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Mindfulness Therapies and Assessment Scales: A Brief Review

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Abstract

Over the past 20 years or so, the uptake of mindfulness within psychology, neuroscience and medicine has been celebrated as a new exciting development. It is within the realm of an assessment and therapeutic framework that mindfulness training has proved itself effective in terms of bettering the lot of many individuals. The primary purpose of this paper is to provide a brief review but also to undertake a more critical examination of the most common and popular forms of Western mindfulness intervention methods and the various scales that have been devised to measure their success in this regard.

Keywords: assessment scales, clinical psychology, interventions, mindfulness, therapy

1. Introduction

Over the last several decades, mindfulness training encompassing an increasing number of therapies, self-help regimes and forms of intervention has grown to become one of the most widespread practices in the West. A rapidly growing body of evidence seems to indicate that mindfulness is an effective form of treatment for a variety of mental and physical conditions (e.g., Baer, 2003; Didonna, 2009). In addition, the public marketplace has made place for a burgeoning number of books on the role of mindfulness both in the management of illness and in the positive cultivation of health and wellbeing; and society has further witnessed the emergence of a variety of self-certified mindfulness training programs for persons in need. Among the more common of these are *Mindfulness-Based Stress Reduction* (MBSR), *Mindfulness-Based Cognitive Therapy* (MBCT), *Acceptance and Commitment Therapy* (ACT), and *Dialectical Behavior Therapy* (DBT). Each of these has more or less become known for the treatment of a specific disorder but the developers of these programs claim to have designed them for general application. MBCT, for example, has been largely applied to the treatment of depression (Segal, Williams, & Tiesdale, 2002), whereas MBSR and ACT have been mostly applied to those suffering from stress and/or chronic pain (Hayes, 2002; Kabat-Zinn, 2013). DBT, on the other hand, has been largely aimed at the treatment of borderline personality disorder (Linehan, 1993).

In addition to these more established mindfulness-based regimes there are a number of various scales that have been designed for the measurement of mindfulness, either in terms of particular traits or as a particular state of being. The more common forms of measurement scales are *Mindfulness Attention Awareness Scale* (MAAS)*, Freiburg Mindfulness Inventory* (FMI), *Kentucky Inventory of Mindfulness Skills* (KIMS), *Southampton Mindfulness Questionnaire* (SMQ)*, Philadelphia Mindfulness Scale* (PMS), and *Toronto Mindfulness Scale* (TMS).

The principal aim of the present paper is to provide a brief overview of how mindfulness is practiced and applied as a method of intervention by describing the most common programs, but also how the effects of such interventions can be assessed. The paper also makes a brief critical commentary on the applications of these methods and measurement scales (Grossman, 2008, 2011; see also Nilsson & Kazemi, in press *a*).

2. Assumptions about Mindfulness in Its Therapeutical and Assessment Context

In the Western world, both medical professionals and various types of therapists largely employ mindfulness as a method of intervention. Mindfulness, seen as a self-regulatory tool without a soteriological dimension (i.e., with no connection to the idea of salvation), is used to heal a variety of mental and physical conditions (for definitions of mindfulness see Nilsson & Kazemi, in press *b*). As a method of Western intervention and therapy, mindfulness has displayed much promise during the twentieth century (Baer, 2003; Grossman, Niemann, Schmidt, & Walash, 2004; Sedlmeier, Eberth, Schwartz, Zimmerman, Haarig, Jaeger, & Kunze, 2012). In light

of the positive outcomes of mindfulness training, one can safely say that mindfulness is here to stay and that in the future we will likely witness further advances as a result of research in this field (e.g., Cullen, 2011). The next section provides brief descriptions of the most popular forms of mindfulness therapy, and further affords a brief overview of the most prominent scales that have been designed to measure their effectiveness.

3. Four Common Mindfulness Intervention Methods

3.1 Mindfulness-Based Stress Reduction (MBSR)

The aims and applications of mindfulness as practiced in Western cultures are decidedly different from those of *sati* as practiced in the East (Schmidt, 2011). Since its inception the Western mindfulness movement has been primarily involved in teaching coping strategies for the management of stress and pain as well as a variety of other physical and mental conditions. Among the various forms of mindfulness intervention and therapy currently available, MBSR is the most common in both the health care industry and the consumer marketplace. Kabat-Zinn originally developed MBSR in 1990 for use among a certain group of patients as a pain- and stress-reduction technique.

As originally designed, the MBSR program consists of an 8-week training period for a group of no more than 30 persons, with each session lasting for approximately 2.5 hours. The training portion involves the three standardized mindfulness practices of body scanning, sitting/walking meditation and *hatha yoga*. Within that 8-week frame, one day is set aside as a retreat (Kabat-Zinn, 2013).

