

Mindfulness Practice: A Rasch Variable Construct Innovation

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Is it possible to establish a consistent, stable relationship between the structure of number and additive amounts of mindfulness practice? A bank of thirty items, constructed from a review of the literature and from novice practitioners' journal responses to mindfulness practice, comprised the instrument. A convenience sample of students in a teacher education program participated. The WINSTEPS Rasch measurement software was used for all analyses. Measurement separation reliability was 0.92 and item separation reliability was 0.98, with satisfactory model fit. The 30 items measure a single construct of mindfulness practice. Construct validity was supported by the meaningfulness of the items perceived as easy to hard. The same scale was produced when the items were calibrated separately on the T1 and T2 groups ($Rsq = 0.83$). The experimental group's T2 measures were significantly different from both its own T1 measures and the control group's T1 and T2 measures. ANOVA showed significance for variance between the experimental and control groups for T2 ($F = 43.66, 151 \text{ d.f.}, p < .001$) for a nearly two-logit (20 unit) difference (48.9 vs. 68.0). The study is innovative in its demonstration of mindfulness practice as a measurable variable.

Introduction

Background

Mindfulness practice establishes not only a different degree but an altogether different level of complexity in the quality of one's presence. Quality of presence ranges along a continuum of non-judgmental observation of experience both within and without. One simultaneously witnesses non-judgmentally whatever comes up as internal experience in conjunction with external experience in any particular moment. Any moment of consciousness comes as a result of the interaction of complex physical and emotional systems taking in experience and then making meaning out of that experience.

Two common responses to experience constrain the quality of presence. First, habituation makes what is happening right now seem like the same old routine. Presence, in this case, filters what is happening into a familiar mold and our responses may be so robotic that later we cannot even remember doing whatever it was we did.

Second, experience filtered through emotion is like water, it takes the path of least resistance. This means that most often one makes sense of experience as if the existing emotional response index was not open to transformation; the most familiar emotion generates our response. Both inhibitors limit the individual's openness to the complexity of experience which inhibits the possibility of a more appropriate or more enriching response.

Mindfulness practice is a tool that keeps the practitioner's systems of interconnected networks open to complexity. It is characterized by an orientation to deep listening and deep watching—as much as possible personal histories of language and experience are suspended in favor of widening or opening awareness to more of what the object of observation/experience presents—letting the thing itself speak before it is spoken about. In other words, awareness witnesses inner and outer experiences simultaneously, reserving judgment in favor of impartial observation as the prelude to making sense out of what is happening. The

probability of a transformative response enlarges. (See Miller, 1999 and Solloway 1999b, 2000 for differences between reflective practice and mindfulness practice.)

Essentially, mindfulness practice in the classroom enhances the teacher's ability to intuitively respond to students' needs, to listen deeply, to experience awe and wonder in ordinary classroom encounters and events, and to negotiate the complexities of classroom practice with reduced stress (Kessler, 1991; Mayes, 1998; Miller, 2006; Napoli, 2004; O'Reilly, 1993; Solloway, 1999a, 1999b, 2000, 2001, 2005). Teacher education students report enhanced capacities to pay attention in class, to listen deeply to others, to witness their own experiences without being caught up in them, to negotiate the complexities of course assignments with less stress, and to more often experience awe and wonder in nature and in other ordinary experiences (Brown, 1999; Miller, 1994; Solloway, 2003, 2004) when they follow Thich Nhat Hahn's (1976) call for the dedication of one day a week to the practice of mindfulness.

Mindfulness practice is a tool used by the researcher within the research event to open her/his field of awareness to what may come up when closure is forestalled in favor of non-judgmental presence (Solloway, 2001). Although the documentation of the benefits of mindfulness for teachers, students and researchers continues to grow, to date the field of mindfulness research lacks studies that meet the rigor of measurement seen in the natural sciences.

Objective

Is it possible to establish a consistent, stable relationship between the structure of number and additive amounts of mindfulness practice? And if it is, is the relationship constant across groups trained, and not trained, in mindfulness practice? And if that relationship is constant, how much of an effect on the measures is obtained by the training?

Historically, the difficulties encountered in quantifying human science variables resulted in the field largely moving toward redefining

measurement to fit what seemed possible rather than insist on methods that explicitly test “the hypothesis of an additive structure” (Fisher, 2003a, p. 765). The current study heeds the call for the use of models in the human sciences that meet the same rigorous requirements for measurement as those used in the natural sciences (Fisher, 2000, 2003a, 2003b, 2004, 2005). Specifically, this study takes advantage of a Rasch measurement model (Bond and Fox, 2007; Rasch, 1960; Wright and Mok, 2000) which provides a mathematical solution for nonlinearly transforming scores from their ordinal and scale-dependent state into linear and invariant interval measures.

