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Mindfulness Based Approaches with Obese Clients:
A structured literature review on the role of mindfulness, obesity and weight management

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A research project submitted to the Graduate Faculty

of JAMES MADISON UNIVERSITY

In

Partial Fulfillment of the Requirements

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FACULTY COMMITTEE:

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Dedication

"I wake up, check my senses.
One, two, three, four, five.
Number six missing again.
Same old game of seek and hide.
I remember that old feeling.
It's tender to the touch.
Just me and all my senses
I don't need to think too much.
You know I tend to think too much."

~*Women of Faith* by Eddie from Ohio

I would not be standing at the threshold of my EdS in Clinical Mental Health Counseling, if not for the support of my best friend and husband, Paul Campbell. I am blessed by my "sixth sense" who has been my rock, my cheerleader, my voice of reason, my counselor, and my friend along this journey. Thank you for allowing me to be me, as well as, your never-ending encouragement in all I pursue. I am forever grateful for your unwavering support of me and our children during these past few years as I worked towards this degree.

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Abstract

Mindfulness has been used to improve physical and psychological health in a variety of treatment modalities across the globe. Specifically, the use of mindfulness and mindful-based interventions relevant to those living with obesity has increased dramatically over the past decade, and substantial research is now being conducted in this arena. This paper includes a review of the literature on mindfulness-based interventions and implications for therapeutic use for counselors working with this population.

The Hippo

The hippo floats in swamp serene,

some emerged, but most unseen.

Seeing all and only blinking,

Who knows what this beast is thinking.

Gliding, and of judgment clear,

Letting go and being here.

Seeing all, both guilt and glory,

Only noting. But that's MY story.

I sit here hippo-like and breathe,

While inside I storm and seethe.

Would that I were half equanimous

As that placid hippopotamus.

By Steven Hickman

(Center for Mindfulness, 2020)

Understanding Obesity

Obesity in America is common, serious and costly (CDC, 2020). Research states that more than one-third of U.S. adults are obese, and health conditions associated with diabetes include heart disease, stroke, chronic fatigue, type 2 diabetes, sleep apnea, osteoarthritis, asthma, cancer, and early death (CDC, 2020). In addition, the estimated annual medical cost of obesity in the U.S. was $147 billion in 2008 U.S. dollars; the medical costs for people who are obese were $1,429 higher than those of an average weight (CDC, 2020).

While the statistics for the physical conditions are staggering, the emotional and psychological effects of obesity can be just as devastating. Among the psychological disorders that obesity may contribute to include depression, eating disorders, distorted body image, and low self-esteem (APA, 2020). The connection between obesity and certain mental health disorders is a crucial public health problem. Those individuals who suffer from both obesity and mental health disorders may face particular risks to health and well-being, as it is likely that these conditions may serve to perpetuate each other (APA, 2020). In addition, those who are extremely overweight and/or obese are more likely to suffer from body shaming than those who are not overweight They type of shaming or negative attitude towards obesity is very prevalent in western societies and among health care professionals (Devlin, Yanovski, & Wilson, 2000). This negative approach translates into tangible disadvantages to those who are overweight and/or obese, including barriers to college admission, renting a residence, or even getting married (Devlin, Yanovski, & Wilson, 2000).

In a variety of research studies on obesity and mental health, researchers found that patients suffering from obesity have been found to have higher rates of depression. Additionally, clinical depression is highest among those patients who were categorized as severely obese (Katz, et al., 2000, Roberts et al., 2003, & Sullivan, et al. 1993). In a research study conducted by Scott et al. (2007) in 13 developing countries, researchers found a statistically significant relationship between obesity–mental disorder relationships, including obesity and depressive disorder and obesity and anxiety disorder. As with other studies, these relationships are stronger in patients with more severe obesity (BMI 35+) (Scott et al., 2007). According to this study, "it is emotional disorders then, rather than depressive disorders specifically or mental disorders generally, that appear to have a connection with obesity" (Scott et al., 2007, p. 199). In addition, the same study found that socioeconomic and demographic issues (i.e., age, sex, and education) also contributed to obesity–mental disorder relationships, and found that these issues were more likely in women than men, younger than older populations, and among those with lower education and income levels (Scott et al., 2007). Interestingly, the study also indicated that women were more concerned by obesity than men, sought therapy more often, and also experienced greater stigma around being overweight or obese. While these findings are interesting, they are also unsurprising, as it is widely known in western culture that women experience more social pressure than men to maintain their weight and may feel a greater sense of lowered self-esteem and body dissatisfaction as a result of being overweight (Scott et al., 2007).

Overall, the wider research thus far is inconclusive as to the cause and effect relationship between obesity and depressive disorders. Study after study stated that, due

to differing study criteria, populations, and methodology (surveys, tests, scales, etc.), it is hard to truly determine causality. For example, did the obesity contribute to the depressive disorder? Or, did the depressive order contribute to the obesity?

More compelling in this body of research are the findings around obesity stigmatization. Daly, Sutin, and Robinson (2019), for instance, discuss the social issues and discrimination that people with obesity experience, such as job discrimination, social exclusion, negative portrayals in popular media, manipulation by the diet/fitness industry, denial of health benefits, trouble finding clothing, mistreatment by doctors, and general public ridicule. Negativity towards those who are overweight and/or obese also stems from the bias or belief that overweight people are lazy and/or incompetent. This bias can result in discrimination, particularly in healthcare, employment, and educational settings (Daly, Sutin, & Robinson, 2019). Because of the perceived nature of obesity and the uniformed attitudes from society regarding the disorder (for example, the idea that obesityis controllable), obese people often face more hostile, discriminating, and stereotypical opinions that they are unappealing, morally and emotionally impaired, asexual, unhappy, weak-willed, and unlikable (Myers & Rosen, 1999). Obese clients may have to utilize or develop an entirely new set of coping skills in order to deal with these perceptions around their weight. “Obesity stigmatization is a challenging experience that spoils quality of life, triggers psychological distress, and requires substantial coping efforts” (Myers & Rosen, 1999, p. 222).

