

Development and Validation of an Assessment of Mindfulness Expectations

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Abstract

People practice mindfulness around the world, in all types of settings, across the lifespan, and for many different reasons. While scientific research demonstrates the potential for improvements in health and well-being as a byproduct of mindfulness practice, there are also examples of exaggerated claims and misused terminology across popular culture. Mindfulness is not a cure-all, and development of mindfulness requires personal motivation. Understanding a person's expectations for mindfulness practice before they begin training can help mindfulness educators more effectively serve their populations. The purpose of the proposed study was to develop and subsequently validate a theoretically grounded Assessment of Mindfulness Expectations (AME). Expert consensus was used to determine inclusion of questionnaire items and a first-round trial of a 36-question instrument (N=28) was assessed for internal consistency using Cronbach's alpha. Twenty items were eliminated in this process and a second-round trial of the remaining 16 items (N=240) was completed. Principal components factor analysis revealed four factors and a Cronbach's Alpha of .789. The resulting AME consists of 16 multiple choice questions, plus demographic and open-ended qualitative questions that were identified for inclusion through expert consensus. This work established the reliability and validity of the new instrument itself. It is anticipated that the AME may have utility for would-be mindfulness students and teachers at the beginning of their processes to inform a do-no-harm approach to training. As mindfulness programs are increasingly common for health promotion across sectors, future work should explore the utility of this instrument in various settings and with various populations. This work is limited by the use of convenience snowball samples and would benefit from testing with larger representative samples.

Keywords: mindfulness, assessment, expectations, self-determination theory

Dedication

In an experience common among humans, this work took much longer than I expected and lots of things happened everywhere all at once. While I learned about mindfulness and thought about mindfulness and began to engage in my own mindfulness practice, the COVID-19 pandemic changed all our lives. The murder of George Floyd and the following Black Lives Matter movement made the injustice and human suffering to which many people had been able to remain oblivious or ambivalent, positively unavoidable. The future of bodily autonomy in the United States, and actually the future existence of the United States, was systematically destabilized. The temperature of planet earth rose by .46 degrees Celsius in the time it took me to do this work. The world daily unfurled new examples of division, crisis, and human-fueled chaos. There have also been the breaths in and out, the game nights, walks in the woods, 20,000 jigsaw puzzle pieces, art, music, and food, growing children, growing older, finding rest—startlingly beautiful mundane things. The world has Amanda Gorman, Greta Thunberg, and Greta Gerwig, advancements in sustainable design for systems and things, flourishing new thinking in trauma-informed care. There are a billion oysters and a few humpback whales reestablishing home in New York Harbor and a black bear visiting our yard from Little Brushy Mountain. This work, more than anything, has taught me to notice each moment I can notice. I've been learning how to find my feet in the confusion, in the beauty—in the enormity of the world and the closeness of myself, full of breath, finding myself grounded on a foundation from which to make the next choice, just in time, with hope, clarity, and intention. It is from these multiple contexts and because of the process represented in the pages that follow that I dedicate this work to this moment, right now, with profound gratitude and kind acceptance.

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May you be happy. May you be well. May you be safe. May you be peaceful and at ease.

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Chapter One

Development and Validation of an Assessment of Mindfulness Expectations

Mindfulness is a state of awareness that arises from intentionally paying attention to the present moment, fully aware of one's environment, body, and mind with an intention toward self-empathy, non-judgement, compassion, and discernment (Brown et al., 2015; Kabat-Zinn, 1990; Shapiro & Carlson, 2017). Evidence shows that practitioners may experience decreased stress, depression, and anxiety as well as improvements in mindfulness, mood, self-efficacy, and empathy for both self and others because of the awareness gained by mindfulness (McConville et al., 2017). Emerging evidence suggests that these changes in experience, behavior, affect, and perception are the result of neuroplastic and hormonal changes or activation patterns precipitated by mindfulness practice (Bauer et al., 2019; Brown et al., 2015; Costello & Walters, 2022; Galante et al., 2022; Park et al., 2013). Mindfulness has also been linked to increases in self-compassion without a decline in a person's high standards for their own performance (Beck et al., 2017). As a result, there has been much interest in the development of mindfulness programs and provision of mindfulness training in various academic, professional, community, industrial, and other settings (Baminiwatta & Solangaarachchi, 2021). With this excitement and energy have come some hyperbolic claims suggesting mindfulness as a low-cost, fad cure-all for personal and organizational problems (Fuller, 2018), which contribute to a misunderstanding and potential discrediting of the actual

This study aimed to develop a validated instrument to identify a person's expectations for mindfulness practice. Once developed, mindfulness teachers and would-be learners would have a reliable tool to help them answer three questions: whether mindfulness training is the right choice, whether the teacher is adequately prepared to meet the unique needs of the learner, and

whether there are opportunities for clarifying the potential effort, risks, and outcomes associated with mindfulness practice.

Background

Mindfulness most directly originates from the 2600 years-old Theravada Buddhism and ancient Hindu yogic traditions (Keng et al., 2011; Olzman, 2023). Mindfulness is characterized by actions: somatic experiencing, body scans, self-awareness, psychoeducation, contemplation, and breath work (Costello & Walters, 2022). Many of these components can be found in various forms within Hinduism, Islam, Christianity, Judaism, and Jin religious traditions, for example, and can be found in many languages from across the globe (Costello & Walters, 2022; Keng et al., 2011). Many different cultural traditions and indigenous peoples utilize meditative practices, incorporating intentional breathing, movement, and somatic experience for healing (Costello & Walters, 2022). Ancient Greek and Roman Stoic philosophy found as early as 300 BCE also prescribes concentration on the present moment and use of contemplation to mediate emotion and behaviors (Cavanna, 2023).

The growth of Zen Buddhism and yoga in the United States throughout the 1950s and 1960s led to increasing use of meditation in psychotherapy and an interest in expanding awareness and consciousness (Keng et al., 2011). In the U.S., research on mindfulness meditation and psychological well-being began in the 1970s. At the same time, researchers were tracking physiological changes resulting from transcendental meditation (Keng et al., 2011). In 1990, Jon Kabat-Zinn, a molecular biologist and student of Zen Buddhist teachers Philip Kapleau, Thich Nhat Hanh, and Seung Sahn, began the exploration of mindfulness meditation as a health intervention for treatment of patients with chronic pain, now known as Mindfulness Based Stress Reduction (MBSR) (Keng et al., 2011).

Keng et al. (2011) discuss the divergence of Buddhist and Western conceptualization of mindfulness across three levels: content, process, and context. The primary difference in content is the scope and focus of awareness—Western practices typically include internal and external awareness of the somatic body and the surrounding environment while ancient traditions emphasize introspective awareness of the experience of the body and mind (Keng et al., 2011). At the process level, Buddhism prescribes practice of mindfulness alongside the reflection on and contemplation of the Buddha’s teachings including non-self, impermanence, and suffering—features not typically emphasized in western practice (Keng et al., 2011). In its Westernized context, mindfulness is taught independent of religion, spirituality, or ethical code (Keng et al., 2011). This is a major departure from its original context within Buddhism, where mindfulness is a key and interrelated mechanism within the Eightfold Path for reduction of suffering—one of the four noble truths understood by those who have achieved Nirvana (Costello & Walters, 2022). The separation of mindfulness from guidelines laid out by the Eightfold Path—right viewpoints, right intention, right speech, right action, right livelihood, right effort, and right meditation *in addition to* right mindfulness—has led to postulation that some of the shortcomings of contemporary western mindfulness may be the result of its isolation from this original context (Murphy, 2016; Olzman, 2022). Miranda Dottie Olzman argues in a 2022 essay published in the *Western Journal of Communication* that this separation constitutes a colonization, with Mindfulness being appropriated, commercialized, and co-opted by people who benefit from systemic whiteness, devaluing and disenfranchising communities that embody a philosophy and world view which includes mindfulness as a central tenant rather than a popular trend.

In an introduction to the 2011 special issue of the journal *Contemporary Buddhism*, J. Mark G. Williams and Jon Kabat-Zinn discuss their astonishment at the growth and proliferation of MBSR and other health-focused derivatives of Eastern tradition into mainstream science and society, remarking that this explosion in popularity was unforeseeable in the 1990s and early 2000s. They support the merit of mindfulness as a secular health practice:

Since Buddhist meditative practices are concerned with embodied awareness and the cultivation of clarity, emotional balance (equanimity) and compassion, and since all of these capacities can be refined and developed via the honing and intentional deployment of attention, the roots of Buddhist meditation practices are de facto universal. Thus,[...] it is therefore appropriate to introduce them into mainstream secular settings in the service of helping to reduce suffering and the attendant mind-states and behaviours that compound it, and to do so in ways that neither disregard nor disrespect the highly sophisticated and beautiful epistemological framework within which it is nested, but on the contrary make profound use of that framework in non-parochial ways consistent with its essence. (Williams & Kabat-Zinn, 2011, p. 3)

This ecological and longitudinal view of Mindfulness and its origins informs this work with an appreciation of the value of understanding the purpose, intentions, and expectations of individuals, communities, and even spiritual and scientific traditions. This is in part why this research aims to establish a valid and reliable tool for better inquiry—seeking to open the utility of current practice techniques to marginalized persons, to reduce the likelihood of harm, and to inform thoughtful next steps for use of mindfulness training in health and wellness programs.

There exist several validated measures for assessing the outcomes of mindfulness practice—nonreactivity, non-judgment of self, self-awareness of one’s actions, observation and description of thoughts and feeling, and acceptance of current circumstances (Baer et al., 2008; Feldman et al., 2007; Lecuona et al., 2021). These measures are widely used in a pre/post fashion to gauge the effectiveness of mindfulness training and identify the benefits of mindfulness practice for the practitioner. The use of the scales and measures across mindfulness studies creates language and criteria which have helped researchers compare various practice methods, but they are limited in their ability to explain why people fall short of their own expectations for growth with mindfulness nor do they suggest clear directions for improvement. There are currently no validated measures exploring a person’s expectations for mindfulness practice at the very beginning of the mindfulness process, leaving a blind spot in the body of mindfulness research. This author’s decision to develop and validate a survey questionnaire regarding expectations for mindfulness practice crystallized when a review of available resources exposed this gap in the literature. The understanding of participant expectations is a critical precursor to program development (Price et al., 2017) that could help avoid limitations that many researchers report, such as small sample sizes in programs, homogenous or under-representative samples, and limited follow through with mindfulness practice (Baer et al., 2019; Goldberg et al., 2017; Loucks et al., 2022; Sun et al., 2022; Townshend et al., 2016).

Significance

Mindfulness has major implications in academia, the economy, the workforce, and the private lives of hundreds of millions of people globally. The first scientific publication on mindfulness was published in 1966 and as of the year 2021, 16,581 publications referring to mindfulness have been identified in the Web of Science database—including almost 3,000

studies from 2020 alone (Baminiwatta & Solangaarachchi, 2021). Analysis of global mindfulness meditation applications shows a global market valued at US \$189.64 million in 2015 with a forecast of 41.3% increase in compound annual growth rate by 2027 (Absolute Market Insights, 2020). According to findings from the National Business Group on Health, 52% of large American corporations reported offering mindfulness training to their employees in 2018, up from 36% in 2017 (Lyddy et al., 2021). Corporations, healthcare organizations, and educators may have clearly stated aims for mindfulness programs, but little is known about the expectations, intentions, or motivations of the participants themselves, even though they are the ones who absorb the potential benefits, risks, and responsibilities with participation in those programs. With the near ubiquitous use of mindfulness training throughout personal, professional, medical, military, academic and other sectors, it is increasingly important to understand various interpretations of what it means to be mindful (Choi et al, 2021; Haddock et al., 2022; Kong & Jolly, 2019). As emerging evidence shows that the potential risks associated with mindfulness practice are not equally distributed across the broad spectrums of human difference, it is more important than ever to intentionally adopt do-no-harm approaches for mindfulness training (Serhatoglu et al., 2022).

Despite the significant investment of time, energy, and funding into the study of mindfulness, the rigor of mindfulness research has been audited and criticized without significant improvements noted for the last twenty years (Bishop, 2002; Goldberg et al., 2017). Cotter and Jones (2020) report persistent problems in mindfulness research: small sample sizes, dubious intervention design, and “limited description of how interventions might be culturally or socially adapted” (p. 529). A systematic review of mindfulness-based interventions (MBI) for treatment of posttraumatic stress disorder symptoms reported small sample sizes overall and attrition, or

“non-completion” rates, ranging from four to 49% (Banks et al., 2015). Townshend and colleagues (2016) found their systematic review of mindful parenting programs to be inconclusive because of small sample sizes and lack of methodological rigor, citing improvements in study design and articulation of clear hypothesis as implications for future research. Fischer et al. (2017) echo this call for heightened methodological rigor and elevation of research designs, while Huynh et al. (2019) specify a need for explicitly stating the rationale for study design—all features which could be addressed in part by understanding baseline participant expectations for MBI. A critical evaluation of mindfulness research by Van Dam and colleagues (2018) warns against the danger of “hype” in the field of study, pointing out popular ambiguity on what mindfulness means and what mindfulness practice actually offers. They warn that without substantive, intentional changes, research participants may be disappointed, disaffected or—at worst—harmed, and that attention and resources may be directed away from mindfulness research if methodological rigor does not improve (Van Dam et al., 2018).

Research Aim & Objectives

This study aims to develop a validated instrument to assess a person's expectations for mindfulness practice. Several outcomes need to be achieved to develop a validated survey. These outcomes are broken down into study objectives as detailed below.

Objective 1: Establish content validity of first survey draft.

Outcome 1A. Generate or identify appropriate questions using a review of mindfulness literature, existing informal mindfulness surveys, and input from mindfulness experts.

Outcome 1B. Develop survey as informed by revisions and edits from experts.

Objective 2: Pilot test survey to determine appropriateness and utility of survey items.

Outcome 2A. Test survey items developed in Objective 1 for internal consistency and content validity with 30-50 respondents.

Outcome 2B. Analyze data from Outcome 2A using best practices to determine utility of each survey item.

Outcome 2C. Edit or omit survey items according to findings from Outcome 2B.

Objective 3: Test revised survey to establish reliability and validity for survey instrument.

Outcome 3A. Test revised survey developed in Outcome 2C with a sample size ratio of at least 10 respondents per survey item.

Outcome 3B. Analyze data from Outcome 3A using best practices to determine reliability and validity of the survey instrument, including Cronbach's alpha to assess internal consistency.

Outcome 3C. Based on findings from Outcome 3B, the instrument items will undergo revision and retesting, or results will be written up and disseminated.

Chapter Two

Review of the Literature

Mindfulness

Jon Kabat-Zinn has been studying the positive health impacts of mindfulness for decades, along with an abundance of researchers from all around the world (Brown & Ryan, 2003; Kabat-Zinn, 1990; Kabat-Zinn, 2015). In a January 2022 interview aired on National Public Radio's *Life Kit* podcast, Jon Kabat-Zinn stated, "The kind of awareness we're talking about is so big and so open hearted and so spacious that it sees the good, the bad and the ugly of the human condition all at once and doesn't get caught and imprisoned by any of it" (Meraji & Douglis, 2022, para. 2). The co-occurring simplicity and vastness of the meanings of "Mindfulness" and "mindfulness practice" can make these terms difficult to define, describe, and conceptualize, especially within the context of contemporary use of these terms in popular culture (Choi et al., 2021; Haddock et al., 2022). Mindfulness exists for practitioners in past, present, and future—in their doing, being, and becoming (Wilcock, 1999)—as it unlocks the ability to know one's own mind, to shape that mind, and to achieve freedom of and from the mind (Kabat-Zinn, 1990; Kabat-Zinn, 2015; Shapiro & Carlson, 2017).

Mindfulness practice consists of meditation on the experience of the present moment characterized by curiosity and kindness (Kabat-Zinn, 1990). This includes noticing when the mind strays from the present moment and guiding one's attention back firmly, but without self-judgment, to the here-and-now (Kabat-Zinn, 1990). While mindfulness training (MT) often begins with sitting quietly for meditation or focusing on the body through yoga, integration into everyday activities such as walking, eating, or interacting with others is often

included in MT (Bryant & Reynolds, 2021; Shapiro & Carlson, 2017). According to Kabat-Zinn, the awareness gained from mindfulness practice has the power to help individuals “fall awake” to every present moment in their lives, gaining the fullest dimensionality of being (Meraji & Douglis, 2022). It is significant to note that the fundamental purpose of mindfulness practice, from Kabat-Zinn’s Mindfulness Based Stress Reduction perspective, is to nurture one’s health, being, and subsequent wellbeing (1990).

Findings from Past Research Studies

Benefits of Mindfulness

There is widely accepted empirical evidence regarding both the neurobiological and behavioral changes associated with mindfulness practice and the resulting cognitive and emotional benefits that contribute to the mental and social well-being of practitioners (Brown et al., 2015; Galante et al., 2022; Keng et al., 2011; Park et al., 2013). The ability to be fully present can be helpful in avoidance of worry about the future or rumination on the past—both common features of depression and anxiety (Bryant & Reynolds, 2021; Hayes-Skelton & Wadsworth, 2015). The ability to recognize current thoughts and feelings without judgment can also facilitate improved in-the-moment discernment and decision-making, allowing a person to make active choices about how and when to respond to thoughts and feelings, rather than defaulting to reactive behavior (Bryant & Reynolds, 2021; Hayes-Skelton & Wadsworth, 2015).

Mindfulness intervention for clinical populations constitutes much research and practice, with focus areas involving depression, anxiety, addiction, various physical conditions, as well as conditions involving difficulty with self-regulation (Baminiwatta & Solongaarachchi, 2021; Brown et al., 2015). Mindfulness has been used in the treatment of

clients with cancer, chronic pain, fibromyalgia, rheumatoid arthritis, cardiovascular disease, diabetes, HIV/AIDS, irritable bowel syndrome, organ transplantation, and other health problems to reduce presentation of symptoms and improve overall psychosocial outcomes (Brown et al., 2015; Bryant & Reynolds, 2021; Carlson, 2015).

