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Mindfulness Research and the Future

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We consider some of the ways in which mindfulness theory can provide new solutions to current problems and address potential future problems that may result from changes in demographics and technology. Specific research questions are suggested to see how increasing mindfulness and decreasing mindlessness can work to diminish these social problems as they occur specifically in the classroom, the workplace, and the social predicament of getting old. We discuss (a) recasting some of the problems of the elderly into problems of perspective about the elderly, (b) mindful ways of dealing with increased ethnic diversity, (c) differentiating between changing the workplace work and changing the character of the work itself and (d) the advantages and ways of increasing mindfulness in the classroom.

This issue of *Journal of Social Issues* has reviewed a diverse range of research areas that have benefited from a mindfulness perspective. In this article, we will suggest some future direction and questions for research in this area, based upon both the work of the investigators represented in this issue and some recent work in our own laboratory.

We believe that mindfulness theory should enable us to change both individuals and institutions in two ways: (a) by increasing mindfulness and (b) decreasing mindlessness. The first is a direct approach aimed at implementing new programs and procedures that take as their goal an increase in our awareness of multiple

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perspectives. The second is less direct and takes as its target changing existing programs and procedures, with the aim of eliminating those aspects that unwittingly promote mindlessness.

We are particularly interested in how mindfulness theory can be used to confront the new social issues that will face us in the 21st century as well as novel approaches to continuing problems. In this article, we will briefly consider three such social concerns in this light: demographic changes, the changing workplace, and the changing needs of our educational system.

Mindfulness Theory and Demographic Change

One of the most noted demographic changes that face us in the new millennium is the "graying of America." In the year 1700, the average human life expectancy was 35 years. In the 1900s, the average life expectancy was 47, and only 3% of the population made it past the age of 65. In 1995, the average life expectancy was 75 at birth, and 80% of all deaths occurred after the age of 65 (Butler, 1999). By 2020, studies predict that seniors over 60 will account for 25% of the U.S. population and 30% of the population in Germany and Japan (Roszak, 1998). How might the culture take advantage of this change? With so many healthy older people around, there is the opportunity to harness their wisdom, for example, to help underserved groups or provide service/advice to younger people. But before we as a culture are likely to do this, we need to change our negative attitudes towards aging and the aged, which are in part based on our experience with older adults whom we see act in ways different from how we think one "should" act.

One way to do this might be to teach people that the same behavior may have many different meanings in younger and older people. Much of an older person's behavior may be currently misunderstood as stemming from deficiency rather than choice. Because the elderly will constitute a more powerful political constituency as their numbers increase, they may come to be heard. While we await that happening, a mindful view of behavior may hasten the process and change some of our stereotypes.

From the perspective of the inhibited adult, a child carrying on in a grocery store may be seen as uninhibited. Currently if an 80-year-old "misbehaves" in a similar way, she would be seen as regressing. Mindfulness theory suggests the possibility and benefits of discerning alternative interpretations. It may be, for example, that the older adult may no longer care to follow rules that make little sense to her. If so, she is best seen as being disinhibited. Her behavior resembles that of a child but actually is more sophisticated than that of the younger adult consumed with concern about what others will think. A seeming lack of attention may not mean that older adults are easily distracted, but that they are otherwise attracted. Maybe they have "heard it all before." Differentials in power and status often determine diagnostic labels such as that of attention problems in the elderly in

our culture. For example, watching television designed for younger generations may not have the appeal it once did to older people, but not because of their troubles with paying attention. Substantiating this, Levy and Langer (in press) taught elderly adults to pay mindful attention, that is, to notice novel things in the material at hand, and found they had no problem staying attentive under these conditions.

This more mindful alternative further suggests that older persons may have something to teach younger people. If we initially taught people to consider positive reasons why someone might do what seems negative on the face of it, and then gave them opportunity to interact with someone older or just different from themselves, they might more readily consider behavior from the actor's perspective.

Many research questions arise from this discussion. How can we accomplish this? Can we train older adults to feel comfortable enough to give explanations of their behavior freely when it differs from that of their younger counterparts? Can we enlist older adults to give courses on successful aging in which they teach how the world may look and feel different as we get older? For example, as some people age, they become more sensitive to cold temperatures. If we see this as a difference, rather than as a weakness, we might find some advantage for us all in this and other natural age-related changes.

