

Why social psychologists should care about mindfulness

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Abstract

This chapter proposes two main reasons why social psychologists should care about mindfulness, and discusses recent research illustrating them. First, mindfulness affects two important features of human social cognition and behaviour, namely automaticity and self-related processing, making the research demonstrating these effects highly relevant to social psychology. Second, mindfulness can fundamentally affect people's daily life experiences, by using the innate capacities for attention regulation and metacognition. This may be valuable for applications of social psychology. In sum, mindfulness bears directly or indirectly on most topics of interest to social psychologists, and it provides useful directions for theory building, empirical research, and applications. We discuss some of these, along with challenges to the field.

Why social psychologists should care about mindfulness

Over the past 30 years, the concept of mindfulness has found its way into mainstream psychological science. Initially, research approached mindfulness mainly from clinical and neurocognitive perspectives, focusing on its potential stress-buffering effects and the prevention and reduction of depressive symptoms. Mindfulness, however, may have much broader implications, and these are increasingly recognized by scientists. As noted by Jon Kabat-Zin, one of the pioneering scholars in this field, “mindfulness [...] has profound relevance for our present-day lives” (p. 3; 1994). Mindfulness not only may impact a general sense of well-being and health, but may affect daily activities like eating, sleeping, and learning; it may affect our emotions, our goals, and the decisions we make; and it may affect our sense of self and how we interact with and relate to other people.

Social psychology is the science of everyday human behaviour, and not surprisingly then, interest in mindfulness has started to increase among social psychologists as well. Yet, while articles on this topic appear regularly in the main social psychology journals, the concept is still studied by only a relatively small subgroup of social psychologists. In this chapter, we reach out to a broader audience and argue that the concept of mindfulness may have important implications for a wide variety of topics that are traditionally studied by social psychologists. We first provide a brief historical background, and we discuss what mindfulness is, and what it is not. Reviewing recent mindfulness research on social psychological topics, we then discuss how social psychology as a field could benefit from engaging with mindfulness for theory, empirical research, and applications. Finally, we will discuss how mindfulness researchers in turn could profit from integrating social psychological theory and methodology into their work. In doing so, we hope to inspire constructive cross-talk between the fields.

A brief history of mindfulness in Western science

The concept of mindfulness was introduced in Western psychology in the late seventies by Jon Kabat-Zinn, a medical scientist at the University of Massachusetts. Rooted in Buddhist contemplative traditions and teachings (for an extensive discussion see Williams & Kabat-Zinn, 2013), Kabat-Zinn developed a secular mindfulness-training program. Using meditation exercises and psycho-education, participants gradually learn to stabilize their attention to increase moment-to-moment awareness of body sensations, thoughts, and emotions, and to approach these

experiences non-judgmentally and with curiosity. Initially developed to treat patients with chronic pain, over the years a large number of participants around the world have participated in mindfulness-based training programs for a wide variety of reasons: to better cope with anxiety, depressive symptoms, and stress; sleeping problems; rumination; impulsivity and aggressive tendencies; concentration problems; or simply for personal and spiritual growth.

In the wake of the growing popularity of these programs in Western society, a first wave of mindfulness research emerged. Clinical studies started to evaluate the effectiveness of the training programs, and of mindfulness meditation practice more generally, for issues such as depression relapse prevention (Teasdale, Segal, & Williams, 1995), the treatment of anxiety disorders (Miller, Fletcher, & Kabat-Zinn, 1995), and quality of life among chronic pain patients (Kabat-Zinn, 1982; Kabat-Zinn, Lipworth, & Burney, 1985). While the evaluation of mindfulness-based interventions with regard to individual health and well-being is still a rapidly expanding field of research, mindfulness-related techniques have already been incorporated into various forms of clinical practice (e.g. acceptance and commitment therapy, mindfulness-based cognitive therapy; see Baer, 2015).

