

Mindfulness

Medical and Psychology Student's Experiences in Learning Mindfulness: Benefits, Pitfalls, and Paradoxes --Manuscript Draft--

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Abstract:	<p>Abstract</p> <p>Mindfulness has attracted increased interest in the field of health professionals' education due to its proposed double benefit of providing self-help strategies to counter stress and burnout symptoms and cultivating attitudes central to the role of professional helpers. The current study explored the experiential aspects of learning mindfulness. Specifically, we explored how first-year medical and psychology students experienced and conceptualized mindfulness upon completion of a 7-week Mindfulness-Based Stress Reduction program. Twenty-two students participated in either two focus group interviews or 10 in-depth interviews, and we performed an interpretive phenomenological analysis of the interview transcripts. All students reported increased attention and awareness of psychological and bodily phenomena. The majority also reported a shift in their attitudes towards their experiences in terms of decreased reactivity, increased curiosity, affect tolerance, patience and self-acceptance, and improved relational qualities. The experience of mindfulness was mediated by subjective intention and the interpretation of mindfulness training. The attentional elements of mindfulness were easier to grasp than the attitudinal ones, in particular with respect to the complex and inherently paradoxical elements of non-striving and radical acceptance. Some participants considered mindfulness as a means to more efficient instrumental task-oriented coping, whilst others reported increased sensitivity and tolerance towards their own state of mind. A broader range of program</p>	

	benefits appeared dependent upon embracing the paradoxes and integrating attitudinal elements in practising mindfulness. Ways in which culture and context may influence the experiences in learning mindfulness are discussed along with practical, conceptual and research implications.
Response to Reviewers:	We have attended to reviewers and editors comments previously.

Editors and Reviewers' comments on the manuscript by Solhaug et al.

We thank both the editor and the reviewers for contributing to enhancing our manuscript by providing thoughtful remarks and suggestions. We have attended to all of it below. Please see our responses in red font.

We hope the manuscript now is acceptable for publication in your journal. Please let us know if there are any unresolved issues regarding this revision, and we will respond immediately.

Warmly, Ida Solhaug and coauthors

Editor:

Please make the following mandatory copy-editing revisions as required by this journal:

1. On page 2, add a section header, Introduction. **Done.**
2. Break the blinding in the revised manuscript. **Done.**
3. Change the first sentence of the last paragraph of the Introduction from "To our knowledge, the present qualitative study is the first one to examine the nature . . ." to "The aim of this study is to examine the nature . . .". **Done.**
4. On page 4, change Methods to Method, as per APA Publication Manual (6th ed., p. 29). **Done.**
5. Reformat the Method section with these headings and in this sequence: Participants, Procedure, Measures, and Data Analyses. The setting and program description should be included under Procedure (without sub-headers). For Participants, omit "in the present, qualitative study". Ethical approval goes under Procedure. **Done.**
6. Under results, when you present quotes that are indented, omit quotation marks. **Done.**
7. Omit Figure 1. **Done.**
8. Shorten the Discussion section by a page. **Done.**
9. Omit all sub-section headers in the Discussion section, except Limitations. Omit the Conclusions section. **Done.**
10. Ensure that all references cited in the text are listed in the Reference section and all references listed in the Reference section are cited in the text. **Done.**
11. Add the Supplemental Material following the Reference section and clearly title it as Supplemental Materials. **Done.**

Comments for the Author:

Reviewer #1: The authors are to be commended for undertaking this qualitative study. More studies of this type would be greatly welcomed, particularly by the pedagogues and theorists in the MBI community. I'd say, get this into print quickly.

The material is well considered and presented. The methods are well defined. Results are clearly presented and supported with well-chosen verbatims.

There are, however, three things that the authors might consider that I believe would make the presentation stronger.

First, there is an issue in the tone, in which the authors are preferring a "comprehensive" view of mindfulness that provides the "full benefit" of mindfulness training, stratifying the "success" (whatever that might be) of participants in a way that reduces the worth those who had "only" an instrumental understanding. Certainly

the teachers would want to hold all participants as gaining what they are capable of taking at that moment in the context of their lives. With the embedded discussion of compassion, self-compassion and ethics, it may be worthwhile to think this kind of language through.

The authors: We thank the reviewers for this thoughtful remark. With this qualitative study, we did not intend to normatively judge understandings or rate the success of intervention, but rather explore the variation in how mindfulness training are received by these students, compared to the theoretical foundations of MBSR, and discuss potential clinical and conceptual implications of this variability. However, we are grateful for the remark and have attended to it by removing passages where the language may be received as normative, particularly in the first sections of the discussion (pp. 19-21).

Second, given the differences in participant's understanding and engagement, I would have expected significant treatment of the decisions around the shorter times for classes and practices, both in the discussion and limitations sections. It would seem that a parallel study using the standard course would be called for, as these sorts of dosage questions must be parsed out.

Thank you again for a relevant point. We have included the following:

Methods: In order to optimize accessibility and acceptability, we interviewed medical students during the design phase of the project, revealing that the extensive time commitment of the original MBSR program representing a barrier to participation due to busy schedules. Scince a review by (Carmody & Baer, 2009) indicated that shortened versions of the original MBSR program (Kabat-Zinn, 2005) may be comparably effective, we modified the program by...etc.

Discussion: The reduced intensity and duration of the present intervention might have limited the students' opportunities to explore mindfulness practices more fully and thus contributed to the heterogeneous experiences. However, our findings concur with a review of qualitative mindfulness studies in which the majority employed the original duration and intensity (Morgan et al., 2014), stating that health care professionals who used mindfulness as a "tool" were less likely to develop a "deeper understanding" of mindfulness as compared to those who adopted mindfulness as "a way of being".

Limitations: In addition, in order to determine the external validity of the intervention it would be useful to examine and compare different approaches to mindfulness training both regarding duration, intensity and content, and examine the ways in which it could be integrated into educational contexts (Cohen & Miller, 2009; Mascaro, Rilling, Negi, & Raison, 2013; Pakenham & Stafford-Brown, 2013), including mindfulness programs tailored to address individual differences in participants' intentions, understanding, and conception of mindfulness.

Third, again surprising, is that there was little or no reported exploration of the attitudes, feelings, experiences of being with the others in the class. Surely, this is a major feature of these interventions. It may be that some of the missing compassion for others may actually be located there?

We have attended to this issue by including the following in the Discussion section:

The experience of being in a MBSR group with fellow students was infrequently mentioned by the participants, and also revealed heterogeneity. Some experienced that the group context promoted a focus on normalisation and recognition of shared human vulnerabilities, echoing patterns in existing research (Beckman et al., 2012; Morgan et al., 2014), while others expressed less comfort with disclosing themselves freely to classmates. The younger age and higher importance of social norms regarding "mastery" may be a reason for this reservation.

Reviewer #2: Page 4 under heading methods line 50 onwards, the authors state that 'Our programme equals the original MBSR program (Kabat-Zin 2005) by its focus on enhancing mindfulness through exercise in clas and at home , as well as teachings and group dialogues on stress management, and mindful communication. To match the students busy schedule we modified this program by reducing the number of weekly sessions form 8

(2.5hrs) to 6 (1.5 hrs) and the daily home practice from 45 to 30 minutes. The intervention is described in detail in the supplementary electronic link".

I haven't been able to access the link, but even so I don't agree that their intervention could be considered 'equal' to MBSR. There would need to be a discussion about how it was adapted, the experience of the person adapting it, evidence for those particular adaptations etc. There is no discussion of this in the section on Limitations and Future Research p. 23.

In addition many of the citations used refer to MBSR as originally taught and not to an adaptation.

Thanks for the comment, which we have attended to in the above mentioned inclusions. Further, we have taken care to refer to the "abridged MBSR program" throughout.

On page 3, the sentence "The concept of mindfulness stems . . ." The best reference for this is Shonin et al. (2015). Buddhist foundations of mindfulness. NY: Springer. Thank you. Done.

I believe these issues need to be addressed and discussed before publication should be considered.

Dear Dr. Singh,

Tromsø, 19th of September 2015

Please find enclosed a paper entitled “Medical and Psychology Student’s Experiences in Learning Mindfulness: Benefits, Paradoxes and Pitfalls” that we would like you to consider for publication in *Mindfulness*. The manuscript is 30 pages long, including the title page, abstract, text, figure and references.