Method

Instrument

Guidelines for developing high quality survey items were followed (Fisher, 2000b). A bank of thirty assessment items were constructed from two sources: 1) a bank of students’ journal entries, and 2) the literature on mindfulness practice. The items were grouped in three categories of hypothesized mindfulness practice development: Beginning, Intermediate, Advanced (Appendix A). The items were randomized for the final draft of the instrument (Appendix B).

Fisher (2000b) strongly urges enhancing the flexibility of a survey design through the use of six to eight response options. Eight response options (*Absolutely Disagree*, *Very Strongly Disagree*, *Strongly Disagree*, *Disagree*, *Agree*, *Strongly Agree*, *Very Strongly Agree*, *Absolutely Agree*) were used.

Sample

The participants were either enrolled in the first author’s teacher education courses or the courses of a colleague. The colleague volunteered his students’ participation as a control group. He simply asked them to voluntarily complete the pre- and post-training survey as a part of his classroom activities. He does not teach mindfulness practice in his courses. Students in his courses who were either currently enrolled in the first author’s courses or had previously been enrolled

in the first author’s courses did not participate in the pre- and post-training survey administered in these control courses. Therefore, the instrument was administered to 171 preservice education students in three different teacher education courses taught by the first author and a colleague. None of the participants had previous instruction in mindfulness practice or assignments in mindfulness practice within their teacher education programs. All participants were students in the same northeastern university during the same semester. The instrument was administered in both the first author’s courses and her colleague’s courses during the same weeks for pre- and post-training. Several participants were absent from the colleague’s courses at the time he gave the post-training survey.

Experimental Intervention

About half (88) of the students participated in mindfulness training (Appendix C), and about half (83) served as a control. The experimental group participated in the mindfulness training as a class assignment in which the anxiety of a grade for the assignment was removed. The first author taught the course in which the mindfulness assignment was presented. The students in the course of a colleague who does not teach mindfulness served as the control group. Both groups responded to the survey items twice, using an eight-point rating scale, once before the experimental group underwent eight weeks of mindfulness practice (T1), and again after the experimental group completed the eight weeks of mindfulness practice (T2). The students in the experimental group were given a brief introduction to mindfulness practice (see Appendix C). The instructor responded weekly to the students’ journal entries during the eight weeks of their mindfulness practice.

Analyses

All scaling and fit analyses were performed using the WINSTEPS software (Linacre, 2006), implementing a rating scale model (Andrich, 1978; Wright and Mok, 2000), and testing for the invariant internal consistency of the data us-

ing information-weighted and outlier-sensitive mean square model fit statistics (Smith, R. M., 2004; Wright and Masters, 1982). Measures and calibrations from WINSTEPS were then studied statistically and graphically using SPSS v. 14 (SPSS, 2005).

Results

Scaling

The 8-point rating scale was optimized (Linacre, 1999, 2004) to three categories, with all of the “disagree” categories (25% of the responses) combined together, the “agree” category (37% of the responses) left intact, and three most extreme “agree” categories (37%) also combined. The transition from category 1 (All “disagree” categories) to category 2 (“agree”) calibrated to 7.5 units (.75 logits) below matching measures and calibrations, while the threshold between categories 2 and 3 (all other “agree” categories) calibrated to 7.5 units above matching measures and calibrations.

Overall respondent measurement separation reliability was 0.92 and item calibration separation reliability was 0.98. Logits were transformed to a roughly 0-100 scale by multiplying by 10 and adding 50. The same scale was produced when the items were separately calibrated on the T1 and T2 groups ($R = 0.91$). The model fit statistics do not falsify the hypothesis that the thirty items measure a single construct of mindfulness practice. Construct validity was supported by the meaningfulness of the item order on the variable.

The items were calibrated on multiple separate sub samples of the data, determined by curriculum type (mindfulness training or no mindfulness training) and pre- or post-intervention time points. Correlations of the resulting calibrations, including the overall total sample calibration, for all 30 items, range from 0.87 to 0.99.

Items 28 and 6 were identified by WINSTEPS (Linacre, 2006) as having fit problems. However, omitting the items from the scale makes no difference in the resulting measures. All items were included in the analyses.

