Mindful awareness training in online and face-to-face learning environments: A comparative analysis

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Abstract

Today's fast-paced work environments emphasize the importance of focus, clarity, creativity, compassion, and courage as critical managerial competencies (George, 2014). TIME magazine's 2014 article, The Mindfulness Revolution, points to the growing need for leaders to possess the ability to understand the increasing time pressures facing workers in this digital world (Pickert, 2014). Ways need to be found to help the workforce at all levels to maintain focus while sorting through multiple sources of information to make creative and innovative decisions. Health administration programs that develop students' mindfulness competencies of observation and awareness are providing their graduates with a competitive edge in terms of managing and leading during turbulent times, not only by encouraging mindfulness skills, but also by assisting the student experience with the potential of increased focus and less stress. This two-fold benefit of mindfulness for healthcare administration students is a theme throughout this paper. This paper provides a preliminary empirical examination of whether learners practicing mindful awareness in similar health management courses in two different programs become more mindful in terms of observant of present moment experience, and the tendency to respond to experiences without self-censorship and judgment. One program delivered the courses online and the other in person. Both used the same mindfulness activity to help students, with mixed results.

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Introduction

Today's fast-paced work environments emphasize the importance of focus, clarity, creativity, compassion, and courage as critical managerial competencies (George, 2014). TIME magazine's 2014 article, The Mindfulness Revolution, points to the growing need for leaders to possess the ability to understand the increasing time pressures facing workers in this digital world (Pickert, 2014). Ways need to be found to help the workforce at all levels to maintain focus while sorting through multiple sources of information to make creative and innovative decisions. Goleman's book, Focus (2013), promotes a similar importance of the ability to manage attention and energy by presenting evidence that mental focus enhances compassion and empathy and thus our emotional intelligence.

The increasingly competitive and dynamic health industry provides a case in point where the mindfulness revolution's drive and lessons can apply. Healthcare's expanding digitally dependent work force (George, 2014) poses unique challenges for leaders, managers, and staff. Mindful health professionals capable of maintaining a clear focus in the midst of time pressures and information overload are key strategic resources. Health administration programs that develop students' mindfulness competencies of observation and awareness are providing their graduates with a competitive edge in terms of managing and leading during turbulent times, not only by encouraging mindfulness skills, but also by assisting the student experience with the potential of increased focus and less stress. This two-fold benefit of mindfulness for healthcare administration students is a theme throughout this paper. Specifically (and speaking as a current student), increased attention span and relaxation can be immediately applied to present workload and assignments. As a future healthcare leader or manager, expanded perceptual abilities, a tendency for less reactivity, and greater understanding with less judgment will be valued qualities.

Recent research indicates that the brain is wired to do one thing at a time, so multitasking often impedes cognitive performance. Students in a virtual environment often feel overwhelmed with information, messages, and assignments. Online learners often report "multitasking" when they participate in online courses (Gillingham & Molinari, 2012). In a way multitasking is like "drunk driving" as it gives the person the false sense that he/she is functioning well (Roush, 2015). In fact multitasking involves rapidly switching tasks that, in turn, compromises learning ability (Parry, 2013). The growth of online and hybrid undergraduate and graduate health administration programs is supported by employers' acceptance of online programs, as well as CAHME's recent decision to accredit online graduate Health Administration programs.

One related challenge facing programs and faculty is the development of mindful learners who can gain control over the myriad of distractions to direct attention toward performing specific tasks, interacting with others, and actively engage in learning.

Helping learners focus and concentrate, especially in online learning environments, has spurred our interest to foster the development of mindfulness in our students. Professors from two health management programs in geographically dispersed locations (East and West Coast) collaborated to develop a mindfulness learning module that they integrated into a health management course to help learners regularly practice a mindful awareness exercise involving the observation of breath. The rationale for having learners practice mindfulness activities was two-fold: to enhance learners' personal mindfulness and in turn enhance their mindful learning. Program goals included:

- Presenting a module to develop mindful learning and mindful management delivered in both online and in-person courses.

- Using a validated mindfulness measure designed to assess multiple facets or dimensions of mindfulness.