In our culture, certain people have been used as prototypical examples of normalcy and adequate performance. For instance, the White male has typically been used as the model in many medical tests. As a result, differences that may stem from differences is physiology, for example, are taken as deficiencies. For some time, (male) medical students served as the model for drug trials. Because the speed for medication to be absorbed and eliminated by the body differs from young to old, elderly adults for some time were being overmedicated. If the original trials had been conducted with older adults, it is the young who would have suffered. Even the proper height of a shelf in a kitchen was a decision made based on the "average" height of the user. The average, no doubt, did not consider demographic changes that bring changes in height. What difference does this make? Finding it hard to reach for dishes without breaking them may not necessarily be a function of being older and less coordinated, as some might assume. It may simply mean that what was a convenient height for one group is not as convenient for another. Consider who would feel uncomfortable if ceilings were lower, so that buildings could have one more floor added to them. These examples are not meant to suggest that every house, for instance, should be individually designed by height of occupant (although perhaps medication should take greater account of individual or at least group differences). The examples just suggest an alternative understanding for what now may pass as a deficit. The same mindful approach could be useful in dealing with another demographic change that we are seeing, such as greater population diversity.

Our institutions are seeking ways to deal with the increased ethnic diversity of our populace. Upper-middle-class members of many cultures currently fill our

classrooms and business establishments. Regardless of color or ethnic background, if people are essentially trained the same way, they are likely to think and solve problems the same way. The more interaction these individuals with similar viewpoints have as we become increasingly a global economy, the more homogenized they are likely to become, and the more intolerant to differences and diversity. Can mindfulness research help us avoid the "forced homogenization" that has come to be the dominant view of the "cultural melting pot"?

A mindful alternative would be to consider "functional diversity" as a way of relating to differences among people. If we assumed that people behaving differently from us are not inferior, but rather are viewing the same stimulus differently, we could take advantage of the different perspective they offer. When we use a single metric for excellence, it becomes hard to seek or take the advice of someone implicitly, if not explicitly, deemed deficient. It is ironic that we can have a notion of someone or some group being inadequate to solve a problem for which we don't know the solution ourselves ("I don't know, but I'm sure you can't know.") Perhaps the future will see a truer diversity in those brought together to try to solve social problems. What would gang members who were willing to address the issue, for example, suggest we do about eliminating gang wars? What would drug addicts advise us to do about keeping our children off drugs? What would gun dealers suggest we do about making downtown neighborhoods safer?

Years ago one of the authors (Langer) was part of a group asked to consider issues related to setting up colonies in outer space. She suggested that for space flight we might want to consider people who survived growing up in a ghetto. They have proven their resourcefulness. By comparison, the upper-class astronaut has been trained for foreseen types of adversity. It is an open question, however, who would do better dealing with problems so foreign we cannot even articulate them at present. We are asked by politicians to embrace our differences. This may be more likely to happen after we realize that a difference may be a deficiency in one context but a strength in another.

Mindfulness and the Changing Workplace

Let's turn to the issue of how the workplace is changing to see how mindfulness theory may be useful. Without formal analysis, it still seems safe to say that many people either do not enjoy their work or at the least could enjoy it more. Mindfulness theory suggests at least two possible solutions. One is to vary the perspective from which workplace tasks are viewed by the persons performing them. The other is to design interventions that allow people to become more engaged with the tasks they already perform.

As an example of the first possibility, Snow and Langer (1997) tested the hypothesis that task enjoyment is a function of perspective rather than task components. Subjects were given the task of sorting cartoons into categories of more or

less humorous. Despite the fact that the task itself seems inherently enjoyable, those subjects in the condition where it was labeled "work" disliked it more than those in the "play" condition and found their minds wandering from the task as they tried to do it.

The mindsets "work" and "play" apparently set us to engage ourselves in very different ways. What would it take for people in general to approach their work with an alternative mindset? In other work, Brian Fox and I (Fox & Langer, 2000) found that the more mindful one is in engaging a subject, the more it is liked. Research participants were asked to draw either a few or many novel distinctions. The more distinctions drawn, the more they liked the stimulus. If we applied this to work, would we find that the more novelty workers were encouraged to pursue, the more they would like their jobs? It is interesting to note that, based on prior work, the distinctions drawn can be relatively trivial, thereby leaving the job essentially the same.