The health benefit of mindfulness for individuals across the lifespan has also been widely studied for the purpose of managing stress and enhancing positive functioning overall (Brown et al., 2015; Kriakous et al., 2021; Shapiro & Jazaieri, 2015; Sharma & Rush, 2014). Many researchers refer to their research populations as “healthy” or “well-persons” if said population has no documented medical diagnosis related to characteristics assessed by their study. Inclusion in these studies centers more on life phases, geographic contexts, or vocational similarities. Sharma & Rush (2014) published a systematic review of 17 quantitative studies that examined the power of mindfulness to reduce stress for well-persons. Sixteen of the referenced studies demonstrated a reduction of physiological and/or psychological outcomes related to feelings of stress and anxiety (Sharma & Rush, 2014). A recent systematic review of 30 rigorous studies identified by Kriakous et al. (2021) found that participation in mindfulness-based programs reduced feelings of stress, anxiety, and depression for health care providers while simultaneously improving their self-compassion.

There is empirical evidence on the utility of mindfulness for many different groups of people without specific medical diagnoses who are identified instead by shared vocations or contexts (Dane & Brummel, 2014; Kong & Jolly, 2019; Lyddy et al., 2021; Passmore, 2019). There is research on specific sub-groups including library employees (Pionke & Graham, 2021), workers in the financial sector (Dinesh et al., 2022), people employed by major corporations (Sutcliffe et al., 2016) and people who provide health care (Dannapfel et al.,

2014; Thorndike, 2019; Valley & Stallones, 2018). Researchers have studied the impact of mindfulness for parents and/or pregnant people (Dhillon et al., 2017; Lee et al., 2022; Townshend et al., 2016; Tumthamarong, 2022), children (Dunning et al., 2019; Filipe et al., 2021; Lee et al., 2022; Sun et al., 2021), college students (An et al., 2019; Beck et al., 2017; Haliwa et al., 2022; McConville et al., 2017; Neufeld & Malin, 2022), athletes (Goodman & Howard, 2021), people who are incarcerated (Dafoe & Stermac, 2013; Derlic, 2020; Murray et al., 2018; Per et al., 2020), caregivers (Calvete et al., 2021; Ho et al., 2016), and veterans (Hermann et al., 2020).

Emerging lines of research seek to understand the potential utility and risks of mindfulness training for minority or marginalized populations (Proulx et al., 2018; Spears, 2019; Spears et al., 2017; Sun et al., 2022) and are accompanied by a call for responsive adaptation to mindfulness-based programs to effectively meet the needs of participants across cultures (Loucks et al., 2022; Proulx et al., 2018) while employing a trauma-informed or do-no-harm approach (Baer, et al. 2019; Frank & Marken, 2022; Van Dam et al., 2018). Growth of programs and research dedicated to marginalized populations may also slow the disproportionate influence of systemic whiteness on Mindfulness (Olzman, 2022).

Assessment of Mindfulness, Mindfulness Attributes & Mindfulness Training Outcomes

The impacts of mindfulness, mindfulness practice, and/or mindfulness training are assessed in many ways, including qualitative, quantitative, standardized, and non-standardized measures. Some assessments aim to quantify the state, or immediate, mindfulness in response to a particular stimulus such as physical activity (Ullrich-French et al., 2022), including components such as non-reactivity, non-judgment of self, self-awareness of one's actions, observing and describing thoughts and feeling, and acceptance of current circumstances (Baer et

al., 2008; Feldman et al., 2007; Lecuona et al., 2021). Other assessments seek to quantify time spent in mindfulness-based activities or articulate the quality of skills developed during those activities (Hassed et al, 2021). Dispositional, or trait mindfulness scales, are designed to reflect a way of being that arises because of repeat practice (Kabat-Zinn, 1990; Tomlinson et al., 2018).

Qualitative inquiry is another tool for understanding mindfulness practice and particularly useful for exploring complex personal and interpersonal circumstances and the impacts of contextual factors for participants—such as their own history and culture and environmental influences including current events and their physical location. Open-ended reflection and narrative inquiry can leverage the relationships between learners, instructors, and peers and for improving understanding of adverse effects of practice (Frank & Marken, 2022). Frank and Marken’s scoping review of qualitative mindfulness research identified 229 studies published between 2000 and 2019 and identified a growing number of mindfulness programs and research studies employing a mixed-methods approach—utilizing both quantitative and qualitative tools as they seek to understand the impact of mindfulness practice on participants’ lived experiences (Huynh et al., 2019).

Dispositional mindfulness scales most commonly used include the Mindful Attention Awareness Scale (MAAS) (Brown & Ryan, 2003), The Five Facet Mindfulness Questionnaire (FFMQ) (Baer et al, 2006), and the Kentucky Inventory of Mindfulness Skills (KIMS) (Baer et al., 2004) though there are many others available for use, including some with specific populations such as the Children and Adolescent Mindfulness Measure by Greco et al. (2011) (Tomlinson et al., 2018). The Comprehensive Inventory of Mindfulness Experiences (CHIME; Bergomi et al., 2014) represents a relatively global view of mindfulness, measuring eight subscales: awareness of internal experiences, awareness of external experiences, acting with

awareness, accepting nonjudgmental attitude, nonreactive decentering, openness to experience, awareness of thoughts' relativity, and insightful understanding. CHIME provides a comparatively comprehensive picture of mindfulness attributes and behaviors (Medvedev et al., 2019) with excellent psychometric properties (Bergomi et al., 2014; Wilkinson et al., 2022), but to date has only been validated in the German, Dutch, and French languages (Wilkinson et al., 2022). It is important to note that all these assessments are based on self-report and therefore include the barriers and benefits of humans reflecting on their own experiences (Frank & Marken, 2022; Van Dam et al., 2018).

Some studies use objective measurements to quantify activation of psychobiological stress markers using ecological momentary assessments of heart rate, blood pressure, or hormone contents of breath, saliva, blood, or sweat (Aguilar et al., 2021; Ho et al., 2016; Kraemer & McLeish, 2019; Lengacher et al., 2019; Roberts et al., 2019). Recently, Yu and colleagues (2021) completed a nine-month randomized control trial exploring mindfulness-associated neuroplasticity by measuring changes in cortical thickness utilizing whole brain analyses. Similarly, Cernasov et al. (2021) utilized magnetic resonance imaging (MRI) to track changes in brain activation for participants with anhedonia.

Much of the available research relies on more than one assessment or outcome measure and may include measures of state or trait mindfulness in combination with biomarkers, symptom measures, or qualitative reports hypothesizing correlations between an increase in mindfulness with a decrease in unwanted symptoms or states of being such as stress, anxiety, pain, etc. rather than mindfulness constructs directly (e.g.: Aguilar et al., 2021; Beck et al., 2017; Dehgan et al., 2020; Dinesh et al., 2022; Kraemer & McLeish, 2019). For example, Liu and colleagues (2022) employ the PTSD Checklist-Civilian Version in conjunction with the FFMQ

and questionnaires. In their study of mindfulness as a mediator of depression and anxiety for persons with asthma, Kraemer and McLeish (2019) used the FFMQ, the Depression Anxiety Stress Scale (DASS), Inventory of Depression and Anxiety Symptoms (IDAS), Anxiety Sensitivity Index-3 (ASI-3), and the Center for Epidemiological Studies Depression Scale (CES-D) in addition to four more asthma-related measures. Other studies seek to understand the relationship between mindfulness practice and emotion or mood using tools such the Brief Mood Introspection Scale or non-standardized logs (Evangelista et al., 2022; McConville, 2017). The Perceived Stress Scale is also widely used (Dhillon et al., 2017; Gutman et al., 2020; McConville, 2017) as the relationship between stress and mindfulness can predict changes in quality of life (Calvete et al., 2021; Dehghan et al., 2020).

Most mindfulness instruments are self-reported measures of various constructs related to mindfulness (Frank & Marken, 2022; Park et al. 2013) which are often met with criticism for semantic ambiguity and oversimplification of vast, difficult-to-define nature of mindfulness (Frank & Marken, 2022; Van Dam et al., 2018). This review of the literature identified inconsistent references to various numbers of “attitudes,” “attributes,” “core elements,” and “pillars” inherent to mindfulness (Frank & Marken, 2022; Shapiro & Carlson, 2017) many of which are present to varying degrees as characteristics of human dispositions even at baseline (Brown & Ryan, 2003).

Mindfulness-Based Intervention and Mindfulness Programs for Health Promotion

Mindfulness programs can also be classified as a type of health-promotion programs contributing to the World Health Organization’s definition of health as a “state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (World Health Organization, 2022, para 1). Development of high-quality health promotion

programs requires a clear understanding of the population of interest (McKenzie et al., 2017). Formal assessment of the needs, attitudes, and desires of a given population is critical to guide program planners in their pragmatic development of meaningful education, marketing, and intervention materials and plans. When expectations of targeted participants are not explored, program planners risk wasting valuable time and resources on development of programs that will not be well attended or yield intended outcomes. The work of Spears et al. (2017) focused on perceptions of mindfulness in a sample of non-white community members with low socioeconomic status and concluded that understanding participants' preconceptions of mindfulness practice could help facilitators develop customized programming resulting in more effective programming. A review of mindfulness-based programs published by Baer et al. (2019) highlighted the need for increased understanding of potential harm that may result from mindfulness practice, citing varying degrees of intensity of practice, possible complications arising from psychiatric and traumatic history, and the potential for facilitators to be insufficiently prepared to help learners effectively process their experiences. Understanding participant expectations at the outset of a program may help facilitators employ a do-no-harm approach, as well as potentially contribute to the body of knowledge related to possible risk factors associated with mindfulness-based programs called for by Baer et al. (2019) and Van Dam et al. (2020).

In addition to improving effectiveness of mindfulness programming and preventing harm, understanding expectations of mindfulness program participants could help improve the rigor of mindfulness research. A systematic review published in 2017 by Goldberg et al. sought to discern whether mindfulness research methodology has improved over time and identified only modest improvements, citing ongoing concerns with small sample sizes and limited long term

follow-up data as two persistent weaknesses. A systematic review of more than 1,200 studies on the effectiveness of mindful parenting programs cited a problem of small, largely homogenous (white, middle-class) samples (Townshend et al., 2016). The underlying factors contributing to the barriers of high-quality research and long-term adoption of mindfulness practices may be identifiable and quantifiable when measured by a reliable and valid instrument, giving researchers and mindfulness facilitators the ability to customize programming to their audience (Baer et al., 2019; Sun et al., 2022) and inform the development of well-formed research parameters (Goldberg et al., 2017; Townshend et al., 2016; Van Dam et al., 2018).

Theoretical Foundation

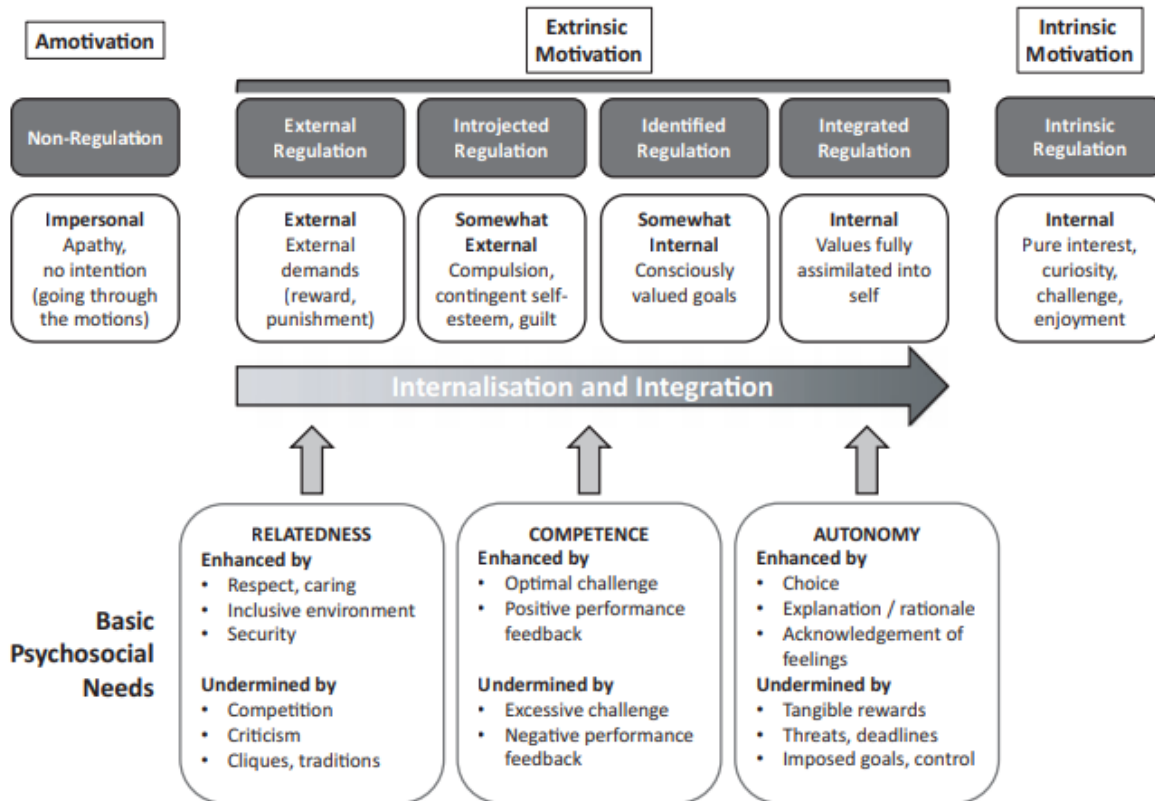
Self-determination theory (SDT) is a macro theory which examines human motivation and personality as they are impacted by intrinsic and extrinsic factors across three central areas of human need: competence, relatedness, and autonomy (Center for Self-Determination Theory [CSDT], 2022; Ryan & Deci, 2000). SDT hypothesizes three types of motivation: amotivation, extrinsic motivation, and intrinsic motivation. Motivation is characterized by levels of energy put toward a direction. In the case of amotivation, there is no energy within a person to move toward a particular direction, no feelings of value or ability associated with an action (Ryan et al., 2021). Extrinsic motivation occurs when energy toward a direction is generated by an outside source of influence (such as an educator, employer, family member, or group of peers) rather than by the person taking the action (Ryan et al., 2021). Amotivation is associated with the lowest levels of autonomy. In the case of extrinsic motivation, an individual may act to obtain praise or reward, or to avoid punishment or shame—articulated by Ryan et al. (2021) as “shoulds” and “mustifications,” rather than out of a self-possessed desire to act. Intrinsic motivation occurs when a person’s values, desires, and energies work

together in a direction of their choosing. Intrinsic motivation is associated with the highest levels of autonomy (Ryan et al., 2021).

SDT describes regulatory styles associated with the motivation and autonomy continuum. Amotivation is associated with non-regulation, where there is no intention and a person “goes through the motions.” External regulation occurs when a person responds to rewards and demands. Introjected regulation is related to self-esteem and guilt. Identified regulation incorporates conscious value and culture. Intrinsic motivation and the highest levels of autonomy represented integrated regulation, where a person’s values are fully assimilated into their actions and contribute to a sense of internal self (Cook & Artino, 2016, Ryan & Deci, 2000). According to SDT, when people are intrinsically motivated, they act out of interest, enjoyment, curiosity, or a desire for challenge—all of which are tied to one’s sense of self (Cook & Artino, 2016; Ryan & Deci, 2000). When people are intrinsically motivated, they are more likely to participate in the behavior being considered (CSDT, 2022), such as attending mindfulness groups or continuing mindfulness practice independently after the cessation of group intervention. Figure 1 illustrates the continuum from amotivation to intrinsic motivation considering the basic psychosocial needs of relatedness, competence, and autonomy (Cook & Artino, 2016).

Figure 1

Graphic Depiction of SDT Constructs



Note. From “*Motivation to learn: an overview of contemporary theories*” by Cook & Artino, 2016, *Medical Education*. p.1010.

file:///C:/Users/sgarrison/Downloads/CookArtino_2016_Motivationtolearn-

Anoverviewofcontemporarytheories.pdf. Copyright 2016 by John Wiley & Sons Ltd and the Association for the Study of Medical Education

The Center for Self Determination Theory (2022) directly links SDT to research on mindfulness. This is largely because of the emphasis in mindfulness practice on intrinsic goals, personal growth, health, and emotional regulation (CSDT, 2022). Mindfulness practice

heightens the awareness of circumstances both internal and external, allowing a mindfulness practitioner to notice and utilize this information with greater self-awareness and self-regulation than a non-practitioner (Shultz & Ryan, 2015). This aligns with the SDT concept of a process of integration and autonomy which results in achievement of self-determination and increased quality of life (Ryan & Deci, 2000; Shultz & Ryan, 2015). Mindfulness and self-determination theory are so closely linked that a primary author for original SDT materials, Richard M. Ryan (Ryan & Deci, 2000) can also be found as a co-investigator with Kirk Warren Brown on the development of the Mindful Attention Awareness Scale (Brown & Ryan, 2003) as well as hundreds of additional peer-reviewed works (CSDT, 2023).

Through mindfulness, or intentional and open awareness of what is occurring within one's own mind and body at the present moment, a person has an opportunity to recognize their thoughts and feelings and use them to inform decisions about action or inaction which align with their autonomous, intrinsically regulated, and intrinsically motivated desires (Donald et al., 2020; Ryan et al., 2021; Ryan & Deci, 2017). Because mindful awareness can increase a person's ability to make choices for action or inaction that align with their own values, increased trait mindfulness can reduce the sway or influence of motivation that is not autonomous (Ryan et al., 2021)—a concept illustrated in the example of a worker who, rather than increasing their productivity at work after mindfulness training, chooses to quit their unfulfilling job. This connection between mindfulness and motivation as described by self-determination theory is well-documented in the literature and recently summarized in a 2020 systematic review and meta-analysis of 89 papers detailing 104 separate studies ($N = 25,176$) (Donald et al, 2020).

Gaps in the Literature

Research on mindfulness has been broadly criticized for lack of rigor with methodology, including small sample sizes and limited follow-up assessment (Goldberg et al., 2017; Townshend et al., 2016). These are issues that to some degree could be mediated with a careful analysis of a target population's expectations and perceived limitations before the mindfulness-based intervention ever begins. Recent research by Haddock and colleagues (2022) concluded that the perceptions of mindfulness by lay people (such as registrants in an MBI research study or health promotion program) impact how they interpret information about mindfulness and how they act upon their learning. Notably absent from the literature are references to validated measures for gathering data about; (1) participants' understanding of and expectations for mindfulness prior to the start of MBI, (2) previous mindfulness experience; (3) their reasons for participation; and (4) possible contraindications for participation. This is especially remarkable given the common cry from researchers for improving methodological rigor, increasing the replicability and comparability of studies, and prioritizing a do-no-harm approach (Baer et al., 2019; Frank & Marken, 2022; Huynh et al., 2019; Van Dam et al., 2018).

