life and decreased participants' level of negative affect? A repeated measures (Test-Retest) within participants design was employed. The design consisted of one independent variable—time of measurement—and four dependent variables—mindfulness, satisfaction with life, positive affect, and negative affect. All participants were students of a university enrolled in a diploma course of integrative counseling and psychotherapy who expressed interest in cognitive

therapy. The data collection was done in two phases during an eight-week course on MBCT for depression. Twenty participants provided data in the first collection and 16 provided data in the second data collection, anonymously at the beginning and at the end of the MBCT program, by completing questionnaires. The FMI was used to measure mindfulness. Satisfaction with life was measured by using Satisfaction with Life Scale (SWLS; Diener et al., 1985, as cited in Collard et al., 2008), a multi-item measure. The SWLS was used to measure cognitive components of well-being and life satisfaction. Positive and negative affects were measured by using Positive and Negative Affect Scale (PANAS; Watson et al., 1988), which included 20 emotion adjectives. Dependent *t*-tests were used in data analysis and Kolmogorov-Smirnov test indicated normal distribution of the four dependent variables.

The results indicated that by the end of the MBCT program, participants' level of mindfulness significantly increased, positive affect remained unchanged, and negative affect significantly decreased. The data implied a strong trend in the increase in participants' satisfaction with life by the end of the course; yet the results were statistically insignificant. By the end of the course, Pearson correlation between mindfulness and negative affect was found to be significant, while mindfulness and satisfaction with life were not found to be statistically significant. Having a longer practice time of mindfulness was significantly correlated with a higher level of mindfulness at the end of the program.

The results were interpreted in support of the assumption that mindfulness has an important role as a mediating factor in symptoms relief and positive outcomes following participation on mindfulness programs. The significant correlation between longer

weekly practice time of mindfulness and having a higher level of mindfulness at the end of the program suggests that continuous extensive daily practice is extremely likely to enhance the skills of being mindful. The results supported Brown and Ryan's (2003) conclusion that the role of mindfulness enhances individual wellbeing. A Positive Psychology framework was applied in interpreting the data. Researchers concluded that there was significant data to believe that mindfulness can be integrated well, as a concept and as a therapeutic intervention, into the field of psychology.

Schure et al. (2008) was another study conducted as an extension of a pervious study (Newsome et al., 2006) that examined the influence of teaching three mindfulness practices (hatha yoga, meditation, and qigong) to counseling graduate trainees. The aim of this study was to explore the counseling students' perceptions of the influence of mindfulness practices on their lives and their work with clients, by using qualitative methods. The study also examined which of the three mindfulness practices were found to be most influential by the students and how they integrated mindfulness into their future career.

Data was collected from 33 participants who were first and second year master's level graduate students in mental health counseling, over a span of four years. The 15-week MBSR course the students attended included twice-weekly, in-class (75 minutes) mindfulness practice and conscious relaxation techniques. The participants agreed to practice these techniques outside of class for at least for 45 minutes, four times a week. As this was a three-credit class, the trainees were graded on attendance and participation, journal writing and research presentation, and as a final journal assignment were asked to submit answers to four specific questions: how their life has changed during the course of

this semester in ways that may be related to the class, to which practice they were drawn mostly, why and how it has affected them, how, if at all, the course has affected their work with clients, both in terms of being in the room and thinking about the treatment, and how they would see integrating, if at all, any of the practices from class in to their own clinical practice (or career plans).

The participants' responses to the questions were submitted as hard copy documents or as word processing files and the instructor forwarded them to the first author. The responses were analyzed using qualitative data analysis software. Five themes emerged in response to the questions: positive physical, emotional, mental, spiritual, and interpersonal changes. There were substantial effects on their counseling skills as well as on the therapeutic relationships that the students experienced during the course. Many expressed the importance of continuing their personal practice as it helped them to be a more effective professional. The participants had different preferences and experiences with the three mindful practices, and most participants reported their intentions on integrating mindfulness practices into their future career.

Affirming Collard et al. (2008) and Newsome et al.'s (2006) findings, the researchers concluded that the results also suggest that incorporating mindfulness practices in training programs as specific tools for self-care is beneficial. They have highlighted that such qualitative studies can provide an open ended exploration of the influence of mindfulness practices across all domains of a person's life, especially because this is an emerging area of research, thus more to be investigated and understood of the magnitude of the impact of mindfulness practices.

Monitoring data over time in 2010, the originator of this course analyzed

qualitative data collected over nine years (Christopher & Maris, 2010). The researchers

noted that they addressed a few aspects of the design model to decrease research biases

over the years. The results yielded after nine years were the same; they affirmed past

findings that mindfulness training can enhance physical and psychological wellbeing of

trainees. They emphasized that mindfulness training is a specific way that training

programs can teach students strategies of self-care that can help prevent burnout,

compassion fatigue, and vicarious traumatization (Christopher & Maris, 2010).

A study carried out by Greason and Cashwell (2009) examined the predictive

relationship between mindfulness and counselor self-efficacy and the potential mediating

effects of attention and empathy. A path model that hypothesized a predictive

relationship between mindfulness and self-efficacy, mediated by attention and empathy

was examined by the authors. Also they hypothesized a relationship between mindfulness

and the two mediator variables, attention and empathy, as well as a relationship between

the two mediator variables and counseling self- efficacy. Master's level counseling

interns and doctoral counseling students participated in the study (*N = 179*).

The authors used the Five Factor Mindfulness Questionnaire (FFMQ; Baer et al.,

2006) consisting of 39 items to carry out the survey. The five factors of mindfulness

measured in the FFMQ were observing, describing, acting with awareness, non-judging

of inner experiences, and non-reactivity to inner experiences. The five factors formed a

total mindfulness score, which reflected a global measure of mindfulness. The total score

thus obtained was used as the unit of analysis in the study. The FFMQ used was a 5-

point Likert type scale ranging from 1 (never or very rarely true) to 5(very often or

always true). To measure counselors' ability to control their attention strategically during

counseling sessions, the Counselor Attention Scale (CAS) Greason, 2006) was used. The

Interpersonal Reactivity Index (IRI; Davis, 1980, 1996) was used to assess empathy as a

multidimensional process where it assessed both cognitive and affective aspects of

empathy. To assess counseling self-efficacy the Counselor Activity Self-Efficacy Scale

(CASES; Lent, Hill & Hoffman, 2003, as cited in Greason and Cashwell, 2009) was

used. The CASES consisted of 31 questions in 3 general areas (exploration skills, session

management and client distress) where the total score of all 3 general areas reflect the

overall counseling self-efficacy. The participants were asked to complete demographic

questionnaire providing information about their age, gender, ethnicity, level of training,

and the number of counseling credit hours completed.

A path analysis, originally outlined by Baron and Kenny (1986) according to

causal steps criteria, was conducted to test the multiple-mediator hypotheses that

attention and empathy mediated the relationship between mindfulness and self-efficacy.

The predictive relationships were explored using standard regression techniques of the

path analysis. The results supported the hypotheses that mindfulness is a predictor of

counseling self-efficacy in masters' and doctoral counseling students and that attention

was a mediator of that relationship. It was found that although empathy did not predict

counseling self-efficacy as hypothesized and was not a mediator, mindfulness did

significantly predict empathy. Thus, these results suggested that mindfulness is an

important variable in the development of key counselor preparation outcomes.

Furthermore, a qualitative study on using mindfulness meditation to teach

beginning therapists' therapeutic presence was carried out by McCollum and Gehart

(2010). In this study they examined their beginning practicum students' experience of

learning mindfulness meditation as a way to help them develop therapeutic presence.

Thirteen students in two classes participated in the study. The students allowed the

authors to use their weekly journal entries as data for the study. The classes were

practicum courses at master's level, which were designed for students to gain clinical

training. The students were asked to practice meditation for 5-10 minutes a day, but were

not penalized for not practicing. They were only asked to report their experience and as

to when and why they did not practice meditation during a given week and were

encouraged to include both positive and negative experiences and to accept whatever

happens. They were asked to reflect on their experiences in learning mindfulness

meditation and also on how it affected on their personal lives and on their clinical

practice.

The participants were given a specific format and structure for the journal

assignments in which they had to enter a one-page journal entry every week, reflecting on

their mindfulness or contemplative practice during that week. They were also asked to

address the following: (a) whether they practiced daily and what helped them to achieve

this goal and if not as to why, (b) to describe about their mindfulness, practice, and focus,

(c) any strategies used for returning to their focus and whether they were able to be

patient during the practice, (d) to describe any insights gained from observing the mind,

(e) any differences that resulted in their daily life and professional practice due to this

practice, or (f) to describe new insights, practices, or experiences related to developing

therapeutic presence. The participants submitted copies of their original journal entries to

the authors. The data analysis consisted of a process of thematic analysis where general

domains were identified.

A variety of themes emerged: the ability to be present, the effects of meditation

practice, balancing being and doing modes in therapy, and the development of acceptance

and compassion for themselves and for their clients. The students reported their

experiences arising from their mindfulness practice in a varied manner, that it had

influenced their work as new therapists, helped them be present, attended to their inner

experience and were aware of what was happening with the clients to bring them together

in the therapist-client interaction, they were able to be centered, were able to be aware of

their inner chatter, and also to slow down their perceived inner pace during their sessions.

Their experience of presence had formed a foundation for them to shift their mode of

being in the session verses doing. The students also reported experiencing a sense of

compassion and acceptance. These results were consistent with the findings of

Christopher et al. (2011), Newsome et al. (2006), and Rothaupt and Morgan (2007). Yet

this is the first time a distinction between being verses doing was highlighted in an

empirical finding.

Moreover, in analyzing the data, the researchers also found that the students

reported being fairly regular with their practice and instances where they credited their

mindfulness practice to improve their in-session skills, often significantly. They reported

a direct connection between what they learned in their mindfulness practice and their

clinical practice that went beyond the initial link between the therapeutic presence and

mindfulness. Also, many reported that through the mindfulness practice they learned to

accept themselves, were patient with their clients, reduced activity, and judgment. The

students also reported that their practice of mindfulness helped them to be more engaged with their therapeutic encounters, which suggested that mindfulness practice may be a meaningful endeavor to introduce specially for beginning therapists. Consequently, the authors reported that their findings suggested mindfulness meditation may be a useful addition in clinical training.

Adding more significance to using mindfulness in counselor training another study was conducted on teaching mindfulness to psychotherapists in clinical practices (Aggs & Bambling, 2010). This study examined whether a clinically focused mindfulness program for therapists could be standardized and taught to clinicians, one that could be evaluated by skill and knowledge acquisition and attitude change among therapists who completed the program. As part of a research project for a higher psychology degree, five separate training programs were provided to the participants in a university setting over a 14-month period by the lead author. Participants indicated that they had either little or no history using mindfulness, either as a personal practice or as a client-related technique. Participants ($N = 58$) completed six to eight sessions of this mindful therapy program. Forty-seven participants followed an optional time delayed ninth session where follow up post measures were included. A repeated measures training design utilizing a within-subjects comparison of pre- and post-courses data was used for this study. A three-module program was conducted over 1.5 hours per week during an eight-week period.

Module I focused on mindfulness as a personal practice, which concerned the enhancement of participants' declarative and experiential knowledge of mindfulness. Module II discussed mindfulness as a psychotherapy process skill where the therapists

applied their growing understanding of mindfulness skills to psychotherapy processes. Module III addressed introduction to mindfulness as an intervention, which included opportunities for participants to practice delivering the Three-Minute Breathing Technique (Sigel et al., 2002, as cited in Aggs & Bambling, 2010).

The Mindful Therapy Questionnaire (MT-Q) was designed to measure participants' attitudes towards mindfulness and were asked to rate their confidence using mindfulness with their clients, intentions to integrate mindfulness into their work, and how relevant it was within therapeutic settings. Each question was measured on a scale of 4-10. The Five-Minute Mindfulness Scale (FMMS) was developed to measure participants' capacity to enter into and maintain a mindful state upon request. A participant stress measure was developed as a pre- and post-rating for each session's impact on stress levels. The Participant Satisfaction Survey, which contained seven items, was administered in the ninth week post-review.

The results indicated preliminary evidence that a brief standardized mindfulness training program as such can provide significant knowledge and skills outcomes for counselors that has a positive impact on therapeutic outcomes. Significantly higher post-training declarative knowledge scores were shown by the participants regarding knowledge acquisition on all measures, including increased mindfulness in clinical and counseling practice, capacity to invoke a mindful state of consciousness, and higher participant ratings of well-being during the training sessions. In comparison, regarding participants' intentions to integrate mindfulness into therapeutic work, no change was found from the study. Authors concluded that increased 'therapeutic mindfulness' in participants resulted from changed mindfulness 'attitudes' (i.e. a more accepting and

harmonious orientation within therapeutic work) as opposed to a clear demonstration of increased attention-regulation skills. Furthermore, reductions in the perception of stress and tension by participants resulted less stress and increased relaxation after mindfulness training sessions.

Researchers highlighted that their results provided additional support for the notion that mindfulness is a skill that therapists can learn as participants in this study demonstrated a significantly higher post-training capacity to invoke a mindful state of consciousness. Thus, participants in this study reported being less judgmental of their processes in therapy, of their clients, and an increased capacity to let go of unsettling thoughts, feelings, or images as they arose. These findings provided further support for the notion that mindfulness is a skill that can be enhanced, it is a multidimensional construct (Aggs & Bambling, 2010; Baer et al., 2006), and could be used effectively to enhance therapeutic presence, thus the integration of mindfulness in the training curricular of mental health professionals can have increasingly positive influence on the therapist.

An investigation exploring the long-term influence of mindfulness training as a strategy for fostering better self-care for counselors/psychotherapists, Christopher et al. (2011) investigated 16 former master's level students who took a class named Mind/Body Medicine and the Art of Self-Care (Newsome et al., 2006; Schure et al., 2008). Mental health care professionals often face burnout, compassion fatigue, and vicarious traumatization; consequently, they feel overstressed and are at great risk of diminished occupational effectiveness with the likely result of decreased quality of care for their clients (Shapiro, Astin, Bishop, & Cordova, 2005). Therefore, this MBSR-based course

was designed to foster better self-care for the trainee counselors with the intention that they would integrate mindfulness in to their daily lifestyles. This study was an extension of Newsome et al. (2006), and Schure et al. (2008), yet it was the first study to explore long-term effects of mindfulness practice in counselor education.

