THE MEANING OF MINDFULNESS IN WESTERN CLINICAL PRACTICE: A GROUNDED THEORY APPROACH

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Abstract

of

THE MEANING OF MINDFULNESS IN WESTERN CLINICAL PRACTICE: A GROUNDED THEORY APPROACH

by

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The purpose of this study was to extend the dialogue regarding the definition and application of mindfulness to Western clinical practices by critically analyzing the research within the last 35 years that identified 'mindfulness' as a component of practice. This researchers intention was to determine: (1) What, if any, are the emergent trends within the arenas of Western clinical practice, specifically medicine, education, nursing, psychiatry, psychology, social work, and neuroscience in which Mindfulness Based Interventions (MBIs) have been being practiced and researched? (2) Which MBIs meet scientific research inclusion criteria (peer-reviewed and randomized control trials) and which MBI has the most significant number of returns? (3) Are researchers employing and accurately measuring the MBI identified in the research protocol?

Key terms were searched using the electronic database, Academic Search Premiere. Only peer-reviewed studies from 1979 through February 21, 2015 were searched resulting in 3,002 relevant articles to be included in the study. A search of the term "mindfulness" along with other specified search terms were used to identify emergent trends within the arenas of medicine, education, psychiatry, psychology, social work, and neuroscience. Results from the content analysis were used to illuminate which

MBI had the most significant number of returns. Based on these results, MBIs were isolated and a meta-analysis framework used to determine if in fact, researchers employed and accurately measured the MBI identified in the research protocol.

Results indicate emergent trends in the following areas of Western clinical practice: medicine, education, psychiatry, psychology, nursing, social work, and neuroscience. Social work is experiencing the greatest amount of growth in the use of mindfulness in the past five years at a rate of 78%. Content analysis of existent literature revealed the MBI being studied the most in peer-reviewed literature is Mindfulness Based Cognitive Therapy (MBCT). A meta-analysis framework was used to identify four MBCT studies meeting the criteria for inclusion for meta-analysis. The meta-analysis of MBCT for the treatment of depression looked at: adherence to the treatment protocol using the 17-item MBCT-AS scale, results measuring mindfulness, and published results measuring depression pre and post intervention. Of the four studies, no study reported adequate data for all three measures. Despite its popular usage, however, few randomized controlled trials exist with strict eligibility criteria and adequate measures that validate the use of this intervention as effective or appropriate with the populations to which they are being directed.

________________________, Committee Chair
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Date

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Chapter 1

Introduction

In the last 15 years, there has been a dramatic increase in the empirical investigation of the concept and applications of mindfulness in Western clinical practices. According to Bishop, Lau, Shapiro, Carlson, Anderson, Carmody, Segal, Abbey, Speca, Velting, & Devins (2004), 'mindfulness' has been integrated, described, and researched over the last several decades by a number of practitioners and investigators. Among these are Kabat-Zinn, 1990, 1998; Shapiro & Swartz, 1999, 2000; Teasdale, 1999b; and Segal, Williams, & Teasdale, 2002. A plethora of research has emerged in which the practice of mindfulness has been identified as useful for numerous emotional, psychological, and interpersonal reasons. Grossman (2008) suggests, however, that definitions of mindfulness in Western clinical practices (e.g., clinical social work, nursing, psychology) are divergently defined and operationalized by different groups of investigators dependent upon the specializations of the authors. Additionally, Bishop et al. (2004) note that there has been no systematic effort to operationalize a definition of mindfulness, at least in part because of the difficulty in defining the different components and resultant outcomes attributed to the concept. What is clear from the many schools researching this area, often there is no distinction made between the practice of mindfulness and those aspects of human thought, feeling and behavior that reportedly benefit from the practice.

This thesis project is an attempt to begin to integrate this discussion into the social work literature. The introduction of mindfulness practices, techniques, and concepts into

social work curriculum requires a better understanding of both its benefits and limitations. There should be fully realized prior to the Council of Social Work's acceptance of this evidence-based practice into social work clinical practice standards.

Background of the Problem

The abundance of mindfulness-based research absent a consistent definition makes academic learning, clinical integration and application of mindfulness challenging to learn, study, or apply. For this researcher, a potential problem and consequence arising from the failure to establish a consensus definition of 'mindfulness' within the Western paradigm is the extent to which the surge in nebulous and ill-defined mindfulness based interventions (MBIs) could potentially obfuscate two well established MBIs, Mindfulness-Based Stress Reduction (Kabat-Zinn, 1993), and Mindfulness-Based Cognitive Therapy (Segal, Williams, Teasdale, 2002) that have, in fact become recognized as scientifically relevant. According to Kabat-Zinn (1994), "mindfulness means paying attention in a particular way; on purpose, in the present moment, and non judgmentally (p. 4)." Segal, Williams, and Teasdale (2002), utilize and cite Kabat-Zinn's definition of mindfulness in the development and application of Mindfulness-Based Cognitive Therapy. Both models have well-defined, didactic frameworks for addressing stress (MBSR), and depression (MBCT) in which the practice of mindfulness is a critical component of the model that is, in fact, well defined. The additional challenge of operationalizing mindfulness within these two models or other less well-defined models is important to note but beyond the scope of this project.

Study Purpose

The purpose of this study is to provide an analysis of existing research on Western mindfulness-based practices to add to the research dialogue regarding the importance of establishing a consensus definition of mindfulness and its various elements. For this researcher, critical analysis of current research and trends lends itself to identifying those studies that use and do not use sound protocols for defining and measuring mindfulness. This research project seeks to extend and support efforts to arrive at the development of an operationalized definition when undertaking research on the efficacy of mindfulness-based Western practices. The intention is to illuminate the emergent trends within the arenas of Western clinical practice, specifically medicine, education, psychiatry/psychology/social work, and neuroscience in which MBIs have been practiced and researched; evaluate which MBIs meet scientific research inclusion criteria (peer-reviewed and randomized control trials) and which MBIs have the most significant number of returns, to determine researchers are employing and accurately measuring the MBI identified in the research protocol.

Theoretical Framework

The theoretical framework that this thesis project utilized is symbolic interaction (Blumer, 1969). The central theme of symbolic interactionism relative to this project is the centrality of shared "meaning." Relative to this study, symbolic interaction posits that human life is lived in the symbolic domain and that symbols are culturally derived social objects or experiences that have shared meanings that are created and maintained in social interaction. The challenge related to defining mindfulness within the worlds of

both Western clinical practices and Western research studies can be best understood through Blumer's three essential premises. These premises as are that "humans act toward things on the basis of the meanings that things have for them, the meanings of things derive from social interaction, and these meanings are dependent on, and modified by, an interpretive process of the people who interact with one another (Blumer, 1969, p. 214)." For Blumer (1969), the meaning of any phenomena depends on the degree of consensual responses between two or more people. In the case of the phenomenon of mindfulness, the meaning depends on the consensual responses of those who use it. Within the theoretical framework of symbolic interaction, the definition of the phenomenon of mindfulness for instance, must have consensus in order for the meaning of mindfulness to be clear. As is the case in the current field of mindfulness research, the definitional consensus is low, resulting in the study and application of the concept of mindfulness as ambiguous. This is problematic in an evidence based practice model.

The search for the symbolic social construction of the meaning and context of mindfulness also lends itself to the integration of constructivist grounded theory (Charmaz, 2000) as an essential methodological framework. Symbolic interaction and constructivist grounded theory emphasize the subjective nature of reality. Methodology of constructivist grounded theory views both the data and the analysis of data as created through the shared experiences of researcher and data. This contemporary view of grounded theory challenges Glaser's (1978, 2007) classical perspective in which data is perceived as representing objective facts about a knowable world. From this classical perspective, the data holds inherent conceptual meaning and the researcher "discovers"

the meaning. For this project, the constructivist grounded theory perspective underscores the initial inductive research question in search of the shared, socially constructed symbolic meaning of mindfulness and how the practice of it can be best understood.

Definition of Terms

- ABBT: Acceptance-Based Behavioral Therapy
- ACT: Acceptance Commitment Therapy
- Arena: Refers to a field of practice (e.g. social work, psychology, psychiatry, medicine, nursing, education, neuroscience)
- Cognitive defusion: "Experiencing cognition as an ongoing process rather than allowing cognition to overly regulate behavior (Twohig, Hayes, Plumb, Pruitt, Collins, Hazlett-Stevens, & Woidneck, 2010)".
- DBT: Dialectical Behavior Therapy
- FFMQ: Five Facet Mindfulness Questionnaire
- FMI: Freiburg Mindfulness Inventory
- GAD: Generalized Anxiety Disorder
- KIMS: Kentucky Inventory of Mindfulness Skills
- MAAS: Mindful Attention and Awareness Scale
- MBCT: Mindfulness-based Cognitive Therapy
- MBI: Mindfulness Based Intervention(s) including but not limited to MBSR, MBCT, ACT, DBT, and other interventions in which mindfulness is a key component.
- MBSR: Mindfulness-based Stress Reduction

- PHLMS: Philadelphia Mindfulness Scale
- SAMSHA: Substance Abuse Mental Health Services Administration
- SMQ: Southampton Mindfulness Questionnaire
- TMS: Toronto Mindfulness Scale

Assumptions

There are several assumptions that this researcher made prior to the study. First, this study assumes that there is an increasing interest in the use of mindfulness. Second, peer-reviewed research studies have demonstrated the efficacy of MBI's. Third, the integration of mindfulness into the daily activities of many individuals has been beneficial overall and does not appear to cause harm to individuals. Fourth, mindfulness is being used in many arenas without adequate knowledge of its meaning, operationalization, or effects. Finally, despite these assumptions, mindfulness continues to grow in popularity within American culture in general, and as evidence based practice used in the helping professions.

Social work research justification

This research will benefit the social work profession by identifying the trends in mindfulness and their integration into the social work arena. Findings from this research project will help elucidate how mindfulness is currently being used within complimentary disciplines, as well as social work. Ultimately, findings from this project may serve to expand the current dialogue of the application of mindfulness in the social work profession, and provide evidence that discretion is needed when implementing the use of any new therapy's touted as evidence based practice.

Study Limitations

Creswell (2003) notes that limitations are parameters utilized in a research study to establish the boundaries, exceptions, and weaknesses inherent in any study. There were several limitations in the current study. These limitations included:

(1) Although the clear intention of the study is to direct the research from a constructivist grounded theory approach, there was potential for this researcher to evidence bias perhaps affecting data collection, data analysis, and even theory formulation;

(2) The researcher was the only researcher coding and interpreting data;

(3) The final small sample size decreases the generalizability;

(4) As is often the case in mixed methods designs, raw data, and the development of categories and arenas for study could all be subject to other interpretations (Creswell, 2003);

(5) The research project was confined to content analysis of peer reviewed research articles and random controlled studies.