Once support for the effectiveness of mindfulness in promoting psychological wellbeing had accumulated, a second wave of inquiry – roughly the past 15 years – concentrated on the more specific question *how* the effects of mindfulness emerge. For example, neuroscientists and cognitive psychologists started to examine the cognitive and neural underpinnings of mindfulness, finding evidence that mindfulness is associated with increases in executive control (Teper, Segal, & Inzlicht, 2013; see also Elkins-Brown, Teper, & Inzlicht, this volume), attentional control (Chambers, Lo, & Allen, 2008), and structural changes in brain areas associated with such functions (e.g. Davidson et al., 2003; Holzel et al., 2011; Zeidan et al., 2011). Moreover, as we will discuss below, researchers began paying increased theoretical and empirical attention to the specific psychological mechanisms that may be associated with mindfulness, such as changes in emotion regulation and empathy (e.g., Goldin & Gross, 2010; Birnie, Speca, & Carlson, 2010, respectively), and changes in perspectives on the self (see Leary & Diebels, this volume).

What is mindfulness? And what is it not?

But what exactly *is* mindfulness? Although a variety of definitions have been suggested, researchers most commonly define mindfulness as a state of paying

conscious attention to present-moment experiences with an open and non-judgemental attitude (Kabat-Zinn, 1990). In this definition, two components can be distinguished: 1) focusing *attention* on present-moment experiences, including bodily sensations, thoughts, and emotional states, and 2) approaching these experiences with a *non-judgemental* attitude, irrespective of their valence (Bishop et al., 2004). Thus, being mindful means observing one's immediate and current experiences, and acknowledge them for what they are in this present moment, or put differently, giving them *bare* attention (Epstein, 1995).¹

Although this may sound relatively simple and easy to do, most people who have attempted to train this skill, through meditation or mindfulness training, have quickly found that it can be quite difficult. While important individual differences exist (see for example Alberts, this volume), various domains of research suggest that for many people a state of mindful awareness is not something that occurs naturally, nor often, in daily life. Some would even say that most of the time, people are and act in a state of *mindlessness*. For example, research on automaticity suggests that significant portions of our daily activities are guided by unconscious and automatic processes (Wyer, 2014). Moreover, the mind has an extremely strong tendency to wander, and without realizing it, people are typically engrossed in thoughts about the past or future, rather than the present moment, relating their experiences to their self-concepts (Farb et al., 2011) and making them unhappy (Killingsworth & Gilbert, 2010). In addition, as soon as negative emotions or difficulties occur, many people have an automatic tendency to avoid or suppress the experience, turning their attention *away* from it (Gross & John, 2003). On top of this, people often judge, approach, and avoid objects and other people automatically, as social psychologists

¹ There is quite some debate about the definition of mindfulness in the context of Buddhist traditions. Some argue that the contemporary, scientific use of the term *mindfulness* has only some overlap with Buddhist conceptions of the term, some have argued that the secular conceptualization of mindfulness has stripped down the full meaning and potential of mindfulness, including its ethical implications (for discussions, see for example Dunne, 2015; Monteiro et al., 2015). Although we agree that a more profound integration of Buddhist and Western psychology is valuable and perhaps even necessary, this debate is beyond the scope of the present volume. The chapters in this book essentially follow the definition of mindfulness as described in this introduction chapter.

have convincingly shown (e.g., Chen & Bargh, 1999; Greenwald & Banaji, 1995; Herring et al., 2013).

All of these examples of *mindlessness* can be contrasted with a state of mindfulness, in which a person attends to and becomes aware of internal experiences and automatic response tendencies; the mind is not wandering but focused on the present moment; and one is turning attention *towards* experiences – whether negative, neutral, or positive –, receptive to whatever is going on in mind and body, with an attitude of acceptance and non-judgment. In other words, a state of mindfulness can be described as a state in which one takes a *decentred* meta-cognitive perspective on one's current-moment experiences, including one's thoughts and feelings about the self, rather than immediately responding to them (e.g. Bishop et al., 2004). To give an example: One may observe that, at this very moment, there is an emotional tone of anger, that there is tension in the body, that there are thoughts about revenge, and perhaps behavioural inclinations to aggress. Instead of immersing oneself in these experiences, in a mindful state the perspective shifts from “within one's subjective experience onto that experience” (p. 599; Bernstein et al., 2015), which may fundamentally change how these experiences affect us, and may provide one with more ‘freedom’ of how to respond next.