Practitioners in MBSR are advised to continue their practices outside the group by engaging in personal training for at least 45 minutes a day, six days a week. They, i.e., practitioners, are instructed to observe emotions, sensations and/or cognitions arisen during the practice with a nonjudgmental attitude (Baer, 2003).

While the reduction of pain and stress had been the original aim of the program, over the years MBSR has proved to be an efficient form of treatment for a wide range of conditions, from cancer and heart disease to depression and anxiety (Baer, 2003; Kang & Whittingham, 2010) but also successful ageing (Nilsson, Bülow, & Kazemi, 2015).

3.2 Mindfulness-Based Cognitive Therapy (MBCT)

Based upon Jon Kabat Zinn's MBSR, Mindfulness-based Cognitive Therapy was developed by Segal, Williams, and Teasdale (2002) for the treatment of depression. MBCT consists of eight weekly 2-hour training sessions that provide instruction on mindfulness meditation, breathing and body awareness. Prior to the inception of the formal 8-week program, the instructor meets privately with all participants so as to acquaint them with MBCT, learn something about their individual problems and needs, set realistic treatment objectives and answer any questions they may have. Although the number of program participants does tend to vary, the classes generally consist of approximately twelve persons (Barnhofer & Crane, 2009).

The primary difference between MBSR and MBCT revolves around the latter program's use of a cognitive approach to the application of mindfulness treatment techniques. The mindfulness application, however, differs from ordinary cognitive therapy in one major respect: whereas the latter primarily focuses on helping patients to re-evaluate the meaning of the content of their thoughts, the former principally aims at teaching the patient to adopt "a different perspective on thinking and awareness itself" (Barnhofer & Crane, 2009, p. 224). A review of MBCT has found that this technique is especially effective for clients who have had three or more depressive episodes. However, the review also notes that there is a need for RCTs (Randomized Control Trial) with an active control group so as to test for specific effects (see also Kang & Whittingham, 2010).

3.3 Dialectical Behavior Therapy (DBT)

Developed by Marsha M. Linehan in the 1990s for the treatment of the self-injurious behavior of patients with borderline personality disorder, DBT is premised on the Hegelian notion of the dialectical tension between the forces of thesis, antithesis and synthesis, with the new synthesis becoming the next thesis, leading to a new set of similar tensions and so forth (Linehan, 1993). The central tenet of DBT is the distinction between change and acceptance. Thus, DBT teaches the patient to accept reality and herself as s/he is and at the same time work for necessary changes towards the goal of a meaningful life.

DBT employs a variety of cognitive and behavioral intervention techniques, with the aim of changing the patient's thoughts, feelings and behavior. In contrast to MBSR, DBT is not a collective form of therapy, but rather concentrates on the individual patient, who is allowed to establish his or her own goals in consultation with the therapist (Baer, 2003).

According to Fiegenbaum (2007), the effectiveness of DBT in the treatment of borderline personality disorder has been demonstrated in no less than four randomized control trials, and there is emerging evidence of the

effectiveness of a modified DBT for the treatment of conditions such as binge-eating disorder and chronic depression (Feigenbaum, 2007).

3.4 Acceptance and Commitment Therapy (ACT)

ACT is another major type of mindfulness treatment program. Developed in 1999 by Robert C. Hayes, it represents a form of cognitive therapy designed to teach patients to trust their own inner sense of self without being influenced by negative and/or painful thoughts and feelings. The core message from which it derives its name is that persons must learn to *accept* those things that are outside their control and *commit* themselves to actions that take their lives in positive and enriching directions.

The therapy assumes that the "experiential avoidance" of unwanted thoughts, sensations and/or emotions largely underlies psychological distress. Thus, the treatment aims at *increasing* awareness of the distinction between one's core identity and these fleeting internal states and *decreasing* experiential avoidance through acceptance and contact with the present moment. ACT also teaches patients to relinquish all attempts to control their thoughts and feelings-to allow them to pass without judgment or value-based assessment.

Hayes (2005) notes that the anticipated outcome in this form of therapy is improvement in the client's quality of life. Unlike MBSR, MBCT and DBT, the development of ACT was almost entirely uninfluenced by Buddhist psychological concepts and principles (Kang & Whittingham, 2010).

The following section provides an overview of the various scales that have been designed to measure mindfulness, in terms of either particular traits or a particular state of being.