Experimental

As is shown in Figure 1, the experimental group’s T1 measures (mean = 50.7) were not statistically distinct from the control group’s T1 (mean = 48.9) measures (a 0.18 *logit* difference). As is expected, given the measurement error of about 4 transformed units, ANOVA yielded no significance for variance between the experimental and control groups for T1 ($F = 1.28, p = 0.26, 1 \text{ d.f.}$).

The control group’s measures were not significantly different between T1 (48.9) and T2 (48.6) ($F = 0.01, p = 0.91, 1 \text{ d.f.}$). The experimental group’s measures were different to a statistically significant degree (T1 Mean = 50.7 and T2 Mean = 68.0; $F = 72.79, p < 0.001, 1 \text{ d.f.}$), as is expected, given that the 18-unit difference spans over four of the 4-unit error ranges.

Limiting the T1 and T2 groups to the students with both T1 and T2 scores, the control group measures were not significantly different in a paired samples *t*-test ($n = 65, t = .51, p = .61, 64 \text{ d.f.}$). The experimental group’s measures were significantly different ($n = 86, t = -10.18, p < 0.001, 85 \text{ d.f.}$).

ANOVA showed significant variance between the experimental and control groups at T2 ($F = 43.66, p < .001$) for the nearly two-logit (20 unit) difference (48.9 vs. 68.0).

Substantive Interpretation

Figures 2 and 3 show the order of the items on the variable relative to the optimized rating categories and measures. The item hierarchy exhibits a meaningful progression ranging from simple noticing to more intensely understanding and experiencing, and then to heightened awareness and sensation.

The distribution of measures relative to the item hierarchy and optimized rating categories is shown horizontally across the bottom of Figure 2, with the mean, and first and second standard deviations, indicated by M, S, and T, respectively. The counts of students at each measure are read vertically; i.e., there are 10 students with measures at the mean. The same information is conveyed in Figure 3, but with

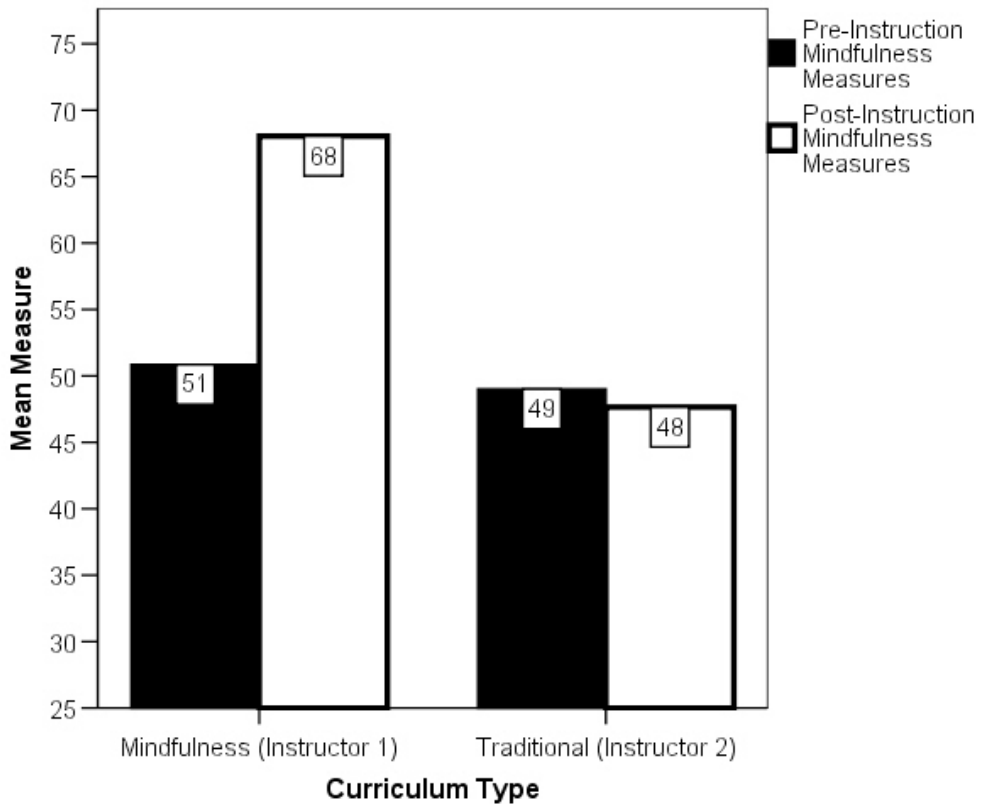


Figure 1. Pre- and Post-Mindfulness Instruction Measures by Curriculum Type

both the measures and the response category-level item calibrations plotted vertically.

