References

Baumeister, R. F., Bratlavsky, E., Muraven, M., & Tice, D. M. (1998). Ego depletion: Is the active self a limited resource? *Journal of Personality and Social Psychology*, *74*, 1252–1265.

Ghorbani, N., Watson, P. J., Farhadi, M., & Chen, Z. (2014). A multi-process model of self-regulation: Influences of mindfulness, integrative self-knowledge and self-control in Iran. *International Journal of Psychology*, *49*(2), 115–122.

Glomb, T. M., Duffy, M. K., Bono, J. E., & Yang, T. (2011). *Mindfulness at work*. In J. Martocchio, H. Liao, & A. Joshi (Eds.), *Research in personnel and human resource management* (pp. 115–157). Bingley, United Kingdom: Emerald.

Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist*, *44*, 513–524.

Hyland, P. K., Lee, R. A., & Mills, M. J. (2015). Mindfulness at work: A new approach to improving individual and organizational performance. *Industrial and Organizational Psychology: Perspectives on Science and Practice*, *8*(4), 576–602.

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York, NY: Springer.

Semmer, N., Jacobshagen, N., Meier, L., & Elfering, A. (2007). Occupational stress research: The "stress as offense to self" perspective. In J. Houdmont & S. McIntyre (Eds.), *Occupational health psychology: European perspectives on research, education and practice* (pp. 43–60). Maia, Portugal: ISMAI.

Weinstein, N., Brown, K. W., & Ryan, R. M. (2009). A multi-method examination of the effects of mindfulness on stress attribution, coping, and emotional well-being. *Journal of Research in Personality*, *43*, 374–385. doi:10.1016/j.jrp.2008.12.00

Mindfulness and Performance: Cautionary Notes on a Compelling Concept

Erik Dane
Rice University

As Hyland, Lee, and Mills (2015) note, many conceptualizations of mindfulness include three characteristics. In particular, mindfulness is often defined as a state of consciousness in which an individual (a) focuses on the present moment, (b) attends to phenomena occurring both externally and internally, and (c) remains open to and accepting of observed stimuli—and thus avoids making judgments. Together, these characteristics grant insight into how mindfulness stands to improve performance in work settings. Just as directing attention to the work environment and the tasks and events associated with it can equip workers with key information for making decisions

Erik Dane, Jesse H. Jones Graduate School of Business, Rice University.
Correspondence concerning this article should be addressed to Erik Dane, Jesse H. Jones Graduate School of Business, Rice University, 6100 Main Street, Houston, TX 77005. E-mail: erikdane@rice.edu

and help them identify and circumvent risks and threats, so too can attending to internal phenomena (e.g., emotions and intuitions) provide workers with useful inputs to the decisions they face (Dane, 2011). Furthermore, in refraining from making judgments and evaluations, workers are more likely to view unfolding events through a variety of lenses and are less likely to view their thoughts, feelings, and reactions as manifestations or indictments of who they are (Glomb, Duffy, Bono, & Yang, 2011). In line with these observations, researchers have hypothesized and provided evidence for positive relationships between mindfulness and the well-being and performance of workers (e.g., Allen & Kiburz, 2012; Dane & Brummel, 2014; Hülsheger, Alberts, Feinholdt, & Lang, 2013).

Interestingly, however, each characteristic of mindfulness identified above points toward boundary conditions surrounding the link between mindfulness and performance in work settings. Below, I elaborate this claim as I consider these characteristics in turn.

Present-Moment Focus

In some work settings—such as those involving high risk, dynamism, or complexity—it is paramount for workers to attend to events unfolding in the present (Vogus, 2011; Zhang, Ding, Li, & Wu, 2013). To do otherwise could prove costly or even disastrous. That being said, in virtually any job one encounters moments, episodes, or tasks wherein focusing on the present is not necessarily essential to performance. Consider, for example, workers performing simple tasks, attending routine meetings, enacting ceremonial duties, or traveling from one appointment to the next. Although a worker could perhaps gain satisfaction or insight from focusing on the present in such instances, mindfulness may not always be the ideal psychological state for these situations. When the risks of losing touch with the present moment are limited, workers stand to benefit not only from mindfulness but also from mind wandering—a psychological state in which the mind retreats from the stimulus environment and takes hold of any number of thoughts, images, or possibilities of its own construction (Smallwood & Schooler, 2006). Given that mind wandering involves thoughts disconnected from the present moment and the events associated with it, it is understandable that mind wandering has been viewed as a threat to performance and even a deviant work behavior (Bennett & Robinson, 2000). Nevertheless, research suggests that the mind's tendency to wander away from the present may be adaptive. In particular, mind wandering can remind people of uncompleted goals (Mason & Reinholtz, 2015), help them anticipate and plan for the future (Mooneyham & Schooler, 2013), and enable them to generate creative ideas (Baird et al., 2012). This suggests that insofar as the content of one's mind wandering is related in some fashion to one's work (e.g., mind wandering about uncom-

pleted, work-related goals), losing touch with the here-and-now via mind wandering is not necessarily unproductive and may contribute favorably to certain aspects of performance (e.g., goal pursuit and creative problem solving).