Mindfulness

It is astounding the number of underlying issues that can contribute to why people do, or do not, change their behaviors despite knowing the risks associated with the

obesity-related chronic disease. In some instances, working with clients to develop the aforementioned coping skills might be necessary, or relevant, in a counseling setting. In some cases, it is imperative that a client address their emotional relationship to food and/or exercise, lest individuals be faced with long-term problems, both psychologically and physically. In addition to the fact that individuals may be better able to adopt new habits, mindfulness skills can be utilized in combatting obesity-related issues within counseling settings. Specifically, Brown, Marquis and Guiffrida (2013) state that a central premise to using mindfulness techniques during counseling is due to its usefulness in alleviating symptoms in patients that suffer from anxiety, depression, borderline personality disorders, and addictions.

Kabat-Zinn (1994) defines mindfulness as “paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally” (p. 4). Jon Kabat-Zinn, the creator of the Mindfulness-Based Stress Reduction movement, has published hundreds of articles, books, and recordings about MBSR and his research reflects that mindfulness is one of the simplest tools that one can engage in (Kabat-Zinn, 1994). Mindfulness allows a person to become more aware of their physical and emotional foundations while not falling prey to self-criticism and judgement (Kabat-Zinn, 1994). By living life in the present and recognizing what is happening as it happens, a person can identify and manage feelings that might be causing issues emotionally, physically, and socially (Kabat-Zinn, 1994).

Mindful eating is one relevant mindfulness approach and involves bringing one's full attention to the process of eating, including focusing on all the tastes, smells, thoughts, and feelings that arise during a meal (The Center for Mindful Eating, n.d.).

Those that practice mindful eating often realize that one's affiliation to food is a central focus and reflects their attitudes toward the environment and themselves (The Center for Mindful Eating, n.d.). According to the Center for Mindful Eating (n.d.) the following principles describe mindful eating as the process of "allowing yourself to become aware of the positive and nurturing opportunities that are available through food selection and preparation by respecting your own inner wisdom." Those who mindfully eat are more aware of their emotions and physical sensations in the moment and can work to reach a state of full attention to food, such as their decisions around food, hunger cues, and satiety (The Center for Mindful Eating, n.d.).

The Center goes on to further define someone who eats mindfully as one who: "acknowledges that there is no right or wrong way to eat but varying degrees of awareness surrounding the experience of food; accepts that their eating experiences are unique; Is an individual who by choice, directs their attention to eating on a moment-by-moment basis; Gains awareness of how they can make choices that support health and well-being; and, becomes aware of the interconnection of earth, living beings, and cultural practices and the impact of their food choices on those systems" (The Center for Mindful Eating, n.d.).

By integrating the practice of mindfulness with the art of mindful eating, a person suffering with weight and/or obesity issues can begin to work on improving their self-talk, raising their self-esteem, and exercising new tools for self care and growth.

Mindful eating is allowing oneself to become aware of the positive opportunities that are available through food selection and preparation by respecting a client's own inner consciousness. By purposefully using all senses in choosing to eat food that is both

satisfying and nourishing to the body, as well as acknowledging responses to food without judgment and becoming aware of physical hunger and satiety cues to guide decisions to begin/end eating, a client's relationship to food can begin to change (Mantzios & Wilson, 2015). This method has shown promise, and mindful eating techniques, exercise, and therapy encompass the fundamental elements of mindfulness and offer a simple structure to guide a client through the entire decision- making process. Utilizing the skill of mindfulness practices in eating can help to transform an individual's battle with food and renew a sense of pleasure, appreciation, and satisfaction with eating. Emerging research on mindfulness-based practices and therapy in supporting patients who are obese and participate in obesity-related eating behaviors (including binge eating, emotional eating, and external eating) are also promising (Mantzios & Wilson, 2015).

As a therapeutic approach, by teaching mindfulness based practices and mindful eating to clients, therapists can help to increase awareness around eating-related emotions, negative self-talk, and judgment. In a study conducted by the University of New Mexico, researchers piloted a group curriculum called Mindful Eating and Living (MEAL) and provided mindfulness training to individuals who were obese (Dalen et al., 2010). The intervention included a six-week, two-hour per week group session that included training in mindfulness meditation, mindful eating, and group discussion, with an emphasis on awareness of body feelings, emotions, and triggers to overeat (Dalen et al., 2010). According to the authors and their findings, the study participants showed statistically significant increases in mindfulness and cognitive limitation around eating, and statistically significant decreases in weight, eating disinhibition, binge eating, depression, perceived stress, physical symptoms, and negative affect (Dalen et al., 2010).

The authors did find evidence that an intervention targeted around mindfulness practices and mindful eating can help patients have a positive change in their eating behaviors, weight, and mental distress (Dalen et al., 2010).

Mindful eating is developing as a promising method for addressing various eating-related issues including binge eating, diabetes, and obesity (May, Furtado, & Ornstein, 2014). The model of mindful eating may aid in preventing, identifying, and resolving maladaptive eating and other problems, particularly in those clients that have recently had bariatric surgery (May, Furtado, & Ornstein, 2014). Because mindful eating is the ability to be present and in the moment with emotions around food/eating, mindfulness is most helpful in allowing the individual to confront those habits that may be unhealthy or impulsive (May, Furtado, & Ornstein, 2014). In addition, it is vital that a client identify their emotional and environmental triggers. Once these triggers have been identified, a client can then begin to learn how to redirect their attention to other things until that urge passes. However, if a client does not learn alternative means of coping, then the bad habits that cause weight gain can arise again. It is imperative to address emotional eating in therapy as a component of combatting weight management and obesity.

