

# The “Why,” “What,” and “How” of Healthy Self-Regulation: Mindfulness and Well-Being from a Self-Determination Theory Perspective

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To be a self-regulating being requires awareness. We live in a world with stimulating enticements, myriad distractions, and continuously arising and competing motives and desires. Letting some pass, and acting on those that are most congruent with living well, is a formidable task. Doing so entails a center of observation outside the fray, and a capacity to make use of it.

Self-determination theory (SDT; Ryan & Deci, 2000), akin to many other philosophical traditions and psychological frameworks, views awareness as a critical component of healthy self-regulation and well-being (Deci & Ryan, 1980, 1985; Ryan, Huta, & Deci, 2008). According to SDT, awareness is central to the process of healthy regulation. When people act with *autonomy*, they engage in behaviors that are congruent

with their self-endorsed values and authentic interests. Extensive research has shown the significant physical and mental benefits that such autonomous regulation yields. In contrast, when people engage in activities based in introjections or external pressures, the regulation of their behavior is *controlled*, and such regulation is associated with diminished persistence and performance, and more impoverished experience and well-being (Ryan & Deci, 2000). The distinctions between the autonomous and controlled reasons underlying people’s behaviors constitutes the “why” approach of SDT.

Additionally, within SDT, processes associated with awareness impact the content, or the “what” of people’s goals. Individuals can focus on attaining *extrinsic goals* (e.g., wealth, popularity, attractive image) or *intrinsic goals* (e.g., personal growth, community contributions, close relationships). The evidence reveals differential consequences of both the pursuit and attainment of extrinsic versus intrinsic goals, especially with regard to well-being (e.g., Kasser & Ryan, 1993, 1996). Both the “why” and the “what” of behavior regulation are predictive of more optimal development, social relationships, and wellness (Deci & Ryan, 2000). Specifically, by acting autonomously and pursuing intrinsic goals people can live *eudaimonically*, with the rich positive experience that attends living well (Ryan, Curren, & Deci, 2013).

In this chapter we therefore address an important “how” of eudaimonic living, namely how

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both more autonomous regulation and more intrinsic goal selection are facilitated by the open and receptive awareness that defines the construct of *mindfulness* (Brown & Ryan, 2003). To do so we present a brief overview of SDT, delineate the construct of mindfulness, and review evidence of how this quality of consciousness relates to both the regulatory processes through which behaviors are enacted, and the content of goals that individuals pursue.

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## Self-Determination Theory

SDT is an empirically driven theory of human motivation and development that posits that humans are inherently active, curious, and growth-oriented creatures who naturally strive toward both the integration of a coherent and unified sense of self, and the integration of the individual within a broader social framework (Deci & Ryan, 2000). Similar to other organismic theories of personality development, SDT postulates that people spontaneously seek challenges, pursue interests, and strive for social connectedness (Ryan, 1995). Through the extension of their inherent capacities and integrated motives, individuals more fully actualize their human potentials and experience more eudaimonic lifestyles (Ryan, Huta, et al., 2008; Ryan et al., 2013).

Yet within the SDT perspective, this natural inclination toward growth and integration is not viewed as by any means automatic, or even a typically smooth, developmental pathway. Just like a seed needs critical nutrients to flourish, the integrative processes of human psychological development require specific supports. In SDT the most critical of these are described by the concept of *basic psychological needs* (Deci & Ryan, 2000; Ryan, 1995), which represent the cross-developmental and culturally universal necessities for growth and wellness. SDT specifies three basic needs: *competence* (i.e., mastery and efficacy), *autonomy* (i.e., volition and self-endorsement of one's behaviors), and *relatedness* (i.e., a sense of belonging and of being cared for). Substantial research shows that social contexts and personal relationships that support the fulfill-

ment of these basic needs facilitate intrinsic motivation, integrated self-regulation, and wellness; whereas need thwarting environments, lifestyles, or activities are associated with antagonist outcomes (Deci & Ryan, 2012).