Rigorous research depends in part on a clear description of the study population (Eldridge et al., 2014). Understanding the expectations of potential study participants prior to the start of MBI could help ensure that individuals enter into mindfulness training without misconceptions about the possible personal impacts of participation; as well as identify erroneous thinking—“this will be relaxing” or “this will help me be more productive at work”—which could help researchers understand necessary points of clarification and may shed light on improvements to truly informed consent as a necessary precursor to trauma-informed approaches. When developing a health promotion intervention, “understanding how the health of a group of

individuals at a site might be improved requires information on both their current health status and their ideal health status” (Price et al., 2017, p.85). Assessing the needs and baseline characteristics of a given population makes it possible for health promotion programs and research studies to specifically address identified problems, concerns, and goals of their participants (Price et al., 2017). Many studies exploring the impact of mindfulness collect preliminary primary demographic and qualitative data about participants via surveys, interviews, or focus groups (Goodman& Howard, 2021; Haliwa et al., 2022; Herrmann et al., 2020; Thorndike et al., 2019), but to date, no surveys or questionnaires have been formally validated to capture this data effectively.

A theoretically grounded, validated tool for collecting baseline data so commonly missing from current research would be a significant step toward enhancing the rigor in mindfulness research and designing theory-driven, evidence-based, and more effective health promotion interventions utilizing mindfulness training.

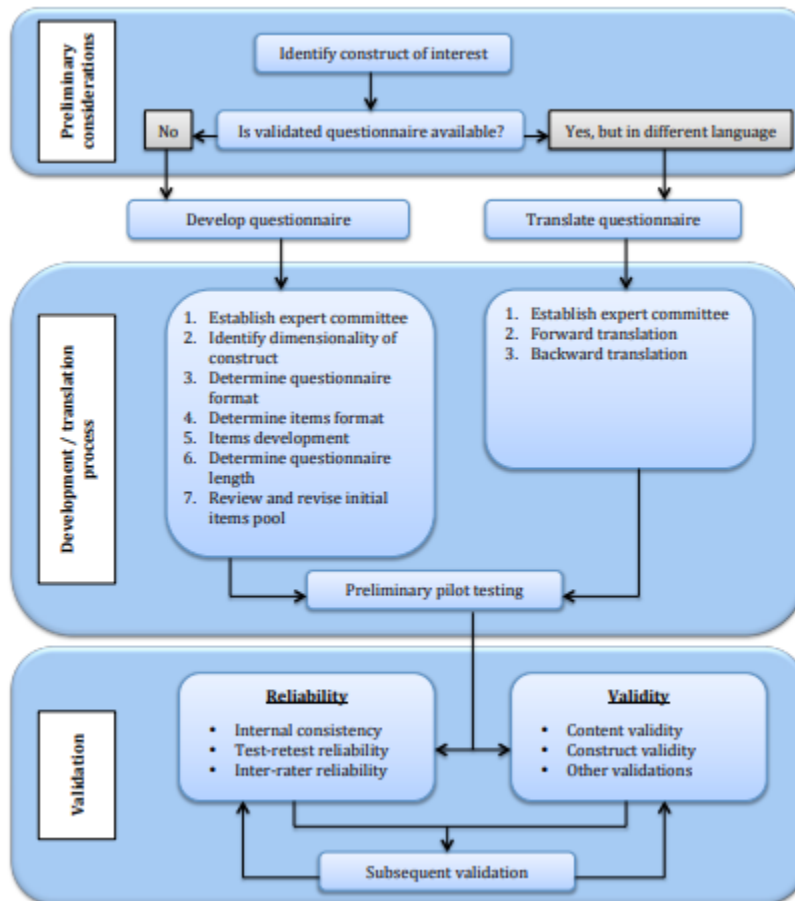
Chapter Three

Methodology

Study Design

The purpose of this study was to develop and subsequently validate a questionnaire about expectations for mindfulness. The process for questionnaire development mirrored best-practice standards found in healthcare and social science fields (Aithal & Aithal, 2020; Blair et al., 2014; Boateng et al., 2018; Dane & Carhart, 2023; Tsang et al., 2017; Yusoff et al., 2021).

Development of the survey progressed through four phases as laid out by Tsang et al. (2017): (1) identification of a construct of interest, (2) questionnaire development and revision (3) pilot testing for measures of reliability and validity, (4) revision and retesting as needed to establish validation. Figure 1 depicts this process (Tsang et al., 2017). This approach was repeatedly identified in the literature with only minor variations regarding statistical analysis not applicable to this work (Aithal & Aithal, 2020; Blair et al., 2014; Boateng et al., 2018; Dane & Carhart, 2023; Tsang et al., 2017; Yusoff et al., 2021). Identifying the construct of interest evolved throughout the process of literature review detailed earlier in Chapter Two.

Figure 2*Questionnaire Development Process*

Note. From “Guidelines for developing, translating, and validating a questionnaire in perioperative and pain medicine” by Tsang, S., Royse, C. F., & Terkawi, A. S., 2017,. *Saudi Journal of Anaesthesia*, 11(Suppl 1), S80–S89. https://doi.org/10.4103/sja.SJA_203_17

Questionnaire Development and Revisions

During the development and revision phase, questions were developed or gathered from published literature, through feedback and insights from mindfulness experts, or adopted from existing mindfulness assessments and rephrased to reflect expectation. Use of questions from

previous research embedded this work within the existing evidence on mindfulness and self-determination theory and established an intentional foundation upon which to establish construct validity (Blair et al., 2014). Questions were sorted into categories including demographic information, mindfulness state-trait characteristics (Baer et al., 2008; Feldman et al., 2007; Lecuona et al., 2021), mindfulness outcomes (e.g. Dane & Brummel, 2014; Kong & Jolly, 2019; Lyddy et al., 2021; Passmore, 2019), or theoretical constructs of relatedness, competence, autonomy, and motivation as defined by self-determination theory (Cook & Artino, 2016, Ryan & Deci, 2000). Finally, four open-ended questions were included in keeping with the qualitative and mixed methods traditions explored in the literature review (Frank & Marken, 2022; Huynh et al., 2019). This first draft of 103 potential survey items included a variety of question types to identify demographics and other facts about respondents, opinion questions utilizing three or five-point response format with a neutral item choice, four-point response format questions with no neutral option, and free-text open-ended perspective questions. Four were contingency items, only relevant if respondents report previous experience with mindfulness. Survey items were further sorted into categories: a respondent's expectations of mindfulness generally, and expectations for mindfulness related to themselves personally.

The first draft of potential survey items, available for reference in Appendix A, was presented as a component of the study proposal to the author's doctoral capstone committee for approval. Once the research proposal was approved by the full capstone committee, experts were recruited to review, revise, and eliminate items. For questionnaire development and validation, experts establish consensus (Aithal & Aithal, 2020; Blair et al., 2014; Boateng et al., 2018; Tsang et al., 2017; Yusoff et al., 2021) that each question developed can provoke a response that could answer the question asked—a concept known as face validity, expert validity, or validation

by consensus (Dane & Carhart, 2023). Content validity, or expert consensus that “a measure deals with a representative sample of the various aspects of the concept” (Dane & Carhart, 2023, p. 123) was also established in this way. Content validity was relevant to this measure, due to the large scoping nature of its construct of interest, mindfulness, and its foundation in self-determination theory.

For this study, 14 mindfulness teachers with at least three years of mindfulness practice experience were recruited from the author’s extended personal and professional network. Duration of mindfulness “practice,” the regular and systematic use of mindfulness meditation (Kabat-Zinn, 2019), was a key criterion of the expert perspective, as first-hand experience with mindfulness yields understanding beyond what can be learned through reading alone (Kabat-Zinn, 1990). A history of teaching mindfulness, the second criterion for inclusion as an expert, was important because they were asked to employ their experience communicating about mindfulness with novices to discern utility of survey items, and root out bias and item construction problems, in addition to establishment of validity. Importantly, credentials related to mindfulness were not used as a measure of expertise, as the conceptualization of mindfulness is not owned or accredited by any authoritative body, instead spanning from classical Buddhism to scientific literature, formal to informal, all traditions with their own value (Quaglia et al., 2015). Each expert was briefed on their expectations for participation and subsequently agreed to participate on a volunteer basis.

Experts recruited for pretesting were provided with the first draft of potential survey items (see Appendix A) along with a potential survey item review rubric built in *Microsoft Excel* via email. The item review rubric included a column for survey item number, a yes/no question regarding perceived utility of the item, a yes/no question regarding face validity for each item, a

yes/no question regarding construct validity for each item, and a space for comment (see Appendix B).

Of the 14 experts recruited, nine returned complete rubrics and two others returned general comments. The nine experts who served this study to establish content validity brought with them a combined total of more than 144 years, representing a range from 7 years to more than 20 years of experience—far beyond the minimum threshold sought for this study. These expert reviewers included representation from multiple genders, cultures, geographic locations, and experiences. Some had taught in well-known MBSR programs or at universities, while others worked in community-based settings or primary education, collectively representing a range of experience working with “well” populations and groups with identified health or wellness challenges. Reviewers also demonstrated relevant intersectionality with other areas of expertise that may inform their perspectives on this work, notably: education (pre-k through graduate college), research, yoga practice and yoga training, professional mental health counseling, occupational therapy, and myriad personal identities including parents, children, spouses, siblings, and selves.

Once ratings were complete, experts emailed their rubric and comments back to the author, who then compiled and tabulated ratings for utility and validity in a *Microsoft Excel* spreadsheet. Consensus was established for each item when at least 70% of expert panelists agreed that an item was both useful and valid. For this study, consensus on the 40 items was achieved with one round of ratings. If this had not been the case, the process of revisions and reviews would have repeated until consensus was established for utility and validity of the survey items, according to the methods described in the literature (Aithal & Aithal, 2020; Blair et al., 2014; Boateng et al., 2018; Tsang et al., 2017; Yusoff et al., 2021).

The expert review process served to rule out 55 potential items. Of the remaining 48 items, 36 multiple choice items moved into first-round data collection (see Appendix C for the complete list of first-round items). Four open-ended qualitative items achieved consensus in the expert review process to establish utility, face validity and content validity, but were not included in statistical analysis for this study as the intent for these questions—to initiate personalized dialogue between mindfulness learner and mindfulness instructor—does not require mathematical interpretation. Eight relevant demographic items achieving consensus were also excluded from this study’s validation process, as their near ubiquitous use in other instruments represents sufficient validation. Appendix D contains the open-ended qualitative questions and demographic items.

Necessary permissions and exceptions for proceeding with the study were then obtained from Radford University’s Institutional Review Board. Survey items were transferred into *Qualtrics XM*, available to the author free of charge through Radford University’s institutional log-in. To limit bias and increase the likelihood that respondents would answer each question, the questionnaire began with interesting but non-threatening items which were clearly related to the purpose of the survey, even to a lay person (Dane & Carhart, 2023). Personal, demographic, or potentially sensitive questions were intentionally placed at the end of the questionnaire (Dane & Carhart, 2023). While Tsang et al. (2017) suggest a Flesch-Kincaid reading level score of no more than grade six for self-administrated questionnaires, *Microsoft Office Professional Plus 2019* calculated the first draft of questions for the Survey of Mindfulness Expectations at a 7.5 grade level of reading difficulty. Because Flesch-Kincaid grade levels are calculated using the average number of syllables per word and words per sentence to determine difficulty (Social Security Administration, 2015), the high frequency of the word “mindfulness,” a three-syllable

word, was likely the main cause of this elevated score. Because the term was unavoidable in pursuit of the study's aims, the questionnaire draft went into pretesting despite the higher-than-desired reading level. No paper copies of the survey were available, and while a respondent could utilize their own screen-reading software to translate survey questions or read them aloud, no in-person or by-phone administration was offered.

First-Round Data Collection

Pilot Testing for Measures of Reliability and Validity

The weblink for the preliminarily titled *Assessment of Mindfulness Expectations* was distributed via email to a convenience sample of students, faculty, and staff in the Public Health and Healthcare Leadership and Occupational Therapy Departments at Radford University. Additional departments from the Waldron College of Health and Human Services at RU were contacted as needed until a sample of between 30 to 50 responses was gathered for pilot testing (Aithal & Aithal, 2020; Tsang et al., 2017). A statement of informed consent comprised the first page of the questionnaire, with no subsequent questionnaire items accessible to respondents until consent was established.

First-Round Data Analysis

Data from pilot testing was exported from *Qualtrics XM* to a *Microsoft Excel* file where it was scrubbed to identify any errors, incomplete responses, or extraneous information. Responses were included in data analysis only when the respondent gave consent, self-reported an age of 18 years older, and identified English as one of their primary languages. Survey items with rating scale responses were then coded and uploaded into *IBM's SPSS* software. Negatively worded items were recoded as necessary. Because the intention of this study was to develop a tool for understanding individual's expectations for mindfulness practice at a given point in time in a

summative fashion, and not for comparing this perspective to those of other respondents, only descriptive statistical methods were necessary at this phase.

Cronbach's alpha was used to estimate internal consistency, a measure of reliability that demonstrates how well items within the survey are measuring the same concepts (Patten & Newhart, 2018). This computation includes calculation of all possible split-half reliability coefficient possibilities within a single survey response and averages them together to produce the Cronbach's alpha, or α . An α of .9 or above is best, but a value over .7 was considered good for this pilot round of analysis and eliminated the need for test-retest (Patten & Newhart, 2018).

Second-Round Data Collection

Revision and Retesting to Establish Validation

Cronbach's alpha was used as an editing tool to indicate which survey items should be eliminated from the instrument, reducing the number of survey items from 36 to 16 before it was tested again with a larger population in a second round of data collection. The second round of validation of the questionnaire sought a sample size of at least ten respondents per scale item, or a ratio of 10:1 (Boateng et al., 2018). The online link for the self-administered Qualtrics survey (see Appendix E) was distributed to a convenience snowball sample via email and shared using freely available listservs and social media platforms and made available for two consecutive weeks. Data was cleaned, coded, and imported to SPSS where principal components factor analysis and Cronbach's alpha was again completed for each subscale. Negatively worded items were recoded as necessary. Factor analysis was used to determine how effectively survey items thought to represent the same constructs held together in meaningful subscales (Galak, 2020). These new categories were given names in SPSS and correlated to the construct labels assigned when survey items were developed.

Upon completion of the second round of data analysis, validity and reliability of the Assessment of Mindfulness Expectations was effectively established. Results and discussion were drafted, and the final capstone defense prepared to go before the committee.

Limitations

The primary limitations related to this study are common to those found in other self-administered survey studies, or in studies with no budget. Self-administered surveys are impacted by the respondent's literacy levels, their first languages, their culture, the accuracy of their memories, their degree of willingness to self-disclose, and their own self-awareness (Dane & Carhart, 2023).

Because the development and validation of the *Assessment of Mindfulness Expectations* was completed with no funding, it lacks the perspectives of qualified experts and survey respondents who would have been motivated by some form of compensation. Distribution of the Qualtrics link to would-be respondents relied wholly on freely available resources. Respondents were identified through a convenience snowball sample beginning with the author's professional and academic communities and was therefore represented by a potentially disproportionate sample of people affiliated with the university, healthcare providers, and people geographically proximal to the university's location. Because all experts and lay people who participated in development of this instrument were self-selected for participation in work related to mindfulness, there is the potential limitation of biased thinking about mindfulness.

Finally, reliance on the word "mindfulness" could be seen as a limitation to this study. Though mindfulness has been widely researched around the globe (Baminiwatta & Solangaarachchi, 2021) and constitutes nearly \$200 million of economic activity annually (Absolute Market Insights, 2020), there exist multiple definitions of mindfulness without

uniform parameters. It will take time to discern whether expectations of would-be mindfulness practitioners are confounded by mixed messaging from experts and entrepreneurs.

Delimitations

The development and validation of the Assessment of Mindfulness Expectations employed the opinions of experienced mindfulness teachers to develop a tool capable of capturing a beginner's mind. This is a particular strength of the design. Computations of Cronbach's alpha and factor analysis used data from adult respondents of all ages, genders, religions, education levels, etc. who use English as a primary language. These broad inclusion criteria reflect the face of mindfulness practitioners in a way that demographically limited samples could not have done. Survey items reflecting evidence-based, state-trait characteristics of mindfulness, mindfulness outcomes, and constructs related to motivation from self-determination theory provided a multidimensional skeleton upon which to build this work. Finally, while surveys are an imperfect tool, they are very commonly used in social sciences, healthcare, academia, and business (Yusoff et al., 2021)—all places where mindfulness programs abound. A survey serves as a familiar, easy-to-use resource, accessible to respondents and the researchers, program developers, or mindfulness teachers who employ it.

Chapter Four

Results

As a result of this study, all research aims and objectives were met, and a valid and reliable Assessment of Mindfulness Expectations was developed. Both rounds of data collection reached acceptable sample sizes with 28 participants in the pilot first-round, just two shy of the 30-person target (Aithal & Aithal, 2020; Tsang et al., 2017) and a sample of 240 respondents for 16 survey items, or 15:1 ratio in the second round, surpassing the minimum necessary 10:1 ratio by 50% (Boateng et al., 2018).

First-Round Results

Recruitment Strategies

Subjects were recruited for first-round data collection through distribution of a recruitment flier via email and through the Radford University learning management system to students, faculty, and staff in the Public Health and Healthcare Leadership and Occupational Therapy departments. Since the author of the study is employed and enrolled within the departments targeted for the convenience sample, many respondents were likely to personally know the author or other doctoral capstone committee members. As a result, several unsolicited qualitative reports were sent via email describing the experience of responding to the first-round survey.

Sample Description

There were 28 respondents ($N=28$) to the first round of data collection which ran between September 8th and September 18th, 2023. *Qualtrics XM* identified unique IP addresses for each response and no responses shared the same date, start time, and duration markers, demonstrating that each response was unique. All participants reported residing in the United States and

speaking English as a primary language. Respondent's ages ranged from 20 to 71 with a mean age of 40.2, median age of 38, and a mode of 30 years of age. Twenty-two different U.S. zip codes from seven different states were represented within the sample, with 75% of respondents living in Virginia. Many of the programs in the recruitment departments are graduate level programs serving online students, which influenced the age and location of participants.