This qualitative inquiry randomly selected 16 participants from a pool ($N = 54$) of former students who took the class over a 5-year period; 16 European American participants (13 female, 3 male) with the average length of time since taking the course being four years. Semi-structured interviews were conducted via phones to collect data; responses to the questions were analyzed using content analysis and cross-case analysis was also conducted.

Researcher noted that there were two main themes they found analyzing data: impact on personal life and impact on professional life. Exploring the long-term impact of the class on their personal lives there were two main themes that emerged—personal development/self-care and interpersonal relationships. Under the personal development/self-care theme participants reported the following subthemes: (a) physical changes, (b) emotional changes, (c) attitudinal or cognitive changes, (d) increased awareness, and (e) increased acceptance. They reported having better physical health, flexibility, and energy. Generally, participants also reported continuing to feel less controlled by their emotions, less anxious, and better able to stay in a "grounded" or "centered" place when they felt overwhelmed. Participants reported lasting changes in their thinking and attitude as a result of taking the class; that they learned how to quiet their mind, and dis-identify from their thoughts. They also reported an ongoing awareness of their physical, emotional, and spiritual selves. Many reported being more

"in tune" or aware of their bodies and their psychological responses. Participants

provided three further themes under the subtheme of increased acceptance, namely (a)

self-compassion, (b) letting go of control, and (c) response flexibility. Under self-

compassion, participants reported that they were more accepting of themselves and less

judgmental as a result of engaging in mindfulness practices and participating in the class.

They described being more lenient with themselves and their struggles, treating

themselves with more respect, and finding this process to be freeing; additionally, feeling

a sense of peace with themselves and, as a result, being able to generate more compassion

for themselves and others. The second theme within the personal life domain is

counselor interpersonal relationships. Counselors reported changes in their interpersonal

relationships, specifically (a) an increased awareness of self-in-relationships, (b)

increased acceptance and compassion, and (c) decreased emotional reactivity.

When they were asked about the long-term impact of the class on their

professional lives, the following three themes emerged: (a) counselor's experience of self

while counseling, (b) the therapeutic relationship, and (c) clinical practice. Participants

indicated an increase in awareness of their own reactions and those of their clients, most

counselors indicated an increased acceptance for themselves with a non-critical stance,

reported a diminished reactivity while in the counseling role, and a sense of greater

presence while counseling. Also, they noted the therapeutic relationship to be positive

and more accepting. Participants also used mindfulness techniques and principles to

varying degrees in their clinical practice after taking the course, reported having

increased confidence in using mindfulness practices with clients, and noted having a new

conceptual framework—a new understanding of what is healing for clients, such as the importance of acceptance and awareness in the healing process.

The researchers concluded that the impact of mindfulness on counselors and psychotherapists could have a powerful effect on the practitioner's perceptual sensitivity, empathic sensitivity and accuracy, and compassion for the pain of others. Christopher et al. (2011) suggested that mindfulness training offers a promising approach to therapist self-care, and seemed to have long-term influences on their professional lives. Hence, mindfulness training could be an effective way to increase therapeutic effectiveness (Christopher et al., 2011; Grepmair et al., 2007). As a result of positive outcomes of the aforementioned course, Christopher et al. reported that the course was no longer an elective, but a requirement of the counselor curriculum at Montana State University, and encouraged other counseling programs to do so as well. These findings added extensive validation to the integration of mindfulness in the training curricular of mental health professionals; thus one can no longer deny its invaluable impact.

Lastly, carrying out a survey on mindfulness competencies in counseling and psychotherapy, Stauffer and Pehrsson (2012) addressed the counselor competencies needed for training clients in the use of mindfulness methods. To find out more about mindful competencies for counselors and psychotherapists, the researchers specified a research question as to what degree experts agreed on a set of proposed mindful competencies. As an answer they created an online survey consisting of 16 competency statements based on the literature related to mindfulness training, identified experts ($N =$ 52) and invited them to participate in the study. Also demographic questions and

questions related to professional contributions on mindfulness were asked to ensure the

participants' had adequate experience and knowledge in mindful training.

The survey consisted of three sections: demographic questions and questions

related to personal and professional involvement with mindfulness practice consisting of

13 items; competency statements with Likert-type agreement scales of 16 items; and

questions to invite recommendations for personal practice for those new to mindfulness

as a specialty area. More than 162 studies in professional journals from 1987-2007 and

mindfulness-based therapy books were used in the development of all items that

constitute these sections. Subject matter experts who were teachers in the Buddhist

tradition evaluated the items. Finally, doctoral students and faculty in a counselor

education and supervision program provided qualitative feedback on the survey.

Results indicated a strong support of the entire set of the competency statements

by the participants where the response were more than moderate to excellent for

individual statement. The PCA results also revealed that the 16 competency statements

had a uni-dimensional agreement except for one item—metacognitive awareness.

Furthermore, results strongly suggested that counselors who are training clients must

have an active mindfulness practice; thus, counselors and psychotherapists must be

knowledgeable of various mindfulness methods and their applicability with specific

clients and particular disorders. Additionally, the researchers concluded that one must

also be able to distinguish between mindfulness related and other mindfulness

competencies states of mind especially that are clinically significant. The study found

substantial agreement of the participants, with a preliminary list of mindfulness

competencies for counselors in the application of mindfulness to counseling. Following

are the competency statements described by Stauffer and Pehrsson (2012):

> …counselors and psychotherapists who train clients in the use of mindfulness
>
> method-understand how to integrate mindfulness methods and skills into
>
> everyday tasks and behaviors, seek continuing education opportunities on
>
> mindfulness and mindfulness-related topics, are able to recognize the limits of
>
> their own professional competence when training clients in mindfulness methods,
>
> respect clients' culture, including religious and/or spiritual beliefs and values that
>
> relate to physical and mental functioning, practice mindfulness methods on a
>
> regular basis, especially when training others in these methods, engage in the
>
> process of metacognitive examination by way of mindfulness practices, are able
>
> to distinguish between psychological processes related to mindfulness and other
>
> mental processes critical to clinical practice, have knowledge of the various types
>
> and methods of meditation and mindfulness, have a fundamental knowledge and
>
> remain current in both the professional literature and the popular literature related
>
> to mindfulness, have knowledge of which types of mindfulness methods are
>
> effective, ineffective, and potentially harmful for use in treating specific types of
>
> mental health disorders, practice each specific mindfulness technique prior to
>
> using that technique with clients, consult and seek training when integrating
>
> mindfulness methods with other psychotherapeutic techniques, know of available
>
> resources for continued practice of mindfulness, including audio/visual, local
>
> meditation/mindfulness teachers, and online resources, personally practice
>
> mindfulness methods for a sufficient length of time prior to training others in

mindfulness methods, seek opportunities for mindfulness-based retreats to explore, understand, and increase mastery of mindfulness methods, are aware of cross-cultural/multicultural competencies relevant to applying mindfulness-based interventions and training. (p. 232)

This was the first study to address mindfulness competencies needed for counselors. The experts also called for one and a half years of minimum weekly personal practice (formal and informal) for at least for 21-25 minutes for counselors before beginning to train clients in mindfulness methods. This affirmed the notion Rothaupt and Morgan (2007) stated that asserts practitioners must first cultivate mindfulness within themselves before teaching these skills to their clientele. Calling for further exploration of competencies, Stauffer and Pehrsson (2012) stated these competencies could be a precursor to consistent and replicable mindfulness training for counselors and those competencies could also be used to improve curriculum development in general.

Summary

Despite the fact that mindfulness in Western psychology was formerly intended as an intervention for cultivating mindfulness in clients, researchers are beginning to demonstrate how mindfulness of mental health professionals is an important criterion of counselor development and performance and yields better therapeutic outcomes. With this gaining momentum of its usefulness in many different aspects of the helping profession, aforementioned researchers have discussed how being mindful could benefit counselor trainees and therapeutic outcomes. In summary: the promotion of mindfulness in therapist training could positively influence their patients' therapeutic progressions and treatment results (Grepmair et al., 2006; Grepmair et al., 2007). Also, there are many

benefits of practicing mindfulness for the counselor's themselves, such as positive physical, emotional, mental, spiritual, and interpersonal changes that eventually promote a healthy lifestyle. Moreover, this eventually has substantial effects on their counseling skills and therapeutic relationships (Newsome et al., 2006; Schure et al., 2008). Thus, being mindful can predict healthier self-efficacy and empathy of counseling students.

Christopher et al. (2011) also found that mindfulness training offered during training years seemed to have long-term influences on their professional lives as well. It was also suggested that continuous extensive daily practice is extremely likely to enhance the skills of being mindful (Collard et al., 2008), thus essential if the counselor is interested in acquiring its many benefits. These results suggest that mindfulness is an important variable in the development of key counselor preparation outcomes (Greason & Cashwell, 2009). Providing further support for the notion that mindfulness is a skill that can be enhanced, Aggs and Bambling (2010) emphasized that mindfulness is a multidimensional construct, and could be used effectively to enhance counselors' therapeutic presence. They also affirm that integrating of mindfulness in the training curricular of mental health professionals can have increasingly positive influence on the therapist.

There was a distinction that before one uses mindfulness as a skill for their clientele, it is imperative that these professionals must first cultivate mindfulness within themselves (Rothaupt & Morgan, 2007; Stauffer & Pehrsson, 2012). These researchers emphasized that living in the present moment is not something a person merely does, but it is a whole approach to living. This is congruent with the writings on mindfulness that have constantly emphasized and supported the notion that a collection of practices is not

merely enough-it is a way of being (Bodi, 2010; Nyanaponika, 1972; Salzberg & Goldstein, 2001).

Building on this notion McCollum and Gehart (2010) emphasized the importance of "being" with the client as opposed to "doing" therapy to the client. They emphasized that one's ability to be in the moment impact balancing "being" and "doing" modes in therapy, thus fostering development of acceptance and compassion for themselves and as well as for their clients. By "being" with the clients, the trainees were more aware of the process; they were able to attend to their inner experience, were more aware of what was happening with the clients, and were able to bring them together in the therapist-client interaction.

Among the skills considered essential in conducting an effective counseling experience is strategically placed attention (Lambert & Barley, 2001; Orlinsky, Grawe, & Parks, 1994; Wampold, 2001), which assists counselors to purposefully assimilate multifaceted information through differentiating and integrating. Furthermore, it is reasonable to hypothesize that if a counselor effectually sustains attention during this process, they are likely to process (integrate and differentiate) relevant information and comprehend data in an effectual manner. As recognized in Chapter one it appears that being mindful (having mindful attention) is necessary and could have an impact on forming pertinent perceptions via differentiating and integrating information (i.e., cognitive complexity). If a counselor lacks the ability to intentionally sustain and regulate attention (i.e., to be mindful) during counseling sessions, it is likely that the task of holding and processing information (by differentiating and integrating relevant data) in that moment will be overwhelming and ineffectual. Thus, the interaction may result in a

deficiency of appropriate therapeutic presence and comprehension of significant therapeutic constructs. Hence, being mindful during a counseling session appears to be essential in facilitating/enhancing counselor capacity for cognitive complexity.

As discussed in the literature review, only a few (Duys & Hedstrom, 2000; Granello, 2002, 2010; Little et al., 2005) studies have investigated what contributes to enhancing cognitive complexity among trainee counselors or practicing counselors. The knowledge accumulated thus far on the subject was limited and undoubtedly warrants further exploring. Yet, it is noteworthy to recognize that these methods could be used for intentional facilitation of counselor's cognitive complexity during counselor training as well as furthering effectiveness of practicing counselors. As discussed, mindful attention appears to have an impact on forming pertinent perceptions via differentiating and integrating information (i.e., cognitive complexity). Therefore, the current study explored this notion by looking to see if there is a positive correlation between mindfulness and cognitive complexity, hence the position of mindfulness as a means to intentionally facilitate and accelerate cognitive complexity among counselors. Furthermore, impact of counselor observational skills, interpreting experiences, and cognitive complexities' influence on the anticipated relationship between counselor mindfulness and reflection was explored.

Chapter 3: Research Design and Methods

This study was a cross sectional investigation that explored the relationships among mental health professionals' cognitive complexity, mindfulness, and reflection. Though there have been several investigations on counselor cognitive complexity over the last two decades, its relationship to counselor mindful attention had never been explored. Similarly, the mindfulness research conducted thus far has not explored its relationship with the counselors' ability to reflect. Therefore, this study adds further knowledge to the understanding of the relationship between the variables of cognitive complexity, mindfulness, and reflection.

Furthermore, research that had been conducted so far on mindfulness has largely involves qualitative inquires. In this study the FFMQ (Baer et al., 2006) was used to measure mindfulness; an instrument that quantifies mindfulness experience, therefore this study added more strength to the field of mindfulness by providing more quantifiable information (Appendix I). Thus far, the empirical findings on cognitive complexity have been mostly survey based. In this study Three Dimensional Wisdom Scale (3D-WS; Ardelt, 2003) was used to measure cognitive complexity (Appendix I). It was theorized that wisdom can be assessed indirectly through indicators that are essential elements of the latent variable wisdom: cognitive, reflective, and affective.

Ardelt (2003) argued that in the West it was more common to use only cognitions to measure wisdom, yet in the East how individuals look at wisdom always involves affective and reflective components. Therefore, the 3D-WS has three sub scales that were operationalized to measure wisdom: cognitive, reflective, and affective (Ardelt, 2003). As discussed before, the need for cognitions and reflection had been stressed as

crucial variables in fostering cognitive complexity (Rønnestad & Skovholt, 2013; Seggelen-Damen, 2013). The affective variable had not yet been empirically linked to cognitive complexity, nor had it been identified as a key variable that fosters cognitive complexity. Yet, it is plausible that the affective variable (compassion) is as significant as cognitions and reflection due to the connectedness between individual thought processes and emotions; it is conjoined to human thinking, processing information and making perceptions. This would be a construct that adds an affective component to the cognitions and reflections, thus cognitive complexity. The three dimensions are not independent of each other, but they are not conceptually identical either. No researchers thus far have examined cognitive complexity using these three variables together to measures cognitive complexity. This study is the first to do so. In this investigation the FFMQ and the 3D-WS were used as measures. Both of these instruments have multiple variables that measure the main construct. This added further support for exploring the multidimensional nature of cognitive complexity and mindfulness among counselors.