Given the extent of the current obesity epidemic in the United States and the complexity of the underlying causes of obesity, innovative approaches to support weight management are needed (CDC, 2020). Mindful eating can be a piece of the larger puzzle to deal with the comorbid issues of obesity as well as the psychological ones. For the purpose of this review, there are many terms used when discussing mindfulness and eating. These terms are defined below:

Mindless eating is the premise that individuals don't know much about what makes them eat. Often people overeat food that they do not even like, simply because of the context in which they unconsciously find themselves, and this is a result of multiple psychological and environmental cues (Hagloch, 2014). The book *Mindless Eating,* describes how hidden factors eventually lead to an increase in caloric intake over time and then a slow and subtle weight gain, which results from this increase in calories over time. This increase can be as little as 100 calories per day (Wansink, 2006).

Emotional eating is defined as individuals who eat in response to emotional stress or triggers in their lives, instead of relying on physical cues to eat. These individuals eat mindlessly without regard or awareness as to what the reasons are for eating. This behavior is often a result of psychological distress such as trauma, depression, anxiety or isolation/loneliness (Pidgeon, Lacota, & Champion, 2013).

Overeating is the act of consuming more calories than necessary, and generally results in an individual consuming large portions that causes them to feel uncomfortably full (Salas-Wright, Vaughn, Miller, et al., 2019). Those who overeat often obsess about food, when their next meal will be, and spend excessive amounts of money on food, as well as are embarrassed by their thoughts and eating processes. While overeating is not a diagnosable condition, if left untreated or unchecked, the behavior can lead to other serious eating disorders such as Bulimia Nervosa or Binge Eating Disorder (BED) (Salas-Wright, Vaughn, Miller, et al., 2019).

Binge eating disorder is a psychiatric condition that has been shown to significantly impact a person's life and wellbeing. The problem with BED is greater than the binge itself. Those living with BED often suffer compulsive eating behaviors *and* obsessive

thoughts around food. People with BED will feel trapped in a damaging and repetitive cycle of planning, secrecy, bingeing, and shame, a cycle of behavior that isolates them from the people and things they care about most. According to the DSM-5, the diagnostic criteria for binge eating disorder includes those who often eat very quickly and eat until they are uncomfortably full; consume large quantities of food despite not being hungry; eat alone because they are humiliated about the amount of food they intake; and, feel disgusted, depressed, or guilty after a “binge” episode (American Psychiatric Association, 2013).

Literature Review

There has been considerable research conducted over the past three decades around mindfulness-based interventions and obesity related behaviors, such as overeating, stress eating, and mindless eating. The persistence of unhealthy eating patterns among those who are diagnosed as obese suggests that further investigation of effective interventions is a worthwhile undertaking. Included here is a structured literature review to determine the effectiveness of mindfulness-based interventions (MBIs) for treating obesity-related eating patterns. The subsequent articles have been synthesized for their main points and will provide common MBI techniques and generalized implications for mental health practitioners to use in clinical settings with their clients such as fidelity, training/supervision, adverse effects and training modalities

The research review for this piece revealed hundreds of articles on MBI interventions focused on eating disorders of all kinds. Mindfulness-based interventions are increasingly being utilized to try and modify certain eating behaviors, weight loss, and stress management. The literature reveals a plethora of both group and individual focused MBI interventions.

In a 2019 program evaluation by Gidugu and Jacobs, researchers evaluated persons with serious mental illness (SMI) who are challenged with lifestyle factors that contribute to obesity and other chronic conditions. Individuals living with SMIs often suffer from specific factors that contribute to unhealthy lifestyles including lack of motivation, stress, anxiety, mood and appetite regulation and a lack of support resources. In working with people who suffer a serious mental illness, a healthier lifestyle program that includes nutrition and exercise is not always the answer. Programming must go

beyond caloric intake and output and focus on an individual's readiness for change and sustainability while developing a client's ability to interrupt negative thoughts, practice self awareness and acceptance (Gidugu and Jacobs, 2019.) Mindfulness-based interventions such as relaxation, meditation, learning to navigate cravings and other food-related triggers, are areas of focus for all clients but may be particularly helpful to those who have an SMI.

As a part of their study, Gidugu and Jacobs (2019) developed a 14-week program that met twice weekly for 90 minutes. This program worked on addressing mindless eating in clients and focused on the positives of eating, regulation, and self-empowerment, developing the participants to a certain level of self-efficacy and positive behavior. By offering a curriculum that is repetitive, bite-sized, and addresses specific challenges faced by those with SMI, the designers included "brief meditations, hunger assessment (before and after eating), a mealtime contemplation, eating slowly, attending to all senses, overcoming distractions by focusing on breath, and attending to sensory specific satiety" (Gidugu and Jacobs, 2019, p. 178). Assessment of the course included pre and post evaluation, including the Mindful Eating Questionnaire, Three Factor Eating Questionnaire, and feedback sessions.

As a part of this same study, 46 individuals recruited from a university Recovery Education Program participated over four semesters. Results from the assessment indicated that participants reported a growing awareness around the external stimuli affecting their eating behaviors and of their eating overall. Partcipants reported, through questionnaire responses, being less distracted and experiencing a reduction in overeating and emotional eating. Overall, mindful eating was found to be a promising intervention

with those living with SMI, and the combination of a bi-weekly group course, along with individual feedback sessions, proved effective. Drawbacks to this intervention included the limited educational setting, the small sample size of participants, and a lack of support outside the classroom.