## A Differentiated View of Motivation: The "Why" of Self-Regulation

Unlike many theories that conceptualize motivation as a unitary construct, SDT specifies different types of motivation underlying behavior regulation. First, SDT posits that humans have evolved to be liberally endowed with *intrinsic motivation*, or behavior energized by its inherent satisfactions. Intrinsic motivation is typified by activities such as play, exploration, sport and leisure reading, in which people exercise capacities and experience growth. Intrinsic motivation is also a prototype of human autonomy, in that intrinsically motivated activities are invariably experienced as self-determined, or volitional.

Yet, despite the importance of intrinsic motivation for learning and development, most daily activities are not intrinsically motivated, but rather are instrumental in nature. That is, much of our behavior is *extrinsically motivated*. Although many researchers have viewed extrinsic motivation as heteronomously driven or controlled (e.g., deCharms, 1968), SDT has long proposed that extrinsic motivation is more complex. SDT instead describes a spectrum model of extrinsic regulations spanning from highly controlled to highly autonomous forms of self-regulation (Deci & Ryan, 1985; Ryan & Deci, 2000).

The most controlled form of regulation in this spectrum is *external regulation*, which pertains to behaviors that are enacted to comply with external contingencies, both punishing and rewarding. External regulation can drive behavior, but it is often poorly maintained, and/or accompanied by negative affect. A closely related form of extrinsic motivation is *introjected regulation*. Introjected acts are performed to experience self- and/or other-contingent approval. Although "internally" regulated, introjected behaviors are experienced as controlled because the individual

feels pressured to avoid guilt and/or projected disapproval, or conversely to garner esteem and ego-enhancement. Introjection can be a powerful motivator (e.g., Ryan, Koestner, & Deci, 1991), but it comes with costs such as unstable persistence, stress, and lower well-being.

On the more autonomous end of this spectrum is *identified regulation*, in which the individual personally embraces and reflectively endorses his or her actions. As a result, identified regulation is associated with more persistence, better performance, and more positive affect than controlled forms of regulation. The most autonomous form of extrinsic motivation is *integrated regulation*, in which the person has fully assimilated her identified regulation into the self, coordinating it with other values and goals. Like intrinsically motivated actions, integrated actions are highly autonomous and wholeheartedly engaged. But integrated regulations are still technically extrinsic because they are undertaken to attain outcomes separable from the actions themselves. Typically it is only through self-reflection and awareness that one is able to recognize one's own values and needs, and therefore able to bring new regulations into such congruence. Thus, as we shall detail, *mindfulness* is a crucial ingredient for the integrated regulation of behavior, and truly autonomous extrinsic self-regulation.

At this point hundreds of studies have verified: (a) that this spectrum of regulations forms a continuum of autonomy (e.g. Roth, Assor, KanatMaymon, & Kaplan, 2007; Ryan & Connell, 1989); and (b) that more effective behavioral regulation and enhanced well-being are associated with higher relative autonomy in multiple domains (e.g., Blais, Sabourin, Boucher, & Vallerand, 1990; Gagné & Deci, 2005; Reeve & Jang, 2006; Ryan, Patrick, Deci, & Williams, 2008).

### **“Internal” Promoters of Autonomous Self-Regulation**

Taking into account the manifold positive personal consequences of intrinsic regulation and more autonomous forms of extrinsic regulation, considerable research within SDT has focused on the social contextual factors that affect relative autonomy (see Ryan & Deci, 2000). Nonetheless,

and more relevant to our focus in this paper, internal processes are also important. At the core of volitional and self-endorsed regulation lies the capacity to reflectively consider one's behavior and its congruency with one's personal values and needs (Ryan & Deci, 2006). That is, the existential commitment to act consistently with one's authentic self, and be sensitive to external circumstances, impacts the regulatory process. When awareness of inner and outer circumstances is blocked, so too is a person's ability to attend to prompts arising from basic needs, to mobilize resilience, and to consciously self-organize and regulate actions (Ryan, Legate, Niemiec, & Deci, 2012). Thus, mindfulness, conceptualized as internal and external awareness of the present moment, is a quality of consciousness that has been shown to lead to greater autonomy (Brown & Ryan, 2003). When mindful, people are aware of what is truly taking place and thus better able to make purposeful decisions, engage their “self-compatibility checker” (Kuhl & Kazen, 1994), and function in a more integrated way. Yet before elaborating on this, we turn next to what people are pursuing in their lives, or their goals contents, which is also affected by mindfulness.