4. Mindfulness Measurement Scales

4.1 The Mindfulness Attention Awareness Scale (MAAS)

MAAS constitutes one of the first attempts to measure mindfulness in terms of a particular trait. Developed by Brown and Ryan in 2003, the test consists of a 15-item questionnaire designed to examine the difference between mindfulness practitioners and non-practitioners in terms of how often they experience acting on automatic pilot without paying attention to the present moment (Brown & Ryan, 2003). The responses are scored on a 6-point Likert-type scale, with one pole indicating almost never and the other pole indicating almost always. Examples of the questions are: "I find it difficult to stay focused on what's happening in the present" and "I break or spill things because of carelessness, not paying attention" (Baer, Walsh, & Lykins, 2009, p. 156).

Apart from measuring differences between practitioners and non-practitioners, Brown and Ryan (2003) also made an attempt to measure the relationship between mindfulness and wellbeing within an intervention paradigm in which changes in MAAS-results were used to predict changes in mood and stress among a sample of cancer patients who were practicing MBSR. Although MAAS has been found to be both a valid and reliable scale, the studies that have employed it have been criticized for not having used control groups (Chiesa, 2012) and for not consulting experts in Buddhist theories in the development of this and other instruments (Grossman, 2008).

4.2 The Freiburg Mindfulness Inventory (FMI)

FMI, also a single-faceted scale, was originally designed by German researchers Buchheld, Grossman, and Walach (2001) and later translated into English by Walach (2006). The inventory was developed on the basis of interviews with experts in the practice of Buddhism's insight meditation, from which the 30-item scale was derived. The questions are designed to measure the concept of mindfulness as either an outcome of an intervention, a moderating variable or a personality trait (Baer, Smith, & Allen, 2004). Scale items include such questions as "I watch my feelings without becoming lost in them" and "I am open to experience in the present moment" (Baer, Walsh, & Lykins, 2009, p. 156). The measure was first tested on a sample of 115 German-speaking individuals attending an insight meditation retreat. In 2006 Walach developed a shortened version of the original questionnaire consisting of 14 instead of the original 30 items. Statistical analyses of FMI data appear to indicate that respondents who meditated regularly receive higher mindfulness scores than those who meditated infrequently or not at all. According to Chiesa (2012), these questionnaires are either uncorrelated or only weakly to moderately correlated with each other. Beltzer, Schmidt, Lucius-Hoene, Scheneider, Orellana-Rios, and Sauer (2013) noted that many items of the FMI short version are difficult or impossible to understand for persons without mindfulness experience. This comment is congruent with Grossman's (2008) assumption that the semantic interpretation of questionnaire items depends on the respondents' meditation/mindfulness experience.

4.3 The Southampton Mindfulness Questionnaire (SMQ)

SMQ is a self-report measure developed and validated by Chadwick, Hember, Mead, Lilley, and Dagnan (2008). It consists of 16 items intended to measure the degree to which respondents handle distressing thoughts and images with a mindful attitude. Each item begins with the phrase, "Usually when I have distressing thoughts or images..." This phrase is then followed by a variety of statements, such as "…I am able to just notice them without reacting" or "…they take over my mind for quite a while afterwards". These items are assumed to represent four aspects of *mindful observation*, *letting go*, *non-aversion* and *non-judgment* in a mindful attitude.

The SMQ claims to be able to detect differences between meditators and non-meditators as well as increases in mindfulness skills being significantly correlated with mood ratings (Chiesa, 2012). Bergomi, Tschacher, and Kupper (2012) note that SMQ seems to be mainly focused on a mindful attitude toward negative inner thoughts and feelings, and may therefore not be suited for a more general use. This has to do with the scale not including items about positive or neutral phenomena as well as the observation that more "positive" people may find the items less relevant to their daily experiences.

4.4 The Kentucky Inventory of Mindfulness Skills (KIMS)

KIMS assesses the general tendency to be mindful in daily life and does not require experience with meditation. It consists of 39 items that, for the most part, are aimed at the formulation of mindfulness skills proposed by Dialectical Behavior Therapy and measure four facets of *observing*, *describing*, *acting with awareness*, and *nonjudgmental acceptance* (Baer, Smith, & Allen, 2004). The inventory includes such items as: "I notice when my moods begin to change" (*observing*); "I'm good at finding words to describe my feelings" (*describing*); "When I do things, my mind wanders and I am easily distracted" (*acting with awareness*); and, "I tell myself I shouldn't be feeling the way I'm feeling" (*nonjudgmental acceptance*).

