

Perceived Benefits and Doubts of Participants in a Weekly Meditation Study

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Abstract We examined perceived benefits and doubts of participants in a meditation intervention study. We conducted a content analysis of weekly written reports from 65 college students practicing meditation over the course of an academic semester. As anticipated, the majority of participants reported at least one benefit of meditation, and most of these individuals also reported at least one doubt. Benefits fell broadly into cognitive, emotional, and spiritual categories. Types of benefits reported extend beyond many existing quantitative measures focusing on awareness and attention. These results affirm the need for additional measures and multiple methods to capture the depth and breadth of mindfulness experience. Doubts fell broadly into cognitive and physical challenges during meditation sessions, difficulty finding the time and motivation to meditate outside class sessions, and questions about the efficacy of meditation and self-efficacy to engage in it. Descriptions of doubts may inform how mindfulness leaders provide instruction in research and practice settings, and might mitigate attrition.

Keywords Mindfulness · Meditation · Benefits · Doubts · Content analysis

Introduction

“Mindfulness is simple, but not easy” (Kabat-Zinn, in Segal 2003).

This wise comment from Jon Kabat-Zinn reflects the idea that although mindfulness is a native capacity we all possess, it can be a challenging practice. Kabat-Zinn also wrote, “Meditation is not for the faint-hearted, nor for those who routinely avoid the whispered longings of their own hearts” (Kabat-Zinn 2005, p. 22). While mindfulness may confer numerous benefits to practitioners, it simultaneously may produce doubts. Whereas benefits of meditation have received wide attention in the research literature (Davidson et al. 2003; Grossman et al. 2004; Jain et al. 2007; Sears & Kraus 2009; Shapiro et al. 2005; Shapiro et al. 2007; Teasdale et al. 2000), doubts have received little if any.

One of the most widely cited definitions of mindfulness is “Paying attention in a particular way: on purpose, in the present moment, and non-judgmentally” (Kabat-Zinn 1994, p. 4). Numerous researchers have demonstrated beneficial effects of mindfulness on outcomes such as pain management (Kabat-Zinn et al. 1985; Rosenzweig et al. 2010; Zautra et al. 2008), immune function (Creswell et al. 2009; Davidson et al. 2003; Fang et al. 2010), changes in brain areas associated with emotion (Davidson et al. 2003; Hölzel et al. 2010; Hölzel et al. 2011), ruminative thoughts (Deyo et al. 2009; Heeren & Philippot 2011; Jain et al. 2007; Labelle et al. 2010; Shapiro et al. 2007), cognitive distortions (Sears & Kraus 2009), positive reappraisal coping (Garland et al. 2011), preventing relapse of depression (Kuyken et al. 2008; Teasdale et al. 2000), anxiety and negative affect (Sears & Kraus 2009; Shapiro et al. 2007; Vøllestad et al. 2011), perceived stress and self-compassion (Shapiro et al. 2005), and hope (Sears & Kraus 2009). Meta-analyses of mindfulness-based stress reduction

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programs suggest that these interventions are promising for individuals coping with a variety of physical and mental health issues including pain, cancer, heart disease, depression, anxiety, and stress in healthy people (Bohlmeijer et al. 2010; Chiesa & Serretti 2009; Grossman et al. 2004; Hofmann et al. 2010).

Despite an abundance of studies examining the benefits of mindfulness, the variables and processes underlying favorable changes is a continued area for investigation. Researchers are turning attention to how and why mindfulness works, and the effective ingredients of mindfulness interventions. Shapiro et al. (2006) have proposed a number of mechanisms of mindfulness.

Although standardized quantitative measures are useful and important in assessing the outcomes and possible mechanisms of these interventions, they may be limited in capturing the experiential processes by which mindfulness may unfold. In addition, while much research has focused on the benefits of mindfulness, little to our knowledge has examined doubts or perceived barriers. Increased research about common doubts may inform how meditation leaders and instructors discuss barriers to practice as is common in Mindfulness-Based Stress Reduction and Mindfulness-Based Cognitive Therapy programs. Addressing doubts could improve the meditation experience and increase adherence to weekly meditation interventions.