Of course, it is may be wise to at least consider the possibility of changing the structure of the job itself. If people don't enjoy doing it, perhaps there are approaches that can be taken to enhance positive feelings. How would they like to do it? A mindful analysis might begin by breaking the task down into many parts and seeing what alternatives are possible. "We've always done it this way" is not sufficient reason to continue doing it that way. With a more diverse workplace, there may be more viable mindful alternatives. When a problem arises, imagine, for example, what the workplace would be like if *everyone* explicitly considered the possible advantages of the present "problem." It would seem that the environment would become friendlier, more inclusive, generally more open to novel ideas, and, of course, when advantages of the "problem" were found, more successful. This is a testable hypothesis.

As we attempt to make the workplace into a more mindful environment, the Internet may be a critical part of our efforts. Broadband consumer access to information may be used to test one's ideas without much interpersonal risk, as we exist on the Internet only as names. The widespread use of the Internet and the virtually unrestricted access to information that people have through electronic media is now making the mindful reconsideration and reinvention of everyday life more relevant and possible than ever before. Increasingly sophisticated forms of media, such as interactive television and video and virtual reality, open up new possibilities to participate in a broader cultural universe than that which they can find among immediate friends and family, or their immediate community.

At first this may bring distrust for some. With the realization that there are many more potentially different ways of shaping one's life and of speaking about oneself than those that had provided a cultural home in the past, a person's distrust of any particular value system's claim to absolute validity grows. Our perceptual processes may need to become mindful as well. No longer can we trust that what we see on our electronic media, for example, is a true image of some underlying

reality. Now we can see Bill Clinton shake the hand of Dwight Eisenhower, for example, courtesy of the digital manipulation of the pixels that make up images, and may thereby realize that seeing is not believing.

Many research questions follow from this line of thinking. For instance, how many different perspectives are needed to give rise to the understanding that the "truth" of information is context dependent? In turn, how does this realization affect the degree of engagement of a person with her tasks? How difficult is it to realize the change from distrust to comfort with uncertainty? What characteristics of the information facilitate/hinder the change from a personal to a universal attribution for uncertainty? In the past, many believed the printed word. Because computers are commonplace, virtually all words now are essentially the printed word. When the printed words disagree, will this disagreement foster individual responsibility? For example, if one expert says "take the drug" and one says "don't" and another one says "I don't know for sure," will people take greater control over the decision and its consequences? These are just a few of the issues to which we might attend.

Mindfulness and Educational Change

How might we change the classroom and how might we change it by reducing mindlessness and increasing mindfulness? First let's consider ways in which teachers themselves may be behaving mindlessly. If we believe we have to know the answer, and we don't, and our job depends on knowing it, a reasonable thing to do is to hide our ignorance. To do so, we would not engage our students, except perfunctorily. This would not be likely to engage the less interested student. Opening up the discussion to ways in which one may come to one's knowledge of arithmetic in an introductory mathematics class, for instance, can be perceived as very risky by such a teacher. The benefits to doing so, however, as the article in this issue by Ritchhart and Perkins suggests, can be great.

Consider further that teachers have been led to believe their jobs will be in jeopardy if their students don't do well on standard tests. Shouldn't this lead teachers to teach only the material that is relevant or related to the test? If teachers can teach students to know the test material, shouldn't they be able to teach them other material? How would all of this change if we taught teachers to be more mindful and rewarded their doing so?

The mindful critique of education extends to learning from books as well as learning from teachers. Textbooks typically present facts as closed packages without attention to context or perspective. If we are part of a group that doesn't share the implicit perspective, the material should be less interesting and probably harder to learn. As scientists, we know that our research results in findings that are *probably* true given the context in which the work was tested. When these findings are reported by teachers or in textbooks they are translated from probabilities into

absolute statements that hide the uncertainty. Consider how much more interesting and engaging statements of probability are than statements of fact; they tend to lead us to wonder about when the information may or may not be true and to consider what are the advantages and disadvantages and how might we bring about the former and minimize the latter. "What are the three reasons for the Civil War?" a high school teacher might ask. From whose perspective? Surely a 30-year-old Black woman from Georgia in 1865, a 60-year-old Black male in Europe in 1953, a White politician in 1968, or 1972, or 1999, a person who lives in the country versus the city, and so forth, would not all feel the same about it. Who decides what perspective is represented, and why? With the way information is typically presented, it doesn't even occur to students to ask. Once we consider how information looks different from different perspectives, we become aware of the uncertainty inherent in our "context-free" facts.