Amidst the increasing interest of integrating mindfulness in professional training and the documented personal and relational benefits from quantitative studies, there has been less focus on the experiential *process* of learning mindfulness, notably with respect to the intention and attitudes involved. This qualitative study is based on how 22 first-year medical and clinical psychology students experienced a 7-week Mindfulness-Based Stress Reduction program. The results bring to attention that students’ *concepts* of mindfulness and their *intentions* for learning mindfulness varied considerably and mediated how they *experienced* and *engaged in* mindfulness training. While the majority of the students reported increased meta-awareness, self-acceptance, affect tolerance, and relational attunement, a subset of students did not progress beyond considering mindfulness training more instrumentally (e.g., enhancing concentration or providing relaxation), restricting the range, depth and nature of benefits. Across the sample, students stories highlight the complexities and challenges in integrating the attitudinal qualities in mindfulness.

The present qualitative study adds to existing mindfulness research in bringing attention to the diversity, tensions, and paradoxes in the ways mindfulness is understood and experienced among helpers-in-training. Our findings indicate a need for greater attention to cultural, contextual and values-based influences upon the process of learning mindfulness.

The findings reported have not previously been published and the manuscript is not being submitted elsewhere. The authors have full control of all primary data. The journal editors are welcome to review the data if requested. The authors have no conflicts of interest with the organizations that sponsored the research, and APA ethical standards were followed in the conduct of the study. This study is part of a two-center mixed-methods research project. Published results from the RCT part of this project are referred to in the manuscript, but blinded. All authors have agreed to the submission of the manuscript.

I will be serving as the corresponding author for this manuscript. Thank you for considering the paper.

Warmly,

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Journal: Mindfulness

Medical and Psychology Student's Experiences in Learning Mindfulness: Benefits, Paradoxes, and Pitfalls

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Description of the 7-week Mindfulness-Based Stress Reduction (MBSR) programme

Based on Jon Kabat-Zinn's 8-week MBSR programme: Kabat-Zinn, J. (2005). *Full Catastrophe Living: Using the wisdom of your body and mind to face stress, pain and illness*. New York: Bantam Dell.

Class one: Mindfulness and the power of being present.

Introduction to what it means to be mindful both on a theoretical level through didactic teaching and experientially through the "raisin exercise", eating a raisin slowly while trying to stay present to each facet of sensory experience. Furthermore, physical anchoring exercises and the body-scan exercise was introduced. During body-scan attention is given to each part of the body, just noticing what arises of sensations while doing this. The focus of the class was on causes and consequences of having an absent mind, and some of the benefits of being fully present to what is happening just now. An important distinction was made between seeing thoughts as facts and being aware of thoughts as objects of observation. The home practice was 15 or 20 minutes body-scan from the CD with mindfulness exercises, developed by the phd candidates, once a day for six days, and to choose one daily activity to be done with full awareness every day for the coming week. Suggestions for daily activities to do mindfully were given in the workbook, and included washing hands, stopping in the traffic at a red light, taking a shower, eating dinner, answering the telephone and getting dressed.

Class two: Perception – how we perceive reality.

In the second class participants were guided in sitting meditation with focus on breathing. The theme of the class was how perceptual processes shape experience. The participants were introduced to information about how earlier experience and expectation shape perception. Mindfulness was highlighted as a mode of perception that is both curious and open, welcoming reality just as it is, without analyzing or judging what arises, thereby making new interpretations and actions possible. The home practice assigned for the next week was practicing the 15-20 minute body-scan once a day for six days, practicing sitting meditation 5 – 15 minutes every day bringing the attention gently back to the breath each time one discovers that the attention has left the breath, and to choose a new activity to do mindfully every day. In addition, participants were asked to notice one pleasant event each day the coming week, and to note any sensations, thoughts and feelings associated with the event.

Class three: Stress, and how it affects us.

Two new formal mindfulness exercises were practiced in class three. Slow stretching exercises from the hatha yoga tradition, done with full attention on sensing the body rather than doing the exercises correctly; and walking meditation, the students walking slowing in a circle resting the attention on the contact between the feet and the ground, and bringing the attention gently back to the feet each time it wanders off. The class was centered on the concept of stress, and how

stress is manifested in the mind and body. The home practices for week three were: To alternate between the 30 minute yoga stretching exercises lying down, and the body-scan for six days. In addition they should practice sitting meditation for 5-15 minutes every day and notice unpleasant events and take notice of sensations, thoughts and feelings associated with these events.

Class four: Coping with stress.

Standing yoga stretching exercises, sitting meditation and walking meditation were practiced during class four. The theme of the class was how the capacity to be aware of the mind and body in stressful situations, without immediately reacting to it, makes it possible to adapt more effectively to challenges and stressors. The breath was highlighted as an important place to anchor one's awareness when feeling stressed out. The following week the participants were invited to alternate between 20 minutes sitting meditation and 15-20 minutes body-scan or exercises in hatha yoga, every day, for six days. As part of their home practice participants were also asked to pay attention to their breathing both in everyday situations, and especially in stressful situations and to open up to new ways of responding in stressful situations.

Class five: Communication.

Class five consisted of sitting and walking meditation, and exercises in hatha yoga. The emphasis of the class was on interpersonal mindfulness. Interpersonal reaction patterns and habits of emotional expression/suppression were discussed. Mindfulness was in this context highlighted as the capacity to stay aware of one's own experience, including thoughts and interpretations, emotions, and behavioral impulses during communication. The home practice between class five and six was to do one formal mindfulness practice every day, choosing between the body scan, sitting meditation and hatha yoga, and experimenting with doing the exercises without listening to the instructions on the CD. The participants were also invited to pay close attention to how they communicated with others the following week, accepting their own reactions without necessarily trying to change anything. Finally, they were asked to pick one activity to do with full awareness every day.

Class six: Self-reliance.

Class six consisted of guided practices in sitting and walking meditation. The focus of this class was on acceptance and trust in oneself and life. Difficulties in accepting oneself and forgiving oneself and others were discussed. Participants were asked to do the same formal exercises' as in week five. In addition they were invited to experiment with trust, openness and acceptance towards one-self, others and life in general.

Class seven: six-hour mindfulness session.

The participants were invited to practice mindfulness a whole day in silence in week 7. Instructions in different formal practices were given including anchoring, meditation focusing on sensory impulses like sounds, the breath, on thoughts and emotions arising, and finally on practicing being aware to whatever arises in one's consciousness. In addition standing and lying yoga exercises. The day also contained a silent meal followed by a 30-minute walk outside in silence. The last 45 minutes consisted of a group reflection on how the silent day had been experienced and an informal feedback on the programme as a whole.

Medical and Psychology Student's Experiences in Learning Mindfulness: Benefits,
Paradoxes, and Pitfalls

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Declaration of Conflicting Interests

The authors have no conflicts of interest to declare with respect to the research, authorship, or publication of this article.

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Note: We refer to previous research conducted by our research team in this article. These references were removed from the manuscript to enable masked review:

de Vibe, M., Solhaug, I., Tyssen, R., Friberg, O., Rosenvinge, J. H., Sorlie, T., & Bjorndal, A.

(2013). Mindfulness training for stress management: A randomised controlled study of medical and psychology students. *BMC Medical Education*, 13, 107.

de Vibe, M., Solhaug, I., Tyssen, R., Friberg, O., Rosenvinge, J. H., Sorlie, T., . . . Bjorndal, A.

(2015). Does personality moderate the effects of mindfulness training for medical and psychology students? *Mindfulness*, 6(2), 281-289.