The average measure at T1 is about 50. Drawing a vertical line through Figure 2 at 50 on the horizontal scale shows what the expected responses to the items are for a student with that measure. Students with these initial, uninformed experiences of mindfulness practice's effects strongly acknowledge that mindfulness makes for more attentive listening, and more mildly acknowledge a wide range of other effects, ranging from positive effects on others to more self control to a new kind of happiness, with a decreasing likelihood of agreement as one reads up the scale. Three items involving sensations (smell, touch, and sight) are more likely to elicit disagreeable responses than agreeable ones.

The experimental group's T2 measure is 68. Again imagining a vertical line drawn through

Figure 2, this time at 68 on the scale, we now expect strong agreement with all but the top five of the mindfulness practice effects, and mild agreement is expected for these.

The substantive meaning of the experimental intervention of training in mindfulness practice is expressed in terms of the difference between these expected response patterns. The difference between the overall T1 measures and the experimental group's T2 measures is about 18. At T1, with an average measure of 50, the item with the highest calibration with which all students typically strongly agree is item 22, mindfulness makes me a more attentive listener, which calibrates at 38. At T2, with an average measure of 68, the item with the highest calibration with which the experimental group typically strongly agrees with is item 21, I notice more of my bodily sensations, which calibrates at 56.

| EXPECTED SCORE: MEAN (":" INDICATES HALF-SCORE POINT) | | | | | | | | | |
|---|----|----------|---------------------------|-------|----|----------|-------|-----|---|
| 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | NUM | ITEM |
| D | | D | : | A | : | SA | SA 19 | 1 | M heightens my sense of smell. |
| D | | D | : | A | : | SA | SA 23 | 3 | I feel like I'm seeing for the first time. |
| D | | D | : | A | : | SA | SA 15 | 1 | M heightens my sense of touch. |
| D | | D | : | A | : | SA | SA 6 | 2 | I notice that time loses its meaning. |
| D | | D | : | A | : | SA | SA 29 | 3 | I handle all experiences with equanimity. |
| D | | D | : | A | : | SA | SA 21 | 2 | I notice more of my body sensations. |
| D | | D | : | A | : | SA | SA 18 | 1 | M makes me feel peaceful. |
| D | | D | : | A | : | SA | SA 8 | 1 | M reduces my stress. |
| D | | D | : | A | : | SA | SA 4 | 3 | I observe my thoughts without being caught up in them. |
| D | | D | : | A | : | SA | SA 14 | 2 | I notice that I experience a kind of happiness that's different. |
| D | | D | : | A | : | SA | SA 27 | 3 | I notice that ordinary experiences seem extraordinary. |
| D | | D | : | A | : | SA | SA 20 | 3 | I observe things objectively. |
| D | | D | : | A | : | SA | SA 10 | 3 | I increase my power to intensely examine my life. |
| D | | D | : | A | : | SA | SA 28 | 2 | I notice that my mind wanders frequently. |
| D | | D | : | A | : | SA | SA 24 | 3 | I observe the way things constantly change from moment to moment. |
| D | | D | : | A | : | SA | SA 30 | 2 | I notice things about myself I never knew before. |
| D | | D | : | A | : | SA | SA 3 | 1 | I notice things in nature that I never noticed before. |
| D | D | DISAGREE | A | AGREE | SA | STRONGLY | SA 17 | 1 | M teaches me to experience the world in an entirely new way. |
| D | D | : | A | : | SA | AGREE | SA 25 | 1 | M is harder than I first thought it would be. |
| D | D | : | A | : | SA | AGREE | SA 7 | 3 | I often find great peace and joy in ordinary experiences. |
| D | D | : | A | : | SA | AGREE | SA 26 | 3 | I observe experiences while I participate in them. |
| D | D | : | A | : | SA | AGREE | SA 2 | 2 | I notice the causes of my emotions. |
| D | D | : | A | : | SA | AGREE | SA 11 | 3 | I have more insights. |
| D | D | : | A | : | SA | AGREE | SA 5 | 1 | M makes me feel thankful for things I usually take for granted. |
| D | D | : | A | : | SA | AGREE | SA 16 | 1 | M can be learned. |
| D | D | : | A | : | SA | AGREE | SA 12 | 2 | I notice more control over my responses. |
| D | D | : | A | : | SA | AGREE | SA 13 | 2 | I notice I feel more positive about the tasks I accomplish. |
| DD | : | A | : | SA | | | SA 1 | 2 | I notice my emotions as they change during the day. |
| DD | : | A | : | SA | | | SA 9 | 2 | I notice that other people like it when I listen this way. |
| D | : | A | : | SA | | | SA 22 | 1 | M makes me a more attentive listener. |
| ----- | | | | | | | | | |
| 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | |
| 11112 2211111 1 1 | | | | | | | | | |
| 5 | 3 | 2 | 4521465294465073533135459 | 963 | 6 | 6 | 1 | 8 | STUDENTS |
| T | | | S | M | | S | | T | |