Results

The first calculation of Cronbach's alpha including all 36 items yielded a value of .847 and identified other items which, if removed, would increase the value of the alpha. Researchers removed whichever item would increase the value of the alpha the most, and then re-ran the formula. This process repeated 19 times until SPSS demonstrated removal of any further items would reduce the alpha resulting in a 16-item scale with $\alpha=.889$, indicating excellent internal consistency and readiness for round-two data collection. Of note, several study participants took the initiative to email the author regarding "duplicate questions" on the first iteration of the instrument. There were no actual duplicates, but multiple questions asked first from a point of view of expectations for "most people" and then again later in the survey for expectations on the same topic regarding the self. After first-round statistical analysis, all near-duplicate questions were eradicated, leaving only questions about perspectives for the self.

Second-Round Results

Recruitment Strategies

Participants in the second-round data collection were identified using the same recruitment flier as in the first round, with distribution expanded. Online and paper copies invited respondents to distribute the survey information broadly and enabled identification of a larger convenience sample in a snowball fashion. Recruitment material was shared in compliance with

Radford University Institutional Review Board guidance through social media and on professional and interest group online forums. A QR code on print fliers made the online survey available to interested participants who noticed the flier on a bulletin board or on a poster at the Virginia Public Health Association annual conference where the study was presented by the author as a work in progress.

Sample Description

Between September 21st and October 5th, 2023, 241 complete survey responses were logged ($N=241$). As in round one, *Qualtrics XM* identified unique IP addresses for each response and no responses shared the same date, start time, and duration markers, demonstrating that each response was unique. All participants reported residing in the United States and speaking English as a primary language. Respondent's ages ranged from 18 years to 86 years old with an average age of 41.4 years, a median age of 39, and a mode of 22 years of age. Study respondents hailed from 115 different zip codes in the United States, representing 22 different states and the District of Columbia. Virginia residents made up 68% of round two respondents.

Results

Two hundred forty-one responses to the 16 second-round survey items yielded a Cronbach's Alpha of .789, exceeding the .7 threshold for this pilot round of analysis (Patten & Newhart, 2018). Figure 3 depicts the reliability and item-total statistics. Notably, there were two items identified that, if removed, would have increased the α to above .800. These two items were related to expectations for daily practice necessary for mindfulness and to the amount of effort required for mindfulness. Because of their similar themes, these items were kept in the mix for factor analysis and found to comprise a unique factor, or component identified as "effort."

Figure 3

Reliability & Item-Total Statistics

Reliability Statistics				
Cronbach's Alpha	N of Items			
.789	16			

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Practice	28.4192	23.762	.102	.803
Impulsive	28.3100	22.452	.316	.784
Anxiety	28.5153	21.602	.501	.769
Food	28.3755	21.762	.505	.769
EmotNow	28.7424	22.262	.518	.771
Careless	28.4891	22.286	.435	.775
Tension	27.6114	21.721	.541	.767
CommValu	27.6463	21.852	.313	.787
EffortReq_Recode	28.5502	24.722	.018	.800
Trainer2_Recode	27.2052	24.804	.056	.794
DailyAct2_Recode	27.3930	23.152	.230	.790
SelfAware2	28.5459	21.442	.533	.767
Grateful2	28.4105	20.927	.572	.763
Focus2	28.5677	21.746	.544	.767
Sensation2	28.4279	21.500	.490	.770
Accepting	28.1659	21.700	.534	.768

Principal components factor analysis, which assumes the possibility of no measurement error, and that all variance is potentially beneficial, was extracted with Eigenvalues greater than 1, meaning a factor is identified if it has a value greater than the value of the average item with a value of one. This allowed researchers to identify four factors which, when considered together, were more meaningful than the average item considered by itself. The first factor contained most items, but three smaller but significant factors also emerged. A Quartimax rotation was utilized to reconfigure variants and maximize Eigenvalues while allowing different factors to be

correlated, or related to each other, resulting in more even distribution of items across the four factors and some items represented in multiple factors. A Maximum Likelihood Test of Fit was trialed first with one factor, then with two, and then with three factors indicating a lack of fit. A four factor Maximum Likelihood Test of Fit with 95 iterations yielded a Chi-Square value of 65.510, a df of 62 and significance of .356. Figure 4 depicts the four factors in a rotated component matrix. Items scoring +/- .400 for each component were included in the component and highlighted to identify them within the figure.

Figure 4

Four Factors in a Rotated Component Matrix

Rotated Component Matrix^a

	Component			
	Self Improvement	Self Correction	Effort	Application of Mindfulness
Practice	.137	.093	-.718	.037
Impulsive	.142	.616	-.122	.113
Anxiety	.464	.577	.195	-.151
Food	.420	.585	-.005	-.073
EmotNow	.638	.256	.140	-.265
Careless	.335	.554	-.042	.105
Tension	.728	.049	.025	-.054
CommValu	.420	.021	-.089	-.006
EffortReq_Recode	-.074	.207	.702	.185
Trainer2_Recode	.195	-.232	.470	.020
DailyAct2_Recode	.152	.061	.194	.813
SelfAware2	.556	.114	-.064	.555
Grateful2	.604	.270	-.228	.217
Focus2	.659	.095	-.049	.195
Sensation2	.764	-.126	.037	-.077
Accepting	.629	.097	.101	.144

Extraction Method: Principal Component Analysis.

Rotation Method: Quartimax with Kaiser Normalization. ^a

a. Rotation converged in 6 iterations.

Results of the Study

The result of this study was a theoretically grounded 27-item instrument with established face validity and content validity and that accounts for four significant dimensions of expectations regarding mindfulness. Table 1 shows the study objective and outcomes, depicting findings already discussed.

Table 1

Study Objectives and Outcomes

Objective 1: Establish content validity of first survey draft.	Met
Outcome 1A. Generate or identify appropriate questions using a review of mindfulness literature, existing informal mindfulness surveys, and input from mindfulness experts.	103 potential survey items developed
Outcome 1B. Develop survey as informed by revisions and edits from experts.	First round survey trialed with 36 items
Objective 2: Pilot test survey to determine appropriateness and utility of survey items.	Met
Outcome 2A. Test survey items developed in Objective 1 for internal consistency and content validity with 30-50 respondents.	Narrowed to 16-item scale with $\alpha=.889$ and expert consensus
Outcome 2B. Analyze data from Outcome 2A using best practices to determine utility of each survey item.	
Outcome 2C. Edit or omit survey items according to findings from Outcome 2B.	
Objective 3: Test revised survey to establish reliability and validity for survey instrument.	Met
Outcome 3A. Test revised survey developed in Outcome 2C with a sample size ratio of at least 10 respondents per survey item.	N=241 15 respondents per survey item
Outcome 3B. Analyze data from Outcome 3A using best practices to determine reliability and validity of the survey instrument, including Cronbach's alpha to assess internal consistency.	$\alpha=.789$ Chi-Square 65.510 df of 62 significance .356
Outcome 3C. Based on findings from Outcome 3B, the instrument items will undergo revision and retesting, or results will be written up and disseminated.	Results written up and sent to committee

The assessment tool developed, available for review in Appendix F, has a Flesch-Kincaid

6.7 grade level reading difficulty as calculated by *Microsoft Office Professional Plus 2019*,

reduced by .8 from the first draft. A scoring tool was developed to help with future interpretation of the 16 multiple choice questions and is based on the four factors laid out in the Rotated Component Matrix (see Figure 4). Some items fit into multiple factors. Numerical values ranging from one to five were assigned to multiple choice response options for each question and then highest-possible totals, or scores were identified for each factor. Factor 1, Self-Improvement, includes 10 items (anxiety, food choices, emotion, tension, community value, self-awareness, gratitude, focus, sensation, and accepting) with a total possible score of 50. Factor 2, Self-Correction, includes four items (impulsivity, anxiety, food choices, and carelessness) with a total possible score of 20. Factor 3, Effort, includes three items (practice, effort, and trainer) with a total possible score of 10. Factor 4, Application of Mindfulness, also includes two items (daily acts and self-awareness) with a possible total of nine. Together, scores may total between 19 and 89, with lower values indicating closer alignment to literary consensus about how mindfulness can influence behaviors and traits and how mindfulness is learned and practiced at the time literature was reviewed for this study, between 2020 and 2023.

The 9-14 demographic and open-ended questions included in the assessment after the multiple-choice section have no “right”, “wrong”, or “best” answers and will not be numerically scored, but rather used qualitatively to help understand more about the mindfulness trainee, their needs, their strengths, and their goals, in their own words.

Chapter Five

Discussion

The purpose of this study was to develop and validate an assessment of mindfulness expectations. The method followed established standards for survey development in social sciences (Aithal & Aithal, 2020; Blair et al., 2014; Boateng et al., 2018; Dane & Carhart, 2023; Tsang et al., 2017; Yusoff et al., 2021). The construct of interest was derived from a review of the literature, experts reviewed possible items to establish content validity, a pilot round of testing was completed with a small sample size and Cronbach's alpha was calculated to determine internal consistency and rule out superfluous items; a secondary round of testing with an N of at least 10 respondents for every survey item was completed and upon analysis shown to have adequate internal consistency across four distinct and significant factors. The resulting *Assessment of Mindfulness Expectations* is ready for use and further testing.

Discussion of the Results

Each of the 27 items included in the final assessment were selected through a consensus process involving nine expert mindfulness practitioner/teachers with a cumulative of 104 years of experience and a range of 7-20+ years of experience each. These experts first agreed that the information gained about a new person coming into mindfulness training would be useful to know. Of the items determined to be useful, consensus was then established regarding face validity (also known expert validity, or validation by consensus) and content validity indicating expert agreement that the multiple-choice responses available for each item represented adequate answers and that the items accurately represent various aspect of mindfulness concepts (Dane & Carhart, 2023).

Significantly, these tests for reliability and validity test the instrument *itself*. Descriptive statistical methods were used to ascertain reliability of the 16 multiple-choice items which comprise the bulk of the assessment. A Cronbach's alpha value of .789 with a sample of 241 responses, exceeded the minimum $\alpha = .700$ considered adequate for pilot studies. This α demonstrates reliable internal consistency and ensures that the survey items measure related concepts without redundancy (Patten & Newhart, 2018). A factor analysis of principle components revealed four factors wherein the relationships between the items comprising each factor have greater meaning than each item if considered separately. A Maximum Likelihood test of Fit with 95 iterations resulted in a Chi-Square value of 65.510 with 62 degrees of freedom (df) and significance of .356. This study did not analyze participant response correlations or seek to establish any normative values. While there is a recommended scoring for the established assessment, this work does not go so far as to calculate, interpret, or compare scores of the responses gathered for this study. The only claim made with the current scoring method is that lower scores represent expectations for mindfulness that are commonly borne out in the available mindfulness literature at this time.

Relationship of the Findings to Prior Research

The Assessment of Mindfulness Expectations represents a new contribution to the field with no known directly comparable instruments. Despite its novelty, this work is closely related to prior research as some items were adapted from existing mindfulness instruments with different purposes, or established in response to themes that emerge from literature regarding mindfulness and Self Determination Theory. Table 2 depicts survey items and their corresponding sources, including Self Determination Theory constructs of competence and autonomy, concepts related to mental well-being, common misconceptions depicted in the

literature, and revision of items published by Brown & Ryan in their Mindful Attention Awareness Scale (2003), by Baer et al. in the Five Facet Mindfulness Questionnaire (2006), and by Baer et al. in the Kentucky Inventory of Mindfulness Skills (2004).

Table 2

Survey Item Sources

ITEM	Construct & Sources
1. Practice	SDT: Competence Author, experts, literature
10. Trainer	
11. Daily Acts	
8. Community Value	SDT: Relatedness Author, experts, literature
2. Impulsivity	Mental Well-Being Author, experts, literature
3. Anxiety	
12. Self-awareness	
13. Gratitude	
14. Food	
5. Emotions	Mindful Attention Awareness Scale (Brown & Ryan, 2003)
6. Carelessness	
7. Tension	
14. Focus	
9. Effort Required	Common Misconceptions Author, experts, literature
15. Sensation	Five Facet Mindfulness Questionnaire (Baer et al., 2006)
16. Accepting	Kentucky Inventory of Mindfulness Skills (Baer et al., 2004)

Implications for Future Practice, Research, and Policy*Next steps for ongoing development of the AME*

As the completion of this study initiates the very beginning of the “life” of the Assessment of Mindfulness Expectations, there are many opportunities for future work. To date, only the multiple-choice items have been trialed with respondents. Next, the whole 27-item

instrument should be trialed as a whole, ideally incorporating a focus group design to invite qualitative feedback on user experience. The assessment should be trialed with larger sample sizes and data should be analyzed to determine if the four factors hold up to replication beyond this study. There is also work to be done researching perceptions of the mindfulness trainers who use this instrument to gather data from would-be learners.

At this stage, the assessment exists in print-form only. There may be a benefit to the development of an online version of the AME. Online delivery has potential to improve universal design for accessibility, allowing for use of screen-reading technology to accommodate visual perception and reading differences. Readily available online translating software may also have the potential to broaden access beyond English speakers, though automatically generated translations may not convey meaning accurately and should be closely examined by skilled human translators before they are promoted for use. While online access to the AME has many potential advantages, print copies should remain available for populations without computer or smartphone access, to people without internet, and to those who feel more comfortable responding on paper. A combination of availability online and in print would come closest to the stated ideals of opening access to this resource, and ideally mindfulness more generally, demonstrating cultural humility and consideration of all populations regardless of privilege or preference.

There are countless opportunities for ongoing research on findings and ramifications of the findings revealed when an individual uses the AME. The AME findings of individuals from similar people groups or contexts can then be compared to each other. Some mindfulness study populations previously mentioned in this work include populations with health problems (e.g., Brown et al., 2015; Bryant & Reynolds, 2021; Carlson, 2015); people with shared vocations

such as health care workers and educators (e.g., Dane & Brummel, 2014; Kong & Jolly, 2019; Lyddy et al., 2021; Passmore, 2019); college students (e.g., An et al., 2019; Beck et al., 2017; Haliwa et al., 2022; McConville et al., 2017; Neufeld & Malin, 2022); and minority or marginalized populations (Proulx et al., 2018; Spears, 2019; Spears et al., 2017; Sun et al., 2022).

Potential Application of AME

While the actual benefits and shortcomings of the AME cannot be known until the instrument has been tried and tested, many potential applications present themselves. It may be useful as a tool to expose discrepancies between what a would-be trainee believes or expects, and what mindfulness has been shown to do. These discrepancies may appear across one or more of the four AME factors and reveal expectations for the influence of mindfulness on their ways of problem solving or self-correcting, the ways mindfulness may or may not improve their life or the way they navigate the world, the amount of effort required to develop and practice mindfulness, or the ways mindfulness can be applied in the world. This is not to say that a person with potentially unrealistic expectations is not appropriate for mindfulness training, but that there may be an opportunity for preliminary education on mindfulness principles and anticipated outcomes so that the would-be trainee can make a better-informed decision about participation. Other times, the revelation of discrepancies could help lead to conversations about more appropriate interventions.

Many mindfulness programs utilize pre/post intervention assessments of mindfulness states and traits, but until now, there was no validated instrument available for preliminary/introductory use. The combination of revealed expectations, personal history, and open-ended questioning creates potential for mindfulness trainers to learn of person and

population characteristics they may not have considered when developing their own non-standardized assessment methods. This instrument could be used to reduce the risk of harm by revealing misconceptions about effort or outcomes that if unmet may have contributed to feelings of failure, inadequacy, or lack of support. The wide-ranging personal history and demographic questions included by expert consensus in the assessment provide, if nothing else, an opportunity for a trainee to ask the trainer why the given answer choices are relevant to practice, opening up conversations about mindfulness practice. For instance, a person's history with trauma or discrimination, understanding a person's faith traditions, or beginning with an awareness of previous experiences with mindfulness may help mindfulness teachers have a clearer picture of whether they themselves have enough training and expertise to guide a learner through the introspective, somatic, and contemplative processes constituting mindfulness. This concept is especially important when considering populations without equal representation in mindfulness literature. Trainers may have more clarity about when it is appropriate to refer a would-be learner to a different teacher or to a different resource altogether—a powerful step towards demonstrating that mindfulness is not regarded as a cure-all. Finally, this instrument may serve as a component of a needs-assessment for groups or populations being trained in mindfulness. It may reveal trends, needs, and assets of groups—informing teachers of opportunities for training directions that will not only do-no-harm but will also do the most good. With expanded and repeated use of the instrument across different research populations, there may be some utility for use as a pre/post measure to demonstrate changes in expectations because of training and practice. It is also possible that assessment outcomes may be predictive for some training outcomes.

Conclusion

The completion of this work constitutes the introduction of a new assessment tool to help mindfulness trainers engage a beginner's mind, with openness and acceptance to everyone who presents themselves for learning. The Assessment of Mindfulness Expectations has potential to inform the development and customization of the best possible programs, more equitably serving people who present themselves for mindfulness training, reducing the potential for harm and maximizing the potential for good.