Spadaor et al. (2018), at the University of Pittsburg, conducted a six-month study on 46 adults enrolled in a standard behavioral weight loss program (SBWP) that incorporated an additional mindfulness meditation practice for half of the participants. All participants were asked to focus on decreasing their caloric intake and increase physical activity. The participants were then assigned to attend a weekly SBWP session or a SBWP course that also included mindfulness meditations (Spadaor et al., 2018).

Participants were recruited based on a select criterion of having a BMI between 25.0 and <40.0; not exercising regularly; not currently participating in other weight loss programming; and, specific medical conditions. Participants were assigned to two randomized groups: 1= SBWP or 2=SBWO + MM. Everyone received an education class once per week about diet, exercise, and behavioral modifications that included specific instruction such as journaling, food diaries, goal setting, problem solving, relapse prevention, food shopping, food prep, food choices, etc. Group 1 (SBWP) had a 30-minute exercise session incorporated into their one-hour course (Spadaor et al., 2018). The experimental group underwent 30 minutes of mindfulness meditation that included mindfulness-based strategies such as satiety sitting meditations, awareness of negative thoughts, body scans, yoga, three minute check-ins, etc. Both groups were assessed at baseline, three months, and six months with biometric readings (height and weight) and questionnaires (Block Food Frequency Questionnaire, Eating Behavior Inventory, Eating

Inventory, Paffenbarger Physical Activity Questionnaire on Exercise Habits and the Mindfulness Attention Awareness Scale). Researchers also monitored attendance, weekly food journal completion, and retention rates (Spadaor et al., 2018).

Results of the study indicated overall weight loss for both groups that was statistically significant and that the SBWP + MM group lost more weight over the 6-month period. Both groups reported that their dietary intake decreased and their weight loss eating behaviors and exercise increased with no significant difference between the control and experimental groups (Spadaor et al., 2018). No difference in mindfulness, adherence, acceptability, and feasibility were found in either group. The researchers noted the need for further research on the use of mindfulness meditation in weight loss practices is warranted, and, in spite of the absence of significant differences between the two groups, suggested that adding mindfulness to SBWP would enhance increased weight loss and more positive health outcomes for the participants (Spadaor et al., 2018).

The Enhancing Mindfulness for the Prevention of Weight Regain (EMPOWER) program was designed in 2007 by researchers and clinicians from two different universities: Duke University and the University of Pennsylvania. EMPOWER is a program designed to use both group and individualized mindfulness-based intervention models that utilizes psychoeducation and telephone coaching. The 12-week program met twice a week and expected participants to spend at least 30 minutes outside of class doing mindful activities learned in class. The classes were designed to apply mindfulness-based intervention principles to a variety of topics such as stress management, SMART goal setting, nutrition, physical activity, and personal values (Caldwell, Baime, & Wolever, 2012). Twenty specific mindfulness skills were taught, including, but not limited to,

sitting meditation, body scan, mindful eating, mindful walking, yoga, kind regard for self, and awareness of full sensations. In addition, participants were taught other skills and tools such as meal planning, restaurant dining tips, exercise guidelines, time management, creating a personal mission statement, portion size knowledge, and linking health calls to a personal mission (Caldwell, Baime, & Wolever, 2012).

Researchers concluded that intuitive eating, in addition to mindfulness-based intervention focused on behavior change for obesity and weight management, can be a very important alternative to traditional counseling approaches (Caldwell, Baime, & Wolever, 2012). Mindfulness emphasizes the importance of tapping into internal signals and improving one's self-regulation. The EMPOWER program offered multiple tools for the participants to use, and the flexibility to use one of many MBI techniques allowed for success in the EMPOWER program (Caldwell, Baime, & Wolever, 2012). The researchers also note that it is important for counselors who are working with obese clients to remain aware of their own internal biases and that mindfulness can benefit clinicians as they strive to know themselves and develop their underderstanding of others (Caldwell, Baime, & Wolever, 2012).

To this point, research that focuses on how best to interact with clients and implement mindfulness-based interventions on a one-on-one basis remains plentiful. As demonstrated throughout the next few articles, researchers not only designed studies on MBIs for individual clients, but also utilized specific assessment and measurement tools to identify stressors in a person life that might contribute to emotional or mindless eating.

Tapper and Ahmed (2018), researchers at the University of London, worked with individuals through a study on "decentering". Decentering is the process of "seeing

thoughts and feelings as temporary events that are separate from oneself and not necessarily a true reflection of reality" (Tapper & Ahmed, 2018). The purpose of this study was to test this specific mindfulness mechanism by asking a group of 90 university students to use this technique when resisting to eat chocolate over a 5-day period. By studying this technique, these researchers hoped to pinpoint the effectiveness of decentering in mindfulness work with clients, and further previous research studies done with this same scenario (Tapper & Ahmed, 2018). Through their work, they aimed to determine if adding decentering techniques to this study would influence the cognitive accessibility to healthy eating goals and weight loss.

Participants were divided into a control group and decentering group. The researchers presented a word stem completion task in which the students were given a series (w=20 words) of the first three letters of a specific word. The students were then asked to complete the word with whatever word the students thought of first. Some of the series of words were related to weight loss and healthy eating while others were not. The words flashed up on a computer screen randomly for each participant and words with healthy connotations were counted (Tapper & Ahmed, 2018). Via the computer, the decentering group was prepped before the intervention by asking them to imagine that they were a bus driver who was driving towards their goal and that they needed to try and ignore their "passengers" (the thoughts that might derail their goals) for five minutes. The decentering group participants were then asked to use these same techniques when viewing the stem words. The control group was asked to focus on being stressed about their goals and use a muscle relation technique for five minutes to flex and then relax their bodies before beginning. Afterwards, the control group participants were asked to

let go and have their minds wander while completing the stem word activity (Tapper & Ahmed, 2018).