Chapter 2

Review of Literature

This literature review first provides a brief look at mindfulness as a practice within classical and contemporary Buddhist thought, and secondly, presents an overview of contemporary Western clinical practices that are utilizing the practice of mindfulness as a treatment intervention. A discussion of the roots of mindfulness in classical Buddhism far exceeds the scope of this project but is presented to provide a historical context for the current application of mindfulness to Western clinical practices that seek to aid in the cessation of mental suffering for individuals. This literature review also provides an examination of current attempts by Western researchers to define and operationalize the construct of mindfulness. This section is provided as support for the intention of this research study to encourage the development of standards and protocol to assist in improving the quality of research regarding mindfulness-based interventions.

Buddhist Mindfulness

An exploration of the practice of mindfulness described within classical Buddhist texts is beyond the scope of this project; however, more contemporary Buddhist scholar practitioners such as Thich Nhat Hanh (1999) and Bikkhu Bodhi (2003) have contributed greatly to the West's interpretation of the meaning of mindfulness elucidated in classical Buddhist schools of thought. Generally speaking, Hanh (1999) and Bodhi (2003) attribute mindfulness practices to the Satipattana Sutta, typically translated as the Four Foundations of Mindfulness or the Discourse on the Foundations of Mindfulness. Acccording to Bodhi (2003), the Satipattana Sutta is regarded as the canonical Buddhist

text regarding mindfulness practices (p. 35). For Bodhi (2003), the practice of mindfulness can best be understood as the methodical cultivation of the mental faculty of attending to the content of experience as it becomes manifest in the immediate moment. Bodhi (2003) notes the difference between the mental faculty of mindfulness and the actions necessary to cultivate it. For Bodhi (2003), although the faculty of mindfulness is readily available to all people, it is necessary to practice by attending to the four arousing's of mindfulness: body, feelings, consciousness, and mental objects.

Hanh (1999, p. 14) defines mindfulness as "the miracle, which can call back in a flash our dispersed mind and restore it to wholeness so that we can live each minute of life (p.14)." Hanh (1976; 1999), similar to Bodhi and other classical Buddhist scholars purports the necessity for training the faculty of mindfulness using the Five Mindfulness Trainings, which include a commitment to demonstrate reverence for life, a commitment to practicing generosity in thought, speech, and action, a commitment to cultivate the safety and integrity of all sentient and non-sentient life forms, a commitment to cultivating loving speech and compassionate listening to promote global peace and reconciliation, and a commitment to practice personal health and self-compassion. According to Hanh (1999), these trainings express Buddha's teachings on the Four Noble Truths and the Noble Eightfold Path, which when practiced, lead the individual practitioner to enlightenment and truth. For Hanh (1999), the practice of mindfulness cultivates greater compassion for self and others and serves a greater purpose than the relief of individual suffering.

Development of MBIs in the West

Emergence of Evidence-based MBIs

Meta-Analyses and systematic reviews of existent studies have become a crucial source of information for clinicians in health care settings. These studies are often used to direct professionals in clinical practice to keep current on the latest interventions in their field of practice (Oxman, Cook, & Guyatt,1994; Swingler, Volmink, & Joannidis, 2003). Meta-analyses are used to combine findings from similar studies and compare and contrast results (Greenland & O'Rourke, 2008). Evidence based practice depends on the integration of systematic review and meta-analyses (Sackett, Rosenberg, Muir, Haynes, & Richardson, 1996).

The use of evidence-based practice is a mainstay in the social work profession. Rosen (2003) suggests that a commitment to scientific standards, clients' best interest, as well as a goal directed practice guided by values are a foundation that supports a social work emphasis on EBP (p. 198). The Substance Abuse Mental Health Services Administration (SAMHSA) has developed a National Registry of Evidence-based Programs and Practices which lists the following as evidence based mindfulness based interventions: Mindfulness-Based Stress Reduction (MBSR), Mindfulness-Based Cognitive Therapy (MBCT), Dialectical Behavior Therapy (DBT), Acceptance and Commitment Therapy (ACT), Acceptance-Based Behavioral Therapy (ABBT) for Generalized Anxiety Disorder (GAD), and Helping Women Recover and Beyond Trauma.

Mindfulness-Based Stress Reduction. Mindfulness-Based Stress Reduction (MBSR) is a structured, manual driven, 10-week (31-hour) psychoeducational program based on the core principles of mindfulness grounded in Buddhist meditation practices. Instruction is delivered in a group setting by professionally trained teachers. The program was designed to reduce suffering and increase well-being by decreasing psychological distress such as anxiety and stress (Carmody, Baer, Lykins, & Olendzki, 2009). MBSR helps individuals manage their stress by teaching coping skills that help develop insight into conditioned responses and thoughts and ultimately modify their cognitive perspective. Three meditation practices that are an essential part of the MBSR program are mindfulness meditation, body scan, and yoga.

In 1979, Jon Kabat-Zinn developed the original Mindfulness-Based Stress Reduction Program at the Stress Reduction Clinic at the University of Massachusetts Medical center. Originally this program was designed to help patients suffering from chronic pain. Since that time, more than 19,000 patients have completed training in MBSR through the Center's Stress Reduction Program (Goldstein, Josephson, Xie, Hughes, 2011). The Mindfulness-Based Stress Reduction Program was found to be efficacious for a myriad of psychological and physical disorders (Chiesa & Serretti, 2009).

Mindfulness-Based Cognitive Therapy. Mindfulness-Based Cognitive Therapy (MBCT) is a structured, manual driven program delivered in a group format that runs for eight weeks for approximately 2 hours per week (Collard, Avny, & Boniwell, 2007). MBCT uses a combination of mindfulness methods from the MBSR program and

Cognitive Therapy (Segal, Teasdale, Williams, & Gemar, 2002; Teasdale, Segal, Williams, Ridgeway, Soulsby, & Lau, 2000). The MBCT program is designed to help treat adults diagnosed with major depressive disorder. Individuals are taught to observe their thoughts in a non-judgemental way, realize their thoughts and feelings are non-permanent and that not all thoughts are a reflection of reality (Baer, 2006; Germer, 2005). According to Shrovers and Brandsma (2010), individuals are taught to identify troubling cognitions and feelings so they are able to distance themselves from these feelings and not react to them. Classes, homework assignments, and daily meditation practices are aimed at teaching participants how to keep feelings from escalating into intense emotions by realizing that feelings are constructed in the mind and are not facts (Michalak, Troje, & Heidenreich, 2011).

Mindfulness-Based Cognitive Therapy was developed in 1995 by Zindel Segal, Mark Williams, and John Teasdale as an off-shoot of MBSR to help reduce recurrent depressive episodes in individuals with a history of depression (Segal, Williams, & Teasdale, 2002; Williams, Teasdale, Segal, & Kabat-Zinn, 2007). Hundreds of adults with a diagnosis of recurrent major depressive disorder have received MBCT. Research has demonstrated that MBCT is an effective treatment for mood and anxiety disorders (Hofmann, Sawyer, Witt, & Oh, 2010; Kim, Lee, Choi, Suh, Kim, Kim, & Yook, 2009; Manicavasgar, Parker, & Perich, 2011; Teasdale et al. 2000; Troy, Shallcross, Davis & Mauss, 2013).

Acceptance and Commitment Therapy. Acceptance and Commitment Therapy (ACT) (Hayes, Strosahl, & Wilson, 1999) combines the use of a focused form of

cognitive behavioral therapy and mindfulness. This treatment modality is used in many social work programs throughout the United States. It is delivered in individual sessions or in a group format with no specified duration in time. It is an exposure-based approach that allows individuals to "practice experiencing anxiety without struggling with anxiety" (Hayes, 1987; p. 365). "Psychological flexibility" (Hayes, Luoma, Bond, Masuda, & Lillis, 2006) is taught through engagement in positive behaviors while accepting difficult emotions. Psychological flexibility is established using the following six processes: acceptance of experiences, cognitive defusion (experiencing cognition as an ongoing process rather than allowing cognition to overly regulate behavior), being present, self-awareness, identification of ones values, and commitment to action (Twohig et al., 2010).

ACT was founded by Hayes in the early1980s and was fully operationalized in 1999 (Hayes & Wilson, 1994). Since then, many practitioners have received training in the the use of this intervention. ACT has been shown to be effective in the treatment of trichotillomania (Twohig & Woods, 2004; Twohig, Hayes, & Masuda, 2006a; Woods, Wetterneck, & Flessner, 2006), OCD (Twohig, Hayes, & Masuda, 2006b), anxiety disorders (Manzoni, Pagnini, Castelnuovo, & Molinari, 2008), psychosis (Bach & Hayes, 2002), and work stress (Bond & Bunce, 2000).

Dialectical Behavior Therapy. Dialectical Behavior Therapy (DBT) is a cognitive-behavioral therapy, typically delivered in a group format, which focuses on emotional regulation, acceptance, and problem solving, and mindfulness (Linehan, 1993a). DBT is made up of skills training, motivational enhancement, environment structure, generalization, and motivational enhancement of the therapists through group

consultation (Neacsiu, Rizvi, Vitaliano, Lynch, & Linehan, 2010). DBT is a common therapy modality taught in social work graduate programs. The use of DBT has been shown to be effective in reduction of self-injurious behavior, suicide attempts, suicidal ideation, hopelessness, and depression (Robins & Chapman, 2004). Dialectical Behavior Therapy is also a published manuals that detail treatment delivery guidelines (Linehan, 1993b; Linehan, 1993a).

DBT has been implemented in many therapeutic settings across the world. Some clinicians have conducted and published results from independent randomized controlled trials of DBT. DBT has been shown to be an effective treatment of Borderline Personality Disorder (Koons, Robins, Tweed, Lynch, Gonzelez, Morse, & Bastian, 2001; Linehan, Armstrong, Suarez, Allmon, & Heard, 1991; Linehan, Comtois, et al., 2002; Linehan, Dimeff, et al., 2002; Linehan, Schmidt, Dimeff, Craft, Kanter, & Comtois, 1999; Turner, 2000; Verheul, van den Bosch, Koeter, de Ridder, Stijnen, & van den Brink, 2003), depression in older adults (Lynch, Morse, Mendelson, & Robins, 2003), and eating disordered individuals (Telch, Agras, & Line- han, 2001).