In short, some degree of mind wandering (and thus, some degree of losing touch with the present) may be functional for workers—especially those tasked with multiple assignments, projects, or goals and those charged with generating creative output. This raises the intriguing possibility that, even in settings in which it has been shown to relate positively to performance, mindfulness could perhaps become overabundant if it limits the amount of time available for productive forms of mind wandering to occur.

External and Internal Phenomena

Given that mindfulness involves attending to phenomena occurring both externally and internally, it involves wide attentional breadth (Dane, 2011). In some work settings, a wide breadth of attention can prove beneficial and may even be essential. To illustrate, in research I conducted on how trial lawyers focus their attention in the courtroom, I found that highly experienced lawyers achieved and maintained mindful attention toward a wide range of events—such as the expressions and behaviors of the judge, jury members, and opposing counsel—and thus had a rich body of cues and inputs on which to base their trial-related decisions (Dane, 2013). Similarly, as university instructors are well aware, remaining mindful of how students are responding to a lecture—and heeding one's feelings and intuitions about whether the material is being understood—can provide key information about whether to continue forward, restate a particular point, provide an additional example, and so forth.

For other work tasks and contexts, however, it is debatable how wide one's attentional breadth should be. Just as a lawyer might benefit from a narrower focus of attention as he or she prepares documents or exhibits for an upcoming trial, a university instructor might benefit from a narrow attentional lens while evaluating student essays. In such cases, focusing attention narrowly may help one avoid distractions and screen out task-irrelevant stimuli.

By the same token, research on "flow" suggests that, in some cases, peak performance is experienced as a single-minded focus on the task at hand, such that everything else in one's life and environment, including one's sense of "self," seems to disappear (Csikszentmihalyi, 1990). As this description implies, flow is distinct from mindfulness. Whereas mindfulness involves observation of both external and internal phenomena, flow is primarily externally oriented and involves a greater degree of screening out.

To ask whether mindfulness is more or less facilitative of performance than flow or related psychological states (e.g., absorption; see Bakker, 2011) would run the risk of oversimplification. Just as some performance settings call for wide attentional breadth, others are more conducive to a state that restricts attention to a more limited set of perceptual inputs. More generally, these observations serve notice that there are different ways in which people can be "in the moment." Mindfulness is one such way—and a notable way at that—but the relationship between the present moment and mindfulness is neither consecrated nor monogamous.

Avoiding Judgment

Remaining open to and accepting of the events one encounters—and refraining from making judgments concerning those events—is no easy endeavor. As humans, it is part of our nature to make judgments, such as whether others are warm versus cold or competent versus incompetent (Fiske, Cuddy, & Glick, 2007). The fact that brief mindfulness training can reduce our tendency to generate negative thoughts (Kiken & Shook, 2011)—arguably, a form of judgment—is therefore remarkable in its own right.

Without question, judgments are prone to bias and can limit one's ability to view people, events, and phenomena in accurate or informative ways (e.g., Beauregard & Dunning, 1998; Perdue, Dovidio, Gurtman, & Tyler, 1990). Even so, in some cases, judgments may steer decision making and behavior in useful directions. Consider, for example, moral judgments. As research suggests, in many cases, the moral judgments people make are both automatic and infused with emotion (Haidt, 2012). Such judgments play key roles in social and organizational settings; they are manifestations of the experiences people have accrued within a particular moral domain and, as such, contain insights born through learning and socialization (Haidt, 2001). Insofar as moral judgments arise automatically and are emotionally laden, it is unclear whether one could avoid making such judgments through mindfulness training. But even if it were so, there could be risk in silencing such judgments. After all, in the face of a morally corrupt or heinous act, would it be advisable for organizational members to withhold judgment altogether?

The implication here is not that organizational members should forsake striving to understand and show compassion for the actions of others when they determine that a moral transgression has occurred. Rather, the implication is that, in some cases, judgments carry information distilled through experience and serve notice that discipline, training, or mentoring is needed.

Summary

Although beneficial in many respects, mindfulness is not necessarily the ideal psychological state for all work-related tasks and situations. Indeed,

in some cases, mindfulness may even be limited or costly, owing to its underlying characteristics. As these observations suggest, thinking in terms of boundary conditions and contingency frameworks will advance us toward a more theoretically complex and accurate understanding of mindfulness and its performance-related consequences.

References

Allen, T. D., & Kiburz, K. M. (2012). Trait mindfulness and work–family balance among working parents: The mediating effects of vitality and sleep quality. *Journal of Vocational Behavior*, *80*, 372–379.

Baird, B., Smallwood, J., Mrazek, M. D., Kam, J. W. Y., Franklin, M. S., & Schooler, J. W. (2012). Inspired by distraction: Mind wandering facilitates creative incubation. *Psychological Science*, *23*, 1117–1122.