- Assessing whether online and in-person learners practicing "deep breathing" in similar Health Administration courses related to organizational behavior and human resources management had improved levels of mindfulness.

- Identifying the pedagogical implications for certified and accredited Health Administration programs especially those delivered online.

Background

Mindfulness: Definitions and Applications to the Workplace and Health Industry

As with most concepts, there are multiple definitions of mindfulness. Ellen Langer asserts that mindfulness "is not an easy concept to define but can be best understood as the process of drawing novel distinctions…." (Langer & Moldoveanu, 2000) This process for drawing novel distinctions has potentially advantageous consequences such as increasing one's environmental sensitivity, opening up to new information, expanding perceptional frameworks, and increasing awareness of multiple perspectives problem solving. The founder of Mindfulness Based Stress Reduction (MBSR), Jon Kabat-Zinn, describes mindfulness as "the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally, to the unfolding of experience, moment by moment" (Kabat-Zinn, 2003). The Mindful Aware-

ness Research Center at University of California, Los Angeles (UCLA) defines mindful awareness "as paying attention to present moment experiences with openness, curiosity, and a willingness to be with what is."

Becoming more mindful is an emergent management and leadership approach. The skill of mindfulness has been reported to be linked to enhanced reflection and learning and has been identified as a positive force in the arena of management learning (Jordan, Messner, & Becker, 2009). Mindfulness in the workplace has helped hyper-connected employees to get in touch with thoughts and feelings they are experiencing. It helps workers relax and to deal with fast-paced schedules with less burn out (Chen, 2015). Managers and leaders who can be self-observant and reflective, act with awareness, remain nonjudgmental and nonreactive to one's ideas and feelings are likely to be engaged managers and leaders who notice new things that put them sensitively and effectively in the present to deal with an uncertain and changing future (Beard, 2014).

Mindfulness Interventions

Examples of the "Mindfulness Revolution" (TIME, 2014) can be found across many different work settings and disciplines, including the health industry. An example of a human resource application of mindful awareness meditation in a healthcare setting is Zeller & Levin's (2013) work with nurses on a mindfulness intervention to handle stress who report:

> "Mindfulness training holds potential for addressing the unique needs of health care workers. It assists individuals in dealing with stressful life when they are occurring, improves present moment awareness, decreases distraction, and prepares those entering highly stressful situations to better regulate emotion" (p. 88).

Mindfulness training with primary care physicians (Krausner et al., 2009) was reported to "alleviate psychological distress and burnout experienced by many physicians and can improve their well being." (p.80); as well as enhancing patient centered care. These studies used mindfulness meditation exercises involving the observation of breath and body, as a way to enhance personal mindfulness and professional practice.

With healthcare organizations getting on board with mindfulness training for clinicians, the current authors encourage similar training for administrators, which will not only potentially increase their managerial skills sets, but can also personally experience the value of the mindfulness practice. Developing mindful health managers who are aware of their feelings and emotions, can act with awareness, without judgment, and not overreact are likely to be able to manage and lead workers in the ever changing health professions.

Mindful online learning

The descriptions of "mindfulness" point to its multiple facets that include: expanding awareness, reducing the impact of stress, having a present focus, and having increased openness and understanding. Although definitions may vary slightly, the potential benefits of mindfulness to promote learning appear clear. The benefit of increased mental focus, concentration, and attention are likely to deepen student learning (Molinari, 2012). Such benefits are especially relevant to today's college learners who seek online courses to help them juggle the time demands of school and work, along with family and community.

While controversy exists and opinions vary with respect to the efficacy of online education, a multitude of studies have come out in support of the format as equal to, if not more effective than face-to-face traditional courses. A meta-analysis conducted of a systematic review of research literature from 1996 to July 2008 (DOE, 2009) revealed "…on average, students in online learning conditions performed better than those receiving face-to-face instruction" (p. IX) with hybrid and blended formats often cited as most effective (Zhao, 2005), while other studies provided no evidence of a difference in learning outcomes between online, in-person, and hybrid formats (Davis, 1999; Bell & Boote, 2002).