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Appendix A

Potential Survey Items

#	Question Text	Response Type	Origin Key	Construct
1.	Age	Fill-in-the-blank with restriction to numerals only	(author/experts/literature)	
2.	Is English (one of) your primary language(s)?	Yes/no	(author/experts/literature)	
3.	What is your current zip code?	Numerals only		Confirm residence in US
Expectations for mindfulness overall				
4.	To what degree do you think it is possible for a trainer to teach someone else to be mindful? a. A trainer can teach another person to achieve mindfulness. b. A trainer can help another person to achieve mindfulness, but the learner must also work to develop skills independently. c. Achievement of mindfulness is dependent on the learner alone.	3pt Rating	(author/experts/literature)	Competence 1
5.	To what degree do you believe development of mindfulness will require a commitment to regular practice? a. A mindfulness trainee will need to practice every day. b. A mindfulness trainee will need to practice 3-4 times per week. c. A mindfulness trainee will need to practice 1-2 times per week.	5pt Rating	(author/experts/literature)	Competence 2

	<p>d. A mindfulness trainee will need to practice 1-3 times per month.</p> <p>e. A mindfulness trainee will not need to practice regularly.</p>			
6.	<p>To what degree do you believe mindfulness can be incorporated into daily activities?</p> <p>a. Mindfulness cannot be incorporated into daily activities. It requires special time set aside for practice.</p> <p>b. Mindfulness can be incorporated into some daily activities as well as special time set aside for practice.</p> <p>c. Mindfulness can be incorporated into many daily activities as well as special time set aside for practice.</p> <p>d. Mindfulness does not require any special time set aside for practice. It can be incorporated solely into daily activities.</p>	4pt Rating	(author/experts/literature)	Competence 3
7.	<p>To what degree do you agree with the following statement? “Mindfulness can reduce a person’s feelings of depression.”</p> <p>a. I agree entirely.</p> <p>b. I agree somewhat.</p> <p>c. I neither agree nor disagree.</p> <p>d. I disagree somewhat.</p> <p>e. I disagree entirely.</p>	5pt Rating	(author/experts/literature)	Mental Well-Being 1
8.	<p>To what degree do you agree with the following statement? “Mindfulness makes people less impulsive.”</p> <p>a. I agree entirely.</p> <p>b. I agree somewhat.</p> <p>c. I neither agree nor disagree.</p> <p>d. I disagree somewhat.</p> <p>e. I disagree entirely.</p>	5pt Rating	(author/experts/literature)	Mental Well-Being 2

9.	<p>To what degree do you think mindfulness can reduce a person's anxiety?</p> <ul style="list-style-type: none"> a. Mindfulness can reduce anxiety a great deal. b. Mindfulness can reduce anxiety somewhat. c. Mindfulness cannot change a person's anxiety. d. Mindfulness can increase anxiety somewhat. e. Mindfulness can increase anxiety a great deal. 	5pt Rating	(author/experts/literature)	Mental Well-Being 3
10.	<p>To what degree do you think mindfulness can impact a person's self-awareness?</p> <ul style="list-style-type: none"> a. Mindfulness can increase self-awareness a great deal. b. Mindfulness can increase self-awareness somewhat. c. Mindfulness cannot change self-awareness. d. Mindfulness can reduce self-awareness somewhat. e. Mindfulness can reduce self-awareness a great deal. 	5pt Rating	(author/experts/literature)	Mental Well-being 4
11.	<p>Which of the following responses best describes your belief about how mindfulness can impact happiness?</p> <ul style="list-style-type: none"> a. Mindfulness can increase a person's happiness a great deal. b. Mindfulness can increase a person's happiness somewhat. c. Mindfulness cannot change a person's happiness. d. Mindfulness can reduce a person's happiness somewhat. e. Mindfulness can reduce a person's happiness a great deal. 	5pt Rating	(author/experts/literature)	Mental well-being 5
12.	<p>Do you think mindfulness can help a person feel more grateful?</p> <ul style="list-style-type: none"> a. Mindfulness can increase a person's feelings of gratitude a great deal. 	5pt Rating	(author/experts/literature)	Mental well-being 6

	<ul style="list-style-type: none"> b. Mindfulness can increase a person's feelings of gratitude somewhat. c. Mindfulness cannot change a person's feelings of gratitude. d. Mindfulness can reduce a person's feelings of gratitude somewhat. e. Mindfulness can reduce a person's feelings of gratitude a great deal. 			
13.	<p>Do you think mindfulness can increase a person's awareness of the world around them?</p> <ul style="list-style-type: none"> a. Mindfulness can increase it a great deal. b. Mindfulness can increase it somewhat. c. Mindfulness cannot change this. d. Mindfulness can reduce it somewhat. e. Mindfulness can reduce it a great deal. 	5pt Rating	(author/experts/literature)	Social Well-Being 1
14.	<p>Do you think mindfulness can increase a person's awareness of others?</p> <ul style="list-style-type: none"> a. Mindfulness can increase it a great deal. b. Mindfulness can increase it somewhat. c. Mindfulness cannot change this. d. Mindfulness can reduce it somewhat. e. Mindfulness can reduce it a great deal. 	5pt Rating	(author/experts/literature)	Social Well-Being 2
15.	<p>Do you think mindfulness can improve a person's ability to communicate?</p> <ul style="list-style-type: none"> a. Mindfulness can improve it a great deal. b. Mindfulness can improve it somewhat. c. Mindfulness cannot change this. d. Mindfulness can reduce it somewhat. e. Mindfulness can reduce it a great deal. 	5pt Rating	(author/experts/literature)	Social Well-Being 3

16.	<p>Do you think mindfulness can help a person establish healthy boundaries with others?</p> <ul style="list-style-type: none"> a. Mindfulness can help a great deal with this. b. Mindfulness can help with this somewhat. c. Mindfulness cannot change this. d. Mindfulness can make this somewhat worse. e. Mindfulness can make this a great deal worse. 	5pt Rating	(author/experts/literature)	Social Well-Being 4
17.	<p>Do you think mindfulness can help a person establish work/life balance?</p> <ul style="list-style-type: none"> a. Mindfulness can help a great deal with this. b. Mindfulness can help with this somewhat. c. Mindfulness cannot change this. d. Mindfulness can make this somewhat worse. e. Mindfulness can make this a great deal worse. 	5pt Rating	(author/experts/literature)	Social Well-Being 5
18.	<p>Do you think mindfulness can reduce a person's symptoms of pain?</p> <ul style="list-style-type: none"> a. Mindfulness can reduce them a great deal. b. Mindfulness can reduce them somewhat. c. Mindfulness cannot change this. d. Mindfulness can increase them somewhat. e. Mindfulness can increase them a great deal. 	5pt Rating	(author/experts/literature)	Health Benefits 1
19.	<p>Do you think mindfulness can help a person sleep better?</p> <ul style="list-style-type: none"> a. Mindfulness can help a great deal with this. b. Mindfulness can help with this somewhat. c. Mindfulness cannot change this. d. Mindfulness can make this somewhat worse. e. Mindfulness can make this a great deal worse. 	5pt Rating	(author/experts/literature)	Health Benefits 2
20.	<p>Do you think mindfulness can reduce a person's symptoms of addiction or craving?</p>	5pt Rating	(author/experts/literature)	Health Benefits 3

	<ul style="list-style-type: none"> a. Mindfulness can reduce them a great deal. b. Mindfulness can reduce them somewhat. c. Mindfulness cannot change this. d. Mindfulness can increase them somewhat. e. Mindfulness can increase them a great deal. 			
21.	<p>Do you think mindfulness can impact a person's food choices?</p> <ul style="list-style-type: none"> a. Mindfulness can help a great deal with this. b. Mindfulness can help with this somewhat. c. Mindfulness cannot change this. d. Mindfulness can make this somewhat worse. e. Mindfulness can make this a great deal worse. 	5pt Rating	(author/experts/literature)	Health Benefits 4
22.	<p>Do you think mindfulness can change a person's productivity with daily tasks?</p> <ul style="list-style-type: none"> a. Mindfulness can reduce productivity a great deal. b. Mindfulness can reduce productivity somewhat. c. Mindfulness cannot change productivity. d. Mindfulness can increase productivity somewhat. e. Mindfulness can increase productivity a great deal. 	5pt Rating	(author/experts/literature)	Common Misconceptions 1
23.	<p>To what degree can mindfulness practice make a person aware of their emotions in the moment?</p> <ul style="list-style-type: none"> a. Mindfulness will improve it a great deal. b. Mindfulness will improve it somewhat. c. Mindfulness will not change this. d. Mindfulness will reduce it somewhat. e. Mindfulness will reduce it a great deal. 	5pt Rating	(Brown & Ryan, 2003)	MAAS1
24.	<p>To what degree do you think mindfulness can reduce a person's carelessness or not paying attention?</p> <ul style="list-style-type: none"> a. Mindfulness can reduce it a great deal. 	5pt Rating	(Brown & Ryan, 2003)	MAAS2

	<ul style="list-style-type: none"> b. Mindfulness can reduce it somewhat. c. Mindfulness cannot change this. d. Mindfulness can increase it somewhat. e. Mindfulness can increase it a great deal. 			
25.	<p>To what degree do you think mindfulness practice can help a person stay focused on what is happening in the present moment?</p> <ul style="list-style-type: none"> a. Mindfulness can help a great deal with this. b. Mindfulness can help with this somewhat. c. Mindfulness cannot change this. d. Mindfulness can make this somewhat worse. e. Mindfulness can make this a great deal worse. 	5pt Rating	(Brown & Ryan, 2003)	MAAS3
26.	<p>To what degree do you believe mindfulness can help a person notice feelings of physical tension or discomfort before it becomes pronounced?</p> <ul style="list-style-type: none"> a. Mindfulness can help a great deal with this. b. Mindfulness can help with this somewhat. c. Mindfulness cannot change this. d. Mindfulness can make this somewhat worse. e. Mindfulness can make this a great deal worse. 	5pt Rating	(Brown & Ryan, 2003)	MAAS4
27.	<p>To what degree do you think mindfulness practice can help a person remember new things they learn, such as people's names?</p> <ul style="list-style-type: none"> a. Mindfulness will help a great deal with this. b. Mindfulness will help with this somewhat. c. Mindfulness will not change this. d. Mindfulness will make this somewhat worse. e. Mindfulness will make this a great deal worse. 	5pt Rating	(Brown & Ryan, 2003)	MAAS5

28.	<p>To what degree do you believe mindfulness practice can cause a person to rush through activities without much awareness of what they are doing?</p> <ul style="list-style-type: none"> a. Mindfulness can increase it a great deal. b. Mindfulness can increase it somewhat. c. Mindfulness cannot change this. d. Mindfulness can reduce it somewhat. e. Mindfulness can reduce it a great deal. 	5pt Rating	(Brown & Ryan, 2003)	MAAS6
29.	<p>To what degree do you believe mindfulness practice can impact a person's awareness of what they eat?</p> <ul style="list-style-type: none"> a. Mindfulness can reduce it a great deal. b. Mindfulness can reduce it somewhat. c. Mindfulness cannot change this. d. Mindfulness can increase it somewhat. e. Mindfulness can increase it a great deal. 	5pt Rating	(Brown & Ryan, 2003)	MAAS7
30.	<p>To what degree do you believe mindfulness practice can impact a person's awareness of where they are going?</p> <ul style="list-style-type: none"> a. Mindfulness will reduce it a great deal. b. Mindfulness will reduce it somewhat. c. Mindfulness will not change this. d. Mindfulness will increase it somewhat. e. Mindfulness will Increase it a great deal. 	5pt Rating	(Brown & Ryan, 2003)	MAAS8
31.	<p>To what degree do you believe mindfulness practice can impact a person's attention to whatever task they are working on?</p> <ul style="list-style-type: none"> a. Mindfulness will reduce it a great deal. b. Mindfulness will reduce it somewhat. c. Mindfulness will not change this. d. Mindfulness will increase it somewhat. e. Mindfulness will Increase it a great deal. 	5pt Rating	(Brown & Ryan, 2003)	MAAS9

32.	<p>To what degree do you believe mindfulness practice can impact a person's awareness of what someone is saying to them?</p> <ul style="list-style-type: none"> a. Mindfulness will reduce it a great deal. b. Mindfulness will reduce it somewhat. c. Mindfulness will not change this. d. Mindfulness will increase it somewhat. e. Mindfulness will increase it a great deal. 	5pt Rating	(Brown & Ryan, 2003)	MAAS10
33.	<p>To what degree do you believe mindfulness can impact how often a person deliberately notices the sensations in their body?</p> <ul style="list-style-type: none"> a. Mindfulness can increase it a great deal. b. Mindfulness will increase it somewhat. c. Mindfulness will not change this. d. Mindfulness will reduce it somewhat. e. Mindfulness will reduce it a great deal. 	5pt Rating	(Baer et al., 2006)	FFMQ1
34.	<p>To what degree do you believe mindfulness practice can change the way the way a person criticizes themselves for having irrational or inappropriate emotions?</p> <ul style="list-style-type: none"> a. It can make them much more self-critical. b. It can make them more self-critical. c. Nothing will change. d. It can make them less self-critical. e. It can make them much less self-critical. 	5pt Rating	(Baer et al., 2006)	FFMQ2
35.	<p>To what degree do you believe mindfulness practice can cause a person to notice their feelings and emotions without having to react to them?</p> <ul style="list-style-type: none"> a. It can make people much more reactive. b. It can make people more reactive. 	5pt Rating	(Baer et al., 2006)	FFMQ3

	<ul style="list-style-type: none"> c. Nothing will change. d. It can make people less reactive. e. It can make people much less reactive. 			
36.	<p>How do you believe mindfulness practice can impact a person's distractedness or wandering mind?</p> <ul style="list-style-type: none"> a. It can cause a person to be much more distracted. b. It can cause a person to be more distracted. c. Nothing will change. d. It can cause a person to be less distracted. e. It can cause a person to be much less distracted. 	5pt Rating	(Baer et al., 2006)	FFMQ4
37.	<p>To what degree do you believe mindfulness practice can make it possible for a person to notice their feelings without getting lost in their feelings?</p> <ul style="list-style-type: none"> a. Mindfulness can increase this ability a great deal. b. Mindfulness can increase this ability somewhat. c. Mindfulness cannot change this. d. Mindfulness can reduce this ability somewhat. e. Mindfulness can reduce this ability a great deal. 	5pt Rating	(Baer et al., 2006)	FFMQ5
38.	<p>To what degree do you believe mindfulness practice can help a person put their beliefs, opinions, and expectations into words?</p> <ul style="list-style-type: none"> a. It can make this much easier. b. It can make this a little bit easier. c. Mindfulness cannot change this. d. It can make this a little bit harder. e. It can make this much harder. 	5pt Rating	(Baer et al., 2006)	FFMQ6
39.	<p>As a result of developing mindfulness practice, how often do you believe a person will notice feelings such as relief or tension in their body?</p>	5pt Rating	(Baer et al., 2004)	KIMS1

	<ul style="list-style-type: none"> a. They will notice this much more often. b. They will notice this a little bit more often. c. Nothing will change. d. They will notice this less often. e. They will notice this much less often. 			
40.	<p>As a result of developing mindfulness practice, how often do you believe a person will become distracted while working on something?</p> <ul style="list-style-type: none"> a. They will become distracted much more often. b. They will become distracted more often. c. Nothing will change. d. They will become distracted less often. e. They will become distracted much less often. 	5pt Rating	(Baer et al., 2004)	KIMS2
41.	<p>As a result of developing mindfulness practice, how often do you believe a person will be accepting of whatever thoughts or emotions they are experiencing?</p> <ul style="list-style-type: none"> a. They will be accepting much more often. b. They will be accepting more often. c. Nothing will change. d. They will be accepting less often. e. They will be accepting much less often. 	5pt Rating	(Baer et al., 2004)	KIMS3
42.	<p>As a result of developing mindfulness practice, how often do you believe a person will criticize themselves for their thoughts or feelings?</p> <ul style="list-style-type: none"> a. They will be critical much more often. b. They will be critical more often. c. Nothing will change. d. They will be critical less often. e. They will be critical much less often. 	5pt Rating	(Baer et al., 2004)	KIMS4

Reasons you sought out mindfulness training (Motivation/Self-Determination Theory)				
43.	<p>How much did someone else's influence cause you to seek out mindfulness training?</p> <ul style="list-style-type: none"> a. I am required to complete mindfulness training. b. Someone else encouraged me to complete mindfulness training. c. I was not influenced by anyone else. d. Someone else discouraged me from completing mindfulness training. e. I am not permitted to complete mindfulness training. 	5pt Rating	(author/experts/literature)	SDT Autonomy
44.	<p>To what degree is participation in mindfulness training a requirement for you?</p> <ul style="list-style-type: none"> a. It is required by my employer, educator, or someone else. b. It is strongly encouraged by my employer, educator, or someone else. c. I am offered an incentive for participation in mindfulness training by my employer, educator, or someone else. d. I am not required, encouraged, or incentivized to participate. e. I am participating in training even though I may be in trouble for doing so. 	5pt Rating	(author/experts/literature)	SDT Autonomy
45.	<p>To what degree would you say your friends & family value mindfulness?</p> <ul style="list-style-type: none"> a. My friends and family value mindfulness a great deal. b. My friends and family value mindfulness a little bit. c. My friends and family have no opinion on mindfulness. d. My friends and family do not value mindfulness. 	5pt Rating	(author/experts/literature)	SDT Relatedness

	e. My friends and family are strongly opposed to mindfulness.			
46.	How many people do you know who practice mindfulness? a. No one I know practices mindfulness. b. I know one or two people who practice mindfulness. c. I know three to five people practice mindfulness. d. I know six or more people who practice mindfulness.	4pt Rating	(author/experts/literature)	SDT Relatedness
47.	To what degree do people you know think mindfulness is worthwhile? a. People I know think mindfulness is very worthwhile. b. People I know think mindfulness is somewhat worthwhile. c. People I know have no opinion on mindfulness. d. People I know think mindfulness is a waste of time. e. People I know think mindfulness can be harmful.	5pt Rating	(author/experts/literature)	SDT Relatedness
48.	How much effort do you think mindfulness will require? a. A great deal of effort b. Some effort c. No effort	3pt Rating	(author/experts/literature)	Common Misconceptions 2
49.	To what degree are you worried you will do mindfulness “wrong”? a. I am not worried at all. b. I am a little bit worried. c. I am very worried.	3pt Rating	(author/experts/literature)	Common Misconceptions 3
50.	How easy or difficult do you think mindfulness will be? a. Mindfulness will be very easy. b. Mindfulness will be somewhat easy. c. Mindfulness will neither be difficult nor easy.	5pt Rating	(author/experts/literature)	Common Misconceptions 4