Western Conceptualizations of Mindfulness

There appears to be a plethora of definitions for the term mindfulness based in the western perspective. The following are an example of different definitions that are commonly used:

- Kabat-Zinn (1998) defines as “paying attention in a particular way: on purpose, in the present moment, and non-judgmentally (p. 4).”
- Linehan (1993a) defines a mindful practice as “being fully awake to “what is”

right now in the present" where the ultimate goal is not to achieve distance from one's experience, but rather to enter into, participate in, and become one with experience (Chapman & Linehan, 2005; Linehan, 1993a, p. 525). Linehan (1993a) also describes, "in DBT, mindfulness itself is a state of awareness and awakeness given to each moment (p. 525)."

- "A kind of non-elaborative, nonjudgmental, present-centered awareness in which each thought, feeling, or sensation that arises in the attentional field is acknowledged and accepted as it is (Bishop et al. 2004, p. 232)."
- "Mindfulness is 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. We further see mindfulness as a process of gaining insight into the nature of one's mind and the adoption of a de-centered perspective… 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, p. 234)."
- Mindfulness is defined as "the awareness that arises out of intentionally attending in an open and discerning way to whatever is arising in the present moment (Shapiro 2009, p. 555)."

Western Attempts to Measure Mindfulness

Some scholars note that (Bishop et al., 2004; Brown & Ryan, 2003; Dimidjian & Linehan, 2003) the use of valid and reliable assessments of mindfulness is crucial in the

development of a clear definition of mindfulness. The use of these assessments aids in elucidating the precise mechanisms or components of mindfulness that are beneficial in mindfulness-based interventions. In 2001, Buchheld, Grossman, and Walach (2001) developed the first contemporary measure of mindfulness. Since 2001, there have been many new instruments developed that claim to measure mindfulness or components thereof. Some of the most common assessments of mindfulness are the: Five Facet Mindfulness Questionnaire (FFMQ), Mindful Attention and Awareness Scale (MAAS), Freiburg Mindfulness Inventory (FMI), Kentucky Inventory of Mindfulness Skills (KIMS), Toronto Mindfulness Scale (TMS), Southampton Mindfulness Questionnaire (SMQ), and the Philadelphia Mindfulness Scale (PHLMS). A brief description of these assessments is presented below.

Five Facet Mindfulness Questionnaire. The Five Facet Mindfulness Questionnaire (FFMQ) was developed by Baer, Smith, Hopkins, Krietemeyer and Toney (2006) by incorporating items from several other mindfulness scales including the: MAAS, FMI, KIMS, CAMS and MQ. It is a 39-item self-report scale used to measure the construct of mindfulness. The following five elements of mindfulness are measured using this the questionnaire: non-judjing, non-reactivity, observing, describing, and acting with awareness (Baer, Smith, Lykins, Button, Krietemeyer, Sauer, & Williams, 2008). These elements are said to represent the current conceptualization of mindfulness (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006).

Mindful Attention and Awareness Scale. The Mindful Attention and Awareness Scale (MAAS) is a 15-point self-report instrument developed by Brown &

Ryan (2003). According to Brown & Ryan (2003), attention and awareness, a core characteristic of mindfulness, are measured across the following domains: cognitive, physical, emotional, and general. Currently, the MAAS is being utilized to measure levels of improvement in mindfulness from participation in the MBSR program (Shapiro, Oman, Thoresen, Plante & Flinders, 2008).

Freiburg Mindfulness Inventory. The Freiburg Mindfulness Inventory (FMI) is a self-report inventory developed by Buchheld, Grossman, and Walach (2001). The FMI measures change in mindfulness over time by assessing the following four components: accepting attitude toward the experience, awareness, understanding of experience, and present moment focus. The FMI is designed to be used in individuals with prior meditation experience and was developed using the Buddhist concept of mindfulness (Walach, Buchheld, Buttenmuller, Kleinknecht, & Schmidt, 2006).

Kentucky Inventory of Mindfulness Skills. The Kentucky Inventory of Mindfulness Skills (KIMS) was developed by Baer, Smith, and Allen (2004). It is a 39-item self report scale based on mindfulness as presented in Dialectical Behavior Therapy (Linehan, 1993a). The scale is divided into the following four aspects that correlate with mindfulness in DBT: observe, describe, awareness, acceptance without judgement (Baer, Smith & Allen, 2004).

Toronto Mindfulness Scale. The Toronto Mindfulness Scale (TMS) was developed by Lau, Bishop, Segal, Buis, Anderson, Carlson, & Carmody, (2006). It is a 13-item self-report scale measuring mindfulness after meditation. The TMS measures curiosity and decentering is based on the definition established by Bishop et al. (2004).

Southampton Mindfulness Questionnaire. The Southampton Mindfulness Questionnaire (SMQ) was developed by Chadwick, Hember, Symes, Peters, Kuipers, & Dagnan, (2008). According to Chadwick et al., (2008) the SMQ is a 16-item self-report questionnaire designed to measure an individual's mindfulness regarding distressing images and thoughts that arise. The following aspects of mindfulness are measured: decentering awareness of thoughts, letting thoughts pass, allowing attention to remain with difficult thoughts, and accepting difficult cognitions and images (Chadwick, Hember, Mead, Lilley, & Dagnan, 2008).

Philadelphia Mindfulness Scale. (Cardaciotto & Herbert, 2005) developed the Philadelphia Mindfulness Scale (PHLMS). The 20-item self-administered scale is used to measure present centered awareness and acceptance (Cardaciotto, Herbert, Forman, Moitra & Farrow, 2008). According to Cardaciotto, Herbert, Forman, Moitra, & Farrow, (2008), the PHLMS has been tested in clinical and non-clinical settings and in individuals seeking treatment for eating disorders.

Summary

From its roots in classical and contemporary Buddhism mindfulness is emerging as an essential key component in many western-based therapeutic interventions. These interventions seek to ameliorate the symptoms that arise from mental suffering. Despite the lack of a consensus definition in the west, mindfulness is being utilized in many evidence based therapeutic interventions. As social work moves towards the use of evidence based practice the operationalization of interventions is essential. Strict adherence to protocol and measurement of key variables is critical to understand the

effectiveness of new interventions. Numerous attempts are being made to define and operationalize mindfulness. To date, many researchers have developed tools and instruments that claim to measure the components of mindfulness.

Chapter 3

Methods

Study Objectives

Corbin and Strauss (2008), contend that the research question being posed must be “free of a priori theory verification” and must also be broad enough to allow for “engagement and reflection on the topic under inquiry.” According to Corbin and Strauss (2008), the development of the research study is often led by the personal experience and/or curiosity of the researcher. Grounded methodology was chosen because it initially allowed this researcher to explore all aspects of mindfulness. The objectives of this study are three-fold, asking the following: (1) “What, if any, emergent trends within the arenas of Western clinical practice, specifically medicine, education, psychiatry, psychology, social work, and neuroscience in which MBIs have been being practiced and researched?”; (2) “Which MBIs meet scientific research inclusion criteria (peer-reviewed and randomized control trials) and which MBI has the most significant number of returns?”; and (3) To determine, “Are researchers employing and accurately measuring the MBI identified in the research protocol?”

Study Design

This study utilizes a mixed qualitative and quantitative study design guided by a constructivist grounded theory research approach. The collection of data and data analysis occurred concurrently (Bryant & Charmaz, 2007a; Glaser, 1978; Corbin & Strauss, 2008). A grounded theory approach allowed this researcher to initially explore the data as an emergent process. A reciprocal iterative system was used to allow data

collection and data analysis to be concurrent (see *Figure 1*). This paradigm was developed to organize and advance data collection and analysis through progressive levels of abstraction in order to ground the emergent theoretical formulations in the data.

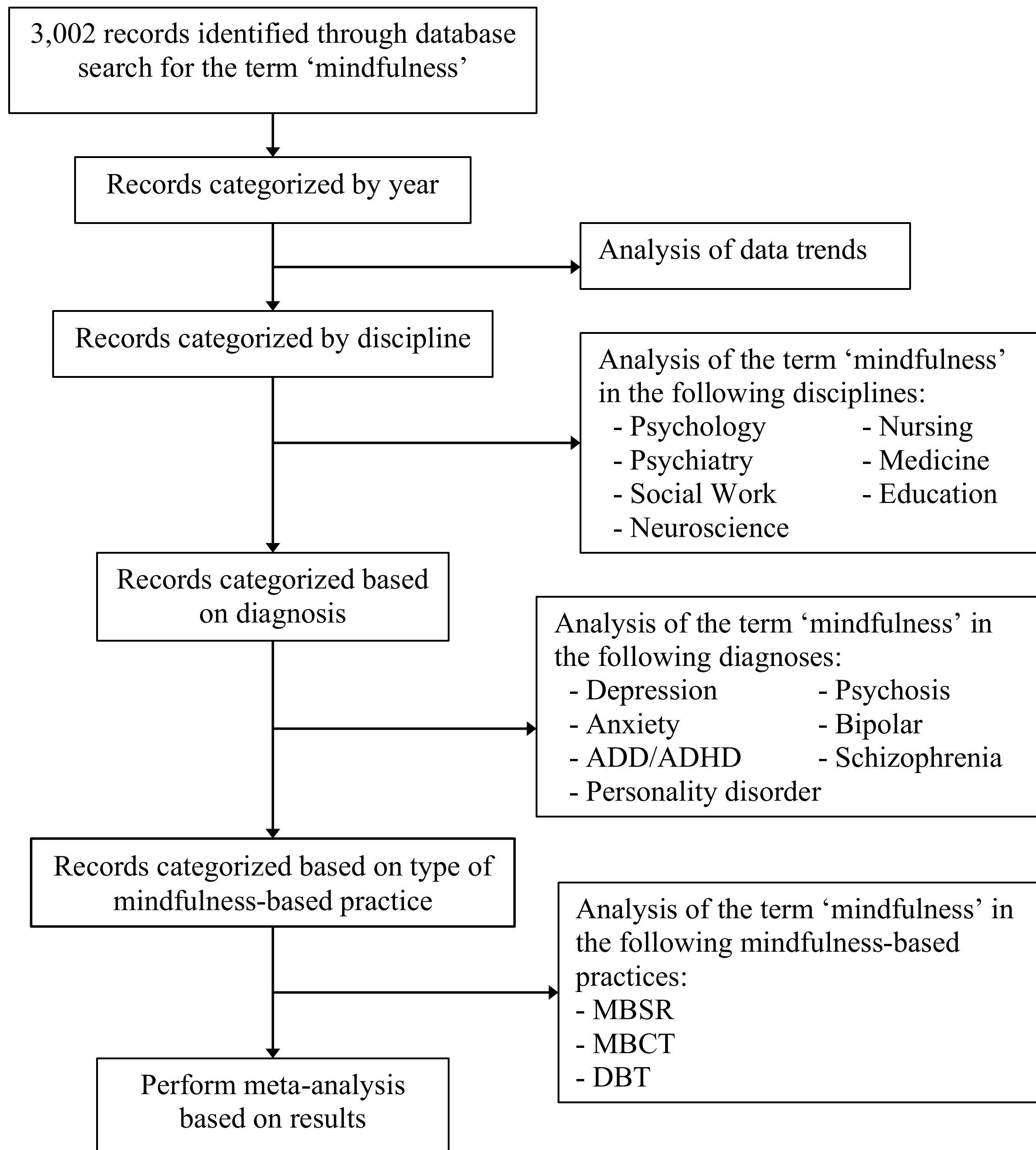

Figure 1. Flow chart illustrating grounded theory approach.