Before we start discussing how this all may be applied to social psychological theory and research, it is helpful to consider briefly how mindfulness can be distinguished from related concepts, particularly those that have been studied extensively in social psychology (for a more extensive discussion, see Brown & Ryan, 2003). First, some of these concepts also entail attention and awareness, most notably self-monitoring and self-awareness. *Self-monitoring* refers to the capacity to observe and evaluate one's behaviour against a set of standards or norms (Snyder, 1974), allowing a person to adjust behaviour accordingly. Relatedly, *self-awareness* refers to the ability to recognize one's feelings, behaviors, and traits, and evaluate and compare them to internal standards (Wicklund, 1975). While there is some overlap of these concepts with mindfulness in that the focus of attention is on internal experiences, mindfulness critically differs from them as it not concerned with standards or norms. It entails the observing of direct experience *not* through an evaluative lens, without trying to understand the experience or having the immediate intention of changing it. Second, while mindfulness requires the regulation of attention, and mindfulness can promote successful self-regulation (see Elkins-Brown

et al., this volume), it should not be equated with self-regulation or self-control. Whereas self-control entails the active down-regulation of emotions or impulses, mindfulness means to simply observe them as they are, with no other goal than simply observing – even though almost paradoxically, this often facilitates their regulation. Finally, it is important to mention that the concept of mindfulness discussed in this volume differs from Langer’s conceptualization of mindfulness (Langer, 1989), which refers to mindfulness as the ability to “notice new things”, not determined by old routines or rules, when paying full momentary attention to one’s surroundings. While the concepts overlap in the sense that they both entail paying attention with an open and curious mind, the concept of mindfulness we refer to is concerned with non-judgmental, metacognitive attention to the nature of one’s momentary experiences (not the external world per se).

These differences from self-related concepts typically studied by social psychologists reflect the fact that while psychological research traditionally is concerned with studying the consequences of particular *contents* of consciousness (e.g. certain biases; specific thoughts; specific emotions, and so forth), mindfulness is concerned with the *nature* of people’s cognitive processes and experiences, rather than their specific content. As a result, mindfulness as an intervention technique is also distinct from typical emotion regulation techniques like reappraisal, which focus on changing the content of one’s thoughts or experiences. Instead, mindfulness is concerned with changing how one perceives and relates to the contents of consciousness (e.g., experiencing them as “real” vs. accepting them as mere mental events). As will be discussed in greater detail below, this can have important implications for how one is affected by and responds to thoughts and emotions.

The value of mindfulness for social psychological research

What is the potential value of studying mindfulness for understanding everyday human behaviour? Why should social psychologists care about mindfulness? We propose that mindfulness is relevant for social psychologists because it has implications for social psychological theory, particularly where automaticity and self-relatedness are concerned, and it has important implications for applications to positively affect people’s lives.

Implications for social psychological theory

As noted by Barsalou (this volume), mindfulness’ distinct focus on *attention* to internal experiences has important consequences for the interplay of automatic and

controlled processes. Mindfulness also directly affects self-related processes (e.g. Leary & Diebels; Elkins-Brown et al.; this volume). These basic constructs – automaticity and self – are central to most social psychological theories or models, and are crucial to understanding real life human behaviour.

Mindfulness and automatic versus controlled responding. The brain's capacity to regulate behaviour automatically and unconsciously is highly adaptive. Habitual and automatic response patterns can be extremely powerful in guiding us through life in a relatively effortless manner, allowing us to respond accurately and without much deliberation to the social and non-social environment (e.g., Custers & Aarts, 2010). At the same time, however, habitual and *mindless* responding may be at the root of various problems and challenges an individual may encounter in life. As discussed by Barsalou (this volume), life-long conditioned responses often remain unattended and outside of conscious awareness, while such responses may not necessarily be most effective in terms of increasing one's own well-being, or the well-being of relationships with others.