	<p>d. Mindfulness will be somewhat difficult.</p> <p>e. Mindfulness will be very difficult.</p>			
Personal expectations for mindfulness				
51.	<p>To what degree do you think it is possible for a trainer to teach you to be mindful?</p> <p>a. A trainer can teach me to achieve mindfulness.</p> <p>b. A trainer can help me to achieve mindfulness, but I must also work to develop skills independently.</p> <p>c. Achievement of mindfulness is dependent on me alone.</p>	3pt Rating	(author/experts/literature)	SDT Competence 1
52.	<p>How frequently will you need to practice mindfulness to meet your own goals for mindfulness?</p> <p>a. I believe I will need to practice every day.</p> <p>b. I believe I will need to practice 3-4 times per week.</p> <p>c. I believe I will need to practice 1-2 times per week.</p> <p>d. I believe I will need to practice 1-3 times per month.</p> <p>e. I believe I will not need to practice regularly.</p>	5pt Rating	(author/experts/literature)	SDT Competence 2
53.	<p>To what degree do you believe mindfulness can be incorporated into your own daily activities?</p> <p>a. I will not be able to incorporate mindfulness into daily activities. I will require special time set aside for practice.</p> <p>b. I will be able to incorporate mindfulness into some daily activities as well as special time set aside for practice.</p> <p>c. I will be able to incorporate mindfulness into many daily activities as well as special time set aside for practice.</p>	4pt Rating	(author/experts/literature)	SDT Competence 3

	d. I will be able to incorporate mindfulness solely into most or all daily activities. I will not require special time set aside for practice.			
54.	Do you think mindfulness will reduce your feelings of depression? a. Mindfulness will reduce them a great deal. b. Mindfulness will reduce them somewhat. c. Mindfulness will not change this. d. Mindfulness will increase them somewhat. e. Mindfulness will Increase them a great deal.	5pt Rating	(author/experts/literature)	Mental Well-Being 1
55.	Do you think mindfulness will reduce your impulsivity? a. Mindfulness will reduce it a great deal. b. Mindfulness will reduce it somewhat. c. Mindfulness will not change this. d. Mindfulness will increase it somewhat. e. Mindfulness will Increase it a great deal.	5pt Rating	(author/experts/literature)	Mental Well-Being 2
56.	Do you think mindfulness will reduce your anxiety? a. Mindfulness will reduce it a great deal. b. Mindfulness will reduce it somewhat. c. Mindfulness will not change this. d. Mindfulness will increase it somewhat. e. Mindfulness will Increase it a great deal.	5pt Rating	(author/experts/literature)	Mental Well-Being 3
57.	To what degree do you think mindfulness will impact your self-awareness? a. Mindfulness will increase it a great deal. b. Mindfulness will increase it somewhat. c. Mindfulness will not change this. d. Mindfulness will reduce it somewhat. e. Mindfulness will reduce it a great deal.	5pt Rating	(author/experts/literature)	Mental Well-Being 4

58.	<p>How do you think mindfulness will impact your happiness?</p> <ul style="list-style-type: none"> a. Mindfulness will increase my happiness a great deal. b. Mindfulness will increase my happiness somewhat. c. Mindfulness will not change my happiness. d. Mindfulness will reduce my happiness somewhat. e. Mindfulness will reduce my happiness a great deal. 	5pt Rating	(author/experts/literature)	Mental Well-Being 5
59.	<p>Do you think mindfulness will help you feel more grateful?</p> <ul style="list-style-type: none"> a. Mindfulness will increase my feelings of gratitude a great deal. b. Mindfulness will increase my feelings of gratitude somewhat. c. Mindfulness will not change my feelings of gratitude. d. Mindfulness will reduce my feelings of gratitude somewhat. e. Mindfulness will reduce my feelings of gratitude a great deal. 	5pt Rating	(author/experts/literature)	Mental Well-Being 6
60.	<p>Do you think mindfulness will increase your awareness of the world around you?</p> <ul style="list-style-type: none"> a. Mindfulness will increase it a great deal. b. Mindfulness will increase it somewhat. c. Mindfulness will not change this. d. Mindfulness will reduce it somewhat. e. Mindfulness will reduce it a great deal. 	5pt Rating	(author/experts/literature)	Social Well-Being 1
61.	<p>Do you think mindfulness will increase your awareness of others?</p> <ul style="list-style-type: none"> a. Mindfulness will increase it a great deal. b. Mindfulness will increase it somewhat. c. Mindfulness will not change this. d. Mindfulness will reduce it somewhat. 	5pt Rating	(author/experts/literature)	Social Well-Being 2

	e. Mindfulness will reduce it a great deal.			
62.	Do you think mindfulness will improve your ability to communicate? a. Mindfulness will improve it a great deal. b. Mindfulness will improve it somewhat. c. Mindfulness will not change this. d. Mindfulness will reduce it somewhat. e. Mindfulness will reduce it a great deal.	5pt Rating	(author/experts/literature)	Social Well-Being 3
63.	Do you think mindfulness will help you establish healthy boundaries with others? a. Mindfulness will help a great deal with this. b. Mindfulness will help with this somewhat. c. Mindfulness will not change this. d. Mindfulness will make this somewhat worse. e. Mindfulness will make this a great deal worse.	5pt Rating	(author/experts/literature)	Social Well-Being 4
64.	Do you think mindfulness will help you establish work/life balance? a. Mindfulness will help a great deal with this. b. Mindfulness will help with this somewhat. c. Mindfulness will not change this. d. Mindfulness will make this somewhat worse. e. Mindfulness will make this a great deal worse.	5pt Rating	(author/experts/literature)	Social Well-Being 5
65.	Do you think mindfulness will reduce your symptoms of pain? a. Mindfulness will reduce them a great deal. b. Mindfulness will reduce them somewhat. c. Mindfulness will not change this. d. Mindfulness will increase them somewhat. e. Mindfulness will Increase them a great deal.	5pt Rating	(author/experts/literature)	Health Benefits 1

66.	Do you think mindfulness will help you sleep better? a. Mindfulness will help a great deal with this. b. Mindfulness will help with this somewhat. c. Mindfulness will not change this. d. Mindfulness will make this somewhat worse. e. Mindfulness will make this a great deal worse.	5pt Rating	(author/experts/literature)	Health Benefits 2
67.	Do you think mindfulness can reduce your symptoms of addiction or craving? a. Mindfulness will reduce them a great deal. b. Mindfulness will reduce them somewhat. c. Mindfulness will not change this. d. Mindfulness will increase them somewhat. e. Mindfulness will Increase them a great deal.	5pt Rating	(author/experts/literature)	Health Benefits 3
68.	Do you think mindfulness can impact your food choices? a. Mindfulness will help a great deal with this. b. Mindfulness will help with this somewhat. c. Mindfulness will not change this. d. Mindfulness will make this somewhat worse. e. Mindfulness will make this a great deal worse.	5pt Rating	(author/experts/literature)	Health Benefits 4
69.	Do you think mindfulness will change your productivity with daily tasks? a. Mindfulness will reduce my productivity a great deal. b. Mindfulness will reduce my productivity somewhat. c. Mindfulness will not change my productivity. d. Mindfulness will increase my productivity somewhat. e. Mindfulness will Increase my productivity a great deal.	5pt Rating	(author/experts/literature)	Common Misconceptions 1
70.	To what degree do you expect mindfulness practice to make you aware of your emotions in the moment?	5pt Rating	(Brown & Ryan, 2003)	MAAS1

	<ul style="list-style-type: none"> a. Mindfulness will improve it a great deal. b. Mindfulness will improve it somewhat. c. Mindfulness will not change this. d. Mindfulness will reduce it somewhat. e. Mindfulness will reduce it a great deal. 			
71.	<p>To what degree do you think mindfulness will reduce your carelessness or not paying attention?</p> <ul style="list-style-type: none"> a. Mindfulness will reduce it a great deal. b. Mindfulness will reduce it somewhat. c. Mindfulness will not change this. d. Mindfulness will increase it somewhat. e. Mindfulness will Increase it a great deal. 	5pt Rating	(Brown & Ryan, 2003)	MAAS2
72.	<p>To what degree to you expect mindfulness practice to help you stay focused on what is happening in the present moment?</p> <ul style="list-style-type: none"> a. Mindfulness will help me a great deal with this. b. Mindfulness will help me with this somewhat. c. Mindfulness will not change this. d. Mindfulness will make this somewhat worse for me. e. Mindfulness will make this a great deal worse for me. 	5pt Rating	(Brown & Ryan, 2003)	MAAS3
73.	<p>To what degree do you believe mindfulness will help you notice feelings of physical tension or discomfort before it becomes pronounced?</p> <ul style="list-style-type: none"> a. Mindfulness will help a great deal with this. b. Mindfulness will help with this somewhat. c. Mindfulness will not change this. d. Mindfulness will make this somewhat worse. e. Mindfulness will make this a great deal worse. 	5pt Rating	(Brown & Ryan, 2003)	MAAS4

74.	<p>To what degree do you think mindfulness practice will help you remember new things you learn, such as people's names?</p> <ul style="list-style-type: none"> a. Mindfulness will help a great deal with this. b. Mindfulness will help with this somewhat. c. Mindfulness will not change this. d. Mindfulness will make this somewhat worse. e. Mindfulness will make this a great deal worse. 	5pt Rating	(Brown & Ryan, 2003)	MAAS5
75.	<p>To what degree do you believe mindfulness practice will cause you to rush through activities without much awareness of what you are doing?</p> <ul style="list-style-type: none"> a. Mindfulness will increase it a great deal. b. Mindfulness will increase it somewhat. c. Mindfulness will not change this. d. Mindfulness will reduce it somewhat. e. Mindfulness will reduce it a great deal. 	5pt Rating	(Brown & Ryan, 2003)	MAAS6
76.	<p>To what degree do you believe mindfulness practice will impact your awareness of what you're eating?</p> <ul style="list-style-type: none"> a. Mindfulness will reduce it a great deal. b. Mindfulness will reduce it somewhat. c. Mindfulness will not change this. d. Mindfulness will increase it somewhat. e. Mindfulness will Increase it a great deal. 	5pt Rating	(Brown & Ryan, 2003)	MAAS7
77.	<p>To what degree do you believe mindfulness practice will impact your awareness of where you're going?</p> <ul style="list-style-type: none"> a. Mindfulness will reduce it a great deal. b. Mindfulness will reduce it somewhat. c. Mindfulness will not change this. d. Mindfulness will increase it somewhat. e. Mindfulness will Increase it a great deal. 	5pt Rating	(Brown & Ryan, 2003)	MAAS8

78.	<p>To what degree do you believe mindfulness practice will impact your attention to whatever task you are working on?</p> <ul style="list-style-type: none"> a. Mindfulness will reduce it a great deal. b. Mindfulness will reduce it somewhat. c. Mindfulness will not change this. d. Mindfulness will increase it somewhat. e. Mindfulness will Increase it a great deal. 	5pt Rating	(Brown & Ryan, 2003)	MAAS9
79.	<p>To what degree do you believe mindfulness practice will impact your awareness of what someone is saying to you?</p> <ul style="list-style-type: none"> a. Mindfulness will reduce it a great deal. b. Mindfulness will reduce it somewhat. c. Mindfulness will not change this. d. Mindfulness will increase it somewhat. e. Mindfulness will Increase it a great deal. 	5pt Rating	(Brown & Ryan, 2003)	MAAS10
80.	<p>To what degree do you believe mindfulness will impact how often you deliberately notice the sensations in your body?</p> <ul style="list-style-type: none"> a. Mindfulness will increase it a great deal. b. Mindfulness will increase it somewhat. c. Mindfulness will not change this. d. Mindfulness will reduce it somewhat. e. Mindfulness will reduce it a great deal. 	5pt Rating	(Baer et al., 2006)	FFMQ1
81.	<p>To what degree do you believe mindfulness practice will change the way you criticize yourself for having irrational or inappropriate emotions?</p> <ul style="list-style-type: none"> a. It will make me much more self-critical. b. It will make me more self-critical. c. Nothing will change. d. It will make me less self-critical. e. It will make me much less self-critical. 	5pt Rating	(Baer et al., 2006)	FFMQ2

82.	<p>To what degree do you believe mindfulness practice will cause you to notice your feelings and emotions without having to react to them?</p> <ul style="list-style-type: none"> a. It will make me much more reactive. b. It will make me more reactive. c. Nothing will change. d. It will make me less reactive. e. It will make me much less reactive. 	5pt Rating	(Baer et al., 2006)	FFMQ3
83.	<p>How do you believe mindfulness practice will impact distractedness or when you have a wandering mind?</p> <ul style="list-style-type: none"> a. It will cause me to be much more distracted. b. It will cause me to be more distracted. c. Nothing will change. d. It will cause me to be less distracted. e. It will cause me to be much less distracted. 	5pt Rating	(Baer et al., 2006)	FFMQ4
84.	<p>To what degree do you believe mindfulness practice will make it possible for you to notice your feelings without getting lost in your feelings?</p> <ul style="list-style-type: none"> a. Mindfulness will increase this ability a great deal. b. Mindfulness will increase this ability somewhat. c. Mindfulness will not change this. d. Mindfulness will reduce this ability somewhat. e. Mindfulness will reduce this ability a great deal. 	5pt Rating	(Baer et al., 2006)	FFMQ5
85.	<p>To what degree do you believe mindfulness practice will help you put your beliefs, opinions, and expectations into words?</p> <ul style="list-style-type: none"> a. It will make this much easier. b. It will make this a little bit easier. c. Nothing will change. d. It will make this a little bit harder. e. It will make this much harder. 	5pt Rating	(Baer et al., 2006)	FFMQ6

86.	<p>As a result of developing mindfulness practice, how often do you believe you will notice feelings such as relief or tension in your body?</p> <ul style="list-style-type: none"> a. I will notice this much more often. b. I will notice this a little bit more often. c. Nothing will change. d. I will notice this less often. e. I will notice this much less often. 	5pt Rating	(Baer et al., 2004)	KIMS1
87.	<p>As a result of developing mindfulness practice, how often do you believe you will become distracted while working on something?</p> <ul style="list-style-type: none"> a. I will become distracted much more often. b. I will become distracted more often. c. Nothing will change. d. I will become distracted less often. e. I will become distracted much less often. 	5pt Rating	(Baer et al., 2004)	KIMS2
88.	<p>As a result of developing mindfulness practice, how often do you believe you will be accepting of whatever thoughts or emotions you are experiencing?</p> <ul style="list-style-type: none"> a. I will be accepting much more often. b. I will be accepting more often. c. Nothing will change. d. I will be accepting less often. e. I will be accepting much less often. 	5pt Rating	(Baer et al., 2004)	KIMS3
89.	<p>As a result of developing mindfulness practice, how often do you believe you will criticize yourself for your thoughts or feelings?</p> <ul style="list-style-type: none"> a. I will be critical much more often. b. I will be critical more often. 	5pt Rating	(Baer et al., 2004)	KIMS4

	<p>c. Nothing will change. d. I will be critical less often. e. I will be critical much less often.</p>			
Demographic & Personal Information				
90.	Gender	open text box/prefer not to respond	(author/experts/literature)	
91.	<p>How would you describe your knowledge of mindfulness?</p> <p>a. I know nothing about mindfulness. b. I know a little bit about mindfulness. c. I know a lot about mindfulness. d. I know everything about mindfulness.</p>	4 Pt Rating	(author/experts/literature)	
92.	<p>Do you have any previous experience practicing mindfulness?</p> <p>Yes/no</p>	Y/N	(author/experts/literature)	
93.	<p>If yes, what kind?</p> <ul style="list-style-type: none"> • No (n/a) • Informal Training/Self Taught • Formal Training 	Choose one	(author/experts/literature)	Contingency Item
94.	<p>If yes, what format? (check all that apply)</p> <ul style="list-style-type: none"> • No (n/a) • I use an app. • I practice by myself using a book, television show, online video, or audio recording prompt. • I attend in-person group mindfulness meetings. • I attend online group mindfulness meetings. • Other [open text box] 	Choose all that apply, open text	(author/experts/literature)	Contingency Item

95.	If yes, for how long? [n/a, open text] <ul style="list-style-type: none"> • n/a • [open text box] 	N/A, Open text	(author/experts/literature)	Contingency Item
96.	If yes, how recently? <ul style="list-style-type: none"> • n/a • [open text box] 	N/A, Open text	(author/experts/literature)	Contingency Item
97.	Have any of the following factors had a major impact on your health or wellbeing? (choose all that apply): <ul style="list-style-type: none"> • chronic pain • addiction • depression • anxiety • trauma • eating disorder • workplace burn-out • Attention Hyperactivity Disorder (ADHD) • Obsessive Compulsive Disorder (OCD) • Post-Traumatic Stress Disorder (PTSD) • Cancer • hunger • housing instability • discrimination based on your race • discrimination based on your gender • discrimination based on your age • discrimination based on your abilities • discrimination based on your sexuality • chronic fatigue • long-COVID • insomnia • poverty • history of military service • history of incarceration 	Choose all that apply/prefer not to respond/Other [open text]	(author/experts/literature)	Options included here are gathered from heavily researched mindfulness sub-groups and/or populations who may need special consideration with do-no-harm approaches

	<ul style="list-style-type: none"> • OTHER [open text box] • Prefer not to respond 			
98.	Religion <ul style="list-style-type: none"> • None • [Open text box] • Prefer not to respond 	Choose one	(author/experts/literature)	
99.	What is the highest degree or level of school you have completed? <ul style="list-style-type: none"> • No schooling completed • Nursery school • Grades 1 through 11 • 12th grade—no diploma • Regular high school diploma • GED or alternative credential • Some college credit, but less than 1 year of college • 1 or more years of college credit, no degree • Associates degree (for example: AA, AS) • Bachelor’s degree (for example: BA, BS) • Master’s degree (for example: MA, MS, MEng, MEd, MSW, MBA) • Professional degree beyond bachelor’s degree (for example: MD, DDS, DVM, LLB, JD) • Doctorate degree (for example, PhD, EdD) • Prefer not to respond 	Choose one	(author/experts/literature)	Answer choices borrowed From American Community Survey (Census bureau)
Open-Ended Questions				
100.	What do you believe will be your biggest support as you begin mindfulness practice?	Open text box	(author/experts/literature)	
101.	What do you believe will be your biggest barrier as you begin mindfulness practice?	Open text box	(author/experts/literature)	
102.	Is there any other personal information you would like your mindfulness trainer/facilitator to know about you?	Open text box	(author/experts/literature)	

103.	What questions do you have about mindfulness practice or its potential impacts?	Open text box	(author/experts/literature)	
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Appendix C

First-Round Survey Items

#	Question Text	Response Type	Origin Key	Notes
	<p>Hello!</p> <p>You are invited to participate in a research survey, entitled <i>“Development and Validation of an Assessment of Mindfulness Expectations.”</i> The study is being conducted by Sarah Garrison, OTR/L and Dr. Kim Baskette in the Department of Public Health and Healthcare Leadership at Radford University Carilion, 101 Elm Avenue, SE, Roanoke, VA 24013, (540) 831-1699.</p> <p>The purpose of this study is to develop a reliable assessment of mindfulness expectations. Your participation in the survey will contribute to a better understanding of how to improve this assessment. We estimate that it will take about <i>20 minutes</i> of your time to complete the questionnaire. You are free to contact the investigator at the above address and phone number to discuss the survey. We ask that you read this form and ask any questions you may have before agreeing to be in the study. Participation is completely voluntary.</p> <p>We anticipate that your participation in this survey presents no greater risk or benefit than everyday use of the Internet. Any United States resident aged 18 years</p>	<p>-select arrow to participate</p> <p>-close window to decline participation</p>	<p>Cover Letter for Internet Research/ Consent</p>	