Interestingly, the study suggested that those involved in the decentering strategy did use more weight loss or health specific words. For this reason, researchers suggest that using decentering may help individuals adhere to a weight loss plan or healthy lifestyle goal as it increases the client's ability to practice self-control over any negative thoughts or self-destructive goals in that may arise (Tapper & Ahmed, 2018). However, the study did not show any significant moderating effects on diet, motivation, or moderation in dieting/health eating overall (Tapper & Ahmed, 2018). The advantage to decentering is making the client think about their goals intentionally and arresting the thoughts and feelings that provoke destructive thoughts in the moment (i.e. mindfulness) (Tapper & Ahmed, 2018). However, it is clear that additional research is needed to better study this mindfulness-based intervention technique.

In a 2019 study, authors Carpenter et al. explored the feasibility of integrating mindfulness-based practices into a controlled, randomized phone-based weight loss program. This intervention was focused on an individual client enrolled in a preexisting nationally recognized weight loss program. The study aimed to improve outcomes for clients who identified high levels of emotional eating, and displayed behaviors such as internal disinhibition and negative thoughts and/or emotions. These behaviors are often related to higher BMI's, and these individuals tend to lose less weight in structured weight loss programming (Carpenter et al., 2019). The study had a control intervention called Weight Talk (WT) and an experimental intervention call Mind Your Weight (MYW.) Sixty-nine participants, predominantly female and from diverse socioeconomic,

employment, and geographic backgrounds completed the program (Carpenter et al., 2019). Both group participants were assessed using multiple screening tools, including the Eating Behavior Inventory, the Binge Eating Scale, Mindful Eating Questionnaire, Short Form Perceived Stress Scale, Generalized Anxiety Disorder-7, the Acceptance and Action Questionnaire for Weight-Related Difficulties, the Five Facet Mindfulness Questionnaire Short Form, and the Patient Health Questionniare-2 as well as feasibility, acceptability and satisfaction assessments (Carpenter et al., 2019).

The Weight Talk program is a weight loss program based on the National Institute of Health clinical guidelines on overweight and obese adults, as well as diabetes and hypertension prevention. Participants completed 11 phone calls over a six-month period, two of which were facilitated by a registered dietitian and the other nine with a trained health coach (Carpenter et al., 2019). Patients were given a Fitbit activity tracker, a Fitbit wireless scale, a printed program guide, and access to an integrated website (Carpenter et al., 2019). Calls were roughly 30 minutes in length.

The Mind Your Weight program was similar to WT but incorporated mindfulness concepts into the calls. The coaches and RDs had specific and extensive training on MBI (Carpenter et al., 2019). Each call had a mindfulness moment, and discussed meditation, mindful eating, mindful activities, and self-compassion (Carpenter et al., 2019). Specific resources were shared with participants in the MYW group that included eLessons and downloads on mindfulness (Carpenter et al., 2019).

Results from this study indicated that, while there was no indication that this mindfulness-based phone intervention produced increased weight loss among the experimental group, the intervention did produce significant changes in the client's

overall mindfulness, ability to mindfully eat, and ability to reduce binge eating (Carpenter et al., 2019). In fact, while weight loss was low in both groups, researchers did find that mindfulness could be easily incorporated into a phone-based program without interrupting the satisfaction of the weight loss program (Carpenter et al., 2019). Strengths noted by the authors included: 1) the incorporation of MBI into a telephone-based program into a short time frame of 30 minutes, whereas traditional MBI in group settings is generally over an hour per session; and, 2) the use of an effective, nationally recognized weight loss program in partnering with mindful interventions (Carpenter et al., 2019). Limitations included: a small sample size, lack of gender diversity, low meditation practice by participants during the calls, lack of long term follow up, and no investigation by these researchers as to whether the control group participated in MBI on their own (Carpenter et al., 2019).

Pidgeon, Lacota and Champion (2013) conducted a study on emotional eating and the role of psychological stressors and mindfulness. Their aim was to assess those participants that suffered from stress-related, emotional based eating and the impact of nutritional education and information on their eating behaviors (Pidgeon et al., 2013). In this study, researchers used a multitude of questionnaires and assessments to assess the participants' experience with emotional distress, nutrition knowledge, participation in mindless eating behaviors, and overall awareness for mindfulness (Pidgeon et al., 2013). The researchers posited that those participants who had high levels of stressors in their life would be more likely to emotionally eat and suffer negative behaviors around eating and obesity, while those with an increased knowledge and use of mindfulness would be less likely to do so (Pidgeon et al., 2013).

The study recruited 157 participants from Bond university who ranged from 17-55 years of age. Four different assessments were used to assess the participants: 1) the Depression Anxiety and Stress Scales (DASS-21), which evaluates the severity of mental disorder symptoms and provides a mild, moderate, or severe result; 2) the Mindfulness Awareness Attention Scale (MAAS), which assesses the fundamental characteristics of mindfulness, primarily the receptive state of mind in which attention — informed by a sensitive awareness of what is occurring in the present — simply observes what is taking place; 3) the Three Factor Eating Questionnaire (TFEQ-EE), which is a survey that is made up of three self-reported items that address eating in response to feelings of depression, loneliness, and anxiety; and, 4) the General Nutrition Knowledge Questionnaire (GNKQ) to assess general nutrition knowledge among adult populations (Pidgeon et al., 2013).