Figure 2. Mindfulness Practice Construct Map

Notice that item 21, at 56, is 18 units higher up the scale than item 22, at 38. The same 18 units that distinguish the difference between the overall T1 measures and the experimental group's T2 measure also distinguish the difference between the two group's response likelihoods, respective to any pair of items on the scale. These relationships constitute the substantive meaning of the quantitative comparisons facilitated by the scale. Any unit difference between any two points on the scale will translate into substantively meaningful contrasts illustrated by the content of the items and optimized rating scale. The constancy of this relationship is itself substantiated by the fit to the measurement model, and the high correlations and linear plots of the items' scale values across subsample calibrations.

Theory-Data Convergence

The numbers 1, 2, and 3 in the first column of the item names in Figure 2 indicate the pre-experimental theoretically predicted calibration ranges. These predicted calibration ranges cor-

relate 0.03 to 0.10 with the multiple independent subsample recalibrations of the 30 items. The respondents' ordering of the items thus differs from the researcher's original conceptualization of that hierarchy, offering an opportunity for re-thinking theory and possibly establishing a closer theory-data congruence.

The theoretical order was derived from several years' experience reading students' mindfulness journals. It seemed evident that the empirical frequency with which students mentioned or described various effects of mindfulness practice in their journals followed the pattern described by the three assigned categories, with 1 emerging earliest, and 3, latest.

But does the empirical order of emergence necessarily imply a hierarchy of effects? Perhaps the effects initially noticed are landmarks or a general structure within which the experience of later effects are categorized. The group 1 items in fact span the entire calibration range, and seem to be marking out significantly different ranges in

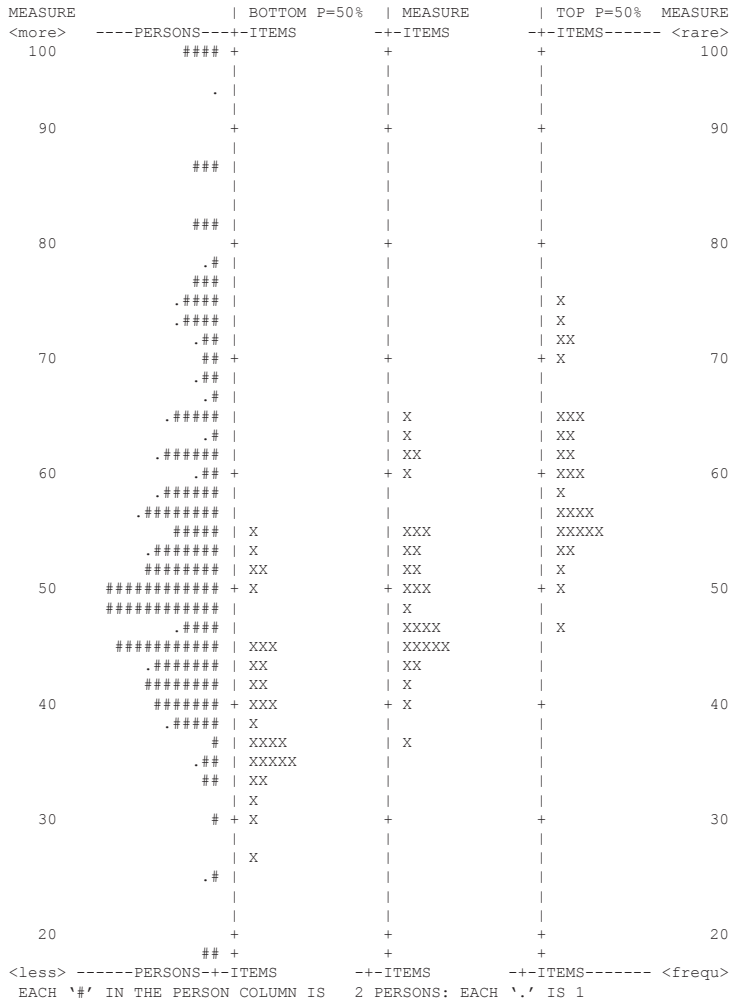


Figure 3. Mindfulness Practice Wright Map

the items, with the content of the group 1 items signifying a theme common to the group 2 and 3 items falling in that range.