The methods and procedures that were utilized in this investigation are further discussed in the following sections of this chapter. More specifically, participants, sampling procedures, sampling, measures, research design, and analysis plan are addressed in detail.

Participants

Participants of this investigation were mental health professionals, including counselors, psychologists, psychotherapists, and clinical social workers that described themselves as maintaining an ongoing mindfulness practice. These professionals were either licensed or unlicensed practitioners in their scope of practice, or held a professional

certification. They ranged in their years of professional experience from novice to practitioners with several years of practice. Due to the professional expectations of the helping profession, the participants held at least a master's degree or a doctoral degree. Demographics included a variety of individuals with different backgrounds; the information was collected via a questionnaire.

Most importantly participants reported having an ongoing mindfulness practice over a minimum of a two-month period and were committed to consistently incorporating mindfulness into their daily lives. The participants were likely to achieve this through maintaining personal mindfulness practices and allocated time to practice mindfulness on a daily or weekly basis, by themselves or with a group. They were likely to incorporate being mindful into their day-to-day activities of daily living and their professional lives.

Sampling Procedures

The participants were recruited via email and by contacting specific mindfulness groups around the world in seeking mental health professionals who practice mindfulness. Mindfulness groups that are inclusive to the helping professions were also contacted in recruiting participants. Therefore, the sampling procedure involved convenience sampling. After the Institutional Review Board's (IRB) approval, participants were contacted via aforementioned methods and data were collected using an online survey tool, Qualtrics. The online Qualtrics survey included an introduction, informed consent, demographic questionnaire, FFMQ, and the 3D-WS (Appendix I). The organizations and individual participants received a reminder request to participate at both the two week and four week mark after the first contact.

Sampling

According to Cohen (1988) a medium effect for regression or correlation is around .30 in standardized units, and one needs a sample size of approximately 85 to detect the effect with 80% power when using the usual two-tailed significance level of .05, thus these recommendations were followed in determining the sample size.

Measures

Two measures were utilized in this study: the FFMQ and the 3D-WS.

Five Facet Mindfulness Questionnaire (FFMQ). The FFMQ is a 39-item self-report measure of mindfulness widely used in psychological research to measure participants' ability to be mindful. Baer et al. (2006) conducted a factor analysis to identify key elements of being mindful by tabulating data from five other measures of mindfulness: Mindfulness Attention Awareness Scale (Brown & Ryan, 2003), Freiburg Mindfulness Inventory (Walach et al., 2006), Cognitive Affective Mindfulness Scale (Hayes & Feldman, 2004), Mindfulness Questionnaire (Chadwick, Taylor, & Abba, 2005), and Kentucky Inventory of Mindfulness Skills (KIMS; Baer, Smith, & Allen, 2004). As a result, Baer et al. (2006) suggested that mindfulness is multifaceted and has five key facets: observing, describing, acting with awareness, non-judging of inner experiences, and non-reactivity to inner experiences. Baer et al. explained these five key facets:

> Observing includes noticing or attending to internal and external experiences, such as sensations, cognitions, emotions, sights, sounds, and smells. Describing refers to labeling internal experiences with words. Acting with awareness includes attending to one's activities of the moment and can be contrasted with

behaving mechanically while attention is focused elsewhere (often called automatic pilot). Non-judging of inner experience refers to taking a non-evaluative stance toward thoughts and feelings. Non-reactivity to inner experience is the tendency to allow thoughts and feelings to come and go, without getting caught up in or carried away by them. (p. 330)

The FFMQ measures mindfulness through these key facets as five subscales that yield individual scores for each key facet. The five facets are combined to yield a total score, which reflects a global measure of mindfulness. In research question two, only the observing and describing facets were used to predict the counselor cognitive complexity. In research questions one and three, the total FFMQ was used to determine the relationship of mindfulness, cognitive complexity, and reflection.

Each of the 39 items of the FFMQ is measured using a 5-point Likert scale ranging from 1 (never or very rarely true) to 5 (very often or always true). Baer et al. (2006) reported that psychometric analyses have shown that the FFMQ has adequate reliability, convergent and discriminant validity, and incremental validity in the prediction of psychological symptoms. The five facet scales exhibited satisfactory internal consistency in a non-meditator sample, with alpha coefficients ranging from .75 to .91 (Baer et al. 2006).

A recent factorial analysis of the FFMQ in a heterogeneous clinical sample conducted by Curtiss and Klemanski (2014) found an internal consistency of the measure to be high for all five subscales: observe (α=.81), describe (α=.90), awareness (α=.90), non-judge (α=.92), and non-react (α=.80). Baer et al. (2006) also suggested that the five factor model is highly compatible with measuring mindfulness of experienced meditators

(Baer et al., 2008), and therefore, makes the FFMQ a suitable measure for the intended participants of this study. In answering research questions one and three, the total scores of FFMQ were used. In answering research question two, the observing and describing sub scales were used.

Three-Dimensional Wisdom Scale (3D-WS). The author of the instrument, Ardelt (2003), stated that wisdom could be comprehended in several ways, as it is multifaceted in nature. Thus, she stated that she defines wisdom as an integration of three dimensions: cognitive dimension, reflective dimension, and affective dimension (compassionate) "based on implicit theories of wisdom and explicit wisdom theories from the Eastern wisdom traditions" (p. 284). She argued that in the West it was more common to use only cognitions to measure wisdom, yet in the East how individuals look at wisdom always has affective and reflective components. She noted that "though it might be difficult or even impossible to measure wisdom per se through a standardized self-administered questionnaire, it is hypothesized that wisdom can be assessed indirectly through indicators that are essential elements of the latent variable wisdom" (Ardelt, 2003, p.276). Thus, Ardelt (2003) used cognitive, reflective, and affective dimensions (compassionate) to measure wisdom.

Prospective questions/items in measuring wisdom in the cognitive, reflective, or affective dimension were primarily selected from the *Directory of Unpublished Experimental Mental Measures*, volumes 1 through 6 (Goldman & Busch 1978, 1982; Goldman & Mitchell 1990, 1995; Goldman & Osborne 1985; Goldman & Saunders 1974, as cited in Ardelt, 2003), *Measures of Social Psychological Attitudes* (Robinson & Shaver 1973, as cited in Ardelt, 2003), and *Scales for the Measurement of Attitudes*

(Shaw & Wright 1967, as cited in Ardelt, 2003). This search resulted in 158 items (64

for the cognitive, 38 for the reflective, and 56 for the affective component of wisdom);

including 18 newly constructed items. This resulted in 14 items for the cognitive, 12

items for the reflective, and 13 items for the affective dimension of the 3D-WS. It is a

Likert type, self-administered scale.

The cognitive dimension of wisdom refers to a person's ability to understand life,

that is, to comprehend the significance and deeper meaning of phenomena and events,

particularly with regard to intrapersonal and interpersonal matters (Ardelt, 2000). Items

that belong to the cognitive component of wisdom assesses people's ability and

willingness to understand a situation or phenomenon thoroughly as well as people's

knowledge of the ambiguity of human nature and of life in general. It appears that this

description of cognitions and how theorists and experts have defined cognitive

complexity are parallel (cognitive complexity is our ability to perceive social behaviors

or situations in a multidimensional way while assessing relevant and irrelevant

information to the issues being addressed (Bieri et al., 1956; Crockett, 1965). Therefore,

using the cognitive dimension of the 3D-WS to measure cognitive complexity is

consistent with the definition of cognitive complexity.

Considering the next variable of wisdom, Ardelt (2000) stated that the reflective

dimension is a prerequisite for the development of the cognitive dimension, because a

deeper understanding of life is only possible if an individual can perceive reality as it is

without distortions. In order to do this, a person needs to engage in reflective thinking by

looking at phenomena and events from different perspectives to develop self-awareness

and self-insight. Thus, the reflective dimension measures the degree to which people try

to overcome subjectivity and projections by looking at phenomena and events from different perspectives and how much they avoid blaming other people or circumstances for their present situation (Ardelt, 2000). There is some overlap between this and the description and cognitive complexity as well. Moreover, Seggelen-Damen (2013) found a significant relationship between reflection and cognitive complexity; the higher the degree of reflection, the more cognitively complex outcomes were produced. Identified as a metacognitive ability (Seggelen-Damen, 2013) the quality of reflection depends on counselor's capacity for cognitive complexity to a greater degree (Rønnestad & Skovholt, 2013). Thus, by measuring an individual's reflective ability, the capacity for cognitive complexity is also measured.

The third variable in the 3D-WS is the affective dimension. Items for the affective dimension assess the presence of positive emotions and behavior toward other beings, such as feelings and acts of sympathy and compassion, and the absence of indifferent or negative emotions and behavior toward others. This is a construct that adds an affective component (compassion) to the cognitive and reflective dimensions of wisdom. Following Ardelt's (2003) directions, this researcher also measured the affective dimension, adding an affective component to cognitive complexity.

Ardelt (2003) stated that these three dimensions do not exist independently of each other, nor they are conceptually identical. Thus, she used these three variables to measure wisdom indirectly. There is a significant parallel between cognitions and cognitive complexity; reflection and cognitive complexity, and the theorization that reflection being a prerequisite for cognitive complexity support choosing the 3D-WS to measure cognitive complexity. Following Ardelt's (2003) directions, this researcher also

decided to utilized the affective dimension in measuring cognitive complexity, adding an affective component to cognitive complexity.

In developing the 3D-WS, Ardelt (2003) conducted quantitative and qualitative interviews with an adult sample (n = 180) of close-knit social groups. Ardelt stated that the accuracy of the scale (validity) was determined through construct, content, predictive, discriminant, and convergent validity. Stability or constancy of a scale (reliability) was evaluated by Cronbach's alpha, the correlation between indicators, confirmatory factor analysis to take measurement error into account, and the test-retest reliability of the scale. Ardelt reported that overall, empirical tests indicated that the 3D-WS is a valid and reliable instrument and a promising measure of adults' indicators of the latent variable wisdom.

The items in each domain were sufficiently correlated with each other (30 to .50) and resulted in Cronbach's alpha values for the cognitive, reflective, and affective dimensions of the 3D-WS were .78, .75, and .74, respectively, at time 1; and of .85, .71, and .72, respectively, at time 2, which confirmed the internal reliability of the three dimensions of wisdom.

Using confirmatory factor analysis, which takes measurement error into account, the factor loadings of the cognitive, reflective, and affective effect indicators of the 3D-WS were statistically significant, with standardized values ranging from .50 to .84. The 3D-WS correlated significantly with the wisdom scale based on the cognitive, reflective, and affective ratings by three independent judges of the qualitative interviews before and after the interviews (.41, .45). Ardelt (2003) reported that 3D-WS is unrelated to the respondents' marital and retirement status, gender, race, per capita income, and a social

desirability index. However, it was significantly and positively correlated with education

(.21) and the status of the longest-held occupation (.19). The 10-month test-retest

correlation of the 3D-WS was .85, which suggested that wisdom is relatively stable over

short periods of time.

As mentioned before taking the significant overlap between cognitions, reflection

and cognitive complexity in to consideration; wisdom and cognitive complexity, this

researcher decided to measure cognitive complexity via these three variables. Following

Ardelt's (2003) directions, this researcher also utilized the affective dimension in

measuring cognitive complexity, adding an affective component to cognitive complexity.

Accordingly, the researcher utilized the 3D-WS to measure cognitive complexity.

Research Design and Analysis

One of the primary purposes of this investigation was to determine if there is an

empirical correlation between counselors' mindfulness and their level of cognitive

complexity; in which mindfulness is the independent variable and cognitive complexity is

the dependent variable. This inquiry guided the first research question. As mentioned in

Chapter 1 and Chapter 2, there have been a few researchers who investigated (Duys &

Hedstrom, 2000; Granello, 2002; Little et al., 2005) what may further facilitate advanced

counselor cognitive complexity, yet being mindful has not been explored so far as a

constituent aiding counselors ability for cognitive complexity.

As explained in the introduction the significant overlap between attention and

mindfulness, and attention and cognitive complexity suggests that there could be a

possible relationship between the independent variable and the dependent variable.

Hence, hypothesis one was that there is a positive correlation between the independent

variable and the dependent variable. A Pearson's correlation was conducted to determine if there is a correlation between these two variables.

Research Question 1. Is there a correlation between mindfulness and cognitive complexity?

Hypothesis 1. There is a positive correlation between mindfulness and cognitive complexity.

Secondly, this study explored if a counselor's ability to observe and describe their experiences could predict counselor's level of cognitive complexity. Observing was defined as being aware of or attending to internal and external experiences, such as sensations, cognitions, emotions, sights, sounds, and smells. Referring back to the TCCM model's (Owen & Lindley, 2010) three levels of cognitive complexities (session thoughts, metacognitions, and epistemic cognitions) are the basic cognitions used by counselors that include observations of client behaviors and changes that occur through the counseling process (Owen & Lindley, 2010). Session thoughts reflect the ability to recognize session activities, differentiate between activities, and integrate salient versus irrelevant information via meticulous and mindful observation. More importantly, an effective counselor has to have the ability to recognize a variety of pertinent characteristics about the client (Welfare, 2007; Wilkinson, 2013) and that requires superior observation skills (Greason & Cashwell, 2009). Metacognitions also demand therapists' ability to observe their progress when engaged in session thoughts or to evaluate their own thoughts and reactions as they occur in the session (Owen & Lindely, 2010). Therefore, it was safe to conclude that effective observation skills are one of the most primary roots of forming perceptions and much needed in counseling.