As online learning continues to grow in popularity in higher education with one in three students taking at least one online course (Allen & Seaman, 2013), the overwhelming majority (69%) of university leaders and administrators see online education as a critical part of their strategic goals (Ibid.). Concurrent with the spiraling growth in online instruction has been a growing interest in quality online learning (Bento & White, 2010), especially the processes of learning to help instructors design and execute effective and engaging online courses. Support on institutional faculty and student levels, user-friendly technology, and evaluation methods are elements mentioned that can enhance the online learning experience (Butcher & Wilson-Strydom, 2013). Engaging learners personally with content (Molinari, 2012) is another often cited best practice. Developing mindfulness through the practice of meditation activities (e.g., deep breathing) can be viewed as an "engagement" technique that puts awareness of self and the environment as an outcome of regular practice.

Particularly relevant to the challenges of online education is the temptation to multitask and/or lose focus while engaging in course material. Research conducted by Levy, Wobbrock, and Kasniak (2012), indicated that some problems associated with multitasking can be alleviated with mindful meditation training. Their report describes that only those who meditated stayed on tasks longer, made fewer task switches, and reported less negative emotions after performance as compared with the other two groups' conditions.

Another challenge exacerbated in online courses is persistence. Attrition rates are higher in online courses when compared to face-to-face formats (Carr, 2000; Moody, 2004). The lower course retention rates among online students compared to those taking in-person courses tend to reflect the social isolation and personal disconnection of the online learner (Rovai & Wighting, 2005; Simpson, 2004). Several factors contribute to online attrition such as student characteristics (motivation, skill, and multiple responsibilities), faculty contact, and workplace support to name a few (Lehman & Simone, 2014). It is important to note that the online and face-to-face student populations are not identical in characteristics nor on academic persistence.

Studies have also indicated that meditation can enhance self-efficacy (Freshman & Molinari, 2013); lower stress and anxiety (Jenn et al., 2012; Davis & Hayes, 2011; Chu, 2010); increase focus and improve attention (Koraza et al., 2012; Ray, Baker, & Plowman, 2011; Tang et al., 2007); and strengthen emotional regulation (Holzel et al., 2011; Zautra, 2008). Each of these aforementioned characteristics are outcomes of a mindful meditation practice which can contribute to a learners experience by potentially alleviating the challenges of online learning such as multitasking and persistence.

The emerging evidence that support the effects of mindfulness to enhance well-being and performance among individuals, health professionals, and learners, provided rationale and context for integrating mindfulness activities into our professional health management courses. Our expectation was that developing mindful health managers who are aware of their feelings and emotions and act with awareness, without judgment and overreaction then they would likely be able to manage and lead others in the ever-changing health industry.

Methodology

This paper provides a preliminary empirical examination of whether learners practicing mindful awareness in similar health management courses in two different programs become more mindful in terms of observant of present moment experience, and the tendency to respond to experiences without self-censorship and judgment. One program delivered the courses online and the other in person. Both used the same mindfulness activity to help learners relax and thus become more mindful learners in terms of greater awareness of their feelings and their reactions to them.

Study questions

The overarching research question examined was, "Do learners' changes in levels of overall mindfulness and across specific dimensions of mindfulness differ by learning environment and course level over time?"

Participating Programs and Students

The participating students came from two public universities with AUPHA-certified undergraduate programs. Traditional-classroom students were enrolled in either a bachelor's or master's degree program in healthcare administration at a large public university on the West Coast. Similarly, online students were enrolled in either a bachelors or masters degree program in health care management at a smaller public university on the East Coast. While students attending these different programs were racially and ethnically diverse, the main difference rested with the age of the undergraduates. The West Coast program had more traditionally aged undergraduates (20-29) while those undergraduates in the East Coast program were older (30+).

The courses involved in these meditation activities were very similar, namely a basic healthcare management course related to the principles and practices of organizational behavior and management. These courses were both offered at both undergraduate and graduate levels in each program from 2013-2014. The courses in each program were offered by the same instructor. However, each program had a different instructor.

Sample selection

A total of 215 students from nine health management courses participated in this study. Of those, 144 (67%) completed the course in-person, and 71 (33%) completed the course online. Due to smaller numbers of online undergraduates versus in-person undergraduates, a random sample of 25 in-person undergraduate students was obtained from the pool of 98 in-person undergraduate students for this analysis. The final sample breakdown is shown in Table 1.