These researchers found that participants with higher levels of mindfulness awareness and skills were linked to greater consciousness of healthy eating and dietary practices and had a lower propensity to consume food due to a negative emotional response. Those participants who were more “mindful” also had a deeper understanding of nutrition (Pidgeon et al., 2013). Depression was definitively linked to emotional eating, and it was also found that, as depression increased in participants, the protective effects of mindfulness dropped, and an increase in emotional eating occurred (Pidgeon et al., 2013). Overall, the researchers concluded that being more aware of MBI and using those skills helped participants withhold from eating in response to anxiety, stress, and depression (Pidgeon et al., 2013).

Mantzios and Giannou (2014) studied both individual and group settings in relationship to mindfulness and assessed how each setting may impact weight loss, along with other interfering factors. The authors posited that those participants in a group setting would lose more weight than those in an individual setting. During the study, 170 university participants were randomly assigned to practice meditation for 6 weeks, either within a group or on their own, and their level of mindfulness, cognitive behavior avoidance, and impulsivity were measured. All participants filled out a Participant Information Form that included demographics, a body satisfaction scale, and any weight loss modalities that might detract them from their weight loss goals. In addition, participants also filled out the Mindful Attention and Awareness Scale, the Barratt Impulsivity Scale, and the Cognitive-Behavioral Avoidance Scale as part of their assessment (Mantzios & Giannou, 2014). An in-depth instructor manual and meditation schedule were developed, and the instructors were trained in mindfulness practice (Mantzios & Giannou, 2014). Participants were also given psychoeducation materials and participation logs to use in both group and individual settings.

Study participants were assigned to a group cohort or an individual cohort. Both cohorts were asked to attend a one-day session focusing on practicing mindfulness meditation and serving as a forum where participants could ask questions about mindfulness and receive educational materials (Mantzios & Giannou, 2014). After the initial one-day training, no support was given apart from the guided meditation sessions for the group cohort who attended once per week, for 6 weeks. The individual cohort received only audio files with self-guided meditations, psychoeducation materials, and a

participation log, and were told to come back again in 6 weeks (Mantzios & Giannou, 2014).

The study found that there were positive effects from practicing mindfulness in a group setting, and those in the group cohort lost more weight than participants in the individual cohort. When accounting for impulsivity and avoidance, the results found that the cognitive behavioral avoidance increased in the individual cohort while it decreased in the group cohort. The reasons for this impulsivity may be attributed to the structure of a class not aligning with a person's impulsive actions (Mantzios & Giannou, 2014). Impulsivity may happen at any time in a person's life and obviously does not always align with a regimented class schedule.

Implications for Counseling

The growing amount of literature over the past three decades reveals an onslaught of attention to mindfulness and its place in counseling and therapeutic settings. Counseling, by its very nature, aims to promote the wellbeing of its clients through psychoeducation, counseling, and/or assessment. While the practice of mindfulness is over 2500 years old, the use of mindfulness in counseling psychology began in the early '90s with the introduction of positive psychology. Positive psychology emphasizes the positive aspects of a client's experience including their personality strengths and behaviors that can help to guide them towards a life of purpose or "the good life" (Dunn, 2018). Positive psychology differentiates itself from psychopathology by focusing on how people can be happier and more fulfilled, both individually and a societally (Dunn, 2018).

As a result, both theoretical and counseling approaches, such as DBT or dialectical behavior therapy, mindfulness-based cognitive therapy (MBCT), mindfulness-based stress reduction (MBSR), and acceptance and commitment therapy (ACT), have continued to gain popularity (Brown, Marquis, & Guiffrida, 2013). While all of these approaches were used employing a variety of counseling approaches, theoretical bases, populations, and mindfulness techniques, they all commonly used mindfulness to assist clients with multiple issues, such as generalized anxiety disorders, drug addiction, eating behaviors, depression, borderline personality disorder, and general well-being (Brown, Marquis, & Guiffrida, 2013).

In the literature review, mindfulness was used in many different settings regarding mindful eating, weight maintenance or loss, and controlling obesity. When using MBI,

counselors can focus clients on "witnessing" their thoughts and emotions rather than trying to change them altogether as in traditional diet/weight loss programs (Caldwell, Baime, & Wolever, 2012). Through this "witnessing," a person can be present, less judgmental, and attuned to their thoughts, feelings, and body sensations (Caldwell, Baime, & Wolever, 2012). In this section, a number of commonly used mindfulnessbased interventions techniques will be described, as well as considerations for the practice of MBI in therapeutic settings.

Mindfulness-based intervention techniques

There are many types of mindfulness-based interventions that can be used in a therapeutic setting. Below are those techniques that are most noted and prevalant in the literature.

Meditation: Meditation is defined as the intentional self-control of attention from moment to moment for the purpose of relaxing and calming the mind and body (Barton, 2016). Meditation can refer to many different techniques, much like books and movies have multiple genres. Some of the most common are Mindfulness Meditation (MM) which encourages the client to examine wandering thoughts as they drift through the mind (Barton, 2016). The purpose of MM is not to engage with the thoughts or to judge them, but to simply be aware of each mental moment as it arises, looking for patterns. With time and practice, one may develop a sense of inner calm or balance. Another meditation practice is Concentration Meditation (CM) which focuses on a single point and requires clients to keep going back to the focal point if the mind starts to wander. In CM, a practitioner might use a repetitive sound or object such as a bell, gong or beads for focus.

In this form of meditation, it may take new clients time to build up to a long meditation, as this practice can be challenging (Barton, 2016).

Mindfulness Breathing: This technique is focused on concentrating on breath and being mindful in the moment. Breathing becomes the focal point so that one can focus, particularly when one feels overwhelmed or bogged down with negative thoughts. Mindful breathing can also assist a client in being present in the moment, instead of fretting about the past or worrying about the future (Bing-Carr, 2016).