That is, if a student is experiencing enhanced listening ability as an effect (item 22, at the bottom of the scale), then it becomes possible to do the “noticing” (category 2) items right above it, each of which may be in some degree entailed by first item.

If then the student acknowledges that mindfulness can be learned (item 16), and experiences some gratification in noticing what is usually taken for granted (item 5), then she or he is ready and able to experience the “taken for granted

things” in the group 2 and 3 items right above these. When the student in due course breaks through the next group of category 1 items, a new level of critical awareness or attunement is obtained, which supports receptivity to the following group of largely group 3 items. Sticking with that critical attunement then leads to the next group 1 transition into reduced stress (item 8), and the associated group 2 and 3 new balance, centering, and enhanced physical sensations.

Discussion

Rigorous measurement demands the use of an invariant unit in an infinite sequence across

all relevant subjects and reveals what is unique about each subject. While measurement requires a standardization of the unit, it never demands the standardization of the thing measured. Rasch models set up dialectic between the thing measured, the instrument of measurement and the logos of the thing measured. That is “Proportion means ‘logos.’ Something that is addressed in its proportion is addressed in its being,” (Gadamer, 1991, p. 143). The logos of the thing itself—the laws that create the proportions of the thing itself—are discovered as the thing itself speaks through the mathematical voice of the model. The voice reveals eidetic aspects of the thing itself establishing the logos, which in turn governs the reliability of observation as being an observation of the thing measured and not something else. Rasch models establish a difference in degree as well as a difference in quality in the measurement of a human science variable like mindfulness practice. This characteristic of difference not only in degree but also in quality makes for an intriguing connection between mindfulness practice and the Rasch rating scale model as an especially good model for establishing a measurement of mindfulness practice.

In addition, the properties of solutions for uncertainty and conjoint additivity make it especially relevant when, as in this case, no established measurement instrument existed for mindfulness practice as a variable. Rasch models deal with uncertainty by building into the model a mathematical solution for estimating the probability of a future event given the present set of observations. In other words we work backwards from the known data (observations) as the probable consequences of a mathematical solution that makes use of the limits of relevant randomness. This solution for probability along with the model’s property of conjoint additivity functions to calibrate an instrument for measuring mindfulness by letting the proportions of the variable emerge as the conditions for calibration and at the same time measure the probability of amounts of mindfulness for any item or person.

In other words, the articulation of the items across the variable made possible by Rasch’s mathematical solution establish for the first time

a logos or law of mindfulness practice as it is experienced by novice practitioners. Additional calibrations of this and other like instruments across other populations by other researchers will further test the quantitative resilience of this law. When the hypothesis that the mindfulness practice variable persists in a stable state across time, space, individual practitioners, and individual textual representations of the particulars of mindfulness practice is not falsified, there emerges the possibility for a “quantitative language shared by all members of [the] research culture” (Fisher, 2003a, p. 780). With such a common language, variables like this one can become “formally coordinated into structured sign system[s] capable of functioning as medium[s] for collective, distributed cognition” (Fisher, 2003b, p. 813). Then, like any other science, the science of mindfulness practice may move back and forth from the particular to the universal as networks of interested parties collaborate in supporting its growth and the articulation of its laws.

Conclusions

Several issues present themselves for further study. First, can others reproduce the effects measured here elsewhere? Second, can the revised substantive theory of the variable be used to improve the instrument? Third, what other approaches to mindfulness training for novices may be evaluated using the present instrument to compare effectiveness in terms of growth on the scale from pre- to post-intervention. Fourth, would studies in which participants were randomly assigned to mindfulness practice or non-mindfulness practice produce similar results?

The study is innovative in its demonstration of mindfulness practice as measurable, as teachable and learnable, and as an object of experimental research. The dramatic effects validate the literature on mindfulness practice as a transformative moment-by-moment experience (Brown, 1999; Hahn, 1976; Miller, 1994; Solloway, 2003, 2004). As this study demonstrates, these effects can now be measured quantitatively. Future research will seek to generalize these findings to other mindfulness settings and measures.