Halland, E., de Vibe, M., Solhaug, I., Tyssen, R., Friberg, O., Rosenvinge, . . . Bjorndal, A

(2015). Mindfulness Training Improves Problem-Focused Coping in Psychology and Medical Students: Results from a Randomized Controlled Trial. *College Student Journal*, 49 (3)

Medical and Psychology Student's Experiences in Learning Mindfulness: Benefits, Paradoxes, and Pitfalls

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Abstract

Mindfulness has attracted increased interest in the field of health professionals' education due to its proposed double benefit of providing self-help strategies to counter stress and burnout symptoms and cultivating attitudes central to the role of professional helpers. The current study explored the experiential aspects of learning mindfulness. Specifically, we explored how first-year medical and psychology students experienced and conceptualized mindfulness upon completion of a 7-week Mindfulness-Based Stress Reduction program. Twenty-two students participated in either two focus group interviews or 10 in-depth interviews, and we performed an interpretive phenomenological analysis of the interview transcripts. All students reported increased attention and awareness of psychological and bodily phenomena. The majority also reported a shift in their attitudes towards their experiences in terms of decreased reactivity, increased curiosity, affect tolerance, patience and self-acceptance, and improved relational qualities. The experience of mindfulness was mediated by subjective intention and the interpretation of mindfulness training. The attentional elements of mindfulness were easier to grasp than the attitudinal ones, in particular with respect to the complex and inherently paradoxical elements of non-striving and radical acceptance. Some participants considered mindfulness as a means to more efficient instrumental task-oriented coping, whilst others reported increased sensitivity and tolerance towards their own state of mind. A broader range of program benefits appeared dependent upon embracing the paradoxes and integrating attitudinal elements in practising mindfulness. Ways in which culture and context may influence the experiences in learning mindfulness are discussed along with practical, conceptual and research implications.

Keywords: mindfulness, stress reduction, interpretative phenomenological analysis, health care education, burnout prevention

Introduction

Caring for patients can be both rewarding and demanding. The rewarding features include mastering the skills required in one's profession and accomplishing one's commitment to helping patients. The demanding and stress-inducing features include containing patients' pains and burdens, coping with treatment failures, and meeting one's own expectations and those of others to ensure efficiency and productivity in clinical work (Wallace, Lemaire, & Ghali, 2009). From early on medical and psychology students are exposed to stressors as a consequence of such demanding features, the task of developing a professional identity as well as academic achievement worries (Dyrbye, Thomas, & Shanafelt, 2005; Truett, 2001). As such stressors may threaten well-

being and quality of work (Dyrbye et al., 2005; Tyssen et al., 2009; West et al., 2006), the learning of efficient stress coping stands out as a critical factor in professional development (Dyrbye, Thomas, & Shanafelt, 2006).

Mindfulness training is as an arena for stress coping. Accumulating research indicating positive outcomes of such training for healthcare professionals and trainees has increased health educators' interest in including such training in the professional curricula (Shapiro, Shapiro, & Schwartz, 2000). Hence, systematic reviews (Irving, Dobkin, & Park, 2009; Regehr, Glancy, & Pitts, 2013; Regehr, Glancy, Pitts, & LeBlanc, 2014) show that mindfulness practice is beneficial to improve health professionals' and trainees' quality of life, and to reduce levels of subjective stress, burnout, anxiety, and depression. Such practice may also enhance self-compassion and care, supportive listening, and empathic understanding (Chiesa & Serretti, 2009; Davis & Hayes, 2011; Raab, 2014). These benefits may promote the quality of the therapeutic alliance, which has been found to strongly impact treatment effectiveness (Lambert & Barley, 2001) and hence, success as a professional helper. Studies indicate that such benefits can be found among students in medicine (Astin, 1997; Jain et al., 2007; Rosenzweig, Reibel, Greeson, Brainard, & Hojat, 2003; Shapiro, Schwartz, & Bonner, 1998; Warnecke, Quinn, Ogden, Towle, & Nelson, 2011) and psychology (Collard, Avny, & Boniwell, 2008; Shapiro, Brown, & Biegel, 2007). Interestingly, patients respond better to treatment when counselling students have been trained in mindfulness practice (Grepmaier et al., 2007).

The concept of mindfulness stems from contemplative Buddhist traditions (Shonin, Van Gordon, & Singh, 2015). Its translation into evidence-based treatment models has, however, led to pluralism in definitions. An oft-cited definition describes mindfulness as an awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience from moment to moment (Kabat-Zinn, 2003). Intention, attention, and attitude have been identified as core elements of this definition (Shapiro, Carlson, Astin, & Freedman, 2006). Intention refers to one's reason for practicing mindfulness. Attention refers to one's ability to focus on the present moment, as opposed to being trapped in thought. Attitude refers to the manner of one's attention including qualities such as curiosity, openness, and acceptance. As process variables, these core elements may evolve continuously with mindfulness practice.

Amidst the popularity of mindfulness, and the enthusiasm for exploring its potential benefits, quantitative studies have focused mainly on outcome or effects. Less attention has been paid to exploring the process variables, notably intentions and the attitudes involved (Irving et al., 2014) through the use of qualitative data. Moreover, such data are highly suited to detect nuances and experiential aspects that may promote a more

thorough understanding of inherent paradoxical elements of mindfulness training (i.e. *training* to promote the art of *non-striving* and the challenge of radical acceptance of momentary inner experience).

Good reasons to explore nuances and experiential aspects come from variations in the beneficial outcomes (Morgan, Simpson, & Smith, 2014). Such variations are due to individual differences in perfectionism, self-criticism and striving in the process of learning meditation (de Zoysa, Ruths, Walsh, & Hutton, 2014; Irving et al., 2014), in maintaining formal practice (de Zoysa et al., 2014), and coping with the increased sensitivity to ones' own and others suffering (Christopher et al., 2011; Cigolla & Brown, 2011; Keane, 2014). A randomised controlled trial (RCT) of mindfulness training for medical and psychology students from our group also detected variation in overall benefits (de Vibe et al., 2013; de Vibe et al., 2015; Halland et al., 2015) in the sense that the intervention was most helpful for women and students high on the personality traits neuroticism and conscientiousness.

In the pursuit of improving the process and outcome of mindfulness training and practice, the attitude component in practicing mindfulness has been suggested as a key factor in overcoming challenges (Keane, 2014). Moreover, there has been a call for qualitative research examining the role of participants' intentions in experiencing and engaging in mindfulness (Morgan et al., 2014; Wyatt, Harper, & Weatherhead, 2014).

The aim of this study is to examine the nature of the variation in subjective experiences of having participated in a mindfulness program, using the process elements suggested by Shapiro et al. (2006) as the conceptual framework, i.e. intention, attention, and attitude. Specifically, we focused on three related issues: 1) how psychology and medical students understand concepts and purposes of mindfulness practice, 2) how this understanding contributes to the process of learning mindfulness, and 3) the meaning students ascribe to mindfulness with regard to intra- or interpersonal life domains relevant for becoming healthcare professionals.

Method

Participants

Participants were recruited from the pool of students (n = 144) who had been randomized to an abridged 7-week Mindfulness Based Stress-Reduction (MBSR) condition in our RCT (de Vibe et al., 2013), taking place at two Norwegian universities and designed to assess how the MBSR training affected mental health. In the present, qualitative study, 11 medical and 11 psychology 1st- and 2nd- year students took part. Given the high admission grades for medicine and clinical psychology training, all participants were high

1 achievers. Except one from Asia and Eastern Europe, respectively, all were of Norwegian origin. All had
2 attended ≥ 5 of the seven sessions except two students who had attended ≤ 4 . The mean age was 25 years (mode:
3 21 years; two participants aged 45 years). All participating students were rewarded €24.
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8 **Procedure**