Bakker, A. B. (2011). An evidence-based model of work engagement. *Current Directions in Psychological Science*, *20*, 265–269.

Beauregard, K. S., & Dunning, D. (1998). Turning up the contrast: Self-enhancement motives prompt egocentric contrast effects in social judgments. *Journal of Personality and Social Psychology*, *74*, 606–621.

Bennett, R. J., & Robinson, S. L. (2000). Development of a measure of workplace deviance. *Journal of Applied Psychology*, *85*, 349–360.

Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York, NY: Harper & Row.

Dane, E. (2011). Paying attention to mindfulness and its effects on task performance in the workplace. *Journal of Management*, *37*, 997–1018.

Dane, E. (2013). Things seen and unseen: Investigating experience-based qualities of attention in a dynamic work setting. *Organization Studies*, *34*, 45–78.

Dane, E., & Brummel, B. J. (2014). Examining workplace mindfulness and its relations to job performance and turnover intention. *Human Relations*, *67*, 105–128.

Fiske, S. T., Cuddy, A. J. C., & Glick, P. (2007). Universal dimensions of social cognition: Warmth and competence. *Trends in Cognitive Sciences*, *11*, 77–83.

Glomb, T. M., Duffy, M. K., Bono, J. E., & Yang, T. (2011). Mindfulness at work. *Research in Personnel and Human Resources Management*, *30*, 115–157.

Haidt, J. (2001). The emotional dog and its rational tail: A social intuitionist approach to moral judgment. *Psychological Review*, *108*, 814–834.

Haidt, J. (2012). *The righteous mind: Why good people are divided by politics and religion*. New York, NY: Pantheon Books.

Hülsheger, U. R., Alberts, H. J., Feinholdt, A., & Lang, J. W. (2013). Benefits of mindfulness at work: The role of mindfulness in emotion regulation, emotional exhaustion, and job satisfaction. *Journal of Applied Psychology*, *98*, 310–325.

Hyland, P. K., Lee, R. A., & Mills, M. J. (2015). Mindfulness at work: A new approach to improving individual and organizational performance. *Industrial and Organizational Psychology: Perspectives on Science and Practice*, *8*(4), 576–602.

Kiken, L. G., & Shook, N. J. (2011). Looking up: Mindfulness increases positive judgments and reduces negativity bias. *Social Psychological and Personality Science*, *2*, 425–431.

Mason, M. F., & Reinholtz, N. (2015). Avenues down which a self-reminding mind can wander. *Motivation Science*, *1*, 1–21.

Mooneyham, B. W., & Schooler, J. W. (2013). The costs and benefits of mind-wandering: A review. *Canadian Journal of Experimental Psychology*, *67*, 11–18.

Perdue, C. W., Dovidio, J. F., Gurtman, M. B., & Tyler, R. B. (1990). Us and them: Social categorization and the process of intergroup bias. *Journal of Personality and Social Psychology*, *59*, 475–486.

Smallwood, J., & Schooler, J. W. (2006). The restless mind. *Psychological Bulletin*, *132*, 946–958.

Vogus, T. J. (2011). Mindful organizing: Establishing and extending the foundations of highly reliable performance. In K. S. Cameron & G. M. Spreitzer (Eds.), *Handbook of positive organizational scholarship* (pp. 664–676). New York, NY: Oxford University Press.

Zhang, J., Ding, W., Li, Y., & Wu, C. (2013). Task complexity matters: The influence of trait mindfulness on task and safety performance of nuclear power plant operators. *Personality and Individual Differences*, *55*, 433–439.

What Do We *Really* Know About the Effects of Mindfulness-Based Training in the Workplace?

Tammy D. Allen
University of South Florida

Lillian T. Eby, Kate M. Conley, and Rachel L. Williamson
University of Georgia

Victor S. Mancini
University of South Florida

Melissa E. Mitchell
University of Georgia

In an attempt to distill what we know about the effects of workplace mindfulness-based training, Hyland, Lee, and Mills (2015) cast a wide net with regard to the array of studies included in their review. For example, they include studies that investigate the benefits associated with workplace mindfulness training (e.g., Wolever et al., 2012) as well as training conducted for patients within primary care settings (e.g., Allen, Bromley, Kuyken, & Sonnenberg, 2009). In addition, their review includes studies based on self-reports of individual differences in mindfulness traits/skills (e.g., Hafenbrack, Kinias, & Barsade, 2014). Reviewing a broad cross-section of research

Tammy D. Allen, Department of Psychology, University of South Florida; Lillian T. Eby, Kate M. Conley, and Rachel L. Williamson, Department of Psychology, University of Georgia; Victor S. Mancini, Department of Psychology, University of South Florida; Melissa E. Mitchell, Department of Psychology, University of Georgia.

Correspondence concerning this article should be addressed to Tammy D. Allen, Department of Psychology, University of South Florida, 4202 East Fowler Avenue, Tampa, FL 33620. E-mail: tallen@mail.usf.edu