Respect for diversity often creates a dilemma regarding the choice of material that will be meaningful to people with the different cultural backgrounds found in many of our schools. What is most exciting about the mindfulness research is the implication that if the content of the material to be learned encourages mindful learning, rather than freezing the material in one rigid perspective, students can more easily make the material relevant to their own individual concerns. Further, mindfully learned information may remain available for future reconsideration should those concerns change.

What does teaching unconditional facts to our students cost us as a culture? As long as the world stays as it is, the costs may not appear great. But essentially it implicitly says that we know these truths and that they are the important ones to know. How can we know what is important for tomorrow's solutions when we do not know tomorrow's problems? Essentially we are preparing our children for yesterday rather than for tomorrow. "Facts" are useful as the means of learning how to think. But, beyond that, the importance of knowing any particular fact is certainly questionable. If we understood this, then two things might change. First, we might present the facts differently, and second, we might feel differently about anyone who does not know the particular fact.

Should all learning proceed in this conditional fashion from our earliest experience throughout our lives? Or do we need to teach all (or some? which?) children stability first so they won't be overwhelmed by all the possibility mindful learning theoretically makes available? These are matters still to be determined, and many of them can be investigated empirically. Our view, until or unless future research reveals otherwise, is that we are all poorly served by the mindless learning of facts, models, theories, and forecasts. So that we don't prematurely close the future, we might at least consider that *all* of our learning be mindful or potentially mindful (i.e., not mindless). Perhaps—and this can lead to a testable set of hypotheses—we only believe that we need certainties, even if they are illusory, because that is the way we ourselves were taught.

Mindfulness research suggests immediate interventions to make classroom learning a more mindful experience. Instead of having all students doing the same thing, being evaluated and graded on a curve, and thus having some come to feel inferior to others, would it be possible to structure the classroom activities so that no one has to lose? Currently we teach different academic subjects in different periods of class time and assign grades on the basis of individual performance on separate examinations and tasks. But the status of these activities relative to each other is not clear, even though the skills needed for high performance at different tasks may be correlated in meaningful ways. It is probably easier to excel in math and do poorly at art than vice versa. Poor performance in math may be an indication of talents that would flourish if applied elsewhere. Are there important skills that are negatively correlated with math skills, perhaps even mutually exclusive with them? It might seem heresy to ask, but is a mathematical approach to every problem the best or only approach? Just raising this issue might be helpful in the classroom to those who are currently prey to "math anxiety."

We have categorized our skills in particular ways. Perhaps there would be some benefit to recategorizing them, and recategorizing them again and again. Is understanding a triangle more like calculating the dependence of distance on time and speed, or more like art? Is knowing how to price an item for retail more like economics or psychology? Who decided to categorize literature as fiction versus nonfiction? Much nonfiction today is tomorrow's fiction and surely fiction is based on someone's view of reality. What are the costs of buying into these categories in an unconditional way? Indeed, an interesting question for any class may be to consider what the categories being studied buy us and what they hide from us.

Of the several ways to induce mindfulness, surely some are better than others. We need to consider this with respect to particular populations and particular settings. Much research is necessary to understand and delineate the boundaries of the phenomenon. Past investigations and the work described in this issue suggest, however, that such a prodigious undertaking may be to our advantage as individuals and as a society. Let us examine how the work reported in this issue can be extended or built upon in order to increase the degree of mindfulness of our civilization.

Future Considerations Suggested by Earlier Research

First, as Robert Sternberg's work points out, mindfulness is difficult to capture using the traditional tools of cognitive mapping and inquiry. Psychologists need to go beyond the constructs of cognitive ability and style in order to understand how real innovation is possible. Here, psychology may have much to gain from incorporating insights from analytic philosophy (investigating the "meaning" of meaning and the foundations of epistemology), from hermeneutic philosophy (investigating the phenomena of perception, interpretation, and understanding) and from cultural

studies and cultural theory (revealing the often hidden assumptions and values that are embedded in seemingly "objective" theories). A new, culturally sensitive and philosophically reflective way of "doing psychology" can be a first step toward creating a community of more mindful psychologists.