The scale's creators found a negative correlation between *observing* and *nonjudgmental acceptance* (Baer et al., 2004, p. 197). Baer et al. (2004) explain that: "In samples with limited meditation experience, the tendency to attend to experiences is associated with a tendency to be judgmental about them […] that is, greater awareness of moods and emotions may be associated with lower levels of acceptance of them" (p. 197). However, results from cross-cultural validation studies suggest significant differences in the view of mindfulness between Buddhists and Westerns practitioners (Grossman, 2008). In this regard, Christopher, Christopher and Charoensuk (2009) found that KIMS may not be an appropriate scale to assess mindfulness among Thais.

4.5 The Philadelphia Mindfulness Scale (PHLMS)

PHLMS was designed by Cardaciotto, Herbert, Forman, Moitra and Farrow (2007) and consists of 20 items intended to measure two key components of mindfulness, conceived as separate and distinct constructs: *present-moment awareness* and *acceptance*. Awareness refers to the ongoing monitoring of internal and external experience (e.g., "I'm aware of thoughts I'm having when my mood changes"). Acceptance, on the other hand, refers to an attitude that is nonjudgmental and open to experience-i.e., an attitude that refrains from either avoidance or escape (e.g., "I try to distract myself when I feel unpleasant emotions").

The two components of the PHLMS are defined and operationalized rather narrowly. The awareness subscale includes open awareness of perceptions and feelings and does not contain the acting with awareness aspect covered, for example, by the KIMS or FFMQ (Baer et al., 2004). The acceptance subscale includes only negatively formulated items and taps experiential avoidance while positive acceptance, a compassionate stance towards oneself, non-reactivity and non-judgment are omitted.

4.6 The Toronto Mindfulness Scale (TMS)

TMS is the only inventory that attempts to measure mindfulness as a state of consciousness or awareness rather than in terms of one or more traits. The scale was developed in 2006 by Lau et al and is intended to retrospectively assess the subjective experience of a mindfulness practitioner during meditation. Respondents are instructed to focus on their breathing for 15 minutes and then complete the TMS questionnaire, which is comprised of two factors: *curiosity* (e.g., "I was curious about my reactions to things") and *decentering* (e.g., "I was more concerned with being open to my experiences than controlling or changing them").

Bergoni et al. (2012) note that: "…the TMS has the advantage of explicitly assessing the decentered stance to experiences which, as a central aspect of mindful attention, is clearly underrepresented among current mindfulness scales" (p. 8).

5. Discussion

5.1 Problems and Critiques

In addition to the more established mindfulness-based regimes that have been discussed and assessed above there are a number of less known programs. These include Mindfulness-Based Relationship Enhancement (Carson, Carson, Gil, & Baucom, 2004), which focuses on improving couples relationships; Mindfulness-Based Relapse Prevention (Witkiewitz, Marlatt, & Walker, 2005), which specializes in the treatment of addictive behavior; Mindfulness-Based Childbirth and Parenting (Vieten & Astin, 2008), which targets pregnancy- and parenting-related depression and stress; and Mindfulness-Based Mind Fitness Training (Stanley, Shaldach, Kiyonaga, & Jha, 2011), which has among others attracted the attention of the military services. However, to the best of our knowledge, the effectiveness of these less known programs remains largely unstudied.

Unfortunately, once a certain type of intervention or therapy has become successful, the tendency among, for instance, non-licensed psychologists and laypersons is to transform and reduce it to a mere marketplace commodity. The paradox of mindfulness in the West is that whereas its various modern formations have been proven to be effective in treatments of illness, it has been commercialized as a form of quick-fix healing by instructors primarily driven by profiting from other people's sufferings (Carrette & King, 2005). By this, we are not saying that there is something inherently wrong with a therapist making money from providing his/her services to clients. Nonetheless, the onus remains on the therapist to behave in an ethical manner and teach the proper application of such practices and techniques. The development of more systematic, scientifically sound and well-grounded educational programs as well as a more formalized set of professional standards would certainly help in this regard (Crane, Kuyken, Williams, Hastings, Cooper, & Fennell, 2012).

Take, for example, the different levels of experience possessed by mindfulness instructors. Some have participated in no more than a weekend course of mindfulness training, whereas others have undergone several years of intensive meditational training under the tutelage of masters (McCown, Reibel, & Micozzi, 2010; Monteiro, Musten, & Compson, 2014). Questions also have been raised about whether or not mindfulness instructors reliably adhere to the ethical guidelines and commitments of their profession, with Monteiro et al. (2014) pointing out that "very few MBI programs incorporate an explicit framework of ethics or precepts" (p. 2).