Guided imagery: This technique is widely used as a stress management technique. Guided imagery can serve to quickly calm the body and allow clients to enter a state of relaxation. As a technique, guided imagery is not difficult for a therapist or client to learn or use and can serve to accomplish specific goals with a client, such as deep relaxation, increasing athletic performance, enhancing spiritual connectivity, accessing a subconscious mind, and seeking physical healing (Barton, 2016).

Psychoeducation: This technique focuses on providing education and information to those pursuing or obtaining mental health services.

Yoga: Yoga is an integrative spiritual practice developed in ancient India that aims to connect the body, mind, and spirit. Yoga practitioners use breath control, simple meditation, and specific postures for increased positive health and relaxation. Yoga is the most utilized complementary and alternative medicine approach for weight loss in the United States (Sharpe et al., 2007).

Decentering: Decentering is the process of considering thoughts and feelings as temporary events that are detached from oneself and not a true reflection of reality (Tapper & Ahmed, 2018). Decentering works with clients to approach their thoughts or

feelings with a sense of objectivity. The goal is to have a client step outside of their own personal experience, allowing that experience to be immediately changed and/or felt differently (Hayes-Skelton, 2013).

Body Scan: A common MBI is the Body Scan. It is easy to facilitate and not threatening to most clients who may be new to mindfulness techniques in therapy. A body scan can help a participant become more aware of their body and learn what their body does and doesn't need in order to thrive. This technique enhances one's capacity to bring full attention to real-time experiences as they are happening in the present moment. This approach can be most helpful when emotions or thoughts feel uncontrollable. Through practicing a body scan, clients can begin to understand how stress and anxiety affects them and learn how to better live with, and accept issues like, physical pain and illness. The exploration of the body via a body scan allows for the participant to attend to both positive and negative sensations while not trying to fix the problem in the moment.

Group versus individual MBI

The review of the literature also revealed differences between group versus individualized mindfulness-based interventions. Mindfulness based interventions offered evidence that a group setting may have more influence or power than one person on their own when mindfulness is used in treatment settings. When MBI is offered in a group counseling or group intervention format, participants benefit from the built in peer network and support provided through the group process (Newton & Ohrt, 2018). In group work, a participant can reduce feelings of isolation, understand that they are not alone, and process and explore new or undiscovered emotions that may be latent.

Further, in this study by Mantzios and Giannou, (2014) group settings served to provide a sense of unity and a social avenue for participants where they could share both difficulties and benefits. Those in the study who meditated alone did not have such an avenue and could become more isolated and often were harsher on themselves. Rather than their failures being an expected function of the process, those who underwent this process alone often took their failures more personally (Mantzios, & Giannou, 2014). However, whether through a singular or group method, any weight loss program that simultaneously offered nutrition and psychological resources showed better results.

Fidelity

Fidelity becomes an important issue in mindfulness-based interventions. "Intervention integrity" is another term in the literature that ensures that the intervention is delivered as intended or has "fidelity". Intervention integrity is critical, when inevitably human error is involved. Leff, Hoffman, and Gullan (2009) stated that "intervention integrity is an important construct to understand and evaluate in the school-based mental health literature given its possible positive association with intervention. Thus, effective programs implemented with a high degree of fidelity are expected to produce the most consistent and positive effects" (p. 103). Some practitioners may overlook the fact that there is a high degree of complexity in delivering MBIs and that one must have extensive personal practice themselves (Kechter, Amaro, & Black, 2019). If practitioners have a high level of mastery in MBI, then they will have higher levels of MBI effects for their clients (Kechter, Amaro, & Black, 2019).

Training & Supervision

One key area noted in the research is the training and efficacy of those using mindfulness-based interventions in their practices. In this review of the literature, it was clear that there was no single method for conducting mindfulness-based intervention across all settings, and the true training and education of the facilitator was not always quantified. Kabat-Zinn (2011) has definitively stated that extensive and focused training in mindfulness is required if it is to be taught or used in practice. Currently, the gold standard for this type of training is at the University of Massachusetts Center for Mindfulness. This Center's curriculum involves a six-course series with multiple intensive retreats that costs over $10,000 conservatively (Goldberg, 2018). This curriculum, however, may be unattainable for most practicing counselors.

While the literature review revealed many different methods to structure and deliver mindfulness-based programs, all methods depended greatly on the level of experience and understanding of those practitioners who were delivering the intervention (Santorelli, 2014). Mindfulness, at its core, ultimately requires the successful use of the present moment; however, Santorelli (2014) further states the following six key universal principles should be used when working with MBI. Interventionists should focus on: 1) the burden of behavior change and the development of MBI into a positive challenge, rather than something that the client "has to do" to be healthy; 2) regular practice and discipline of the client; 3) time commitment needed to make positive changes (n times per week, n minutes per session etc.); 4) the client's ability to become aware of their thoughts and emotions and to be fully present with those emotions; 5) creating a social network for clients that provides a community of support, motivation, and acceptance; and, 6) creating a diverse community that includes clients with varying issues working

together. This type of diverse community creates a cross section of clients who can benefit from what others have learned and what they have in common (Santorelli, 2014).

Not only is clinical competency important when working with clients on MBIs, so is supervision. Counselors utilizing mindfulness-based interventions in their practices should seek professional development opportunities, continuing education, classes and/or workshops on the topic, and personal contemplative practice, as well as a clinical supervisor who has experience in the field.

Hanley et al. (2016) in the article "Are Conclusions About Mindfulness Entirely Conclusive?" states that it is important for counselors to have a firm understanding of mindfulness interventions, and ultimately their own practice with mindfulness, so that they can better understand the benefits and challenges of implementing mindfulness into one's life. Intentionality and appropriateness regarding mindfulness-based treatments should be of the utmost importance to practitioners using these methods. "To help individuals make informed decisions, counselors should deliberately present both the possible benefits and the possible risks of using a mindfulness-based treatment while also eliciting and discussing clients' expectations and concerns about mindfulness-based techniques" (Hanley et al. 2016, p. 110).