Another significant factor found in developing mindfulness was the ability to describe

one's own experiences (Baer et al., 2008). Describing was defined as identifying internal

experiences with words. Furthermore, when an individual constructs perceptions from

multiple data, observing and describing experiences are essential functions. These two

variables could be detrimental to counselor's ability to be cognitively complex, because

to differentiate and integrate information (i.e., cognitive complexity) the counselor must

be able to pay attention, observe what the clients are saying (verbally and non-verbally),

and be able to describe these experiences cognitively. Describing and observing are two

of the five key facets of mindfulness (Baer et al., 2006). Though not explored yet, it

appears that the experts point out these two variables play a significant role in making

perceptions (Greason & Cashwell, 2009; Owen & Lindley, 2010; Welfare, 2007;

Wilkinson, 2013). In developing perceptions, integration and differentiation of multiple

data (i.e., cognitive complexity) are key processes, thus these two variables are likely to

play a significant role in one's level of cognitive complexity. Due to their rudimentary

nature, it is highly likely that these two variables could predict one's level of cognitive

complexity.

Examining the scores of the two subscales of describing and observing in the

FFMQ assisted in discovering the level of cognitive complexity. Heppner, Wampold,

and Kivlighan (2008) noted that out of the three basic methods of entering independent

variables in regression equations, simultaneous multiple regression is the best way to

investigate the amount of variance that each independent variable uniquely contributes to

the prediction of the dependent variable. In this method there is no basis for entering any

particular independent variable before any other independent variable, thus the two

variables are concurrently entered (simultaneously; Heppner et al., 2008). This was examined through an analysis of a simultaneous multiple regression.

Research Question 2. Could counselor ability for observing and describing an experience predict counselor cognitive complexity?

Hypothesis 2. Counselor ability of observing and describing an experience will predict counselor cognitive complexity.

Thirdly, this study explored if there is a correlation between counselors' mindfulness and their ability to be reflective. Capacity for reflection is an important variable that foster counselor development (Rønnestad & Skovholt, 2013). Along with being mindful, a counselor's ability to reflect appears to be important in providing effective counseling services. Reflection has been recognized as "a continuous and focused search for a more comprehensive, nuanced, and in-depth understanding of oneself and others, and of the processes and phenomena that the practitioner meets in his or her work experiences" (Rønnestad & Skovholt, 2013, p.149). Reflection has been found to be essential in interpreting and evaluating novel or day-to-day mundane experiences and it is a broad concept that includes thinking about the counselor's life sphere comprehensively (Rønnestad & Skovholt, 2013).

Due the introspective nature of being mindful, there is a high possibility that being mindful (independent variable) may have stronger association to one's reflection (dependent variable). Therefore, this investigation explored if there is a correlation between these two variables: mindfulness and reflection. A Pearson's correlation was conducted to determine if there is a correlation between these two variables.

Research Question 3. Is there a correlation between counselors' mindfulness and their ability to be reflective?

Hypothesis 3. There is a positive correlation between mindfulness and reflection. The level of significance that will be used to accept or reject hypotheses one, two, and three will be 0.05.

Summary

In sum, this was a quantitative cross-sectional investigation that explored the relationship among mental health professionals' levels of cognitive complexity, mindfulness, and reflection. Since there had not been an investigation that examined these key variables and their relationships, this study adds further knowledge in understanding these variables. The methods and procedures that were utilized in this investigation have been discussed in detail in the sections of this chapter: participants, sampling procedures, sampling, measures, research design, and analysis plan. Anticipated findings were discussed in hypothesis one through three.

Chapter 4: Findings

In this chapter demographics, preparing data for analysis, reliability, assumptions of the test statistics, and findings of the data analysis are discussed.

Following IRB approval, organizations and participants were contacted electronically, inviting them to take the online survey that was created using Qualtrics, an online survey tool. As per data collection method, this was a convenience sample; participants represented an international sample and were from United States, Australia, United Kingdom, New Zealand, Canada, Spain, Netherlands, Norway, Sri Lanka, Italy, and Mexico.

Demographics

Out of the total sample ($N = 125$), 84 participants identified themselves as female (68%), 39 as male (31%), and 1 (1%) as gender queer. The minimum age reported was 24 years and maximum age reported was 82 years ($M = 46.19$, $SD = 12.80$). Participants identified themselves as Native American ($n = 2$, 2%), Asian ($n = 11$, 9%), Black or African American ($n = 1$, 1%), Latino/Hispanic ($n = 9$, 7%), White ($n = 92$, 74%), and Mixed ($n = 6$, 5%).

Most of the participants were master's level professionals (n = 79, 63%) followed by doctoral level professionals (n = 40, 32%); a few participants reported having a specialist degree (n = 3, 2.5%) and other related degrees (n = 2, 2%). Participants of this investigation were primarily mental health therapist/counselors ($n = 33$, 26%), psychologists ($n = 22$, 18%), psychotherapists ($n = 9$, 7%), and the rest of the sample was comprised of clinical social workers, marriage and family therapists, psychiatrists, psychiatric nurses, and pastoral counselors (Table 1). A high percentage of the

professionals were licensed practitioners (80%) in their scope of practice. They ranged in their years of professional experience from one year to 40 years ($M = 14$, $SD = 10.01$).

Participants self-selected for the study, asserting that they maintain an ongoing mindfulness practice, which ranged from one to 43 years ($M = 11.43$, $SD = 9.32$). They reported practicing a combination of mindfulness practices: mindful awareness (70%), breathing (53%), insight meditation (51%), movement meditation (34%), body scan (30%), mindful eating (20%), open awareness (20%), concentration meditation (19%), visualization (18%), and transcendental meditation (2%). Most of the participants stated that they practice mindfulness more than once a day (31%), or once a day (34%), or two of more times a week (22%); a higher percentage of the participants reported time spent practicing at a time to be 21-30 minutes (34%), where 30% of the participants reported that to be less than 20 minutes, and 21% reported practice time to be between 31-60 minutes. A high number of professionals (81%) reported attending mindfulness workshops minimally. A majority of the professionals who attended workshops reported that they attend these workshops at least two times a year (28%) or once a year (31%).

Preparing Data for Analysis

The online Qualtrics survey included an introduction, informed consent, demographic questionnaire, FFMQ, and the 3D-WS (Appendix I). The FFMQ (Baer et al., 2006) was used to measure mindfulness; an instrument that quantifies mindfulness experience. The 3D-WS (Ardelt, 2003) was used to measure cognitive complexity (rationale provided in methods section). The 3D-WS has three sub scales that were operationalized to measure wisdom: cognitive, reflective, and affective (Ardelt, 2003).

The collected data were converted into a database in SPSS version 22 (IBM Corp., 2013). In the data cleaning process, data were screened for errors or values that fell outside the range of possible values for a particular variable. The frequencies of each variable were checked for errors. Accordingly, the data were cleaned for analysis. For example, some participants wrote their age in words; these were converted in to numeric figures for analysis. Items that needed reverse coding (FFMQ Describe items—12, 16, 22: Awareness items—5, 8, 13, 18, 23, 28; and Nonjudge items—34, 38, 3, 10, 14, 17, 25, 30, 35, 39; 3D-WS Reflective items—B1, B3, B5, B17, B20; and Affective items— A12, B2, B6) were checked for accuracy before creating the subscales.

Next, sub scales were created in preparing data for analysis (FFMQ: observing, describing; 3D-WS: cognitive, reflective, and affective). For the FFMQ observing scale, items 1, 6, 11, 15, 20, 26, 31, 36 were combined to create the scale score. For the describing scale, items 2, 7, 12R, 16R, 22R, 27, 32, 37 were combined to create the scale score. For the Act with Awareness scale, items 5R, 8R, 13R, 18R, 23R, 28R, 34R, 38R were combined to create the scale score. For the Nonjudge scale, items 3R, 10R, 14R, 17R, 25R, 30R, 35R, 39R were combined to create the scale score. For the Nonreact scale, items 4, 9, 19, 21, 24, 29, 33 were combined to create the scale score. A scale for the total mindfulness score was also created, yielding a composite score for mindfulness that included the total of the five sub scales (observing, describing, acting with awareness, non-judging, and non-reacting; Baer et al., 2006).

As per Ardelt (2003), the 14 items of the cognitive dimension assessed cognitive wisdom, such as the ability or willingness to understand a situation or phenomenon thoroughly (A1, A9, A11, B7, B13, B16, B23), the acknowledgement of ambiguity,

complexity, and uncertainty in life (A3, A5, A7, A13, A15, B10), and the ability to make important decisions despite life's unpredictability (B19). The 12 items of the reflective dimension assessed the ability and willingness to look at phenomena and events from different perspectives (B1R, B3R, B5R, B14, B17R, B20, B24) and the absence of subjectivity and projections (A6, A10, B8, B11, B22). The 13 items of the compassionate (affective) dimension assessed positive and caring emotions toward others (A12R, B6R), the motivation to nurture others' well-being (A14, B2, B9, B18), and the absence of indifferent or negative emotions toward others (A2R, A4, A8, B4, B12, B15, B21). Next, the scales for each dimension were created. To do this, I computed the average of the 14 cognitive items to get the score for the cognitive dimension, the average of the 12 reflective items to get the score for the reflective dimension, and the average of the 13 affective items to get the score for the affective dimension. Next an overall wisdom score was created by calculating the average of the three dimensions of the 3D-WS; that is, the average of the three averages (as per Ardelt, 2003). As previously described this composite wisdom score was used to measure the construct of cognitive complexity.

Reliability

To test the psychometric properties of the two key variables of mindfulness used in this study, Cronbach's alpha values for each of the two dimensions were examined: Observing ($\alpha = .78$), and Describing ($\alpha = .89$). Cronbach's alpha values of .70 or .80 is an acceptable value (Field, 2009). Therefore, these values were acceptable and reasonably high.

To test the psychometric properties of the 3D-WS, Cronbach's alpha values for each of the three dimensions were examined: cognition dimension (α = .83), reflective dimension (α = .79), affective dimension (α = .70). Cronbach's alpha values for all three subscales were reasonably high, which supported internal reliability.

To examine reliability, Ardelt (2003) stated that the three dimensions should significantly correlate with each other with a Pearson's correlation coefficient of .30 or higher. In this study the yielded Pearson's correlation coefficient for the three variables indicated that there is a strong correlation between all three variables: cognitive and reflective dimensions (r = .63, p < .01); cognitive and affective dimension (r = .65, p < .01); reflective and affective dimensions (r = .68, p < .01). These values indicated the respectable internal reliability of the instruments.

Assumptions

The statistical tests that were used to answer the research questions for this study were Pearson's correlation and simultaneous multiple regression. Below, the major assumptions of these two tests are discussed.

Sample size. If a sample size is less than what is standard for a multiple regression, it is likely that the results would not be generalizable to the population (Heppner el al., 2008). According to Cohen (1988), a medium effect for regression or correlation is around .30 in standardized units, and one needs a sample size of approximately 85 to detect the effect with 80% power when using the usual two-tailed significance level of .05. In following these recommendations to gather a sample size of 85 or more, this study utilized a sample size of 114, which exceeded the 85 required participants.

Normality, linearity, homoscedasticity, and independence of residuals. In

order to consider the various aspects of the distribution scores and the underlying

relationship between the variables, the following assumptions were examined.

Regression assumes that variables have normal distributions. Non-normally distributed

variables (highly skewed or kurtotic variables, or variables with substantial outliers) can

distort relationships and significance tests (Osborne & Waters, 2002). Data were visually

screened for variations of normality, and no significant variations from normality were

found.

To accurately estimate the relationship in multiple regressions, the relationship

between the dependent and independent variables needs to be linear in nature. If the

relationship between independent variables and the dependent variable is not linear, the

results of the regression analysis will underestimate the true nature of the relationship

(Osborne & Waters, 2002). Accordingly, linearity was visually inspected utilizing a

scatterplot: The relationship between the independent (mindfulness) and the dependent

(cognitive complexity) variables was linear in nature.

Homoscedasticity means that the variance of errors is the same across all levels of

the independent variable (Osborne & Waters, 2002). This was examined visually using a

residual scatterplot, and residuals were randomly scattered around the horizontal line

providing a relatively even distribution. Checking for independence of residuals (having

a model that is independent of error terms) also revealed no concerns.

Multicollinearity exists when there is a strong correlation between two or more predictors

in a regression model. If there is a perfect collinearity between predictors it becomes

impossible to obtain unique estimates of the regression coefficients because there are an

infinite number of combinations of coefficients that would work equally well; with two

perfectly correlated predictor variables the value of b for each variable would be the

same. Low levels of collinearity pose little threat to the regression model. In this study,

the correlation between observing and describing was tabulated; $r = .45, p < .01$.   This is

a medium correlation, and the level of threat was not significant. Moreover, the Variance

inflation factor, also known as the *VIF* value was 1.2; therefore, multicollinearity was not

detected as a threat.

Research Question One

One of the primary purposes of this investigation was to determine if there is a

correlation between counselors' mindfulness and their level of cognitive complexity;

where mindfulness is the independent variable and cognitive complexity is the dependent

variable. As described in Chapter one, the significant overlap between attention and

mindfulness and attention and cognitive complexity found in previous literature

suggested that there could be a relationship between the independent variable and the

dependent variable. Hence, hypothesis one was that there would be a positive correlation

between the independent variable and the dependent variable.

Research Question 1. Is there a correlation between mindfulness and cognitive

complexity?

Hypothesis 1. There is a positive correlation between mindfulness and cognitive

complexity.

A Pearson's correlation was conducted to determine if there is a correlation. The number

of professionals included in the study was 125, but not all participants answered every

survey question. Therefore, the sample for the Pearson's correlation was 114. A

correlation coefficient reflects the amount of variability that is shared between two variables and what they have in common. There was a strong positive relationship between mindfulness and cognitive complexity (Table 2), $r = .65$, $p < .000$ ($n = 114$); hence hypothesis one was supported. The effect size was r squared: .43. This was a moderate effect size, which indicates the relative position of one variable to another or the magnitude of how much they overlap with each other. The further the value of the effect size is from zero, the stronger the effect; a large effect size reflects the increasing lack of overlap between the two variables. In this case, this means that 43% of the variability in the total score of cognitive complexity was accounted for by the variability in the total score of mindfulness *alone*. Accounting for 43%, that is nearly half, the variability of cognitive complexity: This is noteworthy and clinically meaningful. Because nearly 43% of the variation in cognitive complexity is accounted for by mindfulness, mindfulness has a good amount of explanatory power.