Content analysis (Neuendorf, 2002) will be utilized as the initial method for data collection from the data source as the data source is literature-based. Content analysis is employed as a quantitative method used to illuminate the emergent trends within the arenas of Western clinical practice, specifically medicine, education, psychiatry, psychology, social work, and neuroscience in which MBIs have been being practiced and researched. Results from the content analysis were used to illuminate which MBI has the most significant number of returns. Based on these results, an MBI was isolated and a meta-analysis performed to determine if in fact, researchers are employing and accurately measuring the MBI identified in the research protocol. The conceptual framework of meta-analysis methodology was used (i.e., see *Figure 1* of the Preferred Reporting Items for Systematic Reviews and Meta-Analysis Guidelines (PRISMA)) (Moher, Liberati, Tetzlaff, & Altman, 2009) to ensure the MBI being evaluated meets scientific research inclusion criteria (i.e., peer-reviewed and randomized control trials).

Data Collection Procedures

A review of research studies was conducted using a grounded theory approach. Key terms were searched using the electronic database, Academic Search Premiere. Only peer-reviewed studies published from 1979 through February 21, 2015 were identified for review. A search of the term "mindfulness" along with other specified search terms (noted later) were used to identify emergent trends within the arenas of medicine, education, psychiatry, psychology, social work, and neuroscience. Six distinct search criteria were used to obtain the data for the content analyses.

A content analyses of the following conceptual ideas was conducted and results recorded in an excel spreadsheet: (1) the appearance of the term mindfulness in peer reviewed academic literature, (2) the appearance of the term mindfulness in various academic disciplines, (3) the appearance of the term mindfulness in various academic disciplines over time, (4) the appearance of the term mindfulness in various disciplines and DSM-IV diagnoses, (5) the appearance of the term mindfulness in various disciplines and mindfulness based practices, and (6) the appearance of the term mindfulness in DSM-IV diagnoses and specific mindfulness based practices. Limitations placed on each search were that only peer–reviewed scholarly articles from 1979 to 2014 were included as data.

Search criteria 1. The appearance of the term 'mindfulness' in peer reviewed academic literature as a function of time (i.e., when it first appeared in the literature) was explored. This was accomplished by conducting a search for the key term 'mindfulness' individually by year. The term 'mindfulness' first appeared in peer reviewed academic literature in 1979 therefore; the search for the term 'mindfulness' to be used for content analysis began in the year 1979 and continued through 2014 (see *Figure 3*).

Search criteria 2. The number of returns for the term 'mindfulness' within each of the following academic disciplines was chosen for analysis: psychology, medicine, psychiatry, social work, nursing, neuroscience, and education. The following searches were used: 'mindfulness' AND 'psychology', 'mindfulness' AND 'medicine', 'mindfulness' AND 'psychiatry', 'mindfulness' AND 'social work', 'mindfulness' AND 'nursing', 'mindfulness' AND 'neuroscience', and 'mindfulness' AND 'education'.

Numerical results of these searches were recorded in an Excel spreadsheet for further analysis (see *Figure 4*).

Search Criteria 3. The appearance of the term 'mindfulness' in peer reviewed academic literature as a function of time and discipline was explored. This was accomplished by conducting a search for the key term 'mindfulness' individually by year in conjunction with the following disciplines: psychology, medicine, psychiatry, social work, nursing, neuroscience, and education. These search criteria yielded 245 independent searches with 245 separate data points that were recorded in an Excel spreadsheet. The results are depicted as data points which are used in the findings and discussion in Chapter 4 (see *Figure 5*).

Search criteria 4. The next search criteria explored the appearance of the search term 'mindfulness' occurring with search terms of various disciplines including: psychology, medicine, psychiatry, social work, and nursing. This search was performed in conjunction with the following general terms: Anxiety, Depression, ADD/ADHD, Schizophrenia, Personality Disorder, Bipolar Disorder, and Psychosis. The following thirty-five searches were performed to obtain numerical data: 'mindfulness' AND 'Anxiety' AND 'psychology', 'mindfulness' AND Depression AND 'psychology', 'mindfulness' AND 'ADD/ADHD' AND 'psychology', 'mindfulness' AND 'Schizophrenia' AND 'psychology', 'mindfulness' AND 'Personality Disorder' AND 'psychology', 'mindfulness' AND 'Bipolar Disorder' AND 'psychology', and 'mindfulness' AND 'Psychosis' AND 'psychology'; 'mindfulness' AND 'Anxiety' AND 'medicine', 'mindfulness' AND 'depression' AND 'medicine', 'mindfulness' AND

'ADD/ADHD' AND 'medicine', 'mindfulness' AND 'Schizophrenia' AND 'medicine', 'mindfulness' AND 'Personality Disorder' AND 'medicine', 'mindfulness' AND 'Bipolar Disorder' AND 'medicine', and 'mindfulness' AND 'Psychosis' AND 'medicine'; 'mindfulness' AND 'Anxiety' AND 'psychiatry', 'mindfulness' AND 'depression' AND 'psychiatry', 'mindfulness' AND 'ADD/ADHD' AND 'psychiatry', 'mindfulness' AND 'Schizophrenia' AND 'psychiatry', 'mindfulness' AND 'Personality Disorder' AND 'psychiatry', 'mindfulness' AND 'Bipolar Disorder' AND 'psychiatry', and 'mindfulness' AND 'Psychosis' AND 'psychiatry'; 'mindfulness' AND 'Anxiety' AND 'social work', 'mindfulness' AND 'depression' AND 'social work', 'mindfulness' AND 'ADD/ADHD' AND 'social work', 'mindfulness' AND 'Schizophrenia' AND 'social work', 'mindfulness' AND 'Personality Disorder' AND 'social work', 'mindfulness' AND 'Bipolar Disorder' AND 'social work', and 'mindfulness' AND 'Psychosis' AND 'social work'; 'mindfulness' AND 'Anxiety' AND 'nursing', 'mindfulness' AND 'depression' AND 'nursing', 'mindfulness' AND 'ADD/ADHD' AND 'nursing', 'mindfulness' AND 'Schizophrenia' AND 'nursing', 'mindfulness' AND 'Personality Disorder' AND 'nursing', 'mindfulness' AND 'Bipolar Disorder' AND 'nursing', and 'mindfulness' AND 'Psychosis' AND 'nursing'. Numerical data obtained from these searches were entered into an Excel spreadsheet for further analysis (see *Figure 6*).

Search criteria 5. Next, the search for the appearance of the term 'mindfulness' in various disciplines and mindfulness-based practices was explored. Data was collected using the key term 'mindfulness' and the following disciplines: psychology, medicine,

psychiatry, social work, and nursing. Mindfulness based therapies chosen for these content analyses are: Mindfulness Based Cognitive Therapy, Mindfulness Based Stress Reduction, and Dialectical Behavior Therapy. The following searches were conducted: ‘psychology’ AND ‘Mindfulness Based Cognitive Therapy’, ‘psychology’ AND ‘Mindfulness Based Stress Reduction’, and ‘psychology’ AND ‘Dialectical Behavior Therapy’, ‘medicine’ AND ‘Mindfulness Based Cognitive Therapy’, ‘medicine’ AND ‘Mindfulness Based Stress Reduction’, ‘medicine’ AND ‘Dialectical Behavior Therapy’, ‘psychiatry’ AND ‘Mindfulness Based Cognitive Therapy’, ‘psychiatry’ AND ‘Mindfulness Based Stress Reduction’, ‘psychiatry’ AND ‘Dialectical Behavior Therapy’, ‘social work’ AND ‘Mindfulness Based Cognitive Therapy’, ‘social work’ AND ‘Mindfulness Based Stress Reduction’, ‘social work’ AND ‘Dialectical Behavior Therapy’, ‘nursing’ AND ‘Mindfulness Based Cognitive Therapy’, ‘nursing’ AND ‘Mindfulness Based Stress Reduction’, ‘nursing’ AND ‘Dialectical Behavior Therapy’, ‘education’ AND ‘Mindfulness Based Cognitive Therapy’, ‘education’ AND ‘Mindfulness Based Stress Reduction’, ‘education’ AND ‘Dialectical Behavior Therapy’, ‘neuroscience’ AND ‘Mindfulness Based Cognitive Therapy’, ‘neuroscience’ AND ‘Mindfulness Based Stress Reduction’, ‘neuroscience’ AND ‘Dialectical Behavior Therapy’. Numerical data were recorded in an excel spreadsheet for further analysis (see *Figure 7*).

Search criteria 6. Next, the search for the appearance of the term ‘mindfulness’ in various DSM-IV and mindfulness-based practices were explored. The added limitation included only results using the phrase ‘Randomized Controlled Trial.’ Data

was collected using the term ‘mindfulness’ and the following key terms representing various DSM-IV diagnoses: Anxiety, Depression, ADD/ADHD, Schizophrenia, Personality Disorder, Bipolar Disorder, and Psychosis. Mindfulness based therapies chosen for these content analyses were: Mindfulness Based Cognitive Therapy, Mindfulness Based Stress Reduction, and Dialectical Behavior Therapy. The following searches were conducted: ‘Mindfulness Based Cognitive Therapy’ AND ‘Anxiety’, ‘Mindfulness Based Cognitive Therapy’ AND ‘Depression’, ‘Mindfulness Based Cognitive Therapy’ AND ‘ADD/ADHD’, ‘Mindfulness Based Cognitive Therapy’ AND ‘Schizophrenia’, ‘Mindfulness Based Cognitive Therapy’ AND ‘Personality Disorder’, ‘Mindfulness Based Cognitive Therapy’ AND ‘Bipolar Disorder’, and ‘Mindfulness Based Cognitive Therapy’ AND ‘Psychosis’; ‘Dialectical Behavior Therapy’ AND ‘Anxiety’, ‘Dialectical Behavior Therapy’ AND ‘Depression’, ‘Dialectical Behavior Therapy’ AND ‘ADD/ADHD’, ‘Dialectical Behavior Therapy’ AND ‘Schizophrenia’, ‘Dialectical Behavior Therapy’ AND ‘Personality Disorder’, ‘Dialectical Behavior Therapy’ AND ‘Bipolar Disorder’, ‘Dialectical Behavior Therapy’ AND ‘Psychosis’; ‘Mindfulness Based Stress Reduction’ AND ‘Anxiety’, ‘Mindfulness Based Stress Reduction’ AND ‘Depression’, ‘Mindfulness Based Stress Reduction’ AND ‘ADD/ADHD’, ‘Mindfulness Based Stress Reduction’ AND ‘Schizophrenia’, ‘Mindfulness Based Stress Reduction’ AND ‘Personality Disorder’, ‘Mindfulness Based Stress Reduction’ AND ‘Bipolar Disorder’, ‘Mindfulness Based Stress Reduction’ AND ‘Psychosis’. Numerical data were recorded in an excel spreadsheet for further analysis (see *Figure 8*).