Table 1

Sample breakdown

Learning Environment	Course level	Time 1 (pre)	Time 2 (post)
Online	Undergraduate	25	25
	Graduate	46	46
In-person	Undergraduate	48	48
	Graduate	46	46

Study Procedures

The instructors selected Jon Kabat Zinn's mindfulness-based stress reduction (MBSR) intervention for inclusion of the mindfulness learning module. Kabat Zinn's video and deep breathing exercises served as the meditation activity used in this study. We developed a learning module that introduced mindfulness and the technique of deep breathing. This was comprised of the following elements: a) video presentation of didactic information on mindfulness, stress and pain management, and everyday practice of the MBSR technique to alleviate these challenges; b) mindfulness exercises; and c) reflective discussion and sharing. It included Kabat Zinn's video along with articles examining mindful management and leadership that provide context and rationale for the using "deep breathing" to promote mindful management and learning.

The meditation module included viewing a You Tube video of a 2007 Ted Talk by Jon Kabat-Zinn (http://www.youtube.com/watch?v=rSU8ftmmhmw). It discusses the scientific evidence of mindfulness practices and behaviors as they relate to stress reduction and healing. Online students were asked to practice the mindful breathing on their own before starting weekly work and in-person students began each weekly in-person session with a guided meditation activity led by the instructor. Students were required to keep track of their experience with these activities.

We acknowledge that there is a multitude of religious and spiritual meditative traditions that can serve as a confounding factor. However, we focused on working with a specific secular method of mindfulness training with construct and content validity with respect to our research goals. Henceforth, the exercises that focused on breath and thought observations were selected as a secular and straightforward way to promote mindfulness in the health management programs. The expectation was that these exercises would help students relax and focus. The practice of mindful breathing can also help a person experience the present through observation and description without judgment and reaction (Segal et al., 2002). We selected and used mindful awareness as a part of a contemplative pedagogical approach (Langer, 1989) to help learners engage with course content in a meaningful way.

Study Measures

In this study, all students were asked to complete a mindfulness assessment at the start (Time 1 -pretest) of the course, and again at the end (Time 2 -posttest) of the course. Students were also asked to practice mindful awareness at the start of each week, and were given a weekly check to report their mindfulness activity.

The mindfulness assessment (Bohlmeijer, et al. 2011)[1] measures five facets or dimensions of mindfulness that include observation of one's emotions and feelings (Cronbach's alphas = .72 at pretest and .77 at posttest), description of one's emotions and feelings (Cronbach's alphas = .82 at pretest and .83 at posttest), acting with awareness (Cronbach's alphas = .80 at pretest and .91 at posttest), being nonjudgmental with oneself (Cronbach's alphas = .55 at pretest and .77 at posttest), and watching one's feelings without reacting or overreacting to them (Cronbach's alphas = .73 at pretest and .75 at posttest). Overall mindfulness was measured by combining scores of these five dimensions (Cronbach's alphas = .79; at pretest and .76 at posttest). Studies with college students (Baer et al., 2006) indicate that this self-reported mindfulness assessment (that includes five dimensions) has incremental validity for assessing these qualities among college students. See Appendix A for the list of mindfulness questions. Changes between the pre- and post-assessment scores (across each of the five dimensions) comprised the study dependent variables or outcomes.

Plan of Analysis

Three-way mixed between subjects analysis of variance (ANOVA) tests were conducted to assess whether students who practiced "deep breathing" in their classes experienced changes in their levels of mindfulness (across the five dimensions and overall) and whether the changes were affected by the learning environment (online versus in-person), as well as course level (i.e., undergraduate versus graduate).

Results

The following results provide responses to the main research question: Do learners' practicing "deep breathing" report changes in levels of overall mindfulness and across the five dimensions of mindfulness differ by learning environment and course level over time?

Table 1 shows the means and standard deviations of mindfulness scores over time (pre and post) by learning environment (online and in-person) and by course level (undergraduate and graduate) for each of the five mindfulness dimensions.