Research Question Two

The second research question was if a counselor's ability to observe and describe their experiences (two key facets of mindfulness) could predict a counselor's level of cognitive complexity. Observing was defined as being aware of or attending to internal and external experiences, such as sensations, cognitions, emotions, sights, sounds, and smells (Baer et al., 2008). The ability to describe one's own experiences (Baer et al., 2008) was defined as identifying internal experiences with words. These two variables could play a key role in making perceptions due its rudimentary nature in processing information; thus, it was highly likely that these two variables could predict a counselor's levels of cognitive complexity.

Research Question 2. Could counselor ability for observing and describing an experience predict counselor cognitive complexity?

Hypothesis 2. Counselor ability of observing and describing an experience will predict counselor cognitive complexity.

The scores of describing and observing, the two subscales in the FFMQ were used to discover this. Heppner, Wampold, and Kivlighan (2008) noted that out of the three basic methods of entering independent variables in regression equations (simultaneous, hierarchical, and stepwise), simultaneous multiple regression would be the best way to investigate the amount of variance of each independent variable that would uniquely contribute to the prediction of a dependent variable. In this method there was no basis for entering any particular independent variable before any other independent variable, thus the two variables were concurrently entered (simultaneously; Heppner et al., 2008).

Thus, this was examined through an analysis of a simultaneous multiple regression. The number of professionals included in the study was 125, but not all participants answered every survey question. Therefore, the sample for the simultaneous multiple regression was 114.

The overall model (Table 3) was significant, $F(2, 103) = 28.58$, $p<.001$ (Table 4). F ratio is a measure of how much the model has improved the prediction of the outcome compared to the level of inaccuracy of the model; hence, if the F ratio is larger (than 1) the model is considered to be a good fit (Field, 2009). The relationship between a set of independent variables and a dependent variable is expressed as the multiple correlation coefficient R, which is a measure of how well the predictor scores corresponds to the actual dependent variables (Heppner et al., 2008). In this study, $R = .597$, represented a

simple relationship between the predictor variables and the dependent variable. The

square of the multiple correlation coefficient (R^2) was the proportion of variance in the

dependent variable explained by the independent variables (Heppner et al., 2008). In this

study, the R^2 = .36, meaning that the predictor variables accounted for 36% variation in

predicting cognitive complexity; thus, 64% of the variation in predicting cognitive

complexity cannot be accounted by the predictor variables of this study alone; thus, there

could be other variables that account for this association.

Observing was the significant predictor of counselor cognitive complexity, β =

.54, p<.001 (Table 5). A unit increase of one in observing was associated with a unit

increase of .41 in cognitive complexity. In other words, as a professional increases their

observing skills by one unit, the same professional would likely notice an increase in

their cognitive complexity by .41 units. The describing subscale did not significantly

predict cognitive complexity, β = .11, p<.21. Thus, hypothesis two was partially

supported.

Research Question Three

Third, the question if there is a correlation between counselors' mindfulness and

their ability to be reflective was explored. Reflection has been recognized as "a

continuous and focused search for a more comprehensive, nuanced, and in-depth

understanding of oneself and others, and of the processes and phenomena that the

practitioner meets in his or her work experiences" (Rønnestad & Skovholt, 2013, p.149).

Reflection has been found to be essential in interpreting and evaluating novel or day-to-

day mundane experiences (Rønnestad & Skovholt, 2013). Due to the introspective nature

of being mindful, there is a high possibility that being mindful (independent variable)

could have a strong association to an individual being reflective (dependent variable).

Therefore, this study explored if there is a correlation between these two variables:

mindfulness and reflection.

Research Question 3. Is there a correlation between counselors' mindfulness and

their ability to be reflective?

Hypothesis 3. There is a positive correlation between mindfulness and reflection.

A Pearson's correlation was conducted to determine if there is a correlation

between these two variables. The number of professionals included in the study was 125,

but not all participants answered every survey question. Therefore, the sample for the

Pearson's correlation was 114. A correlation coefficient reflects the amount of variability

that is shared between two variables and what they have in common.

There was a strong positive relationship between mindfulness and reflection

(Table 6), $r = .67$, $p < .000$ ($n = 114$); hence hypothesis three was supported. The effect

size was r squared: .45. This was a moderate effect size, which indicated the relative

position of one variable to another, or in other words the magnitude of how much they

overlap with each other. The further the value of effect size is from zero, the stronger the

effect. A large effect size reflects the increasing lack of overlap between the two

variables. In this case, this means that 45% of the variability in the total score of

reflection was accounted for by the variability in the total score of mindfulness

alone. Accounting for 45%, that is nearly half, the variability of reflection: This is

noteworthy and clinically meaningful. Because nearly 45% of the variation in cognitive

complexity is accounted for by mindfulness, mindfulness has a good amount of

explanatory power.

Summary

Almost all of the hypotheses of this study were as supported. As mentioned in the beginning of this chapter several steps were taken to prepare and clean the data for analysis. Next, the data were examined to see if the assumptions for multiple regression and correlation were met and if there were any violations to these assumptions; no violations were detected. For the research question one, a Pearson's correlation was conducted to determine if there is a correlation between mindfulness and cognitive complexity: There was a strong positive correlation between mindfulness and cognitive complexity, $r = .65$, $p < .000$ ($n = 114$). This finding supported the hypothesis one.

For the second research question, an analysis of a simultaneous multiple regression was conducted to determine if observing and describing (two mindfulness key variables) could predict counselor overall cognitive complexity. The findings indicated the model was significant, $F(2, 103) = 28.58$, $p<.001$, and, R = .597. The $R^2 = .36$, meaning that the predictor variables accounted for 36% variation in predicting cognitive complexity. The observing subscale significantly predicted counselor cognitive complexity, $\beta = .54$, $p<.001$. The describing subscale did not significantly predict cognitive complexity, $\beta = .11$, $p<.21$. Thus, hypothesis two was partially supported.

For the third research question, a Pearson's correlation was conducted to determine if there is a correlation between mindfulness and reflection. There was a strong positive relationship between mindfulness and reflection, $r = .67$, $p < .000$ ($n = 114$). Chapter five provides a discussion of the findings. This finding supported the third hypothesis.

Chapter 5: Discussion of Findings

Introduction

Nearly, all of the hypotheses were supported in this cross-sectional quantitative investigation that explored the relationships among mental health professionals' cognitive complexity, mindfulness, and reflection. While there have been several empirical investigations on counselor cognitive complexity thus far (Borders, 1989; Duys & Hedstrom, 2000; Granello, 2002; 2010; Goldberg, 1974; Little et al., 2005; Lovell, 1999; McAuliffe & Lovell, 2006; Rønnestad & Skovholt, 2013; Vidas, 2008; Wendler & Nilsson, 2009), its relationship to counselor mindfulness has not been explored. Similarly, the mindfulness research conducted thus far had not explored its relationship with the counselor's ability to reflect.

Following IRB approval, organizations that publicly acknowledged mindfulness as a key practice of their organization were contacted via email, inviting them to distribute the online survey that was created using Qualtrics among their staff or employees. The collected data were analyzed to answer the research questions of this study; results were presented in Chapter four. This fifth chapter presents a discussion of the findings: A brief overview of the study, findings of research questions, limitations of the study, and recommendations for further research and practice is discussed.

Overview of the Study

Conceptualizing and evaluating client concerns to provide effectual treatment in counseling is often a complex process, mainly because of the variables that influence client issues are multifaceted (Stoltenberg et al., 1998; Welfare, 2007). Counselors have to be aware of the multifaceted nature of client concerns and manage the complex nature

of these concerns in providing effective services to their clients. In doing so it is indispensable that a counselor has the ability to comprehend intricate information in order to recognize these numerous therapeutic variables. In comprehending such information to provide therapeutic client services, counselor cognitive ability is unquestionably a significant variable. Therefore, navigating complexities in the counseling process requires a counselor whom has the capacity to utilize advanced cognitive ability (Stoltenberg et al., 1998), more specifically, cognitive complexity (Welfare, 2007). Cognitive complexity, a term coined by Bieri (1955), is defined as individual's ability to formulate an understanding of social behaviors in a multidimensional way (Bieri et al., 1956). Crockett (1965) also defined cognitive complexity as individual's ability to perceive a situation utilizing multiple angles while assessing relevant and irrelevant information to the issues being addressed. To formulate a better understanding about their clients, counselors, too, need to utilize multidimensional viewpoints.

Among the skills considered essential in conducting such a task is strategically placed attention during a session; strategically placed attention assists counselors to purposefully process multifaceted information. Negligence in cultivating attention may result in decreased counseling self-efficacy, increased anxiety, decreased counseling performance, and decreased ability to learn new skills (Bandura, 1986; Larson & Daniels, 1998). Furthermore, it is logical to hypothesize that if a counselor is unable to sustain attention during this process, they are less likely to process relevant information and comprehend information in an effective manner. Therefore, strategically controlling attention during this process is imperative in better understanding client variables. As

discussed in Chapter one, there is a huge overlap between mindfulness and attention; directing attention intentionally is an important part of being mindful.

Mindfulness has been defined as a process of intentionally placing attention on the present moment with a non-evaluative stance and acceptance (Allen et al., 2006; Bishop et al., 2004; Shapiro et al., 2006). According to these scholars attention is an important variable in being mindful. Also, mindfulness is known as the clear and single-minded awareness of what actually happens to an individual and what happens within an individual at the successive moments of perception (Nyanaponika, 1972). Due to this awareness, the ability to pay attention to the situation at hand becomes possible. When a counselor is working with a client, being in the present moment, being aware of what is happening, actively paying attention, and regulating their attention (being mindful) in response to the client's story is vital in forming accurate perceptions. It appears that being mindful could be necessary and has an impact on forming pertinent, accurate, and realistic perceptions utilizing information gathered from multidimensional angles (i.e., cognitive complexity). Thus, being mindful during a counseling session is likely a necessary component in facilitating counselor capacity for cognitive complexity.

The purpose of the current investigation was to determine if there is a relationship between counselor cognitive complexity and mindfulness. In addition, this investigation also explored if counselor's ability in observing and describing experiences, which are two key variables of mindfulness (Baer et al., 2008), could predict counselor cognitive complexity.

Capacity for reflection is another important variable that fosters counselor development (Rønnestad and Skovholt, 2013). Reflection is essential in understanding

and evaluating novel or day-to-day mundane experiences and impacts the counselor's process of making pertinent perceptions of their clients. Along with being mindful, the counselor's ability to reflect appears to be important in providing effective counseling services. Furthermore, due the introspective nature of being mindful there is a high probability that being mindful may increase (or further facilitate) one's ability to be reflective. Therefore, this investigation also explored the relationship between being mindful and the counselor's ability to reflect.

Multiple regression and correlation were the statistical tests utilized in this study. To prepare and clean the data for analysis, several steps were taken; data were examined to see if the assumptions for multiple regression and correlation were met and if there were any violations to these assumptions; assumptions were met and no violations were detected. For the research question one, a Pearson's correlation was conducted to determine if there was a relationship between mindfulness and cognitive complexity. For the second research question, a simultaneous multiple regression was conducted to determine if observing and describing (two mindfulness key variables) could predict counselor overall cognitive complexity. For the third research question, a Pearson's correlation was conducted to determine if there was a relationship between mindfulness and reflection.

Discussion of Results

As previously discussed, though there have been several investigations on counselor cognitive complexity over the last two decades, its relationship to counselor mindfulness had not yet been empirically explored. Similarly, the mindfulness research conducted thus far has not explored its relationship with counselor ability to reflect.

Therefore, this study looked at the relationship among cognitive complexity, mindfulness and reflection. This section begins with a discussion of the findings presented in this study for each research question and how they relate to the literature.

Research Question One

One of the primary purposes of this investigation was to determine if there was a correlation between counselors' mindfulness and their level of cognitive complexity. Cognitive complexity is defined as individual's ability to formulate an understanding of social behaviors in a multidimensional way (Bieri et al., 1956). Crockett's (1965) definition states that cognitive complexity is the individual's ability to perceive a situation utilizing multiple angles while assessing relevant and irrelevant information to the issues being addressed. Mindfulness has been defined as a process of intentionally placing attention on the present moment with a non-evaluative stance and acceptance (Allen et al., 2006; Bishop et al., 2004; Shapiro et al., 2006). Scholars who were primarily influenced by the Western conceptualization of mindfulness and research practices presented this definition of mindfulness. According to these scholars, attention is an important variable in being mindful. Also, presenting an Eastern perspective Nyanaponika (1972) defined mindfulness as the clear and single-minded awareness of what actually happens to an individual and what actually happens within an individual at the successive moments of perception; due to this awareness, the ability to pay attention to the situation at hand becomes possible. Maintain that awareness is recognized as a skill that an individual can master. There is great overlap between attention and mindfulness.

Moreover, it was noted that an effective counselor recognizes a variety of pertinent characteristics about the client (Welfare, 2007; Wilkinson, 2011). Among the skills considered essential in conducting such a task is strategically-placed attention during a session (Lambert & Barley, 2001; Orlinsky et al., 1994; Wampold, 2001). Recognized as an internal skill (as opposed to external skills such as reflecting content, paraphrasing, summarization; Greason & Cashwell, 2009), strategically-placed attention assists counselors to purposefully process multifaceted information in perceiving a situation utilizing multiple angles (i.e., cognitive complexity). Accordingly, there appears to be an association between attention and cognitive complexity. Therefore, it was logical to assume that there could be a relationship between mindfulness and cognitive complexity, which led to this study.