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10 In order to optimize accessibility and acceptability, we interviewed medical students during the design
11 phase of the project, revealing that the time commitment of the original MBSR program was perceived too
12 extensive due to busy schedules, hence representing a barrier to participation. Since a review by (Carmody &
13 Baer, 2009) indicated that shortened versions of the original MBSR program (Kabat-Zinn, 2005) may be
14 comparably effective, we modified the program by reducing the number of weekly sessions from eight (2.5 hrs
15 each) to six (1.5 hrs each) and the daily home practice from 45 to 20-30 minutes, but retained a “whole-day” (6-
16 hr) session in week 7. Apart from that, our program resembles the original MBSR program by its focus on
17 enhancing mindfulness through exercises in class and at home, as well as teachings and group dialogues on
18 stress management, mindfulness and mindful communication. The intervention is described in detail in the
19 electronic supplementary material.
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30 We conducted both individual and group interviews to obtain adequate variety, richness, breadth, and
31 depth in the collected data (Morrow, 2005). Trial interviews were conducted one week prior to the intervention
32 to ground the study in the students' culture and context and build sufficient trust and rapport.
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36 Prior to the first session, students received an e-mail invitation to participate in an individual interview
37 scheduled to take place one month subsequent to the final program session. The first author interviewed ten
38 students (four men; three psychology students) at the University of Tromsø, and each interview lasted about 1-
39 1.5 hrs. After the final program session, the participants also received an e-mail invitation to take part in focus
40 group interviews. Twelve students agreed to participate (two men; four medical students). The first and second
41 authors conducted two focus group interviews at the University of Oslo, each lasting approximately 2 hrs and
42 comprising five and seven students, respectively.
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50 The individual interviews were semistructured, and the initial questions focused on everyday life,
51 probing for rich descriptions regarding social relationships, self-understanding, self-care and stress management
52 in students' activities and private lives (i.e. “can you describe a recent stressful episode and how you dealt with
53 it?”, and “in which ways do you usually take care of yourself?”). Most students spontaneously introduced
54 mindfulness when elaborating on these topics, allowing for exploration of how they related mindfulness and
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1 course attendance to different domains of their lives. Subsequently, direct questions were asked concerning
2 mindfulness and the intervention (i.e. “based on your experience: what is mindfulness?”, “what do you
3 experience to be the goal of practicing mindfulness?”, “how has it been for you to attend the course and to do
4 the exercises?” and, “have you experienced any changes in your life during or after the course, i.e, in how you
5 relate to yourself or others, or deal with stressful situations?”). The focus group interviews focused primarily on
6 these set of issues and involved an open invitation to describe their understanding and experience of
7 mindfulness training and comment on what others shared. When necessary, we prompted participants to enrich
8 their narratives by exploring specific experiences and events that had been felt especially important. Being
9 aware of the risk of positive biases, we probed explicitly for mixed, ambiguous or negative responses (i.e.
10 “which challenges did you experience in learning mindfulness?”, “did you experience any drawbacks or
11 limitations with mindfulness-based stress reduction?”).

12 All interviews were audio recorded and transcribed verbatim by a professional transcriber and student
13 assistants, and all identifying information was removed from the transcripts. In the presenting of results quotes
14 derived from the transcripts are displayed with ellipses ... and square brackets [...] to indicate pauses in speech
15 and material omitted for clarity, respectively. Process and field notes were taken throughout to facilitate the
16 recognition and acknowledgment of the interviewers' reactions, thoughts, and observations.

17 The study was approved by the Regional Committee for Medical and Health Research Ethics, South-
18 East (2009/5781). Participants gave their written informed consent prior to entering the study.

40 Data Analyses

41 The complex and ambiguous concept of mindfulness is rather foreign to members of Western cultures,
42 and verbalizing experiences with mindfulness practices can be difficult. As experts, we aimed to identify the
43 ambiguities in our own understanding by paying attention to tensions and doubts in the content of participant
44 interviews (Smith, 1996). Two contextual concerns were important when considering the analytical approach:
45 the growing public interest in mindfulness, and the fact that the interviewer in the individual interviews was one
46 of the MBSR program instructors. Considering our position as active in both contexts, we wished to explore the
47 participants' experiences framing the narrow program focus within a wider cultural and sociological setting.
48 Therefore, the analyses were conducted within a constructivist-interpretivist paradigm (Ponterotto, 2005) using
49 Interpretative Phenomenological Analysis (IPA) (Smith, 2003). This involved the double hermeneutic of
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1 participants attempting to make sense of their experiences and the researchers seeking to understand the ways in
2 which they did so (Smith & Osborn, 2008). IPA aims to explore the quality and texture of individual experience,
3 which is conceived of as uniquely embodied, perspectival and situated (Smith, 1996). At the same time, IPA
4 recognizes how such an exploration always implicates the researchers interpretative engagement with texts and
5 transcripts. While examining unique descriptions of subjective accounts IPA permits the enrichment of
6 interpretation by considering how cultural context provide a language for expressing and interpreting
7 experiences (Willig, 2001).
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10 We found three researchers' (IS, a female psychologist, TEE, a male philosopher, and MdV, a male
11 medical doctor) familiarity with awareness training and meditation beneficial to the process of generating
12 research questions and analysing the data. The remaining authors consisted of one woman and three men who
13 were researchers from different areas of expertise in psychology and psychiatry and had extensive experience in
14 qualitative research methods, clinical work, and student teaching. To strengthen the reflective interpretation
15 process, these authors critically examined potentially tacitly accepted assumptions regarding the nature of the
16 interview texts and helped to build a stepwise conceptual model consisting of both common features and
17 individual differences. This collaborative work facilitated reflection on biases like considering some
18 reports positive rather than mixed and, on the other hand, neglecting benefits by being too concerned with the
19 tensions and challenges involved in learning mindfulness.
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22 In keeping with the IPA procedure (Smith, 2008), the first and second authors carefully and
23 independently read the entirety of transcripts from both focus groups and three of the individual interviews.
24 They noted points and meaning in the texts and preliminary ideas for interpretation. They then reread transcripts
25 and transformed initial ideas and notes into themes at a slightly higher level of abstraction. These themes were
26 compared and discussed across interviews to identify divergence and common ideas with the purpose of
27 identifying how different aspects of experiences could be grouped into broader themes and connected to
28 overarching concepts. In a third analytical step, the themes and preliminary modeling were validated and
29 adjusted by examining the remaining seven individual interviews, in the same way, recognizing data
30 convergences and divergences. A third author triangulated the analysis by reading some of the individual
31 interviews and participating in the discussion concerning emerging themes and possible conceptual models. The
32 final organization of themes was the result of work in concert with all the researchers. Repetitiveness of themes
33 became apparent in the last interviews, indicating an appropriate saturation point (Morse, 1995), and hence, no
34 further interviews were scheduled. To enhance trustworthiness and minimize bias, all participants were invited
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to provide feedback on a complete draft of the article. They reported that the themes resonated with their experiences and suggested no critical revision.

Results

Two overarching themes emerged. 'Understanding mindfulness' included the way in which students conceptualized mindfulness and their intentions in learning mindfulness. 'Engaging with mindfulness' involved experiences related to the journey of learning mindfulness. These themes were dynamically interrelated. Thus, conceptualizations of mindfulness influenced the way in which students engaged in and experienced mindfulness practice and integrated it into their lives, and the process of experiencing mindfulness informed and shaped students' conceptualization as well. 'Understanding mindfulness' is presented below, followed by 'engaging with mindfulness', as a detailed illustration and elaboration according to four subcategories (i.e. 'relaxation and concentration', 'containing difficult thoughts and emotions', 'self-acceptance', and 'broadening perspectives in interpersonal relationships').

Understanding mindfulness

When students described how they understood mindfulness, they also highlighted their intention in practising it. Their understanding and intention often overlapped, which may reflect the fact that mindfulness is often defined both as a means and as an end in itself. Hence, they perceived mindfulness as a state of mind ('I am just here. After a while, a sense of happiness arises'), a personal trait that can be enhanced ('I have become much calmer'), a mode of processing ('to view it from a distance and understand that this is only thoughts, that I can choose how to react to them'), and method ('it's a technique').

Some students framed mindfulness within broad, far-reaching terms. One student described mindfulness as a way of life ('I started noticing that this course teaches you the art of living'). Another student explained the multitude of possible intentions and ways of understanding mindfulness as follows:

Kenneth: The intention in mindfulness is pretty individual. Everybody has different thoughts on what it is. There is not one single way of defining mindfulness, and therefore, the intention, the meaning, will vary.

Taking all cases together, we identified three subcategories that covered the variations in the students' conceptualization of their initial as well as subsequent intentions in mindfulness training. The first category was

characterized by instrumentality (i.e. aiming to reach specific goals). Here, the students understood mindfulness as a technique used to achieve the desired state, such as relaxation, calmness, or self-confidence, or a tool with which to improve concentration, attention, and performance. The attentional dimensions of mindfulness (i.e. concentration, present-moment awareness) were emphasized whereas the attitudinal ones (i.e. acceptance, non-striving, non-judgementality, equanimity, kindness) were more absent.

Russ: The goal is to develop personal abilities, become better at handling stress, studies, and job situations. And a bit like mental training that I have been doing in biathlon, to be present, focus on your tasks and do things right.

Julia: What I got out of the mindfulness course was the breathing exercises. Not necessarily the mental, in the head, the thoughts, but that you calm your body. You breathe out and in deeply, and then you relax all joints and muscles. It is a technique that we have learned and can use.