	<p>or older who speaks English as a primary language is welcome to participate.</p> <p>This survey does not ask for your name, address, or contact information. Computer IP addresses will not be collected. Researchers will have no way of identifying you individually, so your responses are anonymous.</p> <p>Your participation in this survey is voluntary. You may decline to answer any question and you have the right to withdraw from participation at any time without penalty. If you wish to withdraw from the study, simply close the Qualtrics survey window. If you have any questions, please contact Sarah Garrison at sgarrison@radford.edu or Dr. Kim Baskette at kqbaskette@radford.edu or (540) 831-1699.</p> <p>This study was approved by the Radford University Committee for the Review of Human Subjects Research. If you have questions or concerns about your rights as a research subject or have complaints about this study, you should contact Dr. Jeanne Mekolichick, Institutional Official and Associate Provost for Research, Faculty Success, and Strategic Initiatives, jmekolic@radford.edu, 540.831.6504.</p> <p>If you agree to participate, please press the arrow button at the bottom right of the screen. Otherwise use the X at the upper right corner to close this window and disconnect.</p> <p>If you are interested in further supporting this work, you may forward the survey link to others who may be willing to respond.</p>		
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	With Gratitude, Sarah Garrison, OTR/L & Dr. Kim Baskette			
1.	Age	Open Text Box	Demographics Inclusion/Exclusion criteria	
2.	Is English (one of) your primary language(s)?	Yes/no		
3.	Do you currently live in the United States?	Yes/no		
4.	What is your current zip code?	Open text box		
Expectations for mindfulness overall				
5.	To what degree do you think it is possible for a trainer to teach someone else to be mindful? a. A trainer can teach another person to achieve mindfulness. b. A trainer can help another person to achieve mindfulness, but the learner must also work to develop skills independently. c. Achievement of mindfulness is dependent on the learner alone.	3pt Likert	(author/experts/literature)	Competence 1
6.	To what degree do you believe development of mindfulness will require a commitment to regular practice? a. A mindfulness trainee will need to practice every day. b. A mindfulness trainee will need to practice 3-4 times per week. c. A mindfulness trainee will need to practice 1-3 times per month.	5pt Likert	(author/experts/literature)	Competence 2

	e. A mindfulness trainee will not need to practice regularly			
7.	<p>To what degree do you believe mindfulness can be incorporated into daily activities?</p> <p>a. Mindfulness cannot be incorporated into daily activities. It requires special time set aside for practice.</p> <p>b. Mindfulness can be incorporated into some daily activities as well as special time set aside for practice.</p> <p>c. Mindfulness can be incorporated into many daily activities as well as special time set aside for practice.</p> <p>d. Mindfulness does not require any special time set aside for practice. It can be incorporated solely into daily activities.</p>	4pt Likert	(author/experts/literature)	Competence 3
8.	<p>To what degree do you agree with the following statement? "Mindfulness can reduce a person's feelings of depression."</p> <p>a. I agree entirely.</p> <p>b. I agree somewhat.</p> <p>c. I neither agree nor disagree.</p> <p>d. I disagree somewhat.</p> <p>e. I disagree entirely.</p>	5pt Likert	(author/experts/literature)	Mental Well-Being 1
9.	<p>To what degree do you agree with the following statement? "Mindfulness makes people less impulsive."</p> <p>a. I agree entirely.</p> <p>b. I agree somewhat.</p> <p>c. I neither agree nor disagree.</p> <p>d. I disagree somewhat.</p> <p>e. I disagree entirely.</p>	5pt Likert	(author/experts/literature)	Mental Well-Being 2

10.	<p>Do you think mindfulness can reduce a person's anxiety?</p> <ul style="list-style-type: none"> a. Mindfulness can reduce it a great deal. b. Mindfulness can reduce it somewhat. c. Mindfulness cannot change this. d. Mindfulness can increase it somewhat. e. Mindfulness can Increase it a great deal. 	5pt Likert	(author/experts/literature)	Mental Well-Being 3
11.	<p>To what degree do you think mindfulness can impact a person's self-awareness?</p> <ul style="list-style-type: none"> a. Mindfulness can increase self-awareness a great deal. b. Mindfulness can increase self-awareness somewhat. c. Mindfulness cannot change self-awareness. d. Mindfulness can reduce self-awareness somewhat. e. Mindfulness can reduce self-awareness a great deal. 	5pt Likert	(author/experts/literature)	Mental Well-being 4
12.	<p>Do you think mindfulness can help a person feel more grateful?</p> <ul style="list-style-type: none"> a. Mindfulness can increase a person's feelings of gratitude a great deal. b. Mindfulness can increase a person's feelings of gratitude somewhat. c. Mindfulness cannot change a person's feelings of gratitude. d. Mindfulness can reduce a person's feelings of gratitude somewhat. e. Mindfulness can reduce a person's feelings of gratitude a great deal. 	5pt Likert	(author/experts/literature)	Mental well-being 6

13.	<p>Do you think mindfulness can improve a person's ability to communicate?</p> <ul style="list-style-type: none"> a. Mindfulness can improve it a great deal. b. Mindfulness can improve it somewhat. c. Mindfulness cannot change this. d. Mindfulness can reduce it somewhat. e. Mindfulness can reduce it a great deal. 	5pt Likert	(author/experts/literature)	Social wellbeing 3
14.	<p>Do you think mindfulness can help a person sleep better?</p> <ul style="list-style-type: none"> a. Mindfulness can help a great deal with this. b. Mindfulness can help with this somewhat. c. Mindfulness cannot change this. d. Mindfulness can make this somewhat worse. e. Mindfulness can make this a great deal worse. 	5pt Likert	(author/experts/literature)	Health benefits 2
15.	<p>Do you think mindfulness can impact a person's food choices?</p> <ul style="list-style-type: none"> a. Mindfulness can help a great deal with this. b. Mindfulness can help with this somewhat. c. Mindfulness cannot change this. d. Mindfulness can make this somewhat worse. e. Mindfulness can make this a great deal worse. 	5pt Likert	(author/experts/literature)	Health benefits 4
16.	<p>Do you think mindfulness can change a person's productivity with daily tasks?</p> <ul style="list-style-type: none"> a. Mindfulness can reduce productivity a great deal. b. Mindfulness can reduce productivity somewhat. c. Mindfulness cannot change productivity. d. Mindfulness can increase productivity somewhat. e. Mindfulness can increase productivity a great deal. 	5pt Likert	(author/experts/literature)	Common misconceptions 1

17.	To what degree can mindfulness practice to make a person aware of their emotions in the moment? a. Mindfulness will improve it a great deal. b. Mindfulness will improve it somewhat. c. Mindfulness will not change this. d. Mindfulness will reduce it somewhat. e. Mindfulness will reduce it a great deal.	5pt Likert	(Brown & Ryan, 2003)	MAAS1
18.	To what degree do you think mindfulness can reduce a person's carelessness or not paying attention? a. Mindfulness can reduce it a great deal. b. Mindfulness can reduce it somewhat. c. Mindfulness cannot change this. d. Mindfulness can increase it somewhat. e. Mindfulness can increase it a great deal.	5pt Likert	(Brown & Ryan, 2003)	MAAS2
19.	To what degree do you think mindfulness practice can help a person stay focused on what is happening in the present moment? a. Mindfulness can help a great deal with this. b. Mindfulness can help with this somewhat. c. Mindfulness cannot change this. d. Mindfulness can make this somewhat worse. e. Mindfulness can make this a great deal worse.	5pt Likert	(Brown & Ryan, 2003)	MAAS3
20.	To what degree do you believe mindfulness can help a person notice feelings of physical tension or discomfort before it becomes pronounced? a. Mindfulness can help a great deal with this. b. Mindfulness can help with this somewhat. c. Mindfulness cannot change this.	5pt Likert	(Brown & Ryan, 2003)	MAAS4

	<ul style="list-style-type: none"> d. Mindfulness can make this somewhat worse. e. Mindfulness can make this a great deal worse. 			
21.	<p>To what degree do you believe mindfulness can impact how often a person deliberately notices the sensations in their body?</p> <ul style="list-style-type: none"> a. Mindfulness can increase it a great deal. b. Mindfulness will increase it somewhat. c. Mindfulness will not change this. d. Mindfulness will reduce it somewhat. e. Mindfulness will reduce it a great deal. 	5pt Likert	(Baer et al., 2006)	FFMQ1
22.	<p>To what degree do you believe mindfulness practice can cause a person to notice their feelings and emotions without having to react to them?</p> <ul style="list-style-type: none"> a. It can make people much more reactive. b. It can make people more reactive. c. Nothing will change. d. It can make people less reactive. e. It can make people much less reactive. 	5pt Likert	(Baer et al., 2006)	FFMQ3
23.	<p>How do you believe mindfulness practice can impact a person's distractedness or wandering mind?</p> <ul style="list-style-type: none"> a. It can cause a person to be much more distracted. b. It can cause a person to be more distracted. c. Nothing will change. d. It can cause a person to be less distracted. e. It can cause a person to be much less distracted. 	5pt Likert	(Baer et al., 2006)	FFMQ4
Reasons you sought out mindfulness training (Motivation/Self-Determination Theory)				

<p>24.</p>	<p>How much did someone else’s influence cause you to seek out mindfulness training?</p> <ul style="list-style-type: none"> a. I am required to complete mindfulness training. b. Someone else encouraged me to complete mindfulness training. c. I was not influenced by anyone else. d. Someone else discouraged me from completing mindfulness training. e. I am not permitted to complete mindfulness training. 	<p>5pt Likert</p>	<p>(author/experts/literature)</p>	<p>autonomy</p>
<p>25.</p>	<p>To what degree is participation in mindfulness training a requirement for you?</p> <ul style="list-style-type: none"> a. It is required by my employer, educator, or someone else. b. It is strongly encouraged by my employer, educator, or someone else. c. I am offered an incentive for participation in mindfulness training by my employer, educator, or someone else. d. I am not required, encouraged, or incentivized to participate. e. I am participating in training even though I may be in trouble for doing so. 	<p>5pt Likert</p>	<p>(author/experts/literature)</p>	<p>autonomy</p>
<p>26.</p>	<p>To what degree would you say your friends & family value mindfulness?</p> <ul style="list-style-type: none"> a. My friends and family value mindfulness a great deal. b. My friends and family value mindfulness a little bit. c. My friends and family have no opinion on mindfulness. 	<p>5pt Likert</p>	<p>(author/experts/literature)</p>	<p>relatedness</p>

	<p>d. My friends and family do not value mindfulness.</p> <p>e. My friends and family are strongly opposed to mindfulness.</p>			
27.	<p>How many people do you know who practice mindfulness?</p> <p>a. No one I know practices mindfulness.</p> <p>b. I know one or two people who practice mindfulness.</p> <p>c. I know three to five people practice mindfulness.</p> <p>d. I know six or more people who practice mindfulness.</p>	4pt Likert	(author/experts/literature)	relatedness
28.	<p>How much effort do you think mindfulness will require?</p> <p>a. A great deal of effort</p> <p>b. Some effort</p> <p>c. No effort</p>	3pt Likert	(author/experts/literature)	Common misconceptions 2
29.	<p>To what degree are you worried you will do mindfulness “wrong”?</p> <p>a. I am not worried at all.</p> <p>b. I am a little bit worried.</p> <p>c. I am very worried.</p>	3pt Likert	(author/experts/literature)	Common misconceptions 3
30.	<p>How easy or difficult do you think mindfulness will be?</p> <p>a. Mindfulness will be very easy.</p> <p>b. Mindfulness will be somewhat easy.</p> <p>c. Mindfulness will neither be difficult nor easy.</p> <p>d. Mindfulness will be somewhat difficult.</p> <p>e. Mindfulness will be very difficult.</p>	5pt Likert	(author/experts/literature)	Common misconceptions 4

Personal expectations for mindfulness				
31.	<p>To what degree do you think it is possible for a trainer to teach you to be mindful?</p> <p>a. A trainer can teach me to achieve mindfulness.</p> <p>b. A trainer can help me to achieve mindfulness, but I must also work to develop skills independently.</p> <p>c. Achievement of mindfulness is dependent on me alone.</p>	3pt Likert	(author/experts/literature)	Competence 1
32.	<p>To what degree do you believe mindfulness can be incorporated into your own daily activities?</p> <p>a. I will not be able to incorporate mindfulness into daily activities. I will require special time set aside for practice.</p> <p>b. I will be able to incorporate mindfulness into some daily activities as well as special time set aside for practice.</p> <p>c. I will be able to incorporate mindfulness into many daily activities as well as special time set aside for practice.</p> <p>d. I will be able to incorporate mindfulness solely into most or all daily activities. I will not require special time set aside for practice.</p>	4pt Likert	(author/experts/literature)	Competence 3
33.	<p>To what degree do you think mindfulness will impact your self-awareness?</p> <p>a. Mindfulness will increase it a great deal.</p> <p>b. Mindfulness will increase it somewhat.</p> <p>c. Mindfulness will not change this.</p> <p>d. Mindfulness will reduce it somewhat.</p> <p>e. Mindfulness will reduce it a great deal.</p>	5pt Likert	(author/experts/literature)	Mental well-being 4

34.	<p>Do you think mindfulness will help you feel more grateful?</p> <ul style="list-style-type: none"> a. Mindfulness will increase my feelings of gratitude a great deal. b. Mindfulness will increase my feelings of gratitude somewhat. c. Mindfulness will not change my feelings of gratitude. d. Mindfulness will reduce my feelings of gratitude somewhat. e. Mindfulness will reduce my feelings of gratitude a great deal. 	5pt Likert	(author/experts/literature)	Mental Well-Being 6
35.	<p>To what degree do you expect mindfulness practice to help you stay focused on what is happening in the present moment?</p> <ul style="list-style-type: none"> a. Mindfulness will help me a great deal with this. b. Mindfulness will help me with this somewhat. c. Mindfulness will not change this. d. Mindfulness will make this somewhat worse for me. e. Mindfulness will make this a great deal worse for me. 	5pt Likert	(Brown & Ryan, 2003)	MAAS3
36.	<p>To what degree do you believe mindfulness practice will impact your attention to whatever task you are working on?</p> <ul style="list-style-type: none"> a. Mindfulness will reduce it a great deal. b. Mindfulness will reduce it somewhat. c. Mindfulness will not change this. d. Mindfulness will increase it somewhat. e. Mindfulness will Increase it a great deal. 	5pt Likert	(Brown & Ryan, 2003)	MAAS9

37.	To what degree do you believe mindfulness will impact how often you deliberately notice the sensations in your body? a. Mindfulness will increase it a great deal. b. Mindfulness will increase it somewhat. c. Mindfulness will not change this. d. Mindfulness will reduce it somewhat. e. Mindfulness will reduce it a great deal.	5pt Likert	(Baer et al., 2006)	FFMQ1
38.	To what degree do you believe mindfulness practice will cause you to notice your feelings and emotions without having to react to them? a. It will make me much more reactive. b. It will make me more reactive. c. Nothing will change. d. It will make me less reactive. e. It will make me much less reactive.	5pt Likert	(Baer et al., 2006)	FFMQ3
39.	How much do you believe mindfulness practice will impact distractedness or when you have a wandering mind? a. It will cause me to be much more distracted. b. It will cause me to be more distracted. c. Nothing will change. d. It will cause me to be less distracted. e. It will cause me to be much less distracted.	5pt Likert	(Baer et al., 2006)	FFMQ4
40.	As a result of developing mindfulness practice, how often do you believe you will be accepting of whatever thoughts or emotions you are experiencing? a. I will be accepting much more often. b. I will be accepting more often.	5pt Likert	(Baer et al., 2004)	KIMS3

	c. Nothing will change. d. I will be accepting less often. e. I will be accepting much less often.			
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Appendix D

Demographic and Open-Ended Questions for Inclusion

Demographic & Personal Information				
42.	Name & pronouns	open text box/prefer not to respond	(author/experts/literature)	
43.	Do you have any previous experience practicing mindfulness? Yes/no	Y/N	(author/experts/literature)	
44.	If yes, what kind? <ul style="list-style-type: none"> • No (n/a) • Informal Training/Self Taught • Formal Training 	Choose one	(author/experts/literature)	Contingency Item
45.	If yes, what format? (check all that apply) <ul style="list-style-type: none"> • No (n/a) • I use an app. • I practice by myself using a book, television show, online video, or audio recording prompt. • I attend in-person group mindfulness meetings. • I attend online group mindfulness meetings. • Other [open text box] 	Choose all that apply, open text	(author/experts/literature)	Contingency Item
46.	If yes, for how long? [n/a, open text] <ul style="list-style-type: none"> • n/a • [open text box] 	N/A, Open text	(author/experts/literature)	Contingency Item
47.	Have any of the following factors had a major impact on your health or wellbeing? (choose all that apply): <ul style="list-style-type: none"> • Chronic pain 	Choose all that apply/prefer not to	(author/experts/literature)	Options included here are gathered

	<ul style="list-style-type: none"> • Addiction • Depression • Anxiety • Trauma • Eating disorder • Workplace burn-out • Attention Hyperactivity Disorder (ADHD) • Obsessive Compulsive Disorder (OCD) • Post-Traumatic Stress Disorder (PTSD) • Cancer • Hunger • Housing instability • Discrimination based on your race • Discrimination based on your gender • Discrimination based on your age • Discrimination based on your abilities • Discrimination based on your sexuality • Chronic fatigue • Long-COVID • Insomnia • Poverty • History of military service • History of incarceration • OTHER [open text box] • Prefer not to respond 	<p>respond/Other [open text]</p>		<p>from heavily researched mindfulness sub-groups and/or populations who may need special consideration with do-no-harm approaches</p>
<p>48.</p>	<p>Religion</p> <ul style="list-style-type: none"> • None • [Open text box] • Prefer not to respond 	<p>Choose one</p>	<p>(author/experts/literature)</p>	
<p>49.</p>	<p>What is the highest degree or level of school you have completed?</p>	<p>Choose one</p>	<p>(author/experts/literature)</p>	<p>Answer choices</p>

	<ul style="list-style-type: none"> • No schooling completed • Nursery school • Grades 1 through 11 • 12th grade—no diploma • Regular high school diploma • GED or alternative credential • Some college credit, but less than 1 year of college • 1 or more years of college credit, no degree • Associate’s degree (for example: AA, AS) • Bachelor’s degree (for example: BA, BS) • Master’s degree (for example: MA, MS, MEng, MEd, MSW, MBA, MOT) • Professional degree beyond bachelor’s degree (for example: MD, DDS, DVM, LLB, JD) • Doctorate degree (for example, PhD, EdD, DHSc) • Prefer not to respond 			borrowed From American Community Survey (Census bureau)
Open-Ended Questions				
50.	What do you believe will be your biggest support as you begin mindfulness practice?	Open text box	(author/experts/literature)	
51.	What do you believe will be your biggest barrier as you begin mindfulness practice?	Open text box	(author/experts/literature)	
52.	Is there any other personal information you would like your mindfulness trainer/facilitator to know about you?	Open text box	(author/experts/literature)	
53.	What questions do you have about mindfulness practice or its potential impacts?	Open text box	(author/experts/literature)	

Appendix E

Second-Round Survey Items

Development and Validation of an Assessment of Mindfulness Expectations

Start of Block: Default Question Block

Hello!