Furthermore, it is logical to postulate that when a counselor is in the process of formulating an understanding of their client's social behavior in a multidimensional way (i.e., definition of cognitive complexity), they need to pay attention at a given moment. Hence, hypothesis one was that there would be a positive correlation between mindfulness and cognitive complexity. Findings indicated that there is a strong positive correlation between mindfulness and cognitive complexity affirming the hypothesis that guided this study. However, this was the first study to explore the relationship between these two variables.

Past research has explored the significance of cognitive complexity and its role in counselor education. Addressing the imperative nature of cognitive complexity in counselor development Rønnestad and Skovholt (2013) theorized that having a capacity for cognitive complexity enabled counselors to further reflect on experiences in the

professional life sphere and engage in metacognitions that promote optimal professional development. Past research (Borders, 1989; Duys & Hedstrom, 2000; Granello, 2002; 2010; Goldberg, 1974; Little et al., 2005; Lovell, 1999; McAuliffe & Lovell, 2006; Rønnestad & Skovholt, 2013; Vidas, 2008; Wendler & Nilsson, 2009) also addressed the crucial role of counselor cognitive complexity (an indicator of one's cognitive development) upon counselor's therapeutic presence during counseling sessions and how cognitive complexity may influence their performance efficacy. Moreover, these researchers concluded that the level of cognitive complexity among counselor trainees is positively correlated with many factors that help increase a counselors therapeutic efficacy including one's ability to formulate clinical hypotheses, perceive clients in more complex terms, provide appropriate feedback to the client, remain objective during sessions, perform better in ambiguous circumstances and environments, develop greater self-efficacy, create greater self-other awareness, and find working with their clients less difficult.

Due to the correlation between cognitive complexity and mindfulness, it is reasonable to state that that a mindful counselor could be more cognitively complex. This is a strong correlation that cannot be overlooked. Along with other factors, researchers (Aggs & Bambling, 2010; Christopher et al., 2011; Collard et al., 2008; Greason & Cashwell, 2009; Grepmair et al. 2006; Grepmair et al. 2007; McCollum & Gehart, 2010; Newsome et al., 2006; Rothaupt & Morgan, 2007; Salzberg & Goldstein, 2001; Schure et al., 2008; Stauffer & Pehrsson, 2012) found that mindfulness is also a key contributing factor that help increase counselor therapeutic efficacy. Nevertheless, the findings of this study indicate that mindfulness has a positive relationship with cognitive complexity,

which implies that when a counselor is mindful they are able to process multifaceted information of their clientele and perceive a situation utilizing multiple angles. This, too, can contribute to the overall therapeutic efficacy of the counselor.

Evidence also suggests that certain classes nurture and accelerate counselor trainee's cognitive complexity; specifically, having a practicum/internship or a counseling skills courses may help build cognitive complexity. These courses could be used as methods of intentional facilitation of trainee cognitive complexity. The majority of empirical findings supported the notion that there is at least some advancement in the counselor trainee's level of cognitive complexity over the course of their training. A general assumption that has been supported by research over the years is that cognitive complexity among counselors has been understood as a natural developmental progression gained with experience. Though, the imperative nature of cognitive complexity in counseling has been recognized, there is limited research exploring how ones level of cognitive complexity is enhanced and what contributes to increased cognitive complexity.

Addressing this concern, a few researchers (Duys & Hedstrom, 2000; Granello, 2002; Little et al., 2005) found that counseling skills training and participation in practicum and internship would significantly enhance counselor trainee's level of cognitive complexity. The researchers attributed the increased cognitive complexity levels by counselor trainees to the supervision received and experiential counseling activities. Furthermore, the number of years practicing in the counseling profession has been identified as the best predictor of counselor cognitive complexity (Granello, 2010). The researchers clarify that it is not the years of experience that contribute to having

higher levels of cognitive complexity per se, but what is linked to having higher levels of

cognitive complexity is the counselor's amount of engagement in the profession no

matter the area of professional practice is (i.e., clinical, educational, supervision). Thus,

counseling skills training, participation in practicum, and internship could be used with

intent to purposefully increase counselors and trainees levels of cognitive complexity.

In this study, a significant percentage of participants who had higher scores in

mindfulness scale also had high scores in their cognitive complexity scores. Finding that

there is a strong positive correlation between cognitive complexity and mindfulness

among practicing counselors is noteworthy. This aligns with the research hypothesis that

was driven by conceptualized overlaps and parallels between attention, mindfulness, and

cognitive complexity that was discussed earlier. Though, there were no specific research

findings thus far to affirm this (this is the first study to do so), findings are not

contradicting to the past research either. Finding that there is a correlation between

mindfulness and cognitive complexity, advances the body of cognitive complexity

research further. This adds more information about variables that could contribute to

having enhanced levels of cognitive complexity. Due to the enhanced levels of cognitive

complexity this relationship too will assist in enriching counselor therapeutic presence

with their clients, resulting effective therapeutic outcomes (Borders, 1989; Duys &

Hedstrom, 2000; Granello, 2002; 2010; Goldberg, 1974; Little et al., 2005; Lovell, 1999;

McAuliffe & Lovell, 2006; Rønnestad & Skovholt, 2013; Vidas, 2008; Wendler &

Nilsson, 2009).

Almost all of the researchers who have investigated cognitive complexity have

examined *counselor trainees'* levels of cognitive complexity, with the exception of

Granello (2010) who looked at practicing counselors in the field. Likewise, this study explored the levels of cognitive complexity among the counselors who are already practicing in the field across the mental health profession using an international sample. Hence, findings of this study advance the body of literature on cognitive complexity, as this is only the second study to use practicing counselors as participants.

Research Question Two

Secondly, I explored whether a counselor's ability to observe and describe, which are two of the five key facets of mindfulness (Baer et al., 2008) could predict a counselor's level of cognitive complexity.

Observing. Observing is defined as being aware of or attending to internal and external experiences, such as sensations, cognitions, emotions, sights, sounds, and smells (Baer et al, 2008). Considering the importance of observing, the TCCM model (Owen & Lindley, 2010) identified three levels of cognitive complexities (i.e., session thoughts, metacognitions, and epistemic cognitions) where observation is utilized meticulously. Session thoughts are the basic cognitions used by counselors that include observations of client behaviors and changes that occur through the counseling process. Session thoughts reflect the ability to recognize session activities, differentiate between activities, and integrate salient versus irrelevant information via careful and mindful observation. More importantly, an effective counselor has to have the ability to recognize a variety of pertinent characteristics about the client (Welfare, 2007; Wilkinson, 2013) and that requires superior observation skills (Greason & Cashwell, 2009). Metacognitions also demand therapists be able to observe their progress when engaged in session thoughts, or to evaluate their own thoughts and reactions as they occur in the session (Owen &

Lindely, 2010). Therefore, it was safe to conclude that effective observation skills are one of the most primary skills for forming perceptions and much needed in counseling.

Using a simultaneous multiple regression analysis, I found that observing significantly predict counselor level of cognitive complexity. This is coherent with the previous rationalizations of observation that was based on past research on mindfulness, but there are no empirical investigations on cognitive complexity for which to compare these findings with. Nevertheless, the findings of this study indicate that observing can significantly predict cognitive complexity. This also implies that if a counselor has superior observation skills, they are more likely to process multifaceted information of their clientele better and likely to perceive a situation utilizing multiple angles effectively. This, too, can contribute to the overall therapeutic efficacy of the counselor.

If a counselor is capable of observing mindfully, they are capable of recognizing salient therapeutic factors. In the field of educating mental health professionals, mindfulness has been used systematically over the past decade in training programs to enhance the practitioners and the trainees' therapeutic presence (McCollum & Gehart, 2010; Christopher et al., 2011; Newsome et al., 2006) that has often resulted in better therapeutic outcomes for the clients (Aggs & Bambling, 2010; Grepmair et al., 2007; Grepmair et al., 2008). Mindfulness has also been used to increase awareness of the therapist (McCollum & Gehart, 2010; Christopher et al., 2011; Rothaupt & Morgan, 2007); enhance case conceptualization skills (Christopher, et al., 2011); enhance therapist wellbeing (Collard et al., 2008; Christopher et al., 2011; Newsome et al., 2006), attitudes, skills, knowledge, acceptability (Aggs & Bambling, 2010); promote self-care and therapeutic efficacy (Aggs & Bambling, 2010; Christopher & Maris, 2010; Christopher et

al., 2011; Stauffer & Pehrsson, 2012) and increase counselor self-efficacy, attention, and empathy (Greason & Cashwell, 2009).

According to these outcomes, mindfulness appears to be extremely beneficial in counselor training yielding positive outcomes for the practitioners themselves. There were no research findings to affirm the predictive relationship of observing and cognitive complexity (this is the first study to so). Yet, findings are not contradicting to the past research either, and this predictive relationship could explain some of the benefits yielded from being mindful, such as increased therapeutic presence that leads to better therapeutic outcomes.

Thus, it is reasonable to point out that this predictive relationship advances the body of mindfulness and cognitive complexity research in counselor education. This finding is a valuable addition to the past research that will help counselor educators understand the value of incorporating mindfulness into the counselor education curriculum and offer more training opportunities for practicing counselors as well. This predictive relationship provides evidence that enriched counselor therapeutic presence with their clients results in effective therapeutic outcomes.

Describing. Describing is defined as identifying internal experiences with words, which is another crucial element of mindfulness (Baer et al., 2008). Recognizing internal experiences appears to be important when working with clients: When a counselor is mindful they are likely to pay more attention and recognizes their own internal experiences, they are tracking their own thoughts and reactions to their client's information. This is helpful in recognizing biases, attitudes, and acceptability (Aggs & Bambling, 2010); self-care and therapeutic efficacy (Aggs & Bambling, 2010;

Christopher & Maris, 2010; Christopher et al., 2011; Stauffer & Pehrsson, 2012); and used to increasing counselor self-efficacy, attention, and empathy (Greason & Cashwell, 2009).

Counselor ability to identify internal experiences also appears to be a key factor in maintaining self-awareness. Cognitive complexity research has indicated that individuals who are more advanced in their cognitive development have greater self-awareness, tolerance for ambiguity and differences, recognize the need for autonomy, and are fully actualized; whereas, individuals with lesser levels of cognitive development are impulsive, egocentric, and self-protective (Loevinger & Blasi, 1976). Thus, being able to identify their internal experiences is important in facilitating better counseling outcomes. Though there is some overlap between identifying internal experiences (describing) and cognitive complexity as the past research has indicated, the describing subscale did not significantly predict cognitive complexity. This finding was somewhat surprising because identifying internal experiences is typically recognized as a key element of mindfulness and a variable in fostering cognitive development as well. Also, identifying internal experiences with words was found to be consistent with other four key variable of mindfulness with good reliability and internal consistency (Baer et al., 2008).

Describing was measured by the FFMQ items 22, 7, 12R, 16R, 22R, 27, 32, 37 (I'm good at finding words to describe my feelings; I can easily put my beliefs, opinions, and expectations into words; It's hard for me to find the words to describe what I'm thinking; I have trouble thinking of the right words to express how I feel about things; When I have a sensation in my body, it's difficult for me to describe it because I can't find the right words; Even when I'm feeling terribly upset, I can find a way to put it into

words; My natural tendency is to put my experiences into words; I can usually describe how I feel at the moment in considerable detail). These questions emphasize the ability to use word as the counselors identify their internal experiences. It should be noted that the ability to identify internal experiences is part of increased self-awareness: It is also possible that identifying internal experiences is better explained by increased self-awareness as opposed to describing them with *words*, and one may not need words to describe their recognized internal experiences. It is more of an awareness.

It also possible that the describing facet could be sensitive to changes of other variables that is yet to be identified (type of practice, duration, effort, etc.); most importantly it could be sensitive to the mindful practitioner's level of practice, whether they are novice or more experienced. Learning to identify internal experiences (with words) mindfully may require more meditation experience than what was found in this population sample. It is also possible that the describing facet could have yielded significant results with a bigger sample size. Nevertheless, the overall model was significant, and though describing did not yielded significant results it could still be a clinically meaningful variable.

Research Question Three

Third, I explored if there was a correlation between counselors' mindfulness and their ability to be reflective. Capacity for reflection is an important variable that fosters counselor development (Rønnestad & Skovholt, 2013). Generally speaking, reflection is essential in understanding and evaluating novel or day-to-day mundane experiences. Thus, along with being mindful, the counselor's ability to reflect appears to be important in providing effective counseling services. Reflection has been known as "a continuous

and focused search for a more comprehensive, nuanced, and in-depth understanding of oneself and others, and of the processes and phenomena that the practitioner meets in his or her work experiences" (Rønnestad & Skovholt, 2013, p. 149). On the other hand, mindfulness has been defined as the clear and single-minded awareness of what actually happens to an individual and what actually happens within an individual at the successive moments of perception (Nyanaponika, 1972). Mindfulness has also been defined as a process of intentionally placing attention on the present moment with a non-evaluative stance and acceptance (Allen et al., 2006; Bishop et al., 2004; Shapiro et al., 2006). Examining the definitions of mindfulness and reflection, both variables appear to complement each other in processing information and making pertinent perceptions.

Due to the introspective nature of being mindful there is a high possibility that being mindful could have a stronger association to one's ability reflect. A Pearson's correlation was conducted to determine if there is was a relationship between these two variables. Results indicated that there was a strong positive relationship between mindfulness and reflection. As the first study to explore the relationship between these two variables, the findings of study advance the research in cognitive complexity, mindfulness and reflection. Due to the correlation between reflection and mindfulness, it is reasonable to state that it is extremely plausible that a mindful counselor is more reflective and vice versa. This, too, can contribute to the overall therapeutic efficacy of the counselor. If the counselors learn to be more mindful, that can complement the reflective process, and inevitably may impact their therapeutic efficacy.

Schön (1983, 1987) identified two types of reflective activities: (1) reflection-in-action, where one reflects during their experience, and (2) reflection-on-action, where one

reflects after an experience about what happened. Rønnestad (2009) presented a third term, reflection-pre-action, which is the preparatory planning activity a counselor goes through that precedes a counseling session. The positive correlation between mindfulness and reflection indicates that if a counselor is more mindful, they may be capable of navigating these different aspects of reflection (before, during and after a counseling session) with more awareness and authority.