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[1]Bohlmeijer, E., ten Klooster, P, Fledderus, M, Veehof, M * Baer, R. 2011. Assessment, 18, pp. 308-320

Table 1
Scores of learners who practiced meditation by course level and by learning environment across two time periods for overall mindulness and for five mindfulness dimensions

	Time Period			
	Pre		Post	
	M	*SD*	*M*	*SD*
Overall Mindfulness				
Undergraduate				
Online	3.51	.38	2.84	.20
In-Person	3.22	.37	3.31	.35
Graduate				
Online	3.61	.37	3.58	.41
In-Person	3.32	.37	3.39	.34
Mindful Observation				
Undergraduate				
Online	3.72	.59	2.62	.51
In-Person	3.62	.64	3.61	.78
Graduate				
Online	3.89	.65	3.82	.70
In-Person	3.61	.84	3.66	.91
Description of Present Moment Experience				
Undergraduate				
Online	3.30	.29	3.07	.33
In-Person	3.51	.71	3.62	.60
Graduate				
Online	3.83	.48	3.87	.59
In-Person	3.67	.67	3.80	.59

Table 1, *cont.*

Acting with Awareness				
Undergraduate				
Online	3.94	.74	2.97	.42
In-Person	3.42	.75	3.53	.77
Graduate				
Online	3.87	.64	3.68	.72
In-Person	3.62	.59	3.56	.63
Nonjudging				
Undergraduate				
Online	3.26	.75	2.81	.43
In-Person	2.83	.67	2.88	.70
Graduate				
Online	3.18	.68	3.34	.75
In-Person	2.70	.71	2.83	.86
Nonreaction				
Undergraduate				
Online	3.31	.59	2.78	.47
In-Peson	3.10	.56	3.22	.48
Graduate				
Online	3.27	.42	3.20	.49
In-Person	3.00	.50	3.10	.50

The results indicated that for overall mindfulness and for three of the five mindfulness dimensions (i.e., mindful observation, acting with awareness, and nonreaction), the learners' levels of mindfulness changed over time, and that such changes depended on the type of learning environment (online versus in-person) and the course level (undergraduate versus graduate). Tables 2-7 describe the mixed ANOVA test statistics for overall mindfulness and for each of the five mindfulness dimensions.

Table 2

Mixed ANOVA summary results for Overall Mindfulness

Source	Value[a]	df	F	Partial η^2
Interaction Effects				
Time x Learning Environment x Course Level				
Between	.17	1	27.97**	.17
Within		138		
Time x Learning Environment				
Between	.26	1	47.96**	.26
Within		138		
Time x Course Level				
Between	.15	1	24.60**	.15
Within		138		
Learning Environment x Course Level				
Between		1	8.53**	.06
Within		138		
Main Effects				
Time				
Between	.12	1	18.72**	.12
Within		138		
Learning Environment				
Between		1	2.00	
Within		138		
Course Level				
Between		1	8.57**	.06
Within		138		

Note: [a]These are Pillai's Trace values. *p<.05, **p<.01.

Table 3

Mixed ANOVA summary results for Mindful Observation

Source	Value[a]	df	F	Partial η^2
Interaction Effects				
Time x Learning Environment x Course Level				
Between	.12	1	19.28**	.12
Within		138		
Time x Learning Environment				
Between	.17	1	29.10**	.17
Within		138		
Time x Course Level				
Between	.15	1	23.36**	.15
Within		138		
Learning Environment x Course Level				
Between		1	7.48**	.05
Within		138		
Main Effects				
Time				
Between	.16	1	25.97**	.16
Within		138		
Learning Environment				
Between		1	.95	
Within		138		
Course Level				
Between		1	8.57**	.06
Within		138		

Note: [a]These are Pillai's Trace values. *p<.05, **p<.01.

Table 4

Mixed ANOVA summary results for Description of Present Moment Experience

Source	Value[a]	df	F	Partial η^2
Interaction Effects				
Time x Learning Environment x Course Level				
Between	.01	1	1.71	
Within		138		
Time x Learning Environment				
Between	.04	1	5.68*	.04
Within		138		
Time x Course Level				
Between	.02	1	2.48	
Within		138		
Learning Environment x Course Level				
Between		1	7.80**	.05
Within		138		
Main Effects				
Time				
Between	.00	1	.03	
Within		138		
Learning Environment				
Between		1	2.23	
Within		138		
Course Level				
Between		1	22.58**	.14
Within		138		

Note: [a]These are Pillai's Trace values. *p<.05, **p<.01.