The second category involved the recognition of ambiguity, identification of doubts, and exploration of tensions. The attitudinal dimension in mindfulness seemed harder to grasp than the attentional ones. Thus, even while acknowledging ideas of non-striving and acceptance as central to the mindfulness approach, such ideas seemed to compete with more instrumental aims of improvement and control. This introduced some confusion and understanding emerged as an unsettled issue. The ambiguity could have been partially due to students combining their conceptualization of the method ('stay focused') and aims ('become aware of unhelpful thoughts'). Such ambiguity is illustrated in the following quotations:

Victoria: Mindfulness is about being totally present in the situation no matter what you do. To focus and not to let yourself be disturbed. To push away thoughts if they come, or not push away but accept them. [...] Mindfulness is about doing things better. Well, not like performance pressure, but not to become stressed, for example.

Emma: The goal of mindfulness is getting better experiences. At least when it comes to external matters, perhaps, or I don't know ... but internal attention, that you might learn to control your breath in a way and maybe not control your thoughts but be more aware of what you think and maybe why.

1 The third subcategory within the mode of understanding was a more comprehensive conceptualization
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3 of intention in mindfulness training, which seemed more coherent and included several non-competing
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5 components such as self-insight and self-care, non-reactive awareness, and improved listening ability.
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7 Mindfulness was perceived as a co-arising of attentional and attitudinal qualities.
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11 Kathy: [The goal of mindfulness is] just to know yourself better in a way. To realize that I have spun
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13 myself into a thought roundabout and manage to see this. Instead of being caught in it, feel how it feels
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15 and what limits to set. And to me, it has especially been to be good at listening. I have started to notice,
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17 during conversations with people, that so much that is exciting emerges if you only give people space
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19 instead of interrupting.
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23 Erin: With mindfulness, it gets easier to handle emotions. Not that they are gone, but they become less
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25 pervasive, it becomes easier to contain them. And easier to contain myself too in addition to the
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27 feelings. And even to contain others and accept their opinions [...] You feel so much closer to and
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29 present with others, not lost in future or past. It gets easier to sense what they feel.
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33 The range of ways in which mindfulness were understood attracted our attention to the formative role
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35 of language upon experience. Students who reported a more comprehensive understanding of mindfulness
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37 seemed to be more engaged in practises and to perceive a broader range of program benefits. Conversely,
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39 students who took a more instrumental approach to reaching specific goals, such as improved relaxation and
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41 concentration, appeared to experience a more limited range and nature of benefits, and reported less engagement
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43 in the practices. Both the instrumental and ambiguous positions illustrate inherent paradoxes and complexities in
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45 mindfulness practices, but also the possible influence of current cultural discourses valuing performance and
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47 symptom reduction. In sum, the understanding of mindfulness and the intention and attitude in practicing
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49 mindfulness appeared to shape the experience of mindfulness practice in significant ways.
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52 53 **Engaging with mindfulness**

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55 Participants' stories revealed several domains of experience in which the process of learning
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57 mindfulness unfolded. The relationships between understanding, intention, and experience in mindfulness are
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59 elucidated throughout the subcategories.
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Relaxation and concentration

All of the students associated mindfulness training with the experience of 'getting in touch with the body'. Increased bodily awareness could give rise to feelings of relaxation and calmness. Students also reported becoming aware of their inner judgement and rumination, the extent to which their minds wandered, and how strongly thought processes contributed to negative cycles of stress reactivity. They ascribed the experience of relaxation caused by a shift in attention from immersion in mental activity to becoming increasingly focused on sensory perception.

However, some students struggled with doubt, impatience, or boredom during practice. When this was the case, they felt as though they had failed or the exercise had not worked. Others realized that the origin of their struggle was their agenda in wanting to achieve a certain outcome (e.g. a relaxed state), as Susan explained:

I found that being right here and now and not thinking so much led to relaxation, even if it wasn't a goal, it happened several times. Because it happened, I started to try to achieve it, and when it became a goal, it became more difficult just to relax and be present here and now. Actually, it was like this quite often for me, meditation was pretty straightforward, but I managed to make it difficult.

A few students explicitly established the ability to concentrate and increase performance as their personal goal in the training and tailored their practice accordingly:

Carla: I have not been sitting there for 5 or 10 minutes because I get impatient, I get like "no, you know what, this is not effective!" Instead, I use it to bring myself back, to manage to stay focused. I can lie down and feel how it is to be here right now and all that stuff, but then you don't really *do* anything. It gets very far out relative to real life to me.

The last part of this citation indicates waning motivation for lengthy, formal mindfulness practises, which did not match the participant's motivation for achieving a fixed goal, thus inhibiting the opportunity to overcome common initial barriers and difficulties with practise. Similarly, some felt so in control of the

situation, both socially and educationally, that they were less motivated in further post-program practise. Russ elaborated on this:

I have not done many exercises since the course. When I must concentrate on something I bring myself back to focus quicker than before, but apart from that, I have not felt any need to use it yet. When I am not stressed, it is harder to do, and I am not sure what I get out of it. Then it is actually harder to practise. However, I like to think that I have it as a tool when the time comes.

Some participants, who initially just aimed to improve their concentration or learn about a tool for relaxation, seemed to transcend these objectives as part of the process of becoming increasingly aware of their mental habits. Such increased awareness appeared to facilitate spontaneous questioning of the validity of thoughts and beliefs. Ultimately, Carla also recognized this:

It was kind of strange. I have started to notice what I actually think about. I have really never done that before. I think "Where are my thoughts now and why are they there?" in a way and fix what made them come in the first place. Give myself some answers, to put it that way, so that I maybe do not think about it that often. Then it is easier to return to the present moment again.

For the students who noticed and reflected on the content of their thoughts and beliefs in this way, mindfulness seemed to facilitate cognitive reappraisal of stressful situations, which yielded more insight into stress reactivity processes and negative cycles.

Containing difficult thoughts and emotions

Many students reported that, as they practised, they began to observe thoughts and feelings from a new perspective, which was described by one student as 'going meta on myself'. From this perspective, thought content and emotions were experienced as less overwhelming and allowed students to react with more flexibility rather than becoming caught up in them.

1 Mark: To find out, it is very cool, just discovering how emotions change as you have different
2 thoughts, how incredibly changing it can be! When you notice that, it turns thoughts into clouds in a
3 way, in consciousness. It's just thought patterns. I think it is good that you render them harmless.
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8 Jessica: You manage to take a step aside and lift yourself above a bit and take a look at it from a
9 distance and see that it is not necessary to be stressed because this is only thoughts. I can choose how to
10 react to them in a way.
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16 At times, practising mindfulness exercises gives rise to negative feelings such as anxiety, anger, or
17 sadness. Kenneth had experienced the sudden death of a patient at work; this was a traumatic event that entered
18 his consciousness during a mindfulness exercise in class. It evoked shame and guilt: 'You calm yourself down
19 to the degree that you actually can think things through. Both good and bad stuff can bubble up to the surface.'
20 The instructors guided him in approaching his feelings more openly and non-judgmentally. Allowing this very
21 emotionally loaded memory to remain in his consciousness helped him to extend the view of his role and reduce
22 self-blame. However, at home after the class, he again experienced the return of the unpleasant memory and
23 used mindful breathing as a means of avoiding it, which contributed to doubt and confusion regarding
24 mindfulness as a useful coping method.
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36 I maybe feel that I at times run away because I choose to think about the breath only and concentrate
37 on the breath instead of dealing with the problem, in a way. I am maybe the type who wants to fix it
38 you know, instead of just sitting and looking at it, in a way, and "doing nothing", then I want to fix it.
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44 The understanding and experience of mindfulness was ambiguous: the instruction to "just sit and look"
45 was associated with passivity and contrasted to the notion of actively controlling or "dealing with" discomfort.
46 Exploring mindfulness (of breathing) more instrumentally as a distraction technique temporarily increased the
47 sense of control over discomforting emotions, but was felt as an act of avoidance. Thus, tolerating strong
48 negative emotions was challenging and appeared to require active guidance and support. However, the
49 recognition, in class, that strong emotions are tolerable promoted the practice of observing of one's discomfort
50 more openly and curiously rather than avoiding it, thereby lowering the need to change it. This represented an
51 active and more functional cognitive-emotional coping approach. Thus, even if the understanding and
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experience of mindfulness was ambiguous, Kenneth expressed that some reconciliation occurred, and he later applied for a job in the workplace that he had avoided since the incident.