Reflection is a broad construct that includes thinking comprehensively about counselor's life sphere as well as their clients. McAuliffe and Lovell (2006) examined the relationships between counselor trainees' personal epistemological levels and their behavior in counseling interview sessions. They found that trainees with higher levels of cognitive complexity exhibited superior metacognitive and reflective abilities where they were able to think of their own thought process and action, as well as considering alternate helping strategies. Seggelen-Damen (2013), too, found a positive correlation between reflection and having higher levels of cognitive complexity, specifically reflection mediates the effects of cognitive complexity.

Results of this study affirmed McAuliffe and Lovell (2006) and Seggelen-Damen (2013) results. Because of the found correlation of mindfulness with counselor reflection, as well as with cognitive complexity (from the results of the research question one), inadvertently reflective counselors are very likely to have superior levels of cognitively complexity. This may contribute to conceptualizing their personal life circumstances as well as their clients. Therefore, if mindfulness skills are taught to counselor trainees during their trainee years, they are likely to be more reflective and

have superior cognitive complexity levels. This will also contribute to having better therapeutic presence and effective counseling outcomes.

Limitations of the Study

This study had several research limitations. First, an important limitation was that the data were collected via a convenience sample. This could impact the generalizability of the findings. It is also likely that participants who were more committed to their mindful practice were more likely to volunteer to participate in the study; this could have led to biased responses to the survey questions. Therefore, caution is warranted when translating data to the overall population of helping professionals.

The participants of this study represented several countries. The diverse residents across countries represent global diversity and that add strength to the sample. Though the majority of the population is from a Eurocentric background (74%) the rest of the sample (26%) were Native American, Asian, Black or African American, Latino/Hispanic, and Mixed. This percentage of diversity of the sample is praiseworthy. Thought, it is possible that the Eurocentric background of the majority of the participants could have led to bias responses, thus, should not be overlooked when interpreting results. Most of the participants were women (68%) as well. Though this representation may mirror the mental health field, this could also generate biases. Therefore, when interpreting results, caution is warranted.

Also, another limitation of this study was that the data used to tabulate research questions were self-report data. Mindfulness practice is a personal and private experience, and it is difficult to detect the true benefits of mindfulness due this personal and private nature. Thus, in detecting the effect of mindfulness, reliability of self-report

is naturally high. When an individual is self-reporting there is a possibility for bias.

Participants are likely to be effected by social desirability, to over report or under report,

and could be easily impacted by the temperament and affect during the time they were

taking the survey. These, self-report biases may have impacted the results.

It is important to point out that the instrument used in this investigation was

designed to measure wisdom (3D-WS) to measure cognitive complexity. This was based

on the overlaps and parallels of construct characteristics of 3D-WS's cognitive subscale

and reflective subscale with cognitive complexity. The overlap of constructs was also

reinforced by the definitions of cognitive complexity, cognitions, and reflectivity. The

past research on cognitive complexity has not used an affective measure to detect

cognitive complexity. Traditionally, wisdom is understood as a superior cognitive

function, and cognitive complexity is without a doubt contributes to superior levels of

cognitive ability (Stoltenberg et al., 1998; Welfare, 2007). Ardelt (2003) identified three

latent variables (cognitions, reflectivity, affective) that could detect wisdom and argued

that in the West it was more common to use only cognitions to measure wisdom, yet in

the East how individuals look at wisdom always has affective and reflective components.

As discussed before, the need for cognitions and reflection has been stressed as crucial

variables in fostering cognitive complexity (Rønnestad & Skovholt, 2013; Seggelen-

Damen, 2013).   The affective variable has not yet been empirically linked to cognitive

complexity, nor has it been identified, as a key variable that fosters cognitive complexity.

Yet, it is plausible that the affective variable is as significant as cognitions and reflection

due to the human nature of our cognitions; it is conjoined to human thinking, processing

information and making perceptions. Affective dimension evaluate the presence of

positive emotions and behavior toward other beings, such as feelings and acts of

sympathy and compassion, and the absence of indifferent or negative emotions and

behavior toward others. Thus, the affective dimension is a construct that adds an

affective component to the cognitions and reflections, thus cognitive complexity. Though

the rationale in using an affective dimension is sensible and realistic, it warrants further

validation.

Another important factor is that the data were collected via an online survey.

Therefore, participants needed access to technology and to the Internet in order to

complete the survey. Thus, the participants needed to have some basic level proficiency

in using technology that was needed to access the survey. This may have left out

professionals who could have meaningfully contributed to this study.

Recommendations for Future Research

The findings of this study contribute to the advancing the body of literature of

cognitive complexity, mindfulness, and reflection in counselor education. This study has

provided information about variables that can predict and foster cognitive complexity.

This is the first study to explore the relationship between cognitive complexity and

mindfulness, and mindfulness and reflection. Considering the findings of this study,

recommendations for further research are discussed in this section.

In sum, the findings of this study indicated that there is a strong positive

correlation between mindfulness and cognitive complexity, and mindfulness and

reflection. It is advisable to conduct studies that will strengthen this finding. One

possibility is to replicate this study with a random sample, as the results could be more

generalizable. Also, the sample size could have had an impact on yielding significant

results for the research question two that explored the describing as predictor variable for cognitive complexity. It could be valuable to use a larger sample size to examine describing as a predictor for cognitive complexity, to if a larger sample might yield significant results.

In this study, the participants reported how often or how long they have been practicing mindfulness. It is important to note that the length, duration, and frequency of their mindfulness practice does not necessarily reflect their level of practice. It is possible that, though some individuals may practice mindfulness for many years, due to their habitual patterns, effort, personality, temperament, and environmental/organic limitations, they may not acquire a certain level of mastery. Therefore, it is important to note that the outcomes of mindfulness may not depend on how long an individual has been practicing, and there could be other factors contributing to mastering this skill. Due to the personal and private nature of the mindfulness practice, relying on measures based on other than self-report would be difficult to measure mastery. Yet, along with self-reporting measures, if a combination of different measures were to be used in investigating mindfulness, which would assist in understanding the level of mastery. For example, if the combination of measures of psychological and biological factors is investigated, it is possible to obtain more comprehensive findings. A few possibilities might be psychological perceptions and biological reactivity of stress could be evaluated. Biofeedback could be used to detect the stress level (relaxation is a key mindfulness benefit); a Magnetic resonance imaging (MRI) could be used to detect brain activity corresponding to higher skill levels of mindfulness. Therefore, utilizing a combination of different measures to affirm findings would be advisable.

As mentioned in the limitation section, the use of 3D-WS is logical, and introducing an affective (compassionate) component is distinctive to past research. Though this was based on the overlaps, rationales, and parallels of construct characteristics of 3D-WS's cognitive subscale and reflective subscale with cognitive complexity, it still warrants further empirical validation. Therefore, it is recommended that steps must be taken to validate the impact and relational nature of the affective dimension on cognitive complexity. Using an affect (compassion) component to measure cognitive complexity could be further understood by examining the factors that contributes to having higher levels of cognitive complexity comprehensive, as well as examining how other cultures conceptualize cognitive complexity. Vidas (2008) also noted that cognitive complexity is primarily a Western perspective, where its orientation to non-western cultures, and other ethnic groups has not been discussed in detail. Therefore, further exploration of how cognitive complexity is conceptualized is also warranted. This supports Ardelt's (2003) concerns as well.

This study found a strong positive correlation between mindfulness and cognitive complexity. A correlation *does not* indicate causation. This study also investigated if observing and describing (two key mindful variables) could predict cognitive complexity. It would be beneficial to comprehensively understand the factors that may contribute to having higher levels of cognitive complexity. Hence, it would be beneficial to see if overall mindfulness could predict cognitive complexity.

This study was a cross sectional investigation and therefore provided a basic understand of the variables discussed. According to the cognitive complexity and mindfulness literature, longitudinal investigations are rare and challenging, yet invaluable

in understanding these variables more in depth. Therefore, an investigation developed to explore these variables from a longitudinal perspective is also recommended.

Moreover, due to the domain specific nature of cognitive complexity, measuring general cognitive complexity, and their relationship to each other was questioned by Welfare (2007). Welfare called for a domain specific measure of cognitive complexity as opposed to measuring general cognitive complexity. This study utilized the 3D-WS, an instrument that measured the general cognitive complexity as appose to domain specific cognitive complexity. The results of this study are valuable because it has been theorized that general cognitive complexity may have a ceiling effect on domain specific cognitive complexity. Future studies could focus on the nature of cognitive complexity and conduct investigations to measure the domain specificity of cognitive complexity further.

Implications for Further Practice

Results of this study indicate that there is a positive correlation between mindfulness and cognitive complexity, and mindfulness and reflections. Furthermore, observing (a key characteristic of mindfulness) significantly predicted cognitive complexity. Considering these findings, mental health professional are encouraged to consider the following recommendations.

Cognitive complexity is a key variable in providing effective therapeutic services. As previously discussed many researchers (Borders, 1989; Duys & Hedstrom, 2000; Granello, 2002; 2010; Goldberg, 1974; Little et al., 2005; Lovell, 1999; McAuliffe & Lovell, 2006; Rønnestad & Skovholt, 2013; Vidas, 2008; Wendler & Nilsson, 2009) have addressed the crucial role of counselor cognitive complexity upon counselors' therapeutic presence and how cognitive complexity may influence their therapeutic outcomes. Due

to the reported correlation between cognitive complexity and mindfulness, it is reasonable to state that a mindful counselor can be more cognitively complex. The strong correlation implies that the mindful counselor is capable of processing multifaceted information and perceiving a situation utilizing multiple angles (i.e., cognitive complexity).

Thus, it is safe to conclude that mindfulness could be a key variable that contributes to having enhanced levels of cognitive complexity. It is important to recognize that teaching counselors mindfulness skills may enhance their level of cognitive complexity, and vice versa. Hence, integrating mindfulness to the counselor trainee's curriculum may yield greater therapeutic presence. Moreover, offering training opportunities in mindfulness as continuing education for practicing counselors could also assist with having greater therapeutic presence and effective outcomes.

Reflection, too, is known as a broad concept that includes thinking about counselor's life sphere as well as their clients comprehensively. Because of the found relationship of mindfulness with counselor reflection, as well as with cognitive complexity, reflective counselors are very likely to have superior levels of cognitively complexity. This may also contribute to conceptualizing their personal life circumstances as well as their clients more deeply. Therefore, if counselor trainees are taught mindfulness skills during their trainee years, they are likely to be more reflective and have enhanced cognitive complexity levels. This will also contribute to having better therapeutic presence and effectual counseling outcomes.

Conclusion

Mental health professionals have to be aware of the multifaceted nature of client concerns and manage the complex nature of these concerns in providing effective services to their clients. In doing so, it is indispensable that a counselor has the ability to comprehend intricate information in order to recognize these numerous therapeutic variables. In comprehending such information, counselors' level of cognitive complexity is unquestionably a significant factor. Past research, as discussed, addressed the crucial role of counselor cognitive complexity (an indicator of one's cognitive development) upon counselor's therapeutic presence during counseling sessions and how cognitive complexity may influence their performance efficacy.

The majority of empirical findings supported the notion that there is at least some advancement in the counselor trainees' level of cognitive complexity over the course of training. Moreover, these researchers concluded that the level of cognitive complexity among counselor trainees is positively correlated to many factors that help increase a counselor's therapeutic efficacy including the ability to formulate clinical hypotheses, perceive clients in more complex terms, provide appropriate feedback to the client, remain objective during sessions, perform better in ambiguous circumstances and environments, develop greater self-efficacy, create greater self-other awareness, and find working with their clients less difficult.

There are many variables that could impact counselor cognitive complexity. Evidence also suggests that certain classes' nurture and accelerates counselor trainees' cognitive complexity; specifically, completing a practicum/internship or a counseling skills class promote higher levels of cognitive complexity. This study focused on

counselor ability to be mindful and how it relates to cognitive complexity. Thus, the

purpose of this study was to determine if there is a relationship between counselor

cognitive complexity and mindfulness. Also mindfulness and reflection appears to go

hand in hand, and have been identified as key variables in fostering better counselor

therapeutic presence.

In this cross sectional quantitative investigation, the relationships among mental

health professionals' cognitive complexity, mindfulness, and reflection were explored

across professions. Though there have been several empirical investigations on counselor

cognitive complexity over the last two decades, its relationship to counselor mindfulness

has not been explored. Similarly, the mindfulness research conducted thus far has not

explored its relationship with counselor ability to reflect. Following the institutional

review board's approval, organizations that publicly acknowledged mindfulness as a key

practice of their organization, were contacted electronically, inviting them to distribute

the online survey that was created using Qualtrics among their members. The collected

data were cleaned and analyzed to answer the research questions of this study.

Results of this study indicate that there is a positive correlation between

mindfulness and cognitive complexity, and mindfulness and reflections. Furthermore,

observing (a key characteristic of mindfulness) significantly predicted cognitive

complexity. Due to the reported correlation between cognitive complexity and

mindfulness, it is reasonable to state that a mindful counselor can be more cognitively

complex. It is also safe to conclude that mindfulness could be a key variable that

contributes to having enhanced levels of cognitive complexity. Because of the found

relationship of mindfulness with counselor reflection, as well as with cognitive

complexity, reflective counselors are very likely to have superior levels of cognitively complexity. This may also contribute to conceptualizing their personal life circumstances as well as their clients more deeply. Therefore, It is important to recognize that teaching mindfulness skills and integrating mindfulness to the counselor curriculum may enhance their level of cognitive complexity, and vice versa; thus, may yield greater therapeutic presence.

The findings of this study contribute to the advancing the body of literature of cognitive complexity, mindfulness, and reflection in counselor education. This study has provided information about variables that can predict and foster cognitive complexity. This is the first study to explore the relationship between cognitive complexity and mindfulness, and mindfulness and reflection.