Table 5

Mixed ANOVA summary results for Acting With Awareness

Source	*Value*[a]	*df*	*F*	*Partial η²*
Interaction Effects				
Time x Learning Environment x Course Level				
Between	.88	1	18.53**	.12
Within		138		
Time x Learning Environment				
Between	.82	1	30.73**	.18
Within		138		
Time x Course Level				
Between	.95	1	7.79**	.05
Within		138		
Learning Environment x Course Level				
Between		1	1.08	
Within		138		
Main Effects				
Time				
Between	.84	1	26.49**	.16
Within		138		
Learning Environment				
Between		1	.65	
Within		138		
Course Level				
Between		1	4.48*	.03
Within		138		

Note: [a]These are Pillai's Trace values. *p<.05, **p<.01.

Table 6

Mixed ANOVA summary results for Non-judging

Source	Value[a]	df	F	Partial η^2
Interaction Effects				
Time x Learning Environment x Course Level				
Between	.03	1	3.83	
Within		138		
Time x Learning Environment				
Between	.04	1	5.68*	.04
Within		138		
Time x Course Level				
Between	.05	1	6.66*	.05
Within		138		
Learning Environment x Course Level				
Between		1	7.80**	.05
Within				
Main Effects				
Time				
Between	.00	1	.16	
Within		138		
Learning Environment				
Between		1	9.89**	.07
Within		138		
Course Level				
Between		1	.43	
Within		138		

Note: [a]These are Pillai's Trace values. *p<.05, **p<.01.

Table 7

Mixed ANOVA summary results for Non-reaction

Source	*Value[a]*	*df*	*F*	*Partial η²*
Interaction Effects				
Time x Learning Environment x Course Level				
Between	.97	1	4.61*	.03
Within		138		
Time x Learning Environment				
Between	.91	1	14.47**	.10
Within		138		
Time x Course Level				
Between	.97	1	4.02*	.03
Within		138		
Learning Environment x Course Level				
Between		1	5.16*	.04
Within		138		
Main Effects				
Time				
Between	.98	1	3.13	
Within		138		
Learning Environment				
Between		1	.25	
Within		138		
Course Level				
Between		1	.31	
Within		138		

Note: [a]These are Pillai's Trace values. *p<.05, **p<.01.

Figures 1-4 illustrate the changes in levels of overall mindfulness and of these three dimensions by learning environment, course level, and time.

Figure 1

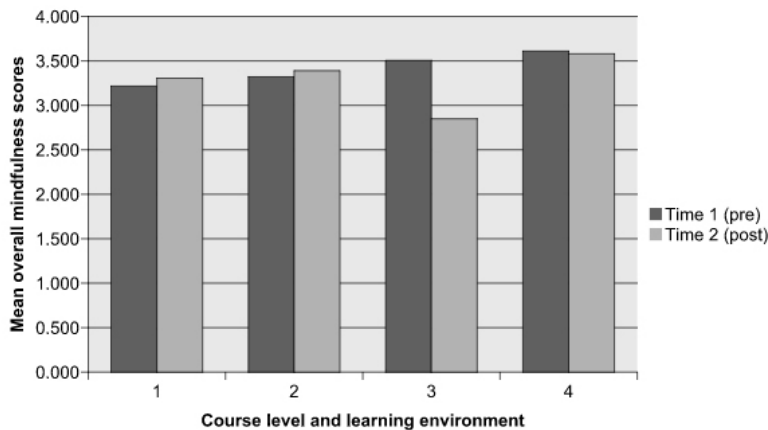Changes in Overall Mindfulness by Leanring Environment, Course Level, and Time