Rather than trying to fix or avoid strong negative emotions, some students reported that just being aware of emotions could have the paradoxical effect of reducing their intensity. Alan described the person renting his room moving out without paying his rent. Acknowledging his anger made it possible to contain it:

I literally felt the anger boil inside me. Then I thought, "OK, now I'll be conscious of what I feel, now I am angry, right" and then "OK", you know, and then in a way, it cooled off a little when I became aware of the feelings, then it became a shifting, you know, like anger... awareness... anger... awareness. While before I would probably waste two hours being pissed off and go to bed exhausted.

Similarly, Erin described how her relationship with anger had changed with greater awareness:

I experienced a big change during this semester, in that I didn't actually identify with the anger but instead reflected on what happened inside me. Then I managed to change it; so now, if I get irritated, it's not a big explosion, in a way. It's more like I can live with the feeling, but it isn't that overwhelming. I have become much calmer.

Performing the exercises helped participants to step back from the stream of thoughts or emotions that occurred, which made them more tangible and manageable.

Self-acceptance

Self-acceptance was a frequent implicit and explicit theme in the training. Some students felt that they mastered everyday life well. To them, addressing the concept of self-acceptance directly in class appeared irrelevant, superfluous, or diffuse. One student said that she was surprised when the instructor introduced the concept of acceptance, because she could not identify anything that she needed to accept. In contrast, there were several students who described the social context of being a medical or psychology student as demanding. They felt that cultural and subcultural ideals and norms made it difficult to navigate and listen to themselves on a day-to-day basis. Johanna illustrates this:

Those who are perfectly dressed with perfect makeup at 7.30, they set a certain standard. Clearly, when everybody appears as if they master all the demands that seem unreasonably high to you, it is hard to see that they are unreasonably high because it seems like everybody makes it.

Several students reported relating to themselves rather critically. For some, taking part in the program led them to discover how pervasive this self-critical stance was. Johanna stated:

I actually became aware of the fact that it is a process, that I judge myself. I have never thought about it before, that you create the bad feelings yourself. I need to be kinder to myself. I don't exactly know how to do that, but I often put far too high demands on myself. I would never act like that towards anybody else.

The need to be kinder to oneself and more patient with one's inner experiences was recognized, but the process of increased acceptance and self-care was part of ongoing exploration. Despite being an appealing concept to many, their stories strongly suggested that self-acceptance was harder to integrate into their lives. Emma expounded this:

I think it's a good idea really, just accepting things as they are. It is easy to say to oneself, "Just accept how it is." However, at the same time, there is something inside me that says, "You have to improve." In the end, you don't bother to say "accept" anymore! You have to say it and believe in it at the same time. You must take it all the way inside you in a way.

As reported by several participants, time pressure and stress may be barriers to this process, decreasing engagement in practises. Others, such as Mark, practised mindfulness exercises every day, both during and subsequent to the program. Mark had recently overcome a period of depression and described himself as quite self-critical. He associated the practice of mindfulness with non-striving but also considered it a possible avenue to changing himself as a person.

1 I really think about it a lot, I want to be very yogi-like. They seem so calm and centred. You just relax,
2 move, float. [...] I want to be more in the present moment; that's what it is about. The techniques for
3 being in the now, even if you never in a way become Mr. Mindful.
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8 Mark experienced a certain tension between desired and actual psychological reality and described
9 conflict between striving and the idea of non-striving when practising mindfulness:
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14 I just doubt myself, whether I am doing the practices right, so to speak. Because sometimes it feels so
15 good, but the next time it maybe doesn't feel that good. [...] Then I think, "You are not trying to
16 achieve anything." Whether it is good or bad, tense or relaxed, it means nothing. That is a comforting
17 thought, I think. Then you can reject mistakes right away.
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24 Practising mindfulness reminded him about the impossibility of 'becoming Mr Mindful' and the choice
25 to let go of striving to achieve an ideal state or self. Some students clearly appeared to experience mindfulness
26 training as a means of fostering greater self-acceptance. These students were usually relatively stable and
27 engaged in mindfulness practices during and subsequent to the program. Some were also familiar with yoga,
28 meditation, or ideas originating from contemplative traditions. Alan had practised meditation prior to joining the
29 program but explained how his intention in meditation changed during the mindfulness classes:
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38 We all have that mud, and we just have to live with it. We will never fix it! Previously, I really
39 wanted to initiate a project (with meditation) to get rid of the problems once and for all, like a
40 Marathon! Now, I believe the problems must be there, so I laugh if people say, "Ah if I do this I will
41 no longer feel fear and never be sad or afraid again!" I used to be like that; I used to think like that.
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48 Gradually, mindfulness was experienced as a life-long journey involving courage and the act of
49 embracing imperfection and the suffering that life entails.
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54 Jason: It means something to me to dare to listen to oneself, and you are almost forced to listen if you
55 increase your focus on the body, which was most important to me. You learn to listen to yourself in a
56 way, and that will lead to a kind of self-care.
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1 Linda: To me, mindfulness was a channel for learning to take a little bit more care of myself. To learn
2 to meet myself with the generosity, care, and kindness with which you naturally embrace others. [...]
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4 To live in a constant ought-to mode is distressing to the body in a way, and when you practise
5 mindfulness, you get a break from this ought-to mode.
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11 Students who experienced mindfulness training as an avenue to better self-care and compassion could
12 detail the ways in which they coped with the performance pressures and demands imposed by themselves or
13 others. Nevertheless, some conceived mindfulness as a somewhat limited version of 'time-out', yet no real
14 alternative to the usual 'ought-to mode' dominating their approach to everyday life.
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22 Broadening the perspective - relationships with others

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24 For some, performing mindfulness exercises also improved the quality of their interpersonal
25 relationships. These students talked about experiencing greater patience when interacting with children,
26 partners, friends, or strangers. In particular, they resisted the temptation to interrupt or try to 'get somewhere' in
27 a conversation, started to listen more carefully to peoples' stories, and paid attention to how they reacted to
28 these stories instead. Increased attention to oneself was reported to strengthen their listening ability. Jason
29 described this as follows:
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38 The fact that I focus on myself, I feel, makes me better at listening to others. I feel that when I am
39 listening to people, I think, "Now I will be aware of my own body" more and it actually makes me
40 better at listening.
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46 Few participants had contact with patients during the study. However, some described how increased
47 presence affected patient contact. Kenneth stated the following:
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52 I notice that I remember things that patients tell me much more than I did earlier. It is as if I didn't
53 listen before. Now I know more, I remember more of their stories. I have taken more time at that
54 moment with that patient.
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Being mindful of bodily sensations helped students to remain grounded and present, both with the other person and their own reactions rather than neglecting or being overwhelmed by challenging emotions. Jessica explained how mindfulness practices helped her to contain her own reactions when meeting patients experiencing intense suffering:

A patient who had a really tough time told her story, and if I had watched her on TV, I might have started to cry, you know. But when you can't cry then you must have another way. For example, feeling the contact with the ground, breathing. I use the breath as a kind of anchor so that I don't get totally blown away.

Similarly, Linda described an episode on the train when a beer-drinking stranger in dirty, bloodstained clothes took a seat in front of her. She felt disgusted, irritated, and anxious. She then described establishing contact with her breath and experiencing a shift in orientation towards the stranger:

But then I just started to breathe a bit and relax and feel where I was, and like, "yes, OK, here I sit and there another person sits, in another place." He had obviously had a tough night. [...] Just breathing and practising being present helped me accept the way things were there and then.

The act of becoming increasingly aware of the moment-to-moment experience appeared to facilitate her acceptance of the unpleasant situation and increased her compassion for the other person.

Discussion

Our findings indicate that students' mode of understanding and their personalized intentions in learning mindfulness were dynamically related to their actual experiences and the extent of their engagement in mindfulness training. The understanding ranged from "instrumental" to more "comprehensive" positions, and correspondingly, the process of engagement varied from reaching a specific state of mind to broadening the perspective in relation to self and others. Different positions of understanding were neither static nor mutually exclusive but could be drawn on simultaneously; however, more complex and "comprehensive" conceptions of mindfulness often seemed to be associated with a larger actual engagement in practices. As a follow up of the RCT-study, the present study enriched the overall picture of program benefits by identifying diversity, tensions,

and paradoxes in the ways in which mindfulness is understood and experienced. Findings attract attention to the importance of intention and attitude in the process of engaging in mindfulness training.