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Appendix A

Developmental Mindfulness Survey Items

Beginning Understandings/Knowing/Impressions:

I am learning that paying attention to what is happening right now:

1. ...can be learned.
2. ...is harder than I first thought it would be.
3. ...makes me a more attentive listener.
4. ...heightens my sense of smell.
5. ...heightens my sense of touch.
6. ...makes me notice things in nature that I never noticed before.
7. ...makes me feel peaceful.
8. ...reduces my stress.
9. ...makes me feel thankful for things I usually take for granted.
10. ...teaches me to experience the world in an entirely new way.

Intermediate Understandings/Knowing/Impressions:

As I practice paying attention to what is happening right now, I notice:

11. ...that my mind wanders frequently.
12. ...more of my body sensations.
13. ...things about myself I never knew before.
14. ...that other people seem to like it when I listen to them this way.
15. ...more control over my responses.
16. ...I feel more positive about the tasks I accomplish.
17. ...that I experience a kind of happiness that's different.
18. ...the causes of my emotions.
19. ...my emotions as they change during the day.
20. ...that time loses its meaning.

Advanced Understandings/Knowing/Impressions:

When I practice paying attention to what is happening right now, I:

21. ...observe my thoughts without being caught up in them.
22. ...observe experiences while I participate in them.
23. ...often find great peace and joy in ordinary experiences.
24. ...feel like I'm seeing for the first time.
25. ...have more insights.
26. ...notice that ordinary experiences seem extraordinary.
27. ...observe things objectively.
28. ...increase my power to intensely examine my life.
29. ...observe the way things constantly change from moment to moment.
30. ...handle all experiences with equanimity.

Appendix B

Developmental Mindfulness Survey Items—Randomized

1. As I practice paying attention to what is happening right now, I notice my emotions as they change during the day.
2. As I practice paying attention to what is happening right now, I notice the causes of my emotions.
3. I am learning that paying attention to what is happening right now makes me notice things in nature that I never noticed before.
4. When I practice paying attention to what is happening right now, I observe my thoughts without being caught up in them.
5. I am learning that paying attention to what is happening right now makes me feel thankful for things I usually take for granted.
6. As I practice paying attention to what is happening right now, I notice that time loses its meaning.
7. When I practice paying attention to what is happening right now, I often find great peace and joy in ordinary experiences.
8. I am learning that paying attention to what is happening right now reduces my stress.
9. As I practice paying attention to what is happening right now, I notice that other people seem to like it when I listen to them this way.
10. When I practice paying attention to what is happening right now, I increase my power to intensely examine my life.
11. When I practice paying attention to what is happening right now, I have more insights.
12. As I practice paying attention to what is happening right now, I notice more control over my responses.
13. As I practice paying attention to what is happening right now, I notice I feel more positive about the tasks I accomplish.
14. As I practice paying attention to what is happening right now, I notice that I experience a kind of happiness that's different.
15. I am learning that paying attention to what is happening right now heightens my sense of touch.
16. I am learning that paying attention to what is happening right now can be learned.
17. I am learning that paying attention to what is happening right now teaches me to experience the world in an entirely new way.
18. I am learning that paying attention to what is happening right now makes me feel peaceful.
19. I am learning that paying attention to what is happening right now heightens my sense of smell.
20. When I practice paying attention to what is happening right now, I observe things objectively.
21. As I practice paying attention to what is happening right now, I notice more of my body sensations.
22. I am learning that paying attention to what is happening right now makes me a more attentive listener.

23. When I practice paying attention to what is happening right now, I feel like I'm seeing for the first time.
 24. When I practice paying attention to what is happening right now, I observe the way things constantly change from moment to moment.
 25. I am learning that paying attention to what is happening right now is harder than I first thought it would be.
 26. When I practice paying attention to what is happening right now, I observe experiences while I participate in them.
 27. When I practice paying attention to what is happening right now, I notice that ordinary experiences seem extraordinary.
 28. As I practice paying attention to what is happening right now, I notice that my mind wanders frequently.
 29. When I practice paying attention to what is happening right now, I handle all experiences with equanimity.
 30. As I practice paying attention to what is happening right now, I notice things about myself I never knew before.
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Appendix C

Individual Research Project Instructions

The research option for this assignment reflects the teacher's need for ongoing inquiries into the "being" of the profession. Teaching is as much "being" as it is "doing."