You are invited to participate in a research survey, entitled “Development and Validation of an Assessment of Mindfulness Expectations.” The study is being conducted by Sarah Garrison, OTR/L and Dr. Kim Baskette in the Department of Public Health and Healthcare Leadership at Radford University Carilion, 101 Elm Avenue, SE, Roanoke, VA 24013, (540) 831-1699.

The purpose of this study is to develop a reliable assessment of mindfulness expectations. Your participation in the survey will contribute to a better understanding of how to improve this assessment. We estimate that it will take about 20 minutes of your time to complete the questionnaire. You are free to contact the investigator at the above address and phone number to discuss the survey. We ask that you read this form and ask any questions you may have before agreeing to be in the study. Participation is completely voluntary.

We anticipate that your participation in this survey presents no greater risk or benefit than everyday use of the Internet. Any United States resident aged 18 years or older who speaks English as a primary language is welcome to participate.

This survey does not ask for your name, address, or contact information. Computer IP addresses will not be collected. Researchers will have no way of identifying you individually, so your responses are anonymous.

Your participation in this survey is voluntary. You may decline to answer any question and you have the right to withdraw from participation at any time without penalty. If you wish to withdraw from the study, simply close the Qualtrics survey window. If you have any questions, please contact Sarah Garrison at sgarrison@radford.edu or Dr. Kim Baskette at kgbaskette@radford.edu or (540) 831-1699.

This study was approved by the Radford University Committee for the Review of Human

Subjects Research. If you have questions or concerns about your rights as a research subject or have complaints about this study, you should contact Dr. Jeanne Mekolichick, Institutional Official and Associate Provost for Research, Faculty Success, and Strategic Initiatives, jmekolic@radford.edu, 540.831.6504.

If you agree to participate, please press the arrow button at the bottom right of the screen. Otherwise use the X at the upper right corner to close this window and disconnect.

If you are interested in further supporting this work, you may forward the survey link to others who may be willing to respond.

With Gratitude,
Sarah Garrison, OTR/L & Dr. Kim Baskette

I agree to participate.

Display This Question:

If Hello! You are invited to participate in a research survey, entitled "Development and Validation... = I agree to participate

1. What is your current age?

2. Is English one of your primary languages?

Yes

No

3. Do you currently live in the United States?

Yes

No

4. What is your current zip code?

5. To what degree do you believe development of mindfulness will require a commitment to regular practice?

A mindfulness trainee will need to practice every day.

A mindfulness trainee will need to practice 3-4 times per week.

A mindfulness trainee will need to practice 1-3 times per month.

A mindfulness trainee will not need to practice regularly.

6. To what degree do you agree with the following statement? "Mindfulness makes people less impulsive."

- I agree entirely.
 - I agree somewhat.
 - I neither agree nor disagree.
 - I disagree somewhat.
 - I disagree entirely.
-

7. To what degree do you think mindfulness can reduce a person's anxiety?

- Mindfulness can reduce anxiety a great deal.
 - Mindfulness can reduce anxiety somewhat.
 - Mindfulness cannot change a person's anxiety.
 - Mindfulness can increase anxiety somewhat.
 - Mindfulness can increase anxiety a great deal.
-

8. Do you think mindfulness can impact a person's food choices?

- Mindfulness can help a great deal with this.
 - Mindfulness can help with this somewhat.
 - Mindfulness cannot change this.
 - Mindfulness can make this somewhat worse.
 - Mindfulness can make this a great deal worse.
-

9. To what degree can mindfulness practice make a person aware of their emotions in the moment?

- Mindfulness will improve it a great deal.
- Mindfulness will improve it somewhat.
- Mindfulness will not change this.
- Mindfulness will reduce it somewhat.
- Mindfulness will reduce it a great deal.

10. To what degree do you think mindfulness can reduce a person's carelessness or not paying attention?

- Mindfulness can reduce it a great deal.
 - Mindfulness can reduce it somewhat.
 - Mindfulness cannot change this.
 - Mindfulness can increase it somewhat.
 - Mindfulness can increase it a great deal.
-

11. To what degree do you believe mindfulness can help a person notice feelings of physical tension or discomfort before they become pronounced?

- Mindfulness can help a great deal with this.
 - Mindfulness can help with this somewhat.
 - Mindfulness cannot change this.
 - Mindfulness can make this somewhat worse.
 - Mindfulness can make this a great deal worse.
-

12. To what degree would you say your friends & family value mindfulness?

- My friends and family value mindfulness a great deal.
 - My friends and family value mindfulness a little bit.
 - My friends and family have no opinion on mindfulness.
 - My friends and family do not value mindfulness.
 - My friends and family are strongly opposed to mindfulness.
-

13. How much effort do you think mindfulness will require?

- A great deal of effort.
 - Some effort.
 - No effort.
-

14. To what degree do you think it is possible for a trainer to teach you to be mindful?

- A trainer can teach me to achieve mindfulness.
 - A trainer can help me to achieve mindfulness, but I must also work to develop skills independently.
 - Achievement of mindfulness is dependent on me alone.
-

15. To what degree do you believe mindfulness can be incorporated into your own daily activities?

- I will not be able to incorporate mindfulness into daily activities. I will require special time set aside for practice.
 - I will be able to incorporate mindfulness into some daily activities as well as special time set aside for practice.
 - I will be able to incorporate mindfulness into many daily activities as well as special time set aside for practice.
 - I will be able to incorporate mindfulness solely into most or all daily activities. I will not require special time set aside for practice.
-

16. To what degree do you think mindfulness will impact your self-awareness?

- Mindfulness will increase it a great deal.
 - Mindfulness will increase it somewhat.
 - Mindfulness will not change this.
 - Mindfulness will reduce it somewhat.
 - Mindfulness will reduce it a great deal.
-

17. Do you think mindfulness will help you feel more grateful?

- Mindfulness will increase my feelings of gratitude a great deal.
 - Mindfulness will increase my feelings of gratitude somewhat.
 - Mindfulness will not change my feelings of gratitude.
 - Mindfulness will reduce my feelings of gratitude somewhat.
 - Mindfulness will reduce my feelings of gratitude a great deal.
-

18. To what degree do you expect mindfulness practice to help you stay focused on what is happening in the present moment?

- Mindfulness will help me a great deal with this.
 - Mindfulness will help me with this somewhat.
 - Mindfulness will not change this.
 - Mindfulness will make this somewhat worse for me.
 - Mindfulness will make this a great deal worse for me.
-

19. To what degree do you believe mindfulness will impact how often you deliberately notice the sensations in your body?

- Mindfulness will increase it a great deal.
- Mindfulness will increase it somewhat.
- Mindfulness will not change this.
- Mindfulness will reduce it somewhat.
- Mindfulness will reduce it a great deal.

20. As a result of developing mindfulness practice, how often do you believe you will be accepting of whatever thoughts or emotions you are experiencing?

- I will be accepting much more often.
- I will be accepting more often.
- Nothing will change.
- I will be accepting less often.
- I will be accepting much less often.

End of Block: Default Question Block

Appendix F



Assessment of Mindfulness Expectations

Sarah C. Garrison, DHS, MOT, OTR/L

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Instructions: Please circle the answer that comes closest to your current thoughts or opinions.

1. To what degree do you believe development of mindfulness will require a commitment to regular practice?
 - a. A mindfulness trainee will need to practice every day.
 - b. A mindfulness trainee will need to practice 3-4 times per week.
 - c. A mindfulness trainee will need to practice 1-3 times per month.
 - d. A mindfulness trainee will not need to practice regularly.

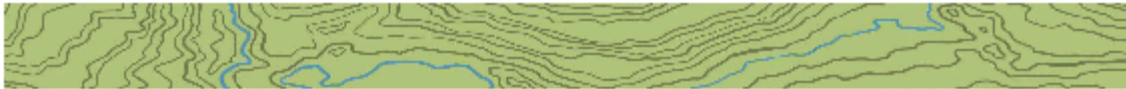
2. To what degree do you agree with the following statement? "Mindfulness makes people less impulsive."
 - a. I agree entirely.
 - b. I agree somewhat.
 - c. I neither agree nor disagree.
 - d. I disagree somewhat.
 - e. I disagree entirely.

3. To what degree do you think mindfulness can reduce a person's anxiety?
 - a. Mindfulness can reduce it a great deal.
 - b. Mindfulness can reduce it somewhat.
 - c. Mindfulness cannot change this.
 - d. Mindfulness can increase it somewhat.
 - e. Mindfulness can increase it a great deal.

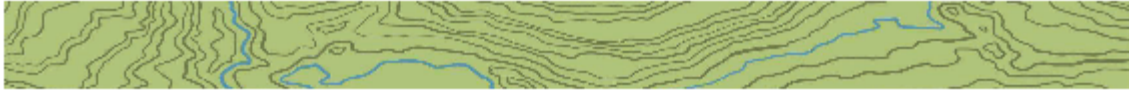
4. Do you think mindfulness can impact a person's food choices?
 - a. Mindfulness can help a great deal with this.
 - b. Mindfulness can help with this somewhat.
 - c. Mindfulness cannot change this.
 - d. Mindfulness can make this somewhat worse.
 - e. Mindfulness can make this a great deal worse.

5. To what degree can mindfulness practice make a person aware of their emotions in the moment?
 - a. Mindfulness will improve it a great deal.
 - b. Mindfulness will improve it somewhat.
 - c. Mindfulness will not change this.
 - d. Mindfulness will reduce it somewhat.
 - e. Mindfulness will reduce it a great deal.





6. To what degree do you think mindfulness can reduce a person's carelessness or not paying attention?
- Mindfulness can reduce it a great deal.
 - Mindfulness can reduce it somewhat.
 - Mindfulness cannot change this.
 - Mindfulness can increase it somewhat.
 - Mindfulness can increase it a great deal.
7. To what degree do you believe mindfulness can help a person notice feelings of physical tension or discomfort before they become pronounced?
- Mindfulness can help a great deal with this.
 - Mindfulness can help with this somewhat.
 - Mindfulness cannot change this.
 - Mindfulness can make this somewhat worse.
 - Mindfulness can make this a great deal worse.
8. To what degree would you say your friends & family value mindfulness?
- My friends and family value mindfulness a great deal.
 - My friends and family value mindfulness a little bit.
 - My friends and family have no opinion on mindfulness.
 - My friends and family do not value mindfulness.
 - My friends and family are strongly opposed to mindfulness.
9. How much effort do you think mindfulness will require?
- A great deal of effort.
 - Some effort.
 - No effort.
10. To what degree do you think it is possible for a trainer to teach you to be mindful?
- A trainer can teach me to achieve mindfulness.
 - A trainer can help me to achieve mindfulness, but I must also work to develop skills independently.
 - Achievement of mindfulness is dependent on me alone.
11. To what degree do you believe mindfulness can be incorporated into your own daily activities?
- I will not be able to incorporate mindfulness into daily activities. I will require special time set aside for practice.
 - I will be able to incorporate mindfulness into some daily activities as well as special time set aside for practice.
 - I will be able to incorporate mindfulness into many daily activities as well as special time set aside for practice.
 - I will be able to incorporate mindfulness solely into most or all daily activities. I will not require special time set aside for practice.



12. To what degree do you think mindfulness will impact your self-awareness?

- a. Mindfulness will increase it a great deal.
- b. Mindfulness will increase it somewhat.
- c. Mindfulness will not change this.
- d. Mindfulness will reduce it somewhat.
- e. Mindfulness will reduce it a great deal.

13. Do you think mindfulness will help you feel more grateful?

- a. Mindfulness will increase my feelings of gratitude a great deal.
- b. Mindfulness will increase my feelings of gratitude somewhat.
- c. Mindfulness will not change my feelings of gratitude.
- d. Mindfulness will reduce my feelings of gratitude somewhat.
- e. Mindfulness will reduce my feelings of gratitude a great deal.

14. To what degree do you expect mindfulness practice to help you stay focused on what is happening in the present moment?

- a. Mindfulness will help me a great deal with this.
- b. Mindfulness will help me with this somewhat.
- c. Mindfulness will not change this.
- d. Mindfulness will make this somewhat worse for me.
- e. Mindfulness will make this a great deal worse for me.

15. To what degree do you believe mindfulness will impact how often you deliberately notice the sensations in your body?

- a. Mindfulness will increase it a great deal.
- b. Mindfulness will increase it somewhat.
- c. Mindfulness will not change this.
- d. Mindfulness will reduce it somewhat.
- e. Mindfulness will reduce it a great deal.

16. As a result of developing mindfulness practice, how often do you believe you will be accepting of whatever thoughts or emotions you are experiencing?

- a. I will be accepting much more often.
- b. I will be accepting more often.
- c. Nothing will change.
- d. I will be accepting less often.
- e. I will be accepting much less often.





Multiple Choice Scoring Instructions

For item numbers 9* & 10*: a=2, b=1, c=3

For item number 11*: a=4, b=3, c=2, d=1

For all other items: a=1, b=2, c=3, d=4, e=5

Factor 1 Self-Improvement	
Item	Score
3. Anxiety	/5
4. Food	/5
5. Emotion	/5
7. Tension	/5
8. Value	/5
12: Self-aware	/5
13. Grateful	/5
14. Focus	/5
15. Sensation	/5
16. Accepting	/5

Factor 2 Self-Correction	
Item	Score
2. Impulsive	/5
3. Anxiety	/5
4. Food	/5
6. Careless	/5

Factor 3 Effort	
Item	Score
1. Practice	/4
9. Effort*	/3
10. Trainer*	/3

Factor 4 Application of Mindfulness	
Item	Score
11. Daily acts*	/4
12. Self-aware	/5

SUBTOTAL	___/50
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SUBTOTAL	___/20
----------	--------

SUBTOTAL	___/10
----------	--------

SUBTOTAL	___/9
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Factor 1 Subtotal + Factor 2 Subtotal + Factor 3 Subtotal + Factor 4 Subtotal = ___ TOTAL

Multiple choice total scores may range from 19-89. Lower scores indicate expectations in alignment with findings in mindfulness literature as of 2023.





There are no right or wrong answers to the questions below. Answers are not scored but instead used to help understand more about the mindfulness trainee, their needs, their strengths, and their goals.

17. Do you have any previous experience practicing mindfulness?

- Yes
- No

17a. If yes, what kind?

- Informal Training/Self-taught
- Formal Training

17b. If yes, what format? (Check all that apply)

- I use an app.
- I practice by myself using a book, television show, online video, or audio recording prompt.
- I attend in-person group mindfulness meetings.
- I attend online group mindfulness meetings.
- Other: _____

17c. If yes, for how long? _____

18. Have any of the following factors had a major impact on your health or wellbeing? (Choose all that apply):

- | | |
|---|--|
| <input type="radio"/> Chronic pain | <input type="radio"/> Discrimination based on your gender |
| <input type="radio"/> Addiction | <input type="radio"/> Discrimination based on your age |
| <input type="radio"/> Depression | <input type="radio"/> Discrimination based on your abilities |
| <input type="radio"/> Anxiety | <input type="radio"/> Discrimination based on your sexuality |
| <input type="radio"/> Trauma | <input type="radio"/> Chronic fatigue |
| <input type="radio"/> Eating disorder | <input type="radio"/> Long-COVID |
| <input type="radio"/> Workplace burn-out | <input type="radio"/> Insomnia |
| <input type="radio"/> Attention Hyperactivity Disorder (ADHD) | <input type="radio"/> Poverty |
| <input type="radio"/> Obsessive Compulsive Disorder (OCD) | <input type="radio"/> History of military service |
| <input type="radio"/> Post-Traumatic Stress Disorder (PTSD) | <input type="radio"/> History of incarceration |
| <input type="radio"/> Cancer | <input type="radio"/> Other: _____ |
| <input type="radio"/> Hunger | _____ |
| <input type="radio"/> Housing instability | <input type="radio"/> Prefer not to respond |
| <input type="radio"/> Discrimination based on your race | |

19. Religion

- _____
- None
- Prefer not to respond





20. What is the highest degree or level of school you have completed? (Choose one)

- No schooling completed
- Nursery school
- Grades 1 through 11
- 12th grade—no diploma
- Regular high school diploma
- GED or alternative credential
- Some college credit, but less than 1 year of college
- 1 or more years of college credit, no degree
- Associate’s degree (for example: AA, AS)
- Bachelor’s degree (for example: BA, BS)
- Master’s degree (for example: MA, MS, MEng, MEd, MSW, MBA, MOT)
- Professional degree beyond bachelor’s degree (for example: MD, DDS, DVM, LLB, JD)
- Doctorate degree (for example, PhD, EdD, DHSd)
- Prefer not to respond

21. What do you believe will be your biggest support as you begin mindfulness practice?

22. What do you believe will be your biggest barrier as you begin mindfulness practice?

23. Is there any other personal information you would like your mindfulness trainer/facilitator to know about you?

24. What questions do you have about mindfulness practice or its potential impacts?

Name & Pronouns: _____ Date: _____