Thus, the purpose of this study was to examine benefits and doubts about meditation expressed by college students who participated in a weekly meditation intervention study over the course of an academic semester. Primary pre–post outcomes for the meditation intervention compared to a control group are reported in Sears and Kraus (2009). In this portion of the study, we asked participants receiving the meditation intervention to write about benefits and doubts about meditation on a weekly basis to learn more about the prevalence and types of these experiences. Descriptions of benefits and doubts may inform how mindfulness leaders provide instruction in research and practice settings. In addition, such descriptions may enhance existing quantitative measures of mindfulness that focus on attention and awareness (see Baer et al. 2006 for a review). Specific goals were to (1) learn what percentage of participants reported a benefit and/or a doubt, (2) see whether benefits and doubts occur simultaneously, and (3) categorize the most common types of benefits and doubts expressed. Based on previous research that humans can perceive benefits even in the context of adverse or challenging situations (e.g., Affleck et al. 1987; Calhoun & Tedeschi 1989; Lehman et al. 1993; Schwartzberg 1993; Sears et al. 2003; Siegel & Schrimshaw 2000; Tedeschi & Calhoun 1996; Thompson 1985), we anticipated that the majority of people would express both benefits and doubts, and that these could co-occur in the same person.

Method

Participants

The 65 participants were students at a small liberal arts college who voluntarily completed questionnaires and participated in meditation in a classroom setting. This study was part of a larger intervention study. Sears and Kraus (2009) reported primary outcomes for the 57 participants who completed both pre and post measures on standardized scales. The current study includes an additional eight participants who completed meditation sessions and weekly descriptions of benefit and doubt, but who did not complete post measures for standardized scales. All participants provided written informed consent and received no compensation for their participation. Of participants, 53% were males and 47% females with an average age of 22.31 (range=18 to 41; SD=6.00). Self-identified ethnic backgrounds for participants were White/Non-Hispanic (72%), Native American (20%), Hispanic/Latino/a (3%), and other ethnicities (5%). The high proportion of Native American participants reflects our unique college population comprised of approximately 20% Native American students. Socioeconomic background was varied with 12% reporting fathers with a high school education or less, and 27% reporting fathers with an advanced degree. Mother's education level was reported as 14% with high school education or less, and 14% with advanced degrees. Only 12 participants (18% of sample) reported having any prior meditation experience.

Design and Procedure

All components of our research design and protocol were approved by our Institutional Review Board. The meditation intervention procedures and primary quantitative outcomes for three meditation groups are fully described in Sears and Kraus (2009). The primary study used a 4×2 nonrandomized cohort–controlled mixed design (between groups: control, brief meditation focused on attention, brief meditation focused on loving kindness, longer meditation combining both attentional and loving kindness aspects of mindfulness)×(within group repeated measures: pre, post). For this study, we focused on weekly reports from the three groups that participated in meditation only.

Meditation Interventions

All meditation sessions were developed and delivered by the same meditation teacher. Procedures are fully described in Sears and Kraus (2009). The instructor was from a community meditation center who completed Spirit Rock

Meditation Center's Community Dharma Leader Program in Woodacre, CA. The brief mindful attention sessions focused on developing awareness of the breath, sounds, and bodily sensations with a stance of accepting whatever arises. The brief loving kindness sessions focused on the practice of "metta," or extending friendliness, compassion, joy, and peacefulness to the self and others. These brief mediation sessions were approximately 10–15 min in length, once a week for 12 weeks at the beginning of a psychology course. The longer intensive meditation sessions included both of these practices, as well as more extensive discussion of the traditional teachings surrounding them. The full class time was 90 min. Each class typically included at least two meditation practices. Each practice was 15–30 min in length, with longer practices occurring as the semester progressed and participants gained comfort and experience.

The meditation practices were couched in a secular framework, but acknowledged the historical Buddhist roots. Because the primary study was designed to compare mindful attention with metta practices, we did not use an existing intervention manual.