Most students experienced mindfulness as an avenue to listening more attentively to their inner worlds of bodily sensations, needs, and stress signals, thereby promoting the reappraisal of situations and formation of new insights into intrapersonal processes. This supports the notion of mindfulness as “self-attunement”, i.e. a state in which one seeks to remain attentive to one’s own internal world with compassion and kindness (Siegel, 2007). This broadened state of awareness, sometimes referred to as decentring (Fresco, Segal, Buis, & Kennedy, 2007), re-perceiving (Shapiro et al., 2006), or metacognitive awareness (Teasdale, Segal, & Williams, 1995) implies a shift of perspective to attend to experiences in a more objective and accepting manner. This facilitates the ability to contain strong emotions and negative thought processes and respond more flexibly and adaptively to stressful situations, i.e. decreased reactivity and increased response flexibility (Davis & Hayes, 2011), and more adaptive affect regulation (Williams, 2010). This is an outcome of mindfulness training reiterated in both our qualitative study and our RCT (de Vibe et al., 2013). Hence, mindfulness practice may represent an opportunity for increased emotional exploration and containment, which is important for therapist empathy (Keane, 2014) and therapeutic alliance (Bruce, Manber, Shapiro, & Constantino, 2010).

In addition, as a result of self-attunement, the participants experienced the abridged MBSR-program as legitimizing self-care and self-compassion (Smeets, Neff, Alberts, & Peters, 2014) and the embracing of their imperfections and vulnerabilities. This is an important capacity, and in particular for those participants who usually attune to other people’s needs and to high social and professional demands on the expense of their own needs. Hence, for high-achieving students MBSR may serve as buffer against the high levels of stress (Shanafelt et al., 2010). Furthermore, self-compassion has been strongly positively correlated with empathic concern (Kingsbury, 2009) and the capacity to resonate and connect with others (Neff & Pommier, 2013).

Students who were most deeply engaged in the training typically associated mindfulness with previously established ideas and patterns in valuing self-exploration and the dynamic interconnection between mind and body. High engagement was also reported among those who were in touch with the emotional challenges present in their lives as well as in their study-situation. Students with this deep engagement also typically expressed a more comprehensive understanding (i.e. perceiving mindfulness as a gateway to self-exploration, interpersonal attunement, and learning non-reactive meta-awareness) of mindfulness and reported richer experiences with how mindfulness skills may be transferred to several areas of life. The attentional (i.e. present moment awareness) and attitudinal process elements (i.e. acceptance, equanimity, non-striving, non-

1 reactivity, non-judging) of mindfulness were given equal attention. Thus, a comprehensive understanding was
2 associated with the clear intention to attend to experience with this particular set of attitudes; however,
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4 developing and maintaining these attitudinal qualities still was depicted as an ongoing process of learning from
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6 moment to moment.

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8 By contrast, students that tended to express a more “instrumental”, goal-oriented understanding of
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10 mindfulness emphasised the attentional dimensions of mindfulness, and accentuated mindfulness as a way of
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12 achieving relaxation or concentration, generally associated with lower levels of engagement. The ambiguous
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14 conceptions of mindfulness reflected understanding in evolvement, challenged and developed by engagement
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16 with mindfulness practices. Here, difficulties and tensions in making sense of and developing the attitudinal
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18 qualities of mindfulness were especially pronounced. The reduced intensity and duration of the present
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20 intervention might have limited the students’ opportunities to explore mindfulness practices more fully and thus
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22 contributed to the heterogeneous experiences. However, our findings concur with a review of qualitative
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24 mindfulness studies in which the majority employed the original duration and intensity (Morgan et al., 2014),
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26 stating that health care professionals who used mindfulness as a “tool” were less likely to develop a “deeper
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28 understanding” of mindfulness as compared to those who adopted mindfulness as “a way of being”.
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31 The experience of being in a MBSR group with fellow students was infrequently mentioned by the
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33 participants, and also revealed heterogeneity. Some experienced that the group context promoted a focus on
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35 normalisation and recognition of shared human vulnerabilities, echoing patterns in existing research (Beckman
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37 et al., 2012; Morgan et al., 2014), while others expressed less comfort with disclosing themselves freely to
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39 classmates. The younger age and higher importance of social norms regarding “mastery” may be a reason for
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41 this reservation.

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43 Our results emphasize the benefits of meeting experiences with an accepting, non-judgemental, and
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45 open attitude; however, they also highlight the complexities and challenges faced in integrating these attitudes.
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47 By its very nature, mindfulness opens up numerous paradoxes: students are urged to practise but simultaneously
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49 allow themselves to be with what is without trying to change anything (Kabat-Zinn, 2003). Despite recognizing
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51 the importance of the attitudinal components of mindfulness training in experiencing health benefits (Baer,
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53 Smith, Hopkins, Krietemeyer, & Toney, 2006), the challenges and difficulties involved in cultivating a spirit of
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55 non-striving, acceptance, and compassion is mostly unexplored in psychological literature (Grossman, 2015).
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57 All individuals continuously judge their inner experiences, situations, and other people. Mindfulness
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59 misinterpreted as the capacity to accept all psychological experience without judgment can easily remain
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perceived as just another good idea or an unattainable ideal to impose upon oneself. However, in essence, mindfulness entails an invitation to metacognitively observe one's habitual judgement non-judgmentally and acknowledge and provide space for a lack of acceptance and inner struggle, when present. Therefore, the degree to which people grasp the paradoxical nature of the mindfulness process may be one means of understanding the observed diversity of experiences with mindfulness training.

Mindfulness attitudes, involving letting go of the need to control or 'fix' psychological experiences, tend to be more easily remembered and integrated over time and are sustained by regular mindfulness practice (Malpass et al., 2012). Acknowledging that people approach these practices in different ways at different points in their lives, we suggest that mindfulness teachers should increase attention to and repeatedly inquire into participants' intentions, attitudes and interpretations of mindfulness during mindfulness-based programs. The overall purpose here is to facilitate an exploration of the inherent paradoxes of mindfulness practice, the tensions between striving and non-striving, instrumentality and non-instrumentality, and between acceptance versus the natural wish to achieve something with mindfulness training. Eventually, such inquiries may promote an understanding of the journey as the goal in itself (Bush, 2011).

However, grasping the paradox of mindfulness and mindfulness training goes beyond being a didactic task as the task mirrors conceptual and cultural challenges. In our opinion, there is a gap between the original intention of mindfulness as a gateway to wisdom, insight, and compassion (De Silva, 2005) and Western society's drive for instrumental, quick-and-easy paths to self-actualization, seeking tools to bring about symptomatic relief and search for remedies for all of our ills and ailments (Rose, 1990). Mindfulness has, to an increasing extent, been adopted by popular media and mainstream psychology and presented as a tool to reduce symptoms and increase health, happiness, and performance (Purser & Loy, 2013) within the frame of a cultural fixation on the individual "unique" self.

Fundamentally, however, mindfulness practice offers perspectives on health and well-being that depart from dominant cultural ideas of 'feelgoodism' and self-optimization. Rather, mindfulness involves learning to embrace uncomfortable psychological phenomena and perceived imperfections rather than trying to overcome or discard them, and is oriented towards the existential commonalities between persons, and their interdependence and interconnectedness within a larger whole (Kabat-Zinn, 2003). In a cultural framework where symptomatic relief, performance and adaption are dominating values in mental health care and public health services (Binder, Holgersen, & Nielsen, 2010), humanistic or existential values (such as self-insight, compassion or interconnectedness) tend to be marginalised. Moreover, as mindfulness has been popularized and

legitimated largely through neuroscience and as an add-on to cognitive behavioural treatments, this may blur the social, contextual and values-based aspects of mindfulness-practice (Kirmayer, 2015) as well as the original intentions of mindfulness as a gateway to insight and wisdom.

The variety in participants' understanding of mindfulness mirrors the lack of common ground in the definitions of, and intentions in mindfulness in this complex cultural context, intervention delivery, research, and theory (Grossman, 2011); however it could also be explained by this.