As it is often difficult for stressed people to continue their participation in activities such as MBSR, which call for a lengthier commitment, many mindfulness educators have opted for creating lighter versions of their original training programs, particularly when it comes to MBSR. For example, instead of providing an eight-week program with a one-day retreat, they provide a 5 to 6-week program with no retreat at all. Some educators have even chosen to altogether forego walking meditation and/or yoga. Setting aside ideological and pedagogical differences in mindfulness training, a reinterpretation of mindfulness per se seems to have occurred here. This indicates that apart from the transformation of *sati* that has already occurred in its movement from East to West, Western mindfulness itself has undergone further reinterpretation, as indicated, for example, by the development of these so-called lighter versions. Then there is the matter of the wide variety of mindfulness programs that are now being offered on the market, so many, indeed, that a potential client could figuratively drown in the plethora of currently available techniques.

While the apparently positive outcomes of what has been and is called mindfulness training in the West are certainly encouraging (e.g., Grossman, Niemann, Schmidt, & Walash, 2004; Sedlmeier, Eberth, Schwartz, Zimmerman, Haarig, Jaeger, & Kunze, 2012), there is nonetheless a need to undertake a more critical examination of these intervention studies by considering its Buddhist equivalent *sati*. If what is provided to the clients is termed mindfulness training does not hold, then using various assessment scales to measure the effectiveness of mindfulness training becomes problematic. A recurring finding is that intervention studies utilizing one or another of these scales almost always report that mindfulness training has "significantly" improved the condition of those suffering from this or that disorder. We argue that the resolution of the "effectiveness question" requires an improvement in the quality and sophistication of these scales by to a greater extent taking into account the Buddhist views on mindfulness.

5.2 Summary and Concluding Remarks

During the last two decades mindfulness has received steadily increasing interest of academic disciplines such as psychology, anthropology, medicine and religion, each of which has approached it somewhat differently. For instance, psychological researchers have tended to focus on how the term mindfulness should be defined and applied (e.g., Baer, 2003; Brown, Ryan, & Creswell, 2007; Dimidjian & Linehan, 2003; Germer, 2005), whereas medical researchers have been more interested in examining its tangible health benefits (e.g., Grossman et al., 2004; Hoffman, Sawyer, Witt, & Oh, 2010; Kabat-Zinn, 2013) as well as its therapeutic effects on such

conditions as Type 2 diabetes (Rosenzweig et al., 2007), fibromyalgia (Grossman et al., 2008), rheumatoid arthritis (Pradhan et al., 2007), chronic low back pain (Morone et al., 2008) and attention deficit hyperactive disorder (Zylowska, Smalley, & Schwartz, 2009). Moreover, we have in this article discussed some of the frequently used assessment scales. Most of these scales have been developed and used for different purposes. For instance, the Mindful Attention and Awareness Scale (MAAS has been used among cancer patients (Carlson & Brown, 2005) or the Freiburg Mindfulness Inventory (FMI) which has been used to tap spirituality (Leigh, Bowen, & Marlatt, 2005).

Turning to the matter of the Western mindfulness movement, which tends to portray mindfulness more as a secular technique rather than an ethical practice, while there appears to have been some gains in terms of pain relief, mental control, non-automatic activity, the management of anxiety and the reduction of prejudicial attitudes, we still do not know whether these apparent gains are permanent and stand the test of time. Do eight-week courses in mindfulness, such as those offered by MBSR and MBCT, really effect transformations of consciousness and character that endure? A review of studies that have attempted to measure the effectiveness of these various mindfulness-based programs reveals the following methodological problems: 1) the lack of RCT studies; 2) the lack of relevant control groups; 3) the lack of participants in the given training program; and, 4) the lack of longitudinal studies. A more comprehensive critical review of these various methodological problems can be found in Bishop (2002), Chiesa (2012), Melbourne Academic Mindfulness Interest Group (2006), Shennan, Payne, and Fenlon (2011) and Stanley (2013).

Then there is the matter, alluded to above, of empirically determining the degree to which participants in mindfulness training programs undergo a *permanent* shift in attitude, feelings and vision relative to themselves, other persons and the external world. What precisely does it mean to be mindful in relation to both specific personal problems and everyday life? Does mindfulness training factually produce the results that it purports to produce? How enduring are the results of mindfulness training programs that target specific problems? How enduring is the awakening of awareness in the present moment that is said to result from body scanning, meditation and yoga? To what degree does this heightened sense of awareness influence the way we conduct our daily affairs? How permanent is this influence? As Grossman (2008) notes in regard of existing assessment scales: “it would seem impossible to conclude at this time that self-report scales accurately measure mindfulness” (p. 407). These and many other questions remain to be explored.

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