- "Being" focuses on inquiries in the inner-life of the teacher; constantly developing more refined capacities for heightened awareness in classroom practice.
- "Doing" includes inquiries, which focus on constantly developing more effective content, processes, and structures in the classroom.

Individual Research Project—Being: Study of Personal Efficacy of Mindfulness for Teachers

Mindfulness: Being fully conscious that you are doing whatever you are doing. "When walking, be conscious that you are walking. When sitting, be conscious you are sitting. No matter what you are doing, your thoughts are only thinking about what is happening in the moment. *There is no room left in consciousness for thoughts about anything that is not present in the moment...* when you are brushing your teeth you are concentrating on the feeling of the brush in your hand, the movement across your teeth, the taste of the toothpaste...etc. (You may also be aware that while you are brushing your teeth—fully aware of the movements /sensations involved—you are also aware that you are planning what you will wear, or what you will do that day.) Mindfulness practice is about being fully conscious of what IS happening RIGHT NOW.

When you discover that your thoughts have strayed away from what is happening RIGHT NOW—for example, you might suddenly realize that your thoughts drifted off into worry about some future event or anxiety over something that happened in the past, and this will happen frequently during your "Mindfulness Day"—you take a long, slow breath and let that breath be a reminder to get your thoughts back to what is happening in the present moment.

Mindfulness practice is not a competition to see how few times you have to bring your attention back. You are not "doing it wrong" when you discover that your thoughts have wandered away from

what is happening RIGHT NOW. This is NORMAL. Mindfulness practice is about NOTICING that your attention has wandered and then bringing it back with your breath as an anchor or signal to your body/mind that you are bringing all your attention back to the present moment.

No matter how many times your thoughts stray during the day, each time you recognize that they have strayed, just take a breath and bring yourself back to the moment. Your breath will become the anchor that brings you back to what's happening RIGHT NOW. Just as the ship's anchor keeps the ship from straying too far from the anchored spot, so your breath will constantly bring your thoughts back to what is happening in the moment. Keeping your thoughts anchored to the present moment is also known as being "fully present". There are many benefits in this practice as you will discover during your eight weeks of research.

1. Beginning with the week of Sept. 26-30 and continuing through the week of Nov. 14-18, you will set aside one day out of each set of five days for your "Mindfulness Day." You may choose any **MTWTHF (no weekends)** to set up a day of mindfulness (**You do not have to use the same (M-F) day each week. Use whatever M-F day is most convenient in any week.**) You will figure out a way to remind yourself at the moment of waking that this day is your day of mindfulness. You might hang something on the ceiling or on the wall, a paper with the word "mindfulness" or a twig—anything that will suggest to you as you open your eyes and see it that today is your day of mindfulness—"Today is your day. Remembering that, perhaps you can feel a your own breath inhaling/exhaling, which affirms that you are in complete mindfulness."

While lying in bed, begin to slowly to follow your breath—slow, long, and conscious breaths. Then slowly rise from bed, nourishing mindfulness by keeping your thoughts on each motion as you rise. Once up, then practice keeping your thoughts on each movement you make as you go through your regular routine of getting ready for the events of your day (and this might include being aware that at the same time you are aware of the movements/events necessary for getting ready, you are also aware of planning your day). **Whatever you do, do it with intentional attention all day.** Consistently bring your attention back to the present moment each time you discover that your attention has strayed by feeling your breath inhaling and exhaling and using that breath as a reminder, an anchor to hold your thoughts in the present moment.

2. At the end of each of your "Mindfulness Days" or by midnight of the Friday of that week, create an email journal entry. This journal entry will include your thoughts about your experience of being intentionally mindful for this day...what insights do you have, what stands out to you about the experience, list the ways this day was different for you than your regular days, what body sensations did you experience...what did you notice that you usually don't notice...etc. This journal entry is not to be a list of the events of your day, but rather, a reflection on the way being mindful affected each event of your day. You will email your entry to teachermindfulness@yahoo.com

In the subject heading of your email journal entry, provide the week, day, and your name (See the Revised Individual Research Timeline for the weeks and dates). For example:

1st Journal Entry—Sept. 30—Jane Doe

You will provide eight journal entries, one for each of the eight weeks.

3. **By class time, Wednesday, Nov. 23,** you will submit to teachermindfulness@yahoo.com for my review, a one-page, font 12, single-spaced reflection on your eight "Mindfulness Days."
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