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Table 1

Type of Licensure Currently Held by Participants as Reported

Type of Licensure	Frequency	Percent	Valid Percent	Cumulative Percent
	31	24.8	24.8	24.8
LPCC	11	8.8	8.8	33.6
LPC	15	12.0	12.0	45.6
LCSW	14	11.2	11.2	56.8
LP	16	12.8	12.8	69.6
LMFT	10	8.0	8.0	77.6
NCC	1	.8	.8	78.4
LADC	1	.8	.8	79.2
Other	26	20.8	20.8	100.0
Total	125	100.0	100.0	

Table 2

Correlation between Mindfulness and Cognitive Complexity

		M Total Final	W Total Final
Mindfulness Total Final	Pearson Correlation	1	.653**
	Sig. (2-tailed)		.000
	N	108	104
Wisdom Total Final	Pearson Correlation	.653**	1
	Sig. (2-tailed)	.000	
	N	104	109

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

There was a strong positive relationship between mindfulness and cognitive complexity, r = .65, $p < .000$ ($n = 114$).

Table 3

Multiple Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.597[a]	.357	.344	.31854

a. Predictors: (Constant), Mindfulness Describing Final, Mindfulness Observing Final

Table 4

Multiple Regression ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.801	2	2.900	28.584	.000[b]
	Residual	10.451	103	.101		
	Total	16.252	105			

a. Dependent Variable: Wisdom Total Final

b. Predictors: (Constant), Mindfulness Describing Final, Mindfulness Observing Final

Table 5

Coefficients of the Regression Variable

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.126	.275		7.736	.000
	Mindfulness Observing Final	.410	.067	.540	6.120	.000
	Mindfulness Describing Final	.079	.063	.111	1.254	.213

a. Dependent Variable: Wisdom Total Final

Table 6

Correlation between Mindfulness and Reflection

		Mindfulness Total Final	Wisdom Reflective Final
Mindfulness Total Final	Pearson Correlation	1	.674**
	Sig. (2-tailed)		.000
	N	108	105
Wisdom Reflective Final	Pearson Correlation	.674**	1
	Sig. (2-tailed)	.000	
	N	105	112

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

Appendix I

ONLINE/ANONYMOUS SURVEY CONSENT

You are requested to participate in a research supervised by Dr. John Seymour to broaden the understanding about mindfulness and its impact on the therapeutic practice. You will be asked to answer a brief 14-item demographic form, a 39- item Five-Facet Mindfulness survey, and a 39-item Three Dimensional Wisdom scale that measures cognitive complexity. Participation in this study will take about 15-20 minutes to complete. If you wish to receive an electronic booklet related to mindfulness as a small token of gratitude for taking part in this study, please email Dharshini.goonetilleke@mnsu.edu.
If you have any questions about the research, please contact Dr. Seymour at john. seymour@mnsu.edu.

Please be aware that your participation is completely voluntary. You have the option not to respond to any of the questions. You may stop taking the survey at any time by closing your web browser. Participation or nonparticipation will not impact your relationship with Minnesota State University, Mankato. If you have questions about the treatment of human participants and Minnesota State University, Mankato, contact the IRB Administrator, Dr. Barry Ries, at 507-389-2321 or barry.ries@mnsu.edu.

Responses will be anonymous. However, whenever one works with online technology there is always the risk of compromising privacy, confidentiality, and/or anonymity. If you would like more information about the specific privacy and anonymity risks posed by online surveys, please contact the Minnesota State University, Mankato Information and Technology Services Help Desk (507-389-6654) and ask to speak to the Information Security Manager. The risks of participating are no more than are experienced in daily life.

There are no direct benefits for participating, though it is likely that you may become aware of or be reminded of your mindfulness practices, and your patterns of thinking/operating. The field of counseling might benefit by the increased understanding of the topic, and how mindfulness may impact the work counselors do.
By submitting the completed survey you will indicate your informed consent to participate and confirm that you are at least 18 years of age.
Please print a copy of this page for your future reference.

MSU IRBNet ID# 781073
Date of MSU IRB approval: 7/21/2015

Demographic Questionnaire
Please respond to the following questions to the best of your ability.

1. Gender you identify with (please write it in):

2. Your chronological age (please write it in):

3. Your ethnic origin (please write it in):

4. The highest degree you have earned:
Masters' Degree ☐   Doctoral Degree ☐   Specialist Degree ☐   Certificate ☐
Other: _____

5. Specialty in which, you earned your highest degree:
Counseling ☐ Social Work ☐   Psychology ☐   Marital and Family ☐   Alcohol &
Drug ☐ Divinity ☐   Counselor Education ☐   Nursing ☐   Psychiatry ☐
Other: _____

6. Category your current type of employment belongs to:
Mental Health Therapist/Counselor ☐   Psychotherapist ☐   Psychologist ☐
                              Psychiatrist ☐
Marital and Family Therapist ☐   Clinical Social Worker ☐   Behavioral Analyst ☐
Mental Health Nurse ☐   Psychiatrist Nurse ☐   Alcohol and Drug Abuse Counselor
                              ☐
Pastoral Counselor ☐
Other: _____

7. Total years of professional experience in your field of expertise (please write it in):

8. Do you currently hold a professional license?   Yes ☐   No ☐
If Yes, category: LPCC ☐ LPC ☐   LCSW ☐ LP ☐   LMFT ☐   NCC ☐   LADC
☐
Other: _____

9. What are your primary Mindfulness Practices (Please check your top 3 practices):
Insight/Vipassana ☐   Concentration/Samatha ☐   Transcendental ☐
Mindfulness Awareness ☐

Breathing ☐   Body Scan ☐   Mindful Eating ☐
Movement meditation

Walking ☐ Yoga ☐ Qigong☐ Tai chi ☐ Other ☐
Open awareness ☐ Orienting to day to day tasks mindfully ☐
Visualization ☐

Practicing Loving Kindness ☐ Practicing Compassion ☐ Practicing Sympathetic Joy ☐
Practicing equanimity ☐

Other:_____

10. How often do you practice?
More than once a day ☐ Once a day ☐ Two of more times a week, but not every day ☐
Once a week ☐ Two or more times a month, but not every week ☐
Once a month ☐ Two of more times a year, but not every month ☐ Once a year ☐
Try to maintain open awareness throughout the day ☐
Other: _____

11. Time spend practicing at a time:
Less than 20 minutes ☐ 21-30 minutes ☐ 31-60 minutes ☐ 61-90 minutes ☐
91-120 minutes ☐ more than 120 minutes ☐
Other: _____

12. How long have you being practicing mindfulness (please write it in)?

13. Do you participate in mindfulness retreats, workshops or seminars? Yes ☐
No ☐
If yes, how often? One time a month ☐ Two or more times a month ☐ One time a year ☐
Two of more times a year ☐ Ones in 2-4 years ☐ Ones in 4-6 years
Other: _____

14. Anything else you wish to share about your mindfulness practice, career or self?

FIVE FACET MINDFULNESS QUESTIONNAIRE

Please rate each of the following statements using the scale provided. Write the number in the blank that best describes <u>your own opinion</u> of what is <u>generally true for you</u>.

1	2	3	4	5
never or very rarely true	rarely true	sometimes true	often true	very often or always true

_____ 1. When I'm walking, I deliberately notice the sensations of my body moving.

_____ 2. I'm good at finding words to describe my feelings.

_____ 3. I criticize myself for having irrational or inappropriate emotions.

_____ 4. I perceive my feelings and emotions without having to react to them.

_____ 5. When I do things, my mind wanders off and I'm easily distracted.

_____ 6. When I take a shower or bath, I stay alert to the sensations of water on my body.

_____ 7. I can easily put my beliefs, opinions, and expectations into words.

_____ 8. I don't pay attention to what I'm doing because I'm daydreaming, worrying, or otherwise distracted.

_____ 9. I watch my feelings without getting lost in them.

_____ 10. I tell myself I shouldn't be feeling the way I'm feeling.

_____ 11. I notice how foods and drinks affect my thoughts, bodily sensations, and emotions.

_____ 12. It's hard for me to find the words to describe what I'm thinking.

_____ 13. I am easily distracted.

_____ 14. I believe some of my thoughts are abnormal or bad and I shouldn't think that way.

_____ 15. I pay attention to sensations, such as the wind in my hair or sun on my face.

_____ 16. I have trouble thinking of the right words to express how I feel about things

_____ 17. I make judgments about whether my thoughts are good or bad.

_____ 18. I find it difficult to stay focused on what's happening in the present.

_____ 19. When I have distressing thoughts or images, I "step back" and am aware of the thought or image without getting taken over by it.

_____ 20. I pay attention to sounds, such as clocks ticking, birds chirping, or cars

_____ passing.

_____ 21. In difficult situations, I can pause without immediately reacting.

_____ 22. When I have a sensation in my body, it's difficult for me to describe it because I can't find the right words.

_____ 23. It seems I am "running on automatic" without much awareness of what I'm doing.

_____ 24. When I have distressing thoughts or images, I feel calm soon after.

_____ 25. I tell myself that I shouldn't be thinking the way I'm thinking.

_____ 26. I notice the smells and aromas of things.

_____ 27. Even when I'm feeling terribly upset, I can find a way to put it into words.

_____ 28. I rush through activities without being really attentive to them.

_____ 29. When I have distressing thoughts or images I am able just to notice them without reacting.

_____ 30. I think some of my emotions are bad or inappropriate and I shouldn't feel them.

_____ 31. I notice visual elements in art or nature, such as colors, shapes, textures, or patterns of light and shadow.

_____ 32. My natural tendency is to put my experiences into words.

_____ 33. When I have distressing thoughts or images, I just notice them and let them go.

_____ 34. I do jobs or tasks automatically without being aware of what I'm doing.

_____ 35. When I have distressing thoughts or images, I judge myself as good or bad, depending what the thought/image is about.

_____ 36. I pay attention to how my emotions affect my thoughts and behavior.

_____ 37. I can usually describe how I feel at the moment in considerable detail.

_____ 38. I find myself doing things without paying attention.

_____ 39. I disapprove of myself when I have irrational ideas.

Reference: Baer, R. A., Smith, G. T., Lykins, E., Button, D., Krietemeyer, J., Sauer, S., . . . Williams, M. J. (2008). Construct validity of the five facet mindfulness questionnaire in meditating and nonmeditating samples. *Assessment, 15*(3), 329-342.

Three-Dimensional Wisdom Scale

A. **This section asks you about your opinion and feelings. How strongly do you agree or disagree with the following statements? Please remember there are no right or wrong answers.**

	Strongly Agree (1)	Agree (2)	Neutral (3)	Disagree (4)	Strongly Disagree (5)
1. In this complicated world of ours the only way we can know what's going on is to rely on leaders or experts who can be trusted.	*c*				
2. I am annoyed by unhappy people who just feel sorry for themselves.	*a*				
3. Life is basically the same most of the time.	*c*				
4. People make too much of the feelings and sensitivity of animals.	*a*				
5. You can classify almost all people as either honest or crooked.	*c*				
6. I would feel much better if my present circumstances changed.	*r*				
7. There is only one right way to do anything.	*c*				
8. There are some people I know I would never like.	*a*				
9. It is better not to know too much about things that cannot be changed.	*c*				
10. Things often go wrong for me by no fault of my own.	*r*				
11. Ignorance is bliss.	*c*				

	Strongly Agree (1)	Agree (2)	Neutral (3)	Disagree (4)	Strongly Disagree (5)
12. I can be comfortable with all kinds of people.	*a-rev*				
13. A person either knows the answer to a question or he/she doesn't.	*c*				
14. It's not really my problem if others are in trouble and need help.	*a*				
15. People are either good or bad.	*c*				

B. How much are the following statements true of yourself?

	Definitely true of myself (1)	Mostly true of myself (2)	About half-way true (3)	Rarely true of myself (4)	Not true of myself (5)
1. I try to look at everybody's side of a disagreement before I make a decision.	*r-rev*				
2. If I see people in need, I try to help them one way or another.	*a-rev*				
3. When I'm upset at someone, I usually try to "put myself in his or her shoes" for a while.	*r-rev*				
4. There are certain people whom I dislike so much that I am inwardly pleased when they are caught and punished for something they have done.	*a*				
5. I always try to look at all sides of a problem.	*r-rev*				
6. Sometimes I feel a real compassion for everyone.	*a-rev*				
7. I try to anticipate and avoid	*c*				

	Definitely true of myself (1)	Mostly true of myself (2)	About half-way true (3)	Rarely true of myself (4)	Not true of myself (5)
situations where there is a likely chance I will have to think in depth about something.					
8. When I look back on what has happened to me, I can't help feeling resentful.	*r*				
9. I often have not comforted another when he or she needed it.	*a*				
10. A problem has little attraction for me if I don't think it has a solution.	*c*				
11. I either get very angry or depressed if things go wrong.	*r*				
12. Sometimes I don't feel very sorry for other people when they are having problems.	*a*				
13. I often do not understand people's behavior.	*c*				
14. Sometimes I get so charged up emotionally that I am unable to consider many ways of dealing with my problems.	*r*				
15. Sometimes when people are talking to me, I find myself wishing that they would leave.	*a*				
16. I prefer just to let things happen rather than try to understand why they turned out that way.	*c*				
17. When I am confused by a problem, one of the first things I do is survey the situation and consider all the relevant pieces of information.	*r-rev*				
18. I don't like to get involved in	*a*				

	Definitely true of myself (1)	Mostly true of myself (2)	About half-way true (3)	Rarely true of myself (4)	Not true of myself (5)
listening to another person's troubles.					
19. I am hesitant about making important decisions after thinking about them.	*c*				
20. Before criticizing somebody, I try to imagine how *I* would feel if I were in their place.	*r-rev*				
21. I'm easily irritated by people who argue with me.	*a*				
22. When I look back on what's happened to me, I feel cheated.	*r*				
23. Simply knowing the answer rather than understanding the reasons for the answer to a problem is fine with me.	*c*				
24. I sometimes find it difficult to see things from another person's point of view.	*r*				

Reference: Ardelt, Monika. (2003). Empirical assessment of a three-dimensional wisdom scale. *Research on Aging,* 25(3): 275-324.