Typically, psychological theories assume that an automatically triggered behavioural response will also get enacted. However, theorizing and research in mindfulness shows this link can be broken if attention is directed purposefully at the behavioural impulses themselves. Indeed, one of the central ideas of mindfulness is that it increases awareness of impulses, and while accepting these experiences as being merely transient mental events, an individual is able to prevent automatically acting on them, and can reconsider how to respond most effectively to his or her environment. In other words, mindfulness points to the potential for controlled processes to regulate automatic processes in novel ways – not by focusing on the content of thought, but by directing attention to their nature as mere mental events.

The chapters in this volume offer several examples of how mindfulness can reduce automatic responding and thus affect daily life outcomes. Papias (this volume) provides an overview of research suggesting that mindfulness can affect health-relevant behaviour, including healthy eating, smoking, and alcohol use. To explain such findings, she discusses how mindfulness promotes the monitoring of automatic impulses and cravings that often play a critical role in unhealthy behaviour. Becoming consciously aware of such impulses is a first prerequisite to reduce the otherwise automatic link between impulse and behavioural response (e.g. *mindlessly* lighting a cigarette when the impulse arises; *mindlessly* emptying a bag of potato chips in a

habitual snacking situation). Importantly, however, a second prerequisite for not reacting to the impulse is to observe it from a *non-judgmental and decentred perspective*, which often allows the impulse to dissipate before it turns into actual behaviour.

Karremans and Kappen (this volume) discuss how a similar process may occur in the context of close relationships. Again, smooth interactions between partners may be guided by habitual responses, but certain habitual patterns may be the cause of relationship trouble. For example, as major social-psychological theories in relationship science recognize (e.g. interdependence theory; Rusbult & Van Lange, 1996), automatic tendencies to reciprocate a partner's negative behaviour can result in downward spirals of negativity, and often are at the heart of relationship decline. The ability to take a mindful and decentred perspective – paying close *attention* to feelings and action tendencies that arise in the present moment – should weaken the otherwise automatic association between impulses and outward behaviour toward the partner. More generally, although the role of attention to experiences that gives rise to experiential awareness has received little theoretical or empirical attention in relationship science, it may be an essential part of explaining the difference between ill- and well-functioning relationships.

Berry and Brown (this volume) discuss research indicating that mindfulness can positively affect intergroup prosociality by a similar process of de-automatizing. As the authors note, awareness of prejudiced responses is a crucial first step to attenuate the expression of prejudiced responses. Theory and research in the domain of prejudice and stereotyping clearly recognize the role of a *lack* of awareness of the activation of prejudiced feelings and impulses, or stereotypes, and of how this activation then automatically affects behaviour. Mindfulness may increase the ability to become aware of prejudiced feelings and impulses or the activation of a stereotype, allowing 'the mindful observer' to "let it pass without reacting to it or acting on it" (p. 438; see Cox, Abrahamson, Devine, & Hollon, 2012). Thus, together, these examples illustrate how mindfulness and its intrinsic attention-related processes may weaken the automatic impulse-behavior link and as such benefit individual, interpersonal, and intergroup outcomes.

Another way in which mindfulness may affect individual and interpersonal outcomes is its inverse relationship with mind wandering (Mrazek, Smallwood, & Schooler, 2012). As most people probably have experienced, the mind has a strong

and natural tendency to wander during whatever activity one engages in, which sometimes may hinder task-performance. Research indicates that mindfulness training is associated with noticing mind-wandering at earlier stages, allowing one to bring back attention to the task at hand (Mrazek et al., 2013). Mrazek and colleagues (this volume) discuss how the training of mindfulness in schools may increase sustained attention and hence academic achievement. These findings suggest that mindfulness can break the automaticity of task-unrelated cues leading to distraction and mind wandering, with potential long-term benefits.

Health behaviour, close relationships, prejudice, and academic achievement are only a few examples of areas where mindfulness may have important consequences by affecting the interplay between automaticity and controlled processes. As future research should explore further, mindfulness may play a similar role in various other areas of social psychology where automaticity and controlled processing play prominent roles, such as attitude formation and change, social influence, cooperation and competition, impression formation, attribution processes, justice, social comparison, economic decision making, and so on.