Participants in all of the meditation interventions were encouraged but not required to practice meditation techniques learned in class at home. In post-test surveys, we asked all participants to estimate, "This semester, approximately how many minutes per week have you meditated outside of class?" Of participants, 29 (45%) reported meditating outside of class. The number of reported minutes ranged from 0 to 200 ($M=25$, $SD=39$).

Measures

On a weekly basis over the course of the semester, participants responded in writing to the following two questions: "*In the past week, a benefit of meditation I've experienced has been...*" and "*In the past week, a doubt I've had about meditation has been...*" Participants completed all responses using an ID number to protect confidentiality (Table 1).

Table 1 Percent of participants experiencing at least one benefit or doubt

	% of participants	Number of participants
Benefit and doubt	58.5	38
Benefit only	26.2	17
Doubt only	3.0	2
Neither benefit nor doubt	12.3	8

Participants, $N=65$

The first two authors independently read all responses and conducted a content analysis for common themes. Although lexical coding software was not available to us, we used a strategy similar to that of Sears et al. (2003). In that study, the authors coded written transcriptions of interview responses from women describing the benefits (e.g., personal growth) and stressors of experiencing breast cancer (Sears et al. 2003). We developed our categories of benefits and doubts in this study based on the following sources and strategies: Grounded theory about important aspects of mindfulness, subscales from prior measures of mindfulness, and recurring themes emerging from our data. More specifically, for benefits we developed separate categories for attention, clarity of thought, and changes in quality of thought. This decision was based on the call for more research differentiating *that* we pay attention from *how* we pay attention as potential mechanisms for beneficial mindfulness outcomes (e.g., Sears & Kraus 2009). We developed separate categories for increases in calmness, decreases in anxiety, and increases in energy based on prior theory and research that the presence of positive emotion may not be the same as the absence of negative emotion (Folkman 2008; Watson et al. 1988).

For doubts, because this study is one of the first to examine this aspect of meditation empirically, we did not have prior measures or outcome data to refer to in developing categories. Theoretically, we initially had an eye toward the five "hinderances" or difficulties that arise in meditation practice, namely "desire" (wanting), "aversion" (anger, avoidance, unpleasantness), "sloth and torpor" (drowsiness or sleepiness), "restlessness" (of the mind or body), and "doubt" itself (e.g., Weisman & Smith 2001). The response and themes emerging from our data fit these concepts to some extent. For example, "Getting past a wandering mind," could be construed as restlessness. Questions about the ability to finding the time and motivation to meditation, whether meditation really works, and doing it right are all doubts. However, they seemed distinct enough concerns with different possible targets for intervention to merit their own categories. Thus, we developed the doubt categories based primarily on recurring themes emerging from our data.

We ultimately agreed on eight categories for both benefits and doubts. These appear in Tables 2 and 3, respectively. The first three authors then independently coded all responses into those categories. We computed Cohen's Kappa statistic for inter-rater reliability between each of the three coders (i.e., coder 1–coder 2; coder 1–coder 3; coder 2–coder 3). We found substantial agreement between coders (Landis & Koch 1977) for both benefits ($\kappa=0.86$ – 0.89 ; 88–91% classification) and doubts ($\kappa=0.65$ – 0.86 ; 70–88% classification). The first and second author reviewed any discrepancies between coders, and made final

Table 2 Categories and frequencies of reported benefits

Category	% of participants reporting benefit	Frequency
Increased calmness/relaxation/peace	52	34
Increased attention/awareness	47	31
Change in quality of thought	26	17
Decreased anxiety/stress	24	16
Improved clarity of thought	20	13
Increased energy/spirits/refreshed	15	10
Spirituality/oneness	4	3
Other	18	12

We calculated “% of participants reporting benefits” as the number of participants reporting a benefit at least once in that category divided by the total number of participants, where $N=65$ (e.g., for increased calmness/relaxation/peace, $34/65=52\%$). Individual participants could identify more than one type of benefit. However, if they identified the same benefit on more than one occasion, we coded it only once to gain an overall picture of the types of benefits experienced. Total number of different benefits reported at least once across the sample=136

decisions to categorize responses based on majority coding (i.e., when two of three coders agreed) and/or further discussion. If the same research participant expressed more than one type of benefit or doubt, we counted both. However, if the same individual expressed the same benefit or doubt on more than one occasion, we counted only the first occasion to gain an overall picture of the common types of benefits and doubts experienced across individuals.