Use of Meta-Analysis Framework

Results from the content analysis were used to illuminate which MBI had the most significant number of returns. Based on these results, MBIs were isolated and a meta-analysis performed to determine if in fact, researchers employed and accurately measured the MBI identified in the research protocol. The meta-analysis was carried out using the methodology presented in *Figure 1* of the Preferred Reporting Items for Systematic Reviews and Meta-Analysis Guidelines (PRISMA) to ensure the MBI being evaluated meets scientific research inclusion criteria (peer-reviewed and randomized control trials). Ultimately, this guided the final choice of articles chosen for the content analysis.

As with previous searches, key terms were used within the electronic database, Academic Search Premiere. Once again, only peer-reviewed studies published from 1979 through February 21, 2015 were identified for review. The literature search for the meta-analysis was constructed around the search term 'mindfulness' and 'randomized control trial'. The following search strategy was used: "Mindfulness" AND "random* controlled trials" NOT "meta-analysis" NOT "update" NOT "education" NOT "systematic review.

The Study Selection involved an initial search for the term 'mindfulness' yielded 3,002 records (see *Figure 2*). From the initial search, 2,709 records were removed because they did not meet the criteria of a randomized trial, and 52 were removed because they were education focused. A total of 241 titles and abstracts were screened and 210 articles were excluded because the primary focus was treatment for a non-

psychiatric medical condition. The remaining 31 full text articles were assessed for eligibility. Studies that were duplicates, were not a randomized controlled study, do not use an in person mindfulness based intervention (internet based studies were excluded), and did not have the eligibility requirement of a DSM-IV diagnosis (sub-clinical population) were excluded. The remaining 16 papers were systematically reviewed and classified by MBI. The articles were classified into the following four MBI's: MBCT, MBSR, ACT, and other. The classification of other included: DBT, MORE, PBGT, and MAGT. Once articles were classified by MBI, they were classified by treatment condition.

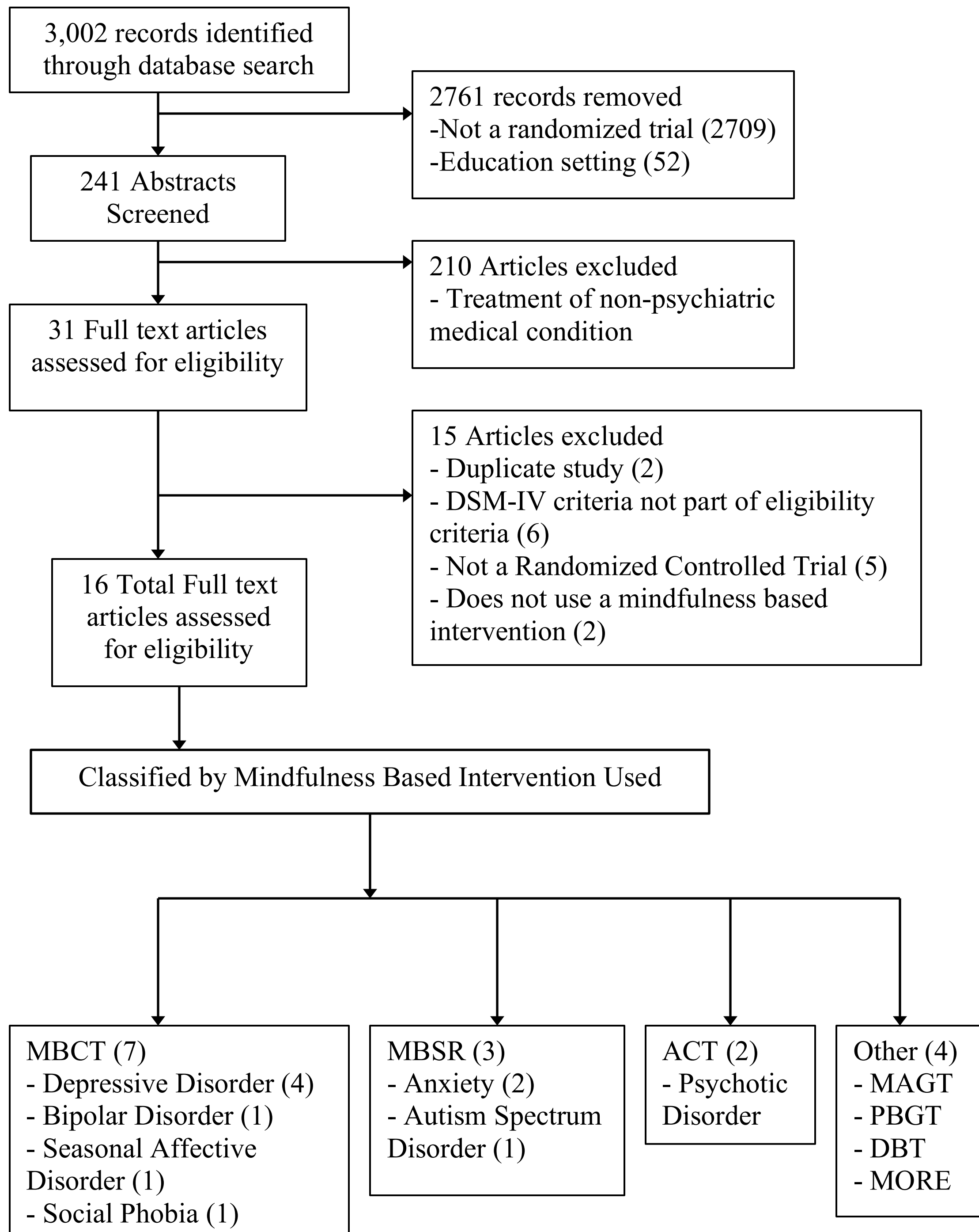

Figure 2. Flow chart of meta-analysis framework using PRISMA guidelines.

Instruments

To be eligible for review for the content analysis, studies were required to meet the following conditions:

1) Types of Study Designs: Only Randomized control Studies were eligible;

2) Types of participants: Studies of patients diagnosed with a disorder meeting the criteria in the DSM-IV, age 18 and older;

3) Types of Interventions: Studies that compare a mindfulness based treatment with either no treatment, treatment as usual, waitlist control group, or other non-mindfulness based treatment;

4) Types of outcomes: Studies were eligible if they assessed at least one major outcome related to the measurement of depression. Secondary outcomes were time to recurrence, MBCT-AS data, and measures of mindfulness. Outcomes were chosen because they represent the key symptoms related to depression and mindfulness;

5) Length of follow-up: No restrictions regarding length of follow-up were applied;

6) Accessibility of data: Studies were eligible only if they were published as full papers. No language restrictions were applied.

Data Analysis

Data analysis occurred in conjunction with data collection as previously noted (Bryant & Charmaz, 2007a; Glaser, 1978; Corbin & Strauss, 2008). Numerical data from each search criteria were recorded as separate data points in an Excel spreadsheet. The

recorded data was then used to look at trends, and create charts and graphs. Results and patterns from the content analysis guided further analyses discussed as findings in Chapter 4.

Protection of Human Subjects

This project complies with federal and University policies regarding the protection of human subjects. The Sacramento State 2014-2015 Human Subjects Research Application was prepared by this researcher, approved by faculty advisor, Susan A. Taylor, Ph.D., and submitted to the California State University Sacramento Institutional Review Board. The project was reviewed and registered by the California State University Sacramento Institutional Review Board and determined to be approved as Exempt. This researcher was informed of this action in a letter from the committee dated February 23, 2015. The Human Subjects application Protocol number is 14-15-054. This study did not involve human subjects. All analyzed data is taken from published articles that are considered within the public domain.

Chapter 4

Study Findings and Discussion

This chapter will present detailed findings from the analysis performed on the six distinct search criteria described in Chapter 3. Detailed findings will be described with emphasis placed on measures indicating whether researchers were employing and accurately measuring the MBI identified in the research protocol. Finally, an interpretation of the findings will be discussed.

Overall Findings

The search criteria defined in Chapter 3, yielded three hundred fifty eight data points to be used for analyses. These data points were used to construct six graphs that help illuminate emergent trends in mindfulness theory and practice. Overall findings show trends in multiple arenas of Western therapeutic clinical practice which includes the discipline of social work. To date, the use of the term mindfulness in multiple arenas of Western clinical practice continues to grow each year. Results show that MBIs are most commonly used for treatment of anxiety and depression with MBCT being the most popular intervention of choice amongst the majority of disciplinary fields.

Specific Findings

Findings for search criteria 1. Results from the first search yielded thirty-five numerical data points that were used to construct the graph labeled *Figure 3*. The nominal data indicate that the key term 'mindfulness' first appeared in peer-reviewed literature in 1979. Fewer than 10 peer-reviewed articles resulted from the search of the term 'mindfulness' from 1979 until 1999. From 2000 to 2004 there was a 66% increase

in from the same search (16 publications in 2000 and 58 publications in 2004). Years 2005 to 2009 saw the greatest period of growth at 76% (54 publications in 2005 and 227 publications in 2009). There was a marked growth in the past five years with a 51% increase in publications from 2010 to 2014 (see *Figure 3*). Despite the slow growth from 1979 to 2001, the use of mindfulness theory and practice in existent literature grew considerably.