Mindfulness and self-related processes. As much as social psychology is concerned with the interplay of automatic and controlled processing, it is concerned with self-related processes. Constructs like self-esteem, self-construal, self-verification, self-enhancement, self-affirmation, self-perception, self-knowledge, and self-identity are topics that have been examined extensively in social psychology. This illustrates the emphasis in (Western) social psychological science on the self, and perhaps reflects a focus on the self in Western individualistic cultures more generally.

Leary and Diebels (this volume; see also Barsalou, this volume) argue that a change in how self-relevant information is processed may be at the core of many effects of mindfulness. Typically, people identify strongly with their experiences. Thoughts, sensations, and emotions are experienced as an integral part of the self (Bernstein et al., 2016), and produce a state that could be described as subjective realism, as the content of one's thoughts is experienced as reality (see Lebois et al., 2015; Papiés et al., 2015). While this may facilitate effective situated action (e.g., Barsalou, 2002), and support the construction of a coherent account of one's "self" (Farb et al., 2007), this tendency is also associated with stress, rumination, and problematic cravings (e.g., Kross, Ayduk, & Mischel, 2005; Lebois et al., 2016).

In contrast, the decentred perspective that mindfulness entails facilitates a less immersed observing of the content of consciousness (see Holzel et al., 2011, for an extensive discussion). For example, rather than being absorbed in distress, anger, or guilt, one observes these emotions as they arise and pass. The thoughts about one's self as a stable and "real" construct can be observed from that perspective, too, which may decrease one's attachment to the static sense of self, or even lead to seeing it as an illusion (see Holzel et al., 2011). As noted by Leary and Diebels (p. xx, in this volume), "mindfulness does not eliminate self-awareness or make people 'self-less'. Rather, it changes the amount and nature of self-attention and self-thought to be less self-focused and self-interested than it typically is."

Again, this should have important implications for various domains of social-psychological theory and research. Mindfulness may reduce self-defensive responding across various situations. For example, both prejudice, stereotyping and interpersonal aggression have been argued to result at least partly from defending the self as part of an ingroup and the desire to uphold a favourable view of the self, especially when provoked (e.g., Baumeister, Smart, & Boden, 1996; Tajfel, 1981; see Berry & Brown, this volume). Hence, by promoting a decentred perspective toward one's self-concept and one's experiences, mindfulness may reduce prejudice and less interpersonal aggression. Similar effects may be observed in other areas where self-defensive mechanisms play a central role, as suggested by a number of prominent theories in social psychology (e.g. self-affirmation theory; cognitive dissonance theory; terror management theory; social identity theory).

Through a similar process, the less self-focused, decentred mode that is associated with mindfulness provides more opportunities for taking the perspective of others. Berry and Brown (this volume) describe how this process may foster intergroup prosociality. Condon (this volume) reviews some initial research findings indicating that mindfulness indeed can promote compassion and prosocial behaviour in an interpersonal context. More generally, research suggests that both trait mindfulness and mindfulness training are positively associated with perspective taking and empathy (Birnie et al., 2010). Possibly, these findings can be explained in terms of less self-focus (or, as Leary and Giebels refer to, in terms of a "hypo-egoic mindset").

In sum, the research discussed so far suggests that changing attentional and self-related processes is a central effect of mindfulness, and engaging with mindfulness research may therefore provide useful insights for research in social psychology.

Implications for applications of social psychology

In addition to these theoretical and empirical contributions to modern social psychology, mindfulness may be of relevance to social psychologists because of the potential it offers for intervention tools that can fundamentally alter people's daily life experiences. This is particularly relevant as mindfulness-based interventions rely on the innate abilities of attention regulation and of taking a metacognitive perspective on one's own experiences, which are available to any human mind and can be tapped in a variety of ways. Indeed, the process of non-judgmental observation is not a skill that can be acquired only through mindfulness training and meditation, but is naturally available in human beings. Using attention skills, people have the unique ability to observe the content of consciousness, introspect, and adopt a meta-cognitive perspective on their experiences. While there seem to be considerable pre-existing individual differences (Brown & Ryan, 2003; see also Alberts, this volume), both attention regulation and meta-cognitive insight can be trained and cultivated further.