Explanations of benefit categories are as follows:

Increased Attention/Awareness Increased attention, more aware, being in the present moment, being mindful. e.g., “Better general sense of awareness,” “Becoming aware of my breath again,” “Staying in the moment with others,” “To notice when I’m not being mindful.”

Improved Clarity of Thought Thinking clearly, organizing thoughts, clear mind, clear head, better able to analyze situations. e.g., “If I distance myself from the details, things become clearer,” “Able to organize my thoughts,” “It helped me clear my head after a fight.”

Change in Quality of Thought Increases in mindfulness qualities of non-judging, non-striving, acceptance, patience, trust, openness, letting go, gentleness, generosity, empathy, gratitude/appreciation, and loving kindness. e.g., “Increased compassion for self and others,” “Inserting love, kindness into thoughts,” “Acceptance,” “Letting go of unhealthy expectations.”

Increased Calmness/Relaxation/Peace e.g., “Being and becoming more calm.” “More relaxed.” “At peace with myself.”

Decreased Anxiety/Stress “Less stress,” “Get over stress easier,” “Anxiety control.”

Increased Energy/Spirits/Refreshed e.g., “A new-found energy,” “I felt refreshed and more ready to face the day,” “A feeling of renewal.”

Spirituality/Oneness e.g., “I meditated while having some spiritual healing done. It was an extremely contemplative experience,” “Oneness,” “Spiritual renewal.”

Other e.g., “Sleeping better at night,” “Speaking slower and concise,” “New start.”

Explanations of doubt categories are as follows:

Difficulty Maintaining Cognitive Focus Mind wandering, thinking too much. e.g., “Getting past a wandering mind,” “Doubting my ability to stay focused and clear my mind.”

Physical Issues Pain, feeling tired, difficulty sitting still. e.g., “How can I explore different body positions in hope of being generally more comfortable,” “It’s hard not to fall asleep. It makes me tired,” “Lack of willingness to sit still.”

General Difficulties During Meditation e.g., “Just hard to do,” “Will meditation ever be easy?”

Table 3 Categories and frequencies of reported doubts

Category	% of participants reporting doubt	Frequency
Difficulty maintaining cognitive focus	21	14
Does meditation really work?	21	14
Physical issues	9	6
Finding time to meditate outside of class	9	6
Finding motivation to meditate outside of class	9	6
Am I doing it right?	6	4
General difficulties during meditation	3	2
Other	12	8

We calculated “% of participants reporting doubts” as the number of participants reporting a doubt at least once in that category divided by the total number of participants, where $N=65$ (e.g., for difficulty maintaining cognitive focus, $14/65=21\%$). Individual participants could identify more than one type of doubt. However, if they identified the same doubt on more than one occasion, we coded it only once to gain an overall picture of the types of doubts experienced. Total number of different doubts reported at least once across the sample=60

Finding Time to Meditate Outside of Class e.g., “Making time for my formal practice,” “That I don’t have enough time to do it frequently.”

Finding Motivation to Meditate Outside of Class e.g., “When am I ever going to feel the urge to sit and meditate by myself?” “I’ve wondered how to find the self-motivation to meditate on my own.”

Does Meditation Really Work? Questions about whether meditation is beneficial, expectancy violations for experience during meditation compared to misconceptions about what mindfulness is. e.g., “Is it really that beneficial?” “Whether or not it works,” “Why doesn’t it instantly transform me?” “It doesn’t always make me happy.”

Am I doing it Right? Questions about one’s own ability to do meditation. e.g., “That I’m doing it right,” “That I’m just not getting it,” “Not getting it.”