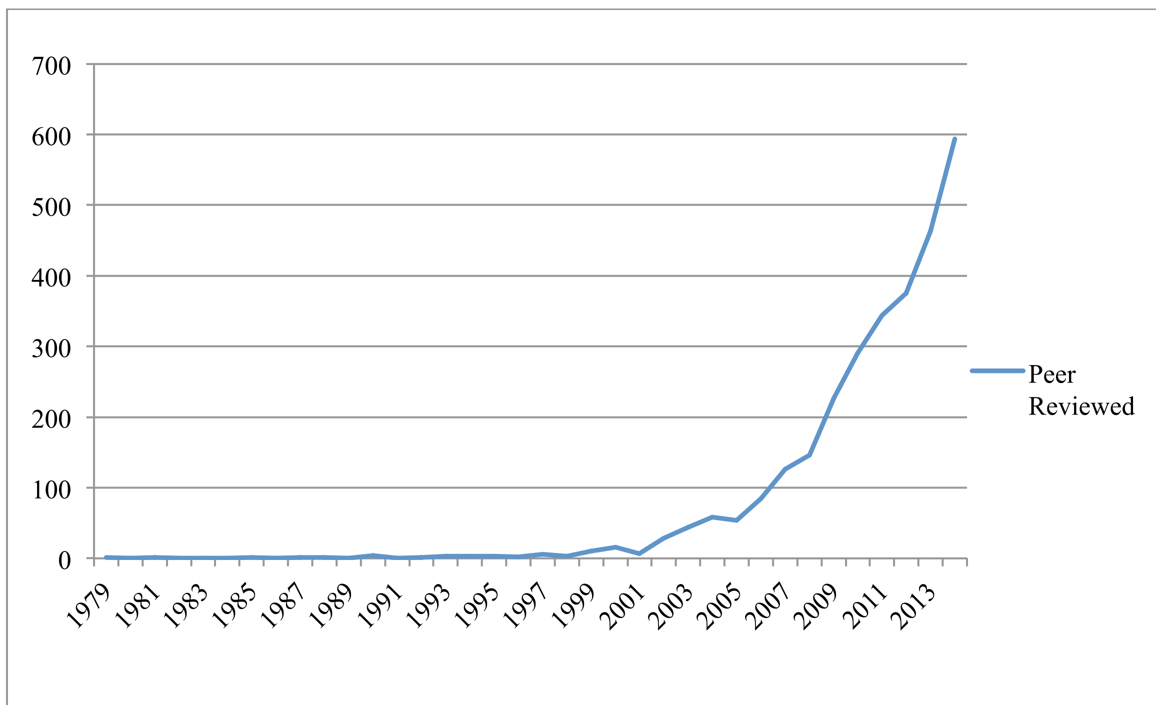

Figure 3. This figure illustrates findings for search criteria 1 (i.e., research noted in reviewed journals).

Findings for search criteria 2. Results from the second search yielded seven numerical data points that were used to construct the graph labeled *Figure 4*. Since 1979, mindfulness research within psychology appeared in a total of 1899 articles. Mindfulness and medicine occurred together in 1992 and has since grown to 545 total articles.

Nursing and mindfulness would first co-occur in 1997 and by 2014 has grown to a total of 174 articles. Medicine and mindfulness appeared together in 1998 and since has been reported in 868 research studies. The term mindfulness and social work first appeared in research literature in 1999 and since that time 138 research studies have been reported on. Mindfulness and neuroscience was the last to co-occur in peer-reviewed journal articles, making its first appearance in 2002 and since has published 168 total articles.

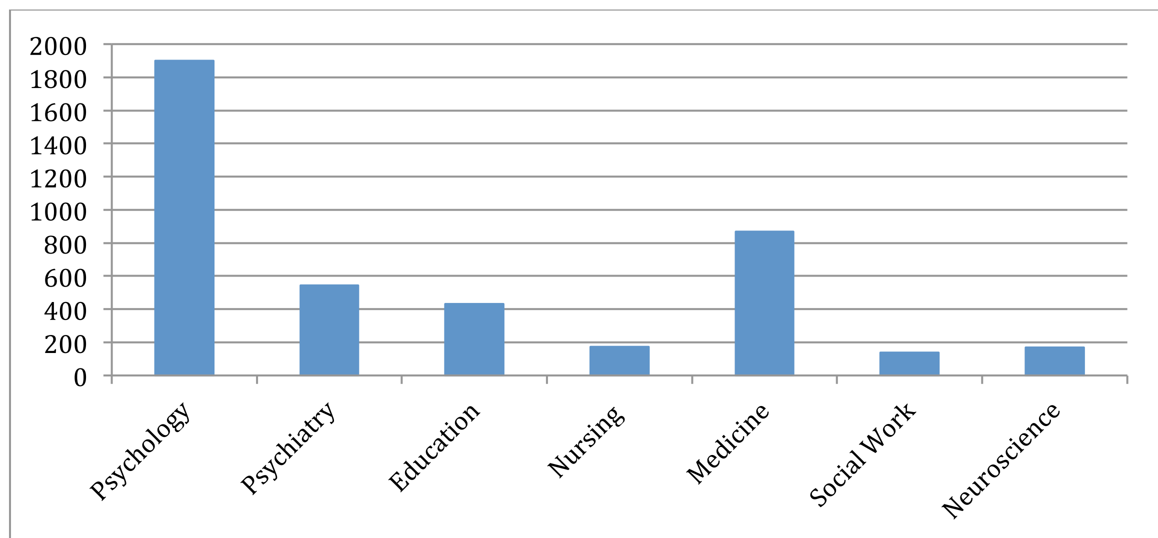

Figure 4. This figure illustrates findings for search criteria 2.

Findings for search criteria 3. Results from the second search yielded two hundred forty five numerical data points that were used to construct the graph labeled *Figure 5*. These data points indicate that number of publications using mindfulness has grown in the following arenas: psychology, psychiatry, education, nursing, medicine, social work, and neuroscience. Each arena has experienced a steady increase in the number of publications per year. Arenas are listed in descending order beginning with psychology yielding the highest number of publications in 2014 with 389 publications

followed by: medicine (220), psychiatry (103), education (94), neuroscience (51), social work (46), and nursing (44). In the past 5 years the number of publications using mindfulness and each field in *figure 5* has increased markedly. While social work has published the fewest articles related to mindfulness since 1979, results indicate the greatest percentage increase compared to the other fields over the past 5 years at 78%. Percentage increases over the past five years for the remaining fields are: psychology (50%), medicine (61%), psychiatry (42%), education (61%), neuroscience (76%), and nursing (61%).

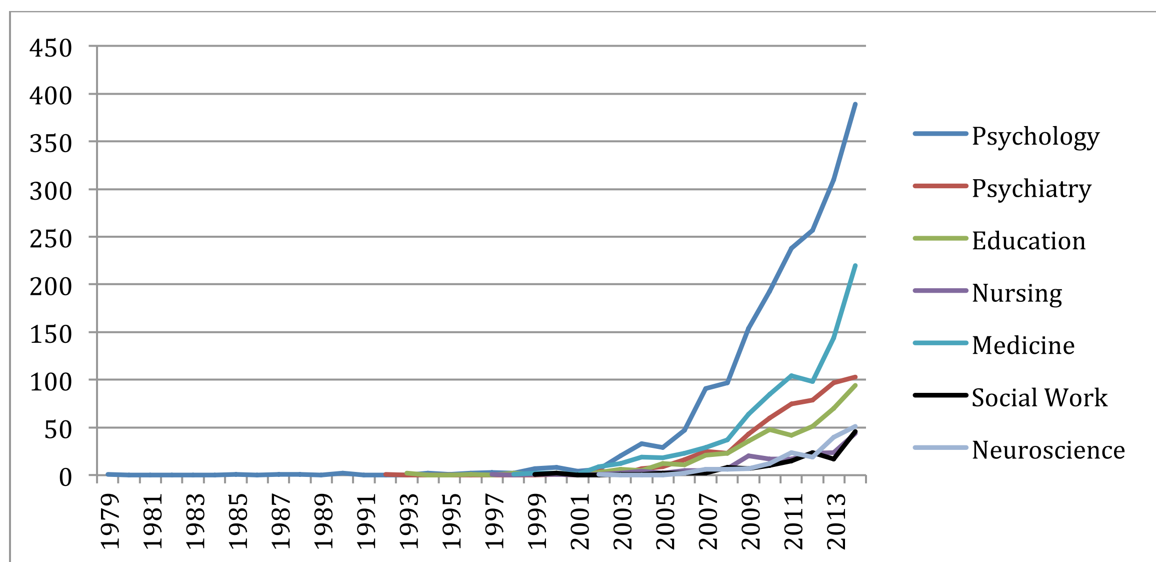

Figure 5. This figure illustrates findings for search criteria 3.

Findings for search criteria 4. Results from the second search yielded thirty-five numerical data points that were used to construct the graph labeled *Figure 6*. Findings by condition in each of the following five arenas are reported: Psychology, psychiatry, medicine, nursing, and social work. The arena is listed followed by the condition and number of research publications in parentheses. Psychology: depression

(465), anxiety (410), psychosis (237), personality disorder (52), ADHD/ADD (26), bipolar (20), and schizophrenia (20). Psychiatry: depression (191), anxiety (140), psychosis (95), personality disorder (28), ADHD/ADD (12), bipolar (24), and schizophrenia (11). Nursing: depression (35), anxiety (33), psychosis (13), personality disorder (4), ADHD/ADD (0), bipolar (1), and schizophrenia (1). Medicine: depression (204), anxiety (194), psychosis (83), personality disorder (13), ADHD/ADD (18), bipolar (8), and schizophrenia (11). Social Work: depression (20), anxiety (20), psychosis (9), personality disorder (2), ADHD/ADD (2), bipolar (1), and schizophrenia (4).