When developing interventions in the domains of health, relationship behaviour, work place behaviour, stereotyping, intergroup contact, or others, social psychologists can capitalize on these existing abilities. The chapters in this volume provide numerous examples of how even brief or low-dose interventions enhance mindfulness skills enough to show meaningful behavioural effects. At the same time, the crucial mechanisms underlying mindfulness effects are not exclusive to mediation and mindfulness-based interventions. As a result, even interventions that are not explicitly "mindfulness" can lead to benefits of improved attention regulation or a changed meta-cognitive perspective on one's experiences, and to associated effects on cognition and behaviour (for examples, see Kross, 2009; Luciano et al., 2011). Thus, in addition to contributing to theory in social psychology, research on mindfulness can further inform applications to target critical societal issues.

The value of social psychology for mindfulness research and practice

While knowledge about the psychological and neurophysiological effects of mindfulness has expanded rapidly, considerable work remains to be done to fully understand *how* and *when* mindfulness works. For example, a basic social-psychological principle is that an individual's emotional and behavioural responses to

others, and towards oneself, result from the individual's construal of the situation. How mindfulness may affect such construal processes is largely unexplored territory, but we suggest that such research should be informed by existing social psychological theories. More generally, social psychology is strongly concerned with fine-grained analyses of the specific psychological mechanisms that underlie our experiences and behaviour. This volume presents various examples of how this may benefit mindfulness research. While the link between mindfulness and self-control has repeatedly been demonstrated, Elkins-Brown, Teper, and Inzlicht (this volume) discuss in detail *why* mindfulness actually may improve self-control. In short, they argue that non-judgmental interoceptive awareness promotes the monitoring of conflict-related affect, which in turn should facilitate self-control. Similarly, based on a classic social-psychological model of emotion regulation (Gross, 1998), Slutsky, Rahl, Lindsay, and Creswell (this volume) discuss how mindfulness may impact emotion regulation at various stages of the model. Further, as discussed above, the chapters by Leary and Diebels and by Barsalou (this volume) describe how mindfulness effects can be better understood through closely analyzing self-related and attention-related processes. Thus, the process-focus that characterizes social psychological research can bring important insights to the field of mindfulness.

Moreover, social psychologists have a strong tradition of testing their theories experimentally. So far, a large number of studies in the mindfulness literature have examined the relationship between (often trait) mindfulness and other variables in correlational designs, making it impossible to draw conclusions about causality. Stronger evidence in support of mindfulness effects is derived from randomized controlled trials in clinical psychology, in which the effect of mindfulness training is contrasted with an active control condition (see Creswell, 2017). However, based on such studies, it is difficult to deduce what specific elements of the training are responsible for the effect. As we discuss in more detail below, experimental paradigms in social psychology can advance the field by zooming in on the specific factors that drive mindfulness effects. In addition, social psychological research has produced various research tools to assess unconscious and implicit processes (see Gawronski & De Houwer, 2014), which constitute an important and emerging addition to current research findings in the field of mindfulness, that have traditionally been based mainly on explicit self-report measures.

In addition to its potential for theoretical and methodological advancement in basic mindfulness research, a social-psychological perspective on mindfulness may help trainers and practitioners to better understand the full potential of mindfulness for daily life. Whereas the emphasis of mindfulness-based interventions so far typically is on stress-reduction and individual well-being, training programs could benefit from more specific social-psychological knowledge regarding how effects of mindfulness may surface in various aspects of daily life. This is especially important given that research syntheses suggest that the effects of relatively short mindfulness-based interventions may be domain-specific, rather than generalizing across domains of life where mindfulness effects might be seen as desirable (see Papies, this volume).

Conclusion and future challenges

So, why should social psychologists care about mindfulness? As noted, classic social psychology (and psychology more broadly) is mostly concerned with the specific contents of human cognition, emotion, and behaviour, and how these affect our lives and social fabric. Mindfulness, in contrast, focuses on whether and how people observe and relate to their experiences that arise in consciousness, irrespective of their specific content. This is not something ‘invented’ by mindfulness practitioners and scholars. Rather, people vary naturally from moment to moment, and from situation to situation, in their tendency to be fully immersed in their experiences, or to observe them from a more detached perspective. The mindfulness literature provides strong theoretical and methodological guidance for understanding each of these processing modes, their consequences, and how people can switch between them – issues that we suggest may have been largely overlooked by social psychological theories so far. Hence, we strongly believe that social psychology as a field could benefit from mindfulness research, in order to advance fundamental knowledge and theory about human experiences and behaviour, and because mindfulness as an intervention tool offers potentially powerful ways to improve people’s daily lives.