Other e.g., “Why my path is what it is,” “Is skiing and climbing meditation?”

Results

We conducted a Pearson’s Chi-square analysis to see if the three groups of meditators reported types of benefits and doubts with differing frequencies. No group differences emerged for either benefits ($\chi^2(14, N=136)=11.66, p=0.634$) or doubts ($\chi^2(14, N=60)=14.40, p=0.420$). Thus, we report frequencies for types of benefits and doubts in the aggregate across the entire sample.

Table 1 displays the percentage of participants in the sample experiencing at least one benefit and/or doubt. The majority of participants reported at least one benefit (84.7%), and many of those simultaneously expressed a doubt. Only two participants reported a doubt without a benefit.

In addition to looking for aggregate responses, we examined the patterns of responses from individuals to look for changes over time. Unfortunately, many participants did not have complete data for all weeks of the study. Thus, we were not able to calculate participant-level weekly frequencies of benefit/doubt to examine changes over time. In inspecting the available data, no clear, interpretable patterns emerged. Reports of benefits and doubts did not appear to increase or decrease significantly over time.

Categories and frequencies of reported benefits and doubts appear in Tables 2 and 3, respectively. Across the entire sample, participants reported a total of 136 benefits and 60 doubts. Benefits fell broadly into cognitive, emotional, and spiritual categories. Doubts fell broadly into

cognitive and physical challenges during sessions, difficulty finding the time and motivation to meditate outside class sessions, and questions about the efficacy of meditation and self-efficacy to engage in it. The most frequently reported benefits were in the category of *increased calmness/relaxation/peace* followed closely by *increased attention/awareness*. The most frequently reported doubts were in the categories of *difficulty maintaining cognitive focus* and *does meditation really work?*

Discussion

Goals of this study were to (1) learn what percentage of participants reported a benefit and/or a doubt, (2) see whether benefits and doubts occur simultaneously, and (3) categorize the most common types of benefits and doubts expressed. As we anticipated, the majority of participants reported at least one benefit of meditation, and many of these individuals also reported at least one doubt. Only two participants reported a doubt without a benefit. Thus, experiencing doubt appears to be a common part of the meditation process, and does not preclude experiencing benefit.

Regarding themes that emerged, benefits fell broadly into cognitive, emotional, and spiritual categories. An interesting benefit of mindfulness that emerged for at least a quarter of participants was the category “Changes in quality of thought.” For example, some participants reported “increased compassion for self and others,” and “inserting love, kindness into thoughts.” These responses are consistent with theoretical conceptualizations of mindfulness distinguishing *that* we pay attention from *how* we pay attention (Shapiro et al. 2006). They also are consistent with empirical work suggesting that changes in quality of thought may be an important mediator of the effects of mindfulness on beneficial emotional outcomes such as anxiety reduction (Sears & Kraus 2009). Despite the theoretical and scientific support for noticing how we pay attention, most current mindfulness scales focus on the awareness aspects of mindfulness (see Baer et al. 2006 for a review). Researchers are just beginning to examine additional aspects of mindfulness such as compassion with measures such as the Self-Compassion Scale (Neff 2003) and Self-Other Four Immeasurables (Kraus & Sears 2009). Our findings affirm the need for these additional measures to reflect *how* we pay attention as a component of mindfulness.

Finally, our benefit results underscore the need for researchers to use multiple measures and methods to assess mindfulness processes and outcomes. Our descriptions of benefit are consistent with standardized scales tapping non-mindfulness as well as mindfulness constructs. For exam-

ple, non-mindfulness scales are needed to assess beneficial outcomes such as “decreased anxiety” and “spiritual connection,” whether or not mindfulness is theoretically intended to cultivate those outcomes. Thus, mindfulness researchers may need a diversified survey battery to capture the benefits of practice.