### **Intrinsic Versus Extrinsic Aspirations: The “What” of Behavioral Regulation**

Although so far we have emphasized the “why” of self-regulation (i.e., the regulatory processes through which outcomes are pursued), SDT also concerns the “what” of self-regulation, or the content of the outcomes or goals pursued and their associated well-being consequences. Research in a number of cultures has shown that the pursuit and attainment of intrinsic goals (i.e., goals such as personal growth, affiliation, or community contributions) have a positive relation to basic need satisfaction and a variety of well-being outcomes. In contrast, extrinsic goals and aspirations (i.e., goals that reflect extrinsic values, such as wealth, image, or fame) are related to need thwarting and accordingly, greater ill-being (Kasser, 2002; Kasser &

Ryan, 1993, 1996). Studies have also found that the attainment of intrinsic goals predicts more long-lasting well-being compared to the achievement of extrinsic goals (Vansteenkiste, Ryan, & Deci, 2008).

Why do these two types of aspiration have vastly different consequences? The explanation lies in the extent to which they ultimately facilitate or undermine basic psychological need satisfaction (Ryan, Sheldon, Kasser, & Deci, 1996). Intrinsic goals are more closely associated with the satisfaction of fundamental needs. For example, willingly giving to others, which is associated with relationship and community goals, leaves one with a sense of autonomy (because the act is volitional), competence (because one is having a positive impact) and relatedness (because one is connecting); these in turn foster enhanced well-being. In contrast, extrinsic aspirations are more closely related to obtaining external approval or visible signs of worth, and thus are generally less likely to directly provide need satisfaction, or may even distract from it, leading to greater ill-being (e.g., Niemiec, Ryan, & Deci, 2009; Vansteenkiste et al., 2007; Weinstein & Ryan, 2010). In the following sections, we will review how mindfulness fuels both the movement toward more autonomous reasons for acting, and the pursuit of intrinsic goal contents. But first, it is important to precisely define mindfulness, and differentiate it from concepts that are sometimes mistakenly confused with it.

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## The Construct of Mindfulness

Within the theoretical framework of SDT we have drawn on the definition and measurement of mindfulness introduced by Brown and Ryan (2003). In their approach mindfulness is defined as a receptive state of mind wherein *attention*, informed by a sensitive *awareness* of what is occurring at the moment, plainly observes internal (e.g., psychological and somatic experiences) and external events that are taking place (Brown & Ryan, 2003; Kabat-Zinn, 2003). Attention and awareness, key elements in defining mindfulness, are important components of consciousness

(Brown & Ryan, 2003). Awareness is the background “tracking system” of consciousness, monitoring an individual’s internal and external happenings. Attention, on the other hand, is the mechanism of focusing on a particular stimulus present in the conscious awareness (Westen, 1999). Therefore, an individual can be aware of a plethora of stimuli, but it is the attention that directs what, within the “ground” of awareness, is in focus.

As is often the case, differing schools of thought highlight various aspects of mindfulness both theoretically and operationally (Dimidjian & Linehan, 2003; Hayes & Wilson, 2003). Brown and Ryan’s definition of mindfulness as receptive attention and awareness differs from other approaches that include within the idea of mindfulness qualities such as acceptance (Bishop et al., 2004); active cognitive operations on external stimuli (Langer, 1989); diminished self-talk, non-judgment, and non-doing (Leary & Tate, 2007), or holding a particular set of philosophical, ethical or therapeutic beliefs (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006). All of these qualities are indeed associated with mindful states (Brown & Ryan, 2004; Brown, Ryan, & Creswell, 2007a, 2007b), but from the viewpoint of Brown and Ryan, these other elements all follow from a truly open and receptive awareness, and many are consequences of mindfulness. Regardless of the specific definition or measures, however, research conducted over the last three decades on dispositional mindfulness, induced mindful states, and mindfulness training interventions has demonstrated the benefits of this attribute