The current volume provides an overview of mindfulness research that may illustrate this. We hope that recent developments in this area are just the beginning of much more to come, and particularly, our hope is that insights from mindfulness research will find a more central place in social psychology. After the first wave (i.e. “Does it work?”), and the second wave of mindfulness research (i.e. “How does it work?”), social psychologists could contribute greatly to a third wave of research that

examines the broader applications of mindfulness in daily life, going beyond the question whether mindfulness reduces stress and improves well-being.

Before closing, however, we wish to highlight some challenges that may require additional attention as the field moves forward. First, reading this chapter and reading this entire volume, one could be led to believe that mindfulness is a panacea that will solve all problems in one's personal life, and in society at large. Most likely, it's not. First of all, it is not clear for whom, and whether under all circumstances, mindfulness may be particularly beneficial, and whether, for example, its benefits depend on factors such as one's level of education, cultural background, or the expectancy that one will benefit from the training. Also, as we have discussed elsewhere (Karremans et al., 2015), it is not yet known whether mindfulness perhaps undermines *functional* automaticity in everyday life. If mindfulness becomes a habitual way of responding to situations, is there less leeway for otherwise beneficial automatic processes? Very little research has addressed questions about the boundaries of mindfulness effects, and attempts to study its potential harmful or negative effects are nearly absent (for an exception, see for example Wilson et al., 2015).

Another current challenge relates to the fact that the strong ethical context that plays a major role in contemplative practice in traditional Buddhism – focusing on the development of “right” mindfulness, wisdom, and the cessation of suffering – is much less explicit in contemporary mindfulness, which often focuses more on short-term, symptomatic relief (see Condon, this volume; Monteiro et al., 2015). This has triggered significant controversy and points to the need for continuing dialogue between scientists studying mindfulness and traditional mindfulness communities and philosophers (e.g., Dunne, 2015; Monteiro et al., 2015). The strong integration of ethical principles of behaviour into mindfulness-based interventions is of particular relevance to social psychologists, as this may ultimately benefit interpersonal and intergroup relationships. A related issue that will require consideration by researchers is the increased attention to so-called varieties of contemplative experience. These can include adverse effects of meditation practice that have been reported by meditation practitioners, particularly after intense practice of techniques that are also often used in mindfulness-based interventions, albeit less intensely (Crouch, 2013; Kornfield, 1979). Again, although systematic research into these phenomena is still only beginning to emerge, this is an important caveat for those who wish to employ

mindfulness interventions, particularly if this happens on a wider scale and without close supervision by experienced teachers.

A further challenge concerns the methods for studying mindfulness. Alberts (this volume) provides an overview of existing lab- and non-lab methods to investigate mindfulness effects, discussing both their strengths and pitfalls. For example, contrasting the effects of a mindfulness training, meditation, or brief mindfulness induction with a control condition generally involves many potential confounds (e.g., group processes in training; relaxation as a result of a mindfulness exercise; expectancies). Hence, one particular challenge concerns the issue of what constitutes a proper control condition. Moreover, while brief mindfulness inductions are increasingly used by psychological scientists, mindfulness researchers and practitioners have been critical about the validity of such brief inductions, especially when using research participants with no previous mindfulness experience. Similarly, self-report measures of mindfulness have been criticized for a variety of measurement problems (Grossman & van Dam, 2011). Thus, while social psychological experimental methods may offer novel ways to study mindfulness, these methods should be used with an awareness of such potential problems.

As with any maturing field, it will take effort to overcome such challenges, and it will take time to get a complete and nuanced picture of the workings and correlates of the rich and multi-faceted concept of mindfulness. It is our hope that the present volume will contribute to this process.

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