If mindfulness can only with difficulty be grasped (sometimes as the opposite of mindlessness), then how can we teach it? John's classroom discussion of algebra in the article by Ritchhart and Perkins gives a tantalizing clue: it's not the substance of the concepts that makes a discussion mindful, but the ways in which the concepts are introduced: as potentially suspect, socially constructed, and therefore subject to revision, and open to the question "How might it have been otherwise?" It is often the case that teachers and college professors see their task as one of transferring information or knowledge to their students, rather than the skills to develop new knowledge, to create new information. Challenging though it might seem at first, the development of a constructivist approach to the natural sciences may be the key to the development of more mindful scientists. "Imagination is more important than knowledge," said Albert Einstein. A mindful classroom experience breeds the talent and desire to inquire into the possible (the realm of imagination) while treating the actual (the realm of knowledge) as contingent.

Social interventions aimed at destereotyping may end up restereotyping, as the study by Kawakami, White, and Langer seems to suggest. Doing away with the "gender gap" does not mean doing away with the feminine ideals, myths, roles and overall ways of being. Women impersonating men in order to efface their femininity in order to acquire the trappings of power that have traditionally been reserved for men sacrifice authenticity and creative power. It takes real "emotional labor" (Hochschild, 1997) to play the script, labor that saps energy from the creative tasks of thinking, imagining, arguing, deliberating. The study suggests that we might conceptualize gender self-concepts as a family of traps wherein individuals fall easily in the desire to "fit in." We should aim at designing interventions aimed at freeing people from the traps they have devised.

A good example of progress toward greater mindfulness of people in a field is provided by Steven Reiss's discussion of the greater span of the American Association on Mental Retardation's definitions of mental retardation, which now include environmental factors and support structures. Recognition of the cultural and social embeddedness of the individual, of the many worlds that she simultaneously inhabits, should breed greater distrust of any single definition or set of criteria for the human condition. Progress, however, cannot be taken for granted. The phenomenon that Reiss documents can backfire in that people may come to have greater confidence in their theories because these theories have been broadened, and thus accept the new theories without question. "We've done the best we can," they might shrug, refusing further cognitive work. Constant work is, therefore, required to broaden the limits of any category and definition, and each successful attempt to do so should be interpreted not as evidence for

the validity of the new definition, but rather as evidence for the promise of future, more insightful approaches.

Can the promise of a more mindful and tolerant civilization be realized through the mass deployment of broadband residential communications technologies? Not by technology alone, as the work of Nass and Moon suggests. The technology on which the Internet economy is built is not made up of a set of neutral agents. Rather, people see computers as "social actors." They invest them with credibility and place or withhold their trust in them and, implicitly, in the content that they deliver. The research paradigm that they have built around the "computers are social actors" metaphor can be expanded to create an "epistemology of e-space" that takes into account not only the intentions of content providers and the perceptions of consumers, but also ways in which these perceptions and intentions might change interactively, as a function of each other.

Along the same lines, Burgoon and her coauthors offer an investigation of the relationship between mindfulness and effective communication that highlights the beneficial effects of mindful processing of interpersonal stimuli to achieve greater efficacy in conveying information. Mindful communication is, to a large extent, about mindful listening: listening that is unencumbered by preexisting categories that constrain the attention of the listener to a prespecified set of characteristics of the other. The work of these investigators suggests a new line of research in the area of mindful interpersonal relating, aiming to provide cognitive skills that keep alternative interpretations open even as we are busy responding on the basis of already-settled-on interpretations of another person's behavior. One approach to generating an almost endless array of interpersonal interpretations comes from considering not only our own immediate perceptions and beliefs about a communicator and our reactions to them. A fully interactive logic of interpersonal relating awaits development.

Jack Demick shows that the ideas that come from work on mindfulness may have a centrifugal effect on psychological science by providing a basis for the unification of many subfields of psychology. It should also be noted, however, that advances in the mindfulness of a field are often realized through the breakdown and further refinement of the categories that the field recognizes as real or legitimate, sometimes giving rise to subfields and minifields. In summary, mindfulness is not a product, but a process, that stresses the difference between understanding and explanation and ultimately frees understanding from explanation. It is in this spirit that progress toward a more "mindful civilization" should be understood.

The articles in this issue taken together address specific issues that we are currently facing. Beyond the problems they address, they suggest an overarching approach that may be useful in understanding and intervening as new social problems, those that we are yet unaware of, present themselves.

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