Our investigation of reported doubts about meditation is a unique addition to the research literature. Doubts fell broadly into cognitive and physical challenges during meditation sessions, difficulty finding the time and motivation to meditate outside of class sessions, and questions about the efficacy of meditation and self-efficacy to engage in it. Of particular interest were responses that suggested a form of expectancy violation, i.e., having an experience with meditation that was discrepant from preconceived notions about what meditation was supposed to do. For example, some participants noted as doubts that meditation “doesn’t instantly transform me,” “doesn’t always make me happy,” or “doesn’t always make me whole.” Meditation instructors may want to clarify that mindfulness is “nothing special,” that the goal (or non-goal) is awareness rather than a pleasant metaphysical experience, and that while transformation may occur, it is a long rather than instantaneous process. Addressing these experiences may be important for reducing attrition, especially in new meditators. Previous empirical research has shown that expectancy violations are one predictor of dropout for adopting other health behaviors such as a new exercise program (Sears & Stanton 2001). Because our study was done in the context of a college class, we could not examine attrition directly with our participants, as there were many other factors, such as course grades, that influence continued class attendance. The expectancy violation may be an influential factor when barriers to dropout are lower. Another limitation that may have been influenced by conducting this study in the context of a classroom is that consistency in completing the weekly writings about benefits and doubts was not perfect. Typically about 10% of weekly reports were missing, spread broadly across the participants. This mirrors our experience of having about 10% of class members absent on any given day. This limited our ability to examine weekly changes over time, but yielded data that were informative in the aggregate. Perhaps future researchers will be able to use our categories of benefit and doubt to construct scales that could be easily administered on a week-to-week basis in a manner to increase participation. For example, researchers could request data electronically for participants who miss in-person sessions.

When practitioners question “whether meditation really works” or worry whether or not they are “doing it right,” instructors may offer some reassurance that these doubts are common and do not preclude benefit. It may be useful to remind new meditators that mindfulness is a native

capacity we all have, and yet it is a skill requiring ongoing practice. Ways to respond to doubt may include acknowledging it in general, addressing the specific doubt directly, redirecting attention to experience of benefits, and/or exploring intentions for what brought the person to meditation in the first place. Examining intentions may be a touchstone that individuals can connect with to keep them engaged in the behavior of meditation even when doubts arise. Over time, repeated behavior may sustain motivation and self-efficacy. One very behavioral meditation instruction from Jon Kabat-Zinn during a meditation workshop (Segal 2003) was “I don’t care if you like it; I just care if you do it.” Finally, a paradoxical approach may be to question whether or not the doubt is really true. If we let the story line go and observe the impermanent nature of moment-to-moment reality, the doubt may or may not persist. In other words, “you can doubt your doubt.”

Strengths of our study include examination of doubts as well as benefits of meditation, qualitative assessment that allowed participants to express a variety of experiences beyond those tapped by existing mindfulness measures, and content analysis by three independent coders with strong inter-rater reliability. One limitation of our study is that our sample included undergraduate students who were primarily new meditators. This sample limits the generalizability of our findings. Whether non-students and experienced meditators would have similar types or numbers of doubts is an important area for future investigation. If meditation teachers can anticipate their audience and common doubts that may arise, they can tailor their instructions accordingly using language that practitioners can understand. Future research may ask experienced meditators to describe benefits and doubts in a manner similar to our study. In addition, it would be interesting to create a scale of common benefits and doubts based in part on this study, and then compare responses between new and experienced meditators.

A second limitation of our study is that students participated in relatively brief meditation sessions. Even the longest practice sessions were only 30 min per week. Thus, future research should investigate whether similar numbers and types of benefits and doubts would emerge with longer practice sessions.

A third limitation of our study is that we did not have a way to examine the relationship between specific benefits and doubts and amount of time participants practiced meditation outside of class or after the class ended. Future research should examine the extent to which perceived benefits and doubts may predict meditation behavior.

Overall, this study enhances knowledge gained from quantitative assessments about the benefits of meditation, and fills a gap in the literature by examining doubts that

practitioners may experience. Future researchers and meditation leaders should engage in ongoing conversation about how best to assess and address doubts in meditation studies and practice. Our inquiry is consistent with theoretical views of mindfulness that the practice is to examine whatever arises, and that includes both benefits and doubts.

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