In addition to confirming the centrality of the mindfulness components of attention and attitude, our data largely support Shapiro et al.'s (2006) inclusion of intention as an essential component in understanding the processes involved in mindfulness. This component has often been overlooked in other definitions of mindfulness (Bishop et al., 2004; Brown & Ryan, 2003) and empirical research (Irving et al., 2014). Shapiro (1992) found that meditators' intentions with practices shift along a self-regulation, self-exploration, "self-liberation"/compassion continuum. Our results show that the intervention emphasized the self-regulation (i.e. stress management, concentration) and self-exploration (i.e. insight, meta-awareness, self-acceptance) aspects of mindfulness. However, only a few of our students described the qualities of feeling more compassionate towards others or feeling more connected with nature ("self-liberation"). In our opinion, the students' stories demonstrate the relevance of an ongoing theoretical discussion in contemplative research concerning the 'correct', fruitful, or merely different intentions involved in practising mindfulness (Brito, 2014; Lindahl, 2015; Monteiro, Musten, & Compson, 2015). In the context of health care education, the potential values of, as well as dilemmas in emphasizing the discourse of interdependence and compassion -with its implicit ethics- merits particular consideration.

Limitations and future research

Any theoretical generalization of the results of this study should be limited to similar Western settings with the same social ideas regarding health and self-improvement. In addition, the participants were medical and psychology students in their early twenties; therefore, our findings may not be generalizable to healthcare professionals with varying durations of clinical experience. Relatively few men participated in this study and we encourage future research on the underexplored topic of gender and subgroup variation in experiencing mindfulness. Furthermore, participants were self-selected, and their personal characteristics may differ from those of students who chose not to participate in the interviews. However, positive bias due to self-selection and the impact of the researchers' double role as interviewer and class instructor appears to have been countered by

our active search for negative or mixed responses and the fact that students participating in the in-depth interviews gave their consent to be interviewed prior to their involvement in the intervention.

The complexity of learning mindfulness practice merits the use of mixed quantitative and qualitative designs intended to explore both outcome and process variables. Through analysis of program material, taped records of sessions, and instructors conceptions of mindfulness, future research should take into account the definition and communication of the aims of mindfulness training in the particular context of intervention delivery. This kind of research may enrich our understanding of the influence of broader sociocultural conceptual frameworks on the experience and understanding of mindfulness. Moreover, mindfulness training rests on the assumption that the teachers' own engagement with practice counters the risk of teaching 'caricatures of mindfulness' (Kabat-Zinn, 2003), and further research focusing on the teacher-participant relationship and how this evolves during the mindfulness program may fill a gap in knowledge. In addition, in order to determine the external validity of the intervention it would be useful to examine and compare different approaches to mindfulness training both regarding duration, intensity and content, and examine the ways in which it could be integrated into educational contexts (Cohen & Miller, 2009; Mascaro, Rilling, Negi, & Raison, 2013; Pakenham & Stafford-Brown, 2013), including mindfulness programs tailored to address individual differences in participants' intentions, understanding, and conception of mindfulness.

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Supplementary Material

Description of the 7-week Mindfulness-Based Stress Reduction (MBSR) programme

Based on Jon Kabat-Zinns' 8-week MBSR programme: Kabat-Zinn, J. (2005). *Full Catastrophe Living: Using the wisdom of your body and mind to face stress, pain and illness*. New York: Bantam Dell.

Course manual in Norwegian can be requested by contacting ida.solhaug@uit.no.

Class one: Mindfulness and the power of being present.

Introduction to what it means to be mindful both on a theoretical level through didactic teaching and experientially through the "raisin exercise", eating a raisin slowly while trying to stay present to each facet of sensory experience. Furthermore, physical anchoring exercises and the body-scan exercise was introduced. During body-scan attention is given to each part of the body, just noticing what arises of sensations while doing this. The focus of the class was on causes and consequences of having an absent mind, and some of the benefits of being fully present to what is happening just now. An important distinction was made between seeing thoughts as facts and being aware of thoughts as objects of observation. The home practice was 15 or 20 minutes body-scan from the CD with mindfulness exercises, developed by the phd candidates, once a day for six days, and to choose one daily activity to be done with full awareness every day for the coming week. Suggestions for daily activities to do mindfully were given in the workbook, and included washing hands, stopping in the traffic at a red light, taking a shower, eating dinner, answering the telephone and getting dressed.

Class two: Perception – how we perceive reality.

In the second class participants were guided in sitting meditation with focus on breathing. The theme of the class was how perceptual processes shape experience. The participants were introduced to information about how earlier experience and expectation shape perception. Mindfulness was highlighted as a mode of perception that is both curious and open, welcoming reality just as it is, without analyzing or judging what arises, thereby making new interpretations and actions possible. The home practice assigned for the next week was practicing the 15-20 minute body-scan once a day for six days, practicing sitting meditation 5 – 15 minutes every day bringing the attention gently back to the breath each time one discovers that the attention has left the breath, and to choose a new activity to do mindfully every day. In addition, participants were asked to notice one pleasant event each day the coming week, and to note any sensations, thoughts and feelings associated with the event.

Class three: Stress, and how it affects us.

Two new formal mindfulness exercises were practiced in class three. Slow stretching exercises from the hatha yoga tradition, done with full attention on sensing the body rather than doing the exercises correctly; and walking meditation, the students walking slowing in a circle resting the attention on the contact between the feet and the ground, and bringing the attention gently back to the feet each time it wanders off. The class was centered on the concept of stress, and how stress is manifested in the mind and body. The home practices for week three were: To alternate between the 30 minute yoga stretching exercises lying down, and the body-scan for six days. In addition they should practice sitting meditation for 5-15 minutes every day and notice unpleasant events and take notice of sensations, thoughts and feelings associated with these events.

Class four: Coping with stress.

1 Standing yoga stretching exercises, sitting meditation and walking meditation were practiced
2 during class four. The theme of the class was how the capacity to be aware of the mind and
3 body in stressful situations, without immediately reacting to it, makes it possible to adapt
4 more effectively to challenges and stressors. The breath was highlighted as an important
5 place to anchor one's awareness when feeling stressed out. The following week the
6 participants were invited to alternate between 20 minutes sitting meditation and 15-20
7 minutes body-scan or exercises in hatha yoga, every day, for six days. As part of their home
8 practice participants were also asked to pay attention to their breathing both in everyday
9 situations, and especially in stressful situations and to open up to new ways of responding in
10 stressful situations.
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13 *Class five: Communication.*

14 Class five consisted of sitting and walking meditation, and exercises in hatha yoga. The
15 emphasis of the class was on interpersonal mindfulness. Interpersonal reaction patterns and
16 habits of emotional expression/suppression were discussed. Mindfulness was in this context
17 highlighted as the capacity to stay aware of one's own experience, including thoughts and
18 interpretations, emotions, and behavioral impulses during communication. The home practice
19 between class five and six was to do one formal mindfulness practice every day, choosing
20 between the body scan, sitting meditation and hatha yoga, and experimenting with doing the
21 exercises without listening to the instructions on the CD. The participants were also invited to
22 pay close attention to how they communicated with others the following week, accepting
23 their own reactions without necessarily trying to change anything. Finally, they were asked to
24 pick one activity to do with full awareness every day.
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29 *Class six: Self-reliance.*

30 Class six consisted of guided practices in sitting and walking meditation. The focus of this
31 class was on acceptance and trust in oneself and life. Difficulties in accepting oneself and
32 forgiving oneself and others were discussed. Participants were asked to do the same formal
33 exercises' as in week five. In addition they were invited to experiment with trust, openness
34 and acceptance towards one-self, others and life in general.
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38 *Class seven: six-hour mindfulness session.*

39 The participants were invited to practice mindfulness a whole day in silence in week 7.
40 Instructions in different formal practices were given including anchoring, meditation focusing
41 on sensory impulses like sounds, the breath, on thoughts and emotions arising, and finally on
42 practicing being aware to whatever arises in one's consciousness. In addition standing and
43 lying yoga exercises. The day also contained a silent meal followed by a 30-minute walk
44 outside in silence. The last 45 minutes consisted of a group reflection on how the silent day
45 had been experienced and an informal feedback on the programme as a whole.
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