It is noted in the research that, as mindfulness continues to rise in popularity, so does the potential for losing its effectiveness (Charters, 2013). If every other counselor and gym offers MBIs, has the value of the practice, which is grounded in deep spiritual and historical principles, been lost? Has it been so watered down by "professionals" who are not experts or practitioners of mindfulness themselves that it may do more harm than good? These are all questions to be considered in future research studies.

Adverse effects of mindfulness

From a brief scan of the literature, it is easy to think that mindfulness can and has been applied to every aspect of a person's well-being and that it can be instantaneously implemented into therapeutic practice. However, there are some documented adverse effects to mindfulness, and certain bodies of research caution that it may not be a panacea.

Perception of what mindfulness is can be a huge barrier to its use and/or success. The practice can be seen as irrelevant by those who misunderstand its effectiveness and intention. One such aversion to mindfulness can lie in its spiritual foundation. Founded first in India with a Buddhist beginning, the practice of meditation can be unwelcome for those that practice different beliefs or do not identify with any given religion. It has been noted that practicing meditation may be viewed by some populations as disloyal to an individual's religious beliefs (Mantzios & Wilson, 2015). Another negative perception of mindfulness and MBIs is that it is a non-mainstream, 1960s, "hippy throwback" that only those who are into holistic and natural living practice. It can also be viewed as a solely feminine activity and not open to all genders. (Mantzios & Wilson, 2015).

Another adverse effect with mindfulness and MBIs is that it's not always easy to do. Some studies mentioned attrition of participants that have tried MBIs in practice (Hanley et al., 2016). Some clients may initially have difficulties succeeding with MBIs because proper expectations have not been set. The reality that MBIs such as deep breathing or mindful meditation take both time and practice to reach full effectiveness is often overlooked, and clients think the method is either not working or that they are practicing incorrectly (Nam & Toneatto, 2016). Mindfulness takes practice. Further

research is needed in this area, but it remains an area of note for counselors practicing MBIs with their clients (Hanley et al., 2016).

One other adverse effect of practicing MBIs with clients is that it is wrongly perceived as an exclusively positive experience. Again, the importance of setting expectations with clients around practicing mindfulness in a therapeutic setting should be fully explained and discussed upfront. In true mindfulness practice, one must sit with anything that comes forward. This may include emotions, thoughts, or memories that the client has been avoiding for some time, and clients may lack the coping skills needed to take on these negative or distressing emotions (Hanley et al., 2016). Stress actually caused by mindfulness is not always discussed, but it is at the genesis of the Buddhist practice and ultimately creates confusion for those clients who solely expect a stress-reducing outcome (Hanley et al., 2016). This confusion goes back to the attrition of MBIs in clients as it can be painful or unsettling to bring up negative emotions, and they may want to avoid that experience and quit the practice altogether (Nam & Toneatto, 2016).

One final adverse effect noted in the literature is meditation-induced psychosis. For those clients that suffer from severe mental illness such as schizophrenia and psychosis, meditation-based interventions should be used extremely carefully. The literature shares a few examples of people who had adverse side effects including confusion, pananxiety, mood swings, and mood dystonic psychotic symptoms as well as an acute onset psychosis (Kuijper et al., 2007). These cases almost always included a patient with psychotic episodes and affective symptoms who had certain personality traits, severe exhaustion (from lack of sleep), and a history of psychiatric issues (Kuijper

et al., 2007). Meditation can act as a stressor in susceptible patients who may develop a temporary psychosis.

Conclusion

The research reviewed here clearly demonstrates that mindfulness and MBIs can be a powerful tool in a counselor's toolbox if offered with integrity, inclusivity, practice, and clear expectations and outcomes for clients. There are many benefits for clients in using mindfulness techniques for their emotional, physical, and psychological well-being. These interventions can be used to address a number of different psychological needs or issues, with mindful eating, meditation, and other weight/obesity related intervientions just scratching the surface of how MBIs can be used in counseling. The widespread benefit suggests that the MBIs described in this paper may transcend across many conditions that have the same underlying causes and can be applied across a diverse population regardless of sex, race, religion, culture, social status, family influence, biological predilections, personal experiences, and more (Charters, 2013).

In conclusion, mindful eating intervention research is still in its early stages. Research establishes that mindfulness-based interventions can reduce weight, emotional eating, and mindless eating. (Mantzios & Wilson, 2014). Further, regardless of the issues in fidelity, implementation, practice, and training, behavior specific mindfulness interventions appear to be effective in weight management (Mantzios & Wilson, 2014). It is important to note that, similarly with any weight loss intervention, one must establish a practice (mindfulness, exercise, caloric restriction, etc.) over the long term to achieve effective weight management maintenance (Goldberg, 2018). Currently, based on the literature, one can surmise that MBIs that focus on eating may be very promising in promoting better eating behaviors and weight management in the short-term, and that

there is impending advantage in conducting mindfulness-based interventions within the obesity treatment context (Mantzios & Wilson, 2015).
Charter (2013) noted that “perhaps one of the keys to sustaining the essence and potential benefits of mindfulness is an understanding of mindfulness not as something a clinician does to the client, but rather a set of capabilities that an individual learns to do from within, at his or her own pace, with the support of others or alone” (p. 356).

In a therapeutic setting, working with clients who suffer from weight/obesity issues, a counselor can help increase positive outcomes by helping clients learn mindfulness-based interventions that target damaging eating behaviors. By incorporating MBIs into therapeutic practice, counselors can begin to promote and deepen their work by holistically focusing on the synergy of overlapping theory and practice with the ultimate goal of improving their client’s overall well-being.

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