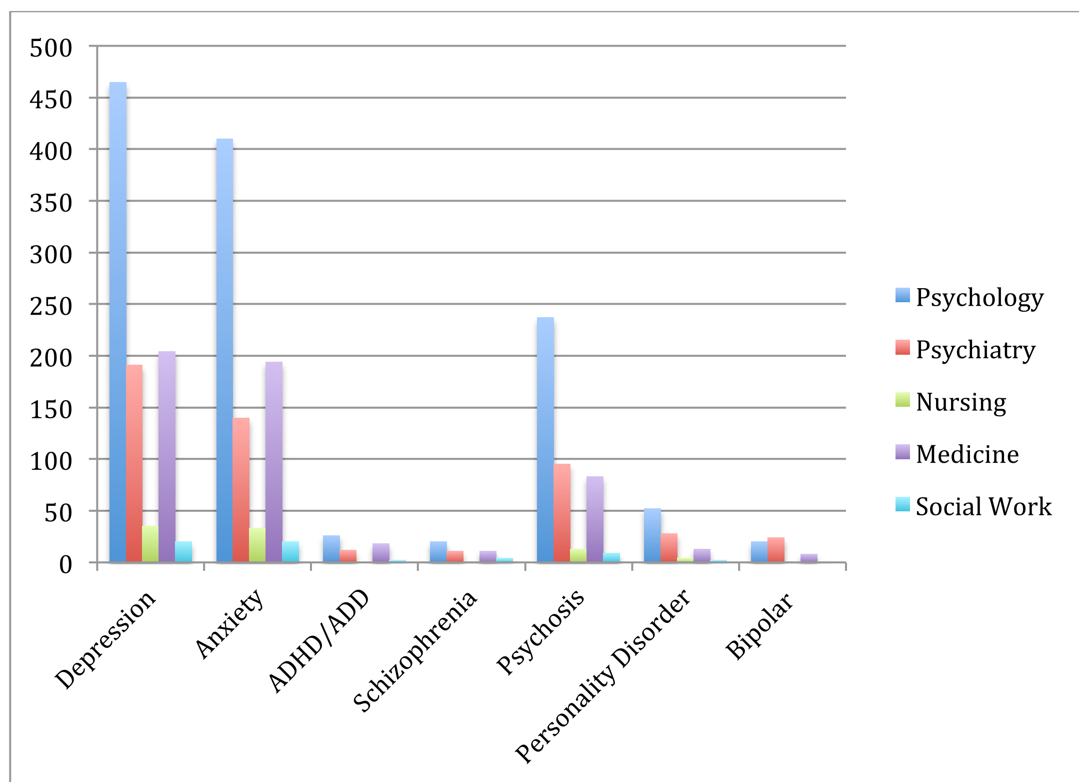

Figure 6. This figure illustrates findings for search criteria 4.

Findings for search criteria 5. Results from the second search yielded fifteen numerical data points that were used to construct the graph labeled *Figure 7*. In the field

of psychology, MBCT was the most popular MBI (314) followed by MBSR (157) then DBT (27). In the field of medicine, MBCT was the most popular MBI (128) followed by MBSR (116) then DBT (5). In the field of psychiatry, MBCT was the most popular MBI with (135) followed by MBSR (63) then DBT (14). In the field of social work, MBCT was the most popular MBI (20) followed by MBSR (6) then DBT (1). In the field of nursing, MBSR was the most popular MBI with 31 returns followed by MBCT (15) then DBT (3). Overall, MBCT was the most popular MBI used within helping disciplines with the exception of nursing where MBSR was used in more studies.

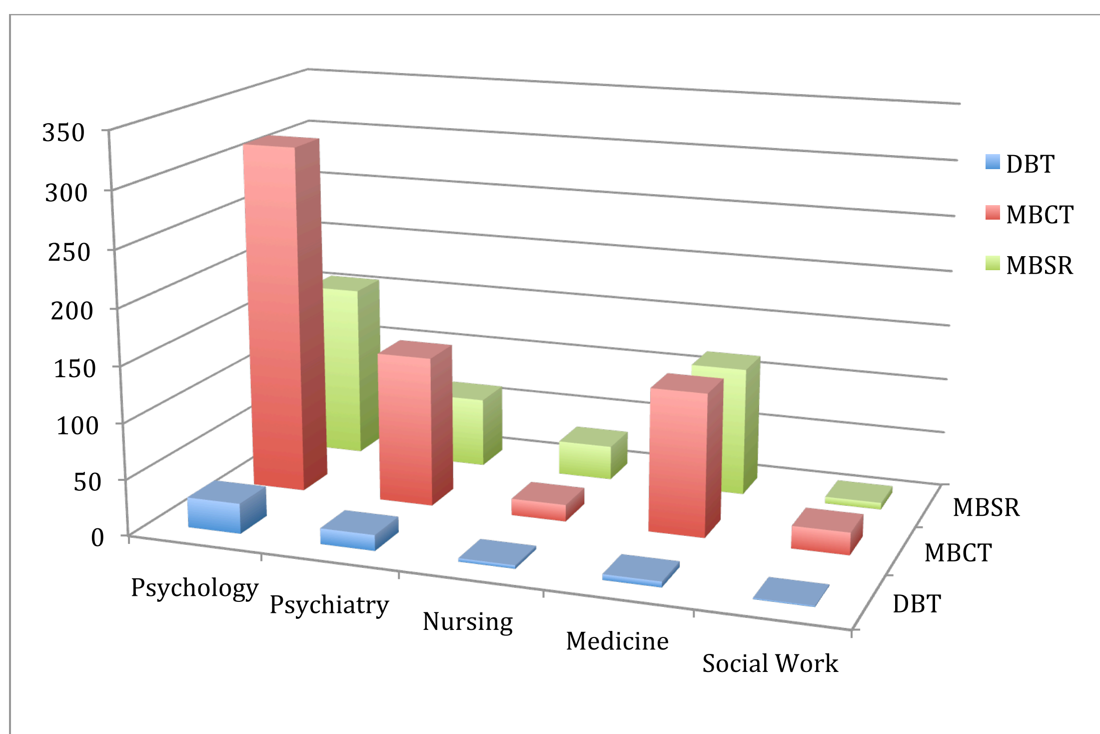

Figure 7. This figure illustrates findings for search criteria 5.

Findings for search criteria 6. Results from the second search yielded twenty-one numerical data points that were used to construct the graph labeled *figure 7*. Findings by condition in each of the following MBIs are reported: MBCT, MBSR, and

DBT. The MBI is listed followed by the condition and number of publications in parentheses. MBCT: depression (48), anxiety (34), ADHD/ADD (0), schizophrenia (1), psychosis (19), personality disorder (2), and bipolar (6). MBSR: depression (29), anxiety (25), ADHD/ADD (1), schizophrenia (0), psychosis (6), personality disorder (0), and bipolar (0). DBT: depression (15), anxiety (5), ADHD/ADD (2), schizophrenia (0), psychosis (6), personality disorder (38), and bipolar (1).

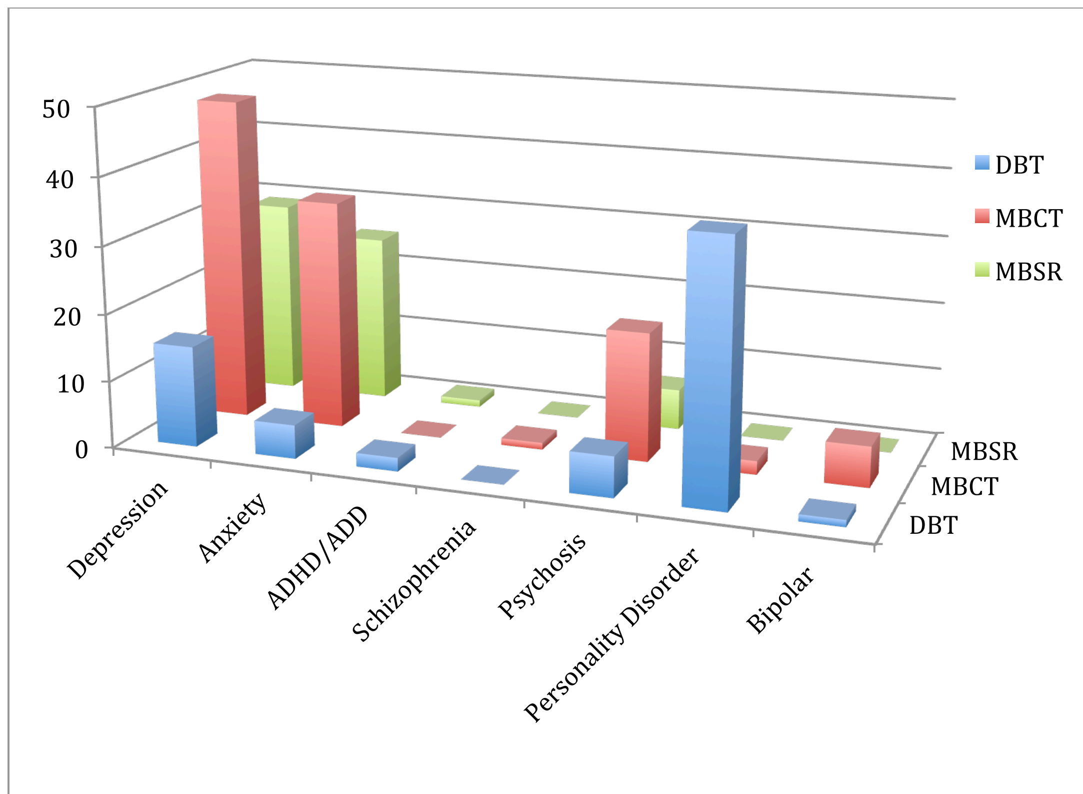

Figure 8. This figure illustrates findings for search criteria 6.

Findings from Meta-analysis Framework

The total number of articles identified through the initial database search for mindfulness yielded 3,002 records (see *Figure 2*). Articles from the initial search were screened further and 2,709 records were removed because they were not randomized

trials, and 52 were removed because they were education focused. This yielded a total of 241 titles and abstracts that were screened of which 210 articles were excluded because the primary focus was treatment for a non-psychiatric medical condition. The remaining 31 full text articles were assessed for eligibility. Of the 31 articles assessed, 15 articles were excluded for the following reasons: two were duplicate studies, six did not include a DSM-IV diagnosis as part of the eligibility criteria for the study, five were not randomized controlled trials, and two did not use a mindfulness-based intervention. The remaining sixteen full text articles were assessed for eligibility and classified by MBI. The articles were classified into the following four MBIs: MBCT, MBSR, ACT, and other. The classification of "other" included: DBT, MORE, PBGT, and MAGT. Once articles were classified by MBI, they were classified by condition being treated. There were a total of seven articles classified under MBCT, three articles for MBSR, two articles for ACT, and four articles classified as other. The group of seven MBCT articles was further classified based on DSM-IV diagnosis being treated. Of the seven MBCT articles, four were studying the treatment of depressive disorder, one was for bipolar disorder, one was for seasonal affective disorder, and one was for social phobia.

After using the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) framework to arrive at the four articles focusing on the use of MBCT for the treatment of depression, each article was reviewed for reporting on the collection of data that would indicate if researchers are employing and accurately measuring the use of MBCT for the treatment of depression (see Table 1). To determine if researchers were employing the MBCT properly, data results using the Mindfulness

Based Cognitive Therapy Adherence Scale (MBCT-AS) were pulled out. To determine if researchers were accurately measuring the effects of the mindfulness within MBCT this researcher pulled out any measurement of mindfulness. In addition to these two measures, any measurement for depression was also included in the analysis.