Figure 2

Changes in Mindful Observation by Leanring Environment, Course Level, and Time
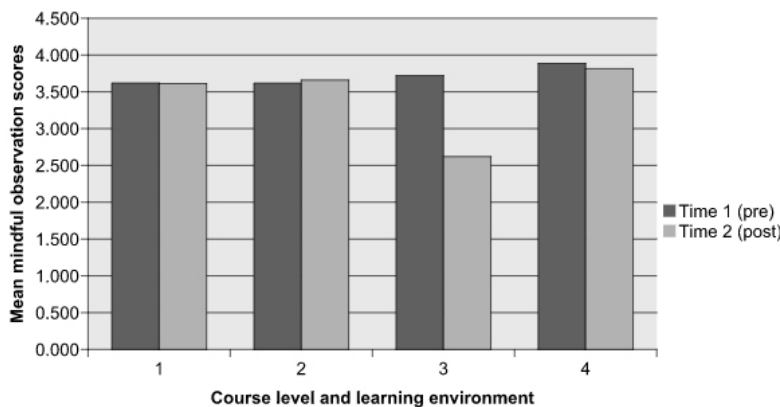
Figure 3

Changes in Acting with Awareness by Leanring Environment, Course Level, and Time
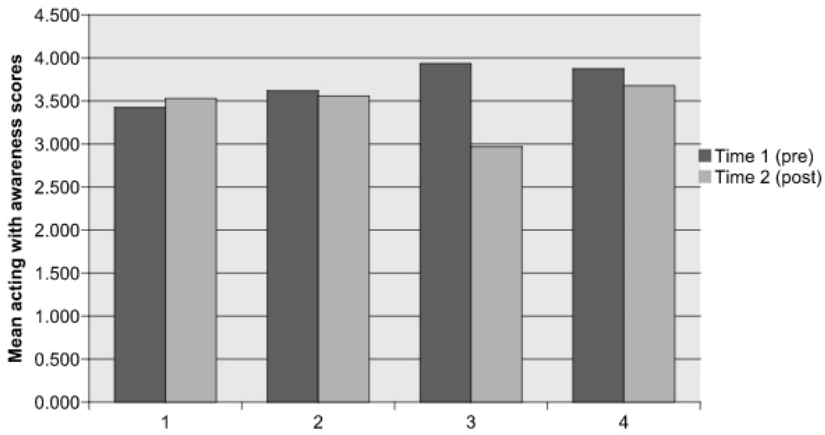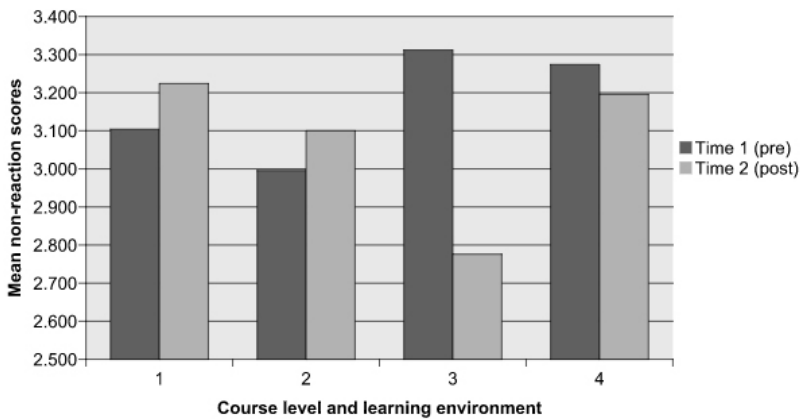

Figure 4

Changes in Non-reacting Scores by Leanring Environment, Course Level, and Time

Discussion

"Mindful awareness" was conceptualized in this study as a process to promote mindful learning by improving the mental state of the learners. By incorporating "mindful breathing" in academic courses, we expected to promote our learners' relaxation, focus and concentration, and mindfulness. So in the spirit of mindfulness, we proffer the following possible explanations for some of the unexpected results of worse mindfulness among some of the learners who practiced deep breathing.

The main results show that online learners who practice mindful awareness reported significantly worse mindfulness levels. This result was most evident among online undergraduate learners who appear to have the greatest decline in mindfulness levels. Conversely, in-person learners reported some improvement for some of the mindfulness measures. While these were not very strong, they at least support our initial expectation that mindful awareness is associated with some improvement in mindfulness.