Of the four studies, two articles (Meadows et al., 2014 and Bondolfi et al.,2010) reported results from the MBCT-AS indicating that adherence to the MBCT treatment protocol. Only one article, Van Aalderen et al. (2012), listed results obtained using a mindfulness scale. All four studies had a measurement for depressive symptoms however, only two, Van Aalderen et. al. (2012) and Godfrin & Heeringen (2010), reported follow-up measurements. The most common measure for the efficacy for the treatment of depression using MBCT was the time to recurrence of depression. Three of the four studies, Meadows et al. (2014), Bondolfi et al. (2010), and Godfrin & Heeringen (2010) measured time to recurrence and all found an increased time to relapse.

Table1

Details of Included Studies

Study	1) MBCT-AS	2) Recurrence	3) KIMS	4) MADRS	5) HAM-D	6) BDI	7) PHQ-9	Results for MBCT Group
Van Aalderen et. al. (2012)			x		x	x		3) Increase in mindfulness skills 5) Decreased depressive symptoms 6) Decreased depressive symptoms
Meadows et. Al. (2014)	x	x					x	1) Adherence to the MBCT protocol 2) Increased time to relapse 7) Data not reported
Godfrin & Heeringen (2010)		x			x	x		2) Increased time to recurrence 5) Decreased depressive symptoms 6) Decreased depressive symptoms
Bondolfi et al. (2010)	x	x		x		x		1) Adherence to the MBCT protocol 2) Increased time to relapse 4) No follow-up data presented in article 6) No follow-up data presented in article

Interpretations of the Findings

There is empirical evidence suggesting that the use of mindfulness in academic peer reviewed articles is growing. While social work was last of the social science disciplines to publish studies using mindfulness, as well as published the fewest research articles on mindfulness, this study finds that it has the largest increase in growth over the past five years. While social work is new to the use of mindfulness based interventions,

many other arenas have been using it for over thirty years. Psychology was the first to use it and has used it the most in mindfulness based cognitive therapy for the treatment of depression. Despite its prolific use, however, this analysis only yielded four studies meeting scientifically rigorous criteria that included implementation protocols and/or results assuming validity. Of the four studies, not a single study had published study results containing measurements of MBCT protocol adherence, mindfulness, and change in depression symptomatology.

Summary

This chapter discussed the findings from content analyses on research studies using mindfulness theory and methodology. Most notable were the finding of trends by time, field, MBI, and condition being treated. Mindfulness has increasingly appeared in peer-reviewed literature since 1979 primarily in the field of psychology for the treatment of depression and anxiety with the use of MBCT. Social work has joined other social science disciplines in bringing such methodology and practices into the field in graduate programming and agency treatment menus. Despite its popular usage, however, few randomized controlled trials exist with strict eligibility criteria and adequate measures that validate the use of this intervention as effective or appropriate with the populations to which they are being directed.

Chapter 5

Conclusion, Summary, and Recommendations

Summary of Study

The purpose of this study was to extend the dialogue regarding the definition and application of mindfulness to Western clinical practices by critically analyzing the research that has been done within the last 35 years that identified 'mindfulness' as a component of practice. This researchers intention was to determine: (1) What, if any, are the emergent trends within the arenas of Western clinical practice, specifically medicine, education, nursing, psychiatry, psychology, social work, and neuroscience in which MBIs have been being practiced and researched? (2) Which MBIs meet scientific research inclusion criteria (peer-reviewed and randomized control trials) and which MBI has the most significant number of returns? (3) Are researchers employing and accurately measuring the MBI identified in the research protocol?

Critical analysis of current research and trends were performed which showed emergent trends in the following arenas of Western clinical practice: medicine, education, psychiatry, psychology, nursing, social work, and neuroscience. Trends resulting from the content analyses in conjunction with a meta-analysis framework led this researcher to conclude that despite the increased use of mindfulness based practices in every arena studied by this researcher over the past 35 years; there is a need for improved adherence to the identified tenets of MBCT, one of the most established evidence-based MBIs. SAMSHA deemed a total of six MBIs to be evidence based. MBCT is one of the listed evidence based practices. Rosen (2003) suggests that social work supports a commitment

to scientific standards and an emphasis on EBP. Content analysis of existent literature revealed the MBI with the most significant number of returns was MBCT indicating that MBCT is the most popular form of MBI studied in peer-reviewed literature. MBCT was also the MBI that yielded the most articles meeting scientific research inclusion criteria (peer-reviewed, randomized control trials, and DSM-IV diagnosis, not for the treatment of a non-psychiatric medical condition).

Current trends illuminated in this study show a lack of available data by which any arena/field can deem MBCT an EBP based on scientific standards. Only four MBCT studies met the criteria for inclusion in the meta-analysis for this project. The meta-analysis of MBCT for the treatment of depression looked at three measures: adherence to the treatment protocol for MBCT using the 17-item MBCT-AS scale, results measuring mindfulness, and published results measuring depression pre and post intervention. Of the four studies, no study reported adequate data for all three measures.

Only one study measured mindfulness, which is a key component of MBCT. Without a measure of mindfulness it is difficult for a clinician to determine whether or not the mindfulness piece of the treatment truly plays a role in the amelioration of depressive symptoms. Absent this measure the clinician is left to wonder if cognitive behavior piece of the therapy is to blame for the results. Only two of the studies measured adherence to the MBCT treatment protocol. Without the use of this measure it is difficult to claim that MBCT treatment is being conducted as it is designed. Finally, all studies did measure depression pre and post intervention, which is crucial in reporting outcomes showing efficacy of treatment. However, it is this researchers conclusion that

the lack of data measures in all three areas, detracts from the validity of these studies.

Implications for Social Work

The field of social work is part of the growing trend in the application and use of mindfulness in clinical practice. While social work was late to the game it is experiencing the greatest amount of growth in the past five years at a rate of 78%. This growth rate indicates that mindfulness is quickly making its way into the field. Such a marked growth rate has serious implications in terms of its usage. Social work values evidence based practice and may not have been as quick as other professions to integrate such practices with the lack of data available meeting scientific standards. The use of mindfulness in the field of social work is in its infancy and the field of social work is in a unique position to decide if and how to integrate this concept into practice.

Recommendations

It is this researchers recommendation that future studies be conducted with attention paid using the scientific standards that will aid in assisting the research community in determining if a treatment is evidence based. Future studies using mindfulness-based intervention should also include a consensus developed measurement tools for mindfulness. This will help other researchers determine the role of mindfulness in each intervention. There is also, a clear need for evidence of improved adherence to the identified tenets of one of the most established evidence-based MBIs, MBCT. Studies identifying MBCT as the main method of treatment should consider using the MBCT-AS to demonstrate adherence to the MBCT protocol.

Limitations

There were several limitations to this study. The content analysis was conducted using a crude method of abstraction and searches for terms using only one database search engine. This may have limited the number of articles returned in the search results, thus several relevant articles may have been missed while others may have been duplicated in the content analysis. Assumptions were also made based on trends from the content analyses performed that can not be completely verified without extensive analysis of the 3,002 articles identified. An extensive review of 3,002 peer-reviewed articles was beyond the scope of this project. The meta-analysis was performed on a relative low sample size. This may have been due to the rigid selection criteria or a lack of available studies published. Effect sizes for each study were not computed due to the lack of data available and the way in which data was measured and reported for each study.

Conclusion

In summary, this research project has found that the use of mindfulness has been growing at an increasing rate since 1979. It has been used in various fields and is popularly used in psychology. Trends indicate that in the past five years, social work has experienced the greatest percent increase in the use of mindfulness. While mindfulness based interventions have been used to treat various conditions, MBCT is the most popular intervention used and is most commonly used in the treatment of depression and anxiety. Despite the surge in the use of mindfulness there is a lack of scientifically conducted, randomized controlled trials available to consider MBCT an evidence based practice.

Appendix A

Raw Data for Figure 3

Year	Number of Articles
1979	1
1980	0
1981	1
1982	0
1983	0
1984	0
1985	1
1986	0
1987	1
1988	1
1989	0
1990	4
1991	0
1992	1
1993	3
1994	3
1995	3
1996	2

1997	6
1998	3
1999	10
2000	16
2001	7
2002	28
2003	44
2004	58
2005	54
2006	85
2007	126
2008	146
2009	227
2010	290
2011	344
2012	375
2013	463
2014	594

Appendix B

Raw Data for Figure 4

Field	Number of Results
Psychology	1899
Psychiatry	545
Education	431
Nursing	174
Medicine	868
Social Work	138
Neuroscience	168

Appendix C

Raw Data for Figure 5

	Psychology	Psychiatry	Education	Nursing	Medicine	Social Work	Neuro-science
1979	1	0	0	0	0	0	0
1980	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0
1985	1	0	0	0	0	0	0
1986	0	0	0	0	0	0	0
1987	1	0	0	0	0	0	0
1988	1	0	0	0	0	0	0
1989	0	0	0	0	0	0	0
1990	2	0	0	0	0	0	0
1991	0	0	0	0	0	0	0
1992	0	1	0	0	0	0	0
1993	0	0	2	0	0	0	0
1994	2	0	0	0	0	0	0
1995	1	0	0	0	0	0	0
1996	2	0	1	0	0	0	0

1997	3	0	0	1	0	0	0
1998	2	0	2	0	1	0	0
1999	7	0	1	1	2	1	0
2000	8	1	2	1	2	2	0
2001	4	0	1	0	1	0	0
2002	6	5	3	1	9	0	1
2003	20	1	6	2	12	1	0
2004	33	7	5	4	19	1	0
2005	29	9	12	2	18	2	0
2006	47	16	11	5	23	2	2
2007	91	25	21	5	29	2	6
2008	97	23	23	7	37	8	6
2009	154	43	36	20	64	7	7
2010	193	60	48	17	85	10	12
2011	238	75	42	17	104	15	24
2012	257	79	51	23	98	24	19
2013	310	97	70	24	144	17	40
2014	389	103	94	44	220	46	51

Appendix D

Raw Data for Figure 6

	Psychology	Psychiatry	Nursing	Medicine	Social Work
Depression	465	191	35	204	20
Anxiety	410	140	33	194	20
ADHD/ADD	26	12	0	18	2
Schizophrenia	20	11	1	11	4
Psychosis	237	95	13	83	9
Personality Disorder	52	28	4	13	2
Bipolar	20	24	1	8	1

Appendix E

Raw Data for Figure 7

	DBT	MBCT	MBSR
Psychology	27	314	157
Psychiatry	14	135	63
Nursing	3	15	31
Medicine	5	128	116
Social Work	1	20	6

Appendix F

Raw Data for Figure 8

	DBT	MBCT	MBSR
Depression	15	48	29
Anxiety	5	34	25
ADHD/ADD	2	0	1
Schizophrenia	0	1	0
Psychosis	6	19	6
Personality Disorder	38	2	0
Bipolar	1	6	0

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