Differences associated with online versus in-person delivery of course

These mindfulness differences between online and in-person learners practicing meditation suggest that the learning environment itself may be differentially influencing learners' mindfulness. For example, in an in-person class that practiced "mindful breathing," the instructor controlled the classroom environment. Learners were guided through the deep breathing in a quiet classroom setting. In contrast, online learners practiced deep breathing on their own. Since many online students often report that they take online courses because they have busy schedules and cannot afford the time to come to campus for instruction, it is likely that they practiced deep breathing in a noisy and possibly distracting setting. While busy online learners may be in greater need of mindfulness activities to help them relax and focus, these conditions nonetheless may serve as important barriers that undermine and perhaps worsen online learners' mindfulness.

Given that the online undergraduate learners in this study were older, nontraditional working adults, they may have more time barriers associated with working and taking courses on full-time basis. It is plausible that these time demands may have interfered with their practice of mindful breathing, as well as any of its accrued benefits. Additionally, we did not control for student's experience with online learning. Taking an online course for the first time often is very stressful as students strive to navigate the learning platform while concurrently learning course content. For those first-time online students, the online delivery may be increasing students' stress and

lessening the influence of mindfulness activities. Another point to consider is that the practice of mindfulness by online learners over time may have made them more aware of their lack of focus, attention and mindfulness that were reflected in their lower mindfulness levels at the end of the course.

Differences associated with individuals' beliefs related to meditation

Another potential barrier that may be contributing to lower than expected mindfulness levels among learners (both online and in-person) relates to the personal nature of meditative activities and students' beliefs about them. Meditation and its related activities are often perceived as spiritual and re-ligious; and as such, may conflict with students' personal beliefs. While the instructors believed this was a worthwhile strategy to enhance leaner focus and concentration, students may not share this perspective. So for some learners, meditation relates to one's religious beliefs and as such should not be part of a course. These views about meditation can create some personal level of conflict that adds to learners' stress and distraction and ultimately presents formidable barriers to both the practice of meditation and its effects on learners' mental state.

Limitations

This was a preliminary examination of health administration courses from only two programs. There was a relatively small number of courses and number of learners that limited the statistical analysis. There was no control group of learners that did not practice deep breathing who took mindfulness assess-ment. A control group would be very helpful, especially for online learners to see if the meditative deep breathing mitigated or increased their decline in mindfulness.

Implications

Requiring a personal activity like "deep breathing" in an academic class may create resistance and stress for some students. While mindfulness is being championed by many in the media as helping those stressed out by constant communications and information overload, this is not a panacea for everyone. A recent article (Brendel, 2015) related to mindfulness at the workplace argues that workers should not be are required to participate in mindful breathing sessions, and that such practices should be done in private and not imposed.

Because the type of meditation (i.e., mindful breathing) is perceived by some as spiritual and religious, some learners may resist and oppose engaging in this type of activity in a course. Any student opposition can be viewed by

college leadership as risky and thus may not be supported or allowed. This is meant as a cautionary note to those instructors considering integrating this type of activity into a course. It is important to consider allowing students to opt out of these activities to minimize the likelihood of student resistance and complaints.

The emergent mindful management approach that is increasingly evident in the popular literature and media suggests the need to pay attention and be mindful to the ever-changing environments in which work places and organizations reside. Perhaps the five facets of mindful organizations developed by Weick and Sutcliffe (2001) can be adapted to individuals to help them pay close attention to what is happening internally and externally while developing as awareness of and sensitivity to detail and ability to act and change. Perhaps these organizational characteristics may be better suited to assess qualities of a mindful manager than the personal mindfulness that were used in this study.

As more courses and programs are being delivered online, attention to helping learners focus and engage with course content becomes an increasingly important part of online pedagogy. The intent to promote mindful learning especially for courses delivered online is the important take away from this study. As our preliminary findings suggest, meditative breathing may not improve mindfulness, especially among online learners. However, as we did not examine learning outcomes such as academic grades, student satisfaction levels, and retention rates for these learners, it is not possible to say that meditative breathing for online learners has little or no merit.

The need to develop ways to help learners relax and focus in an increasingly digitally demanding world will continue to challenge certified and accredited programs in health administration in their quest to develop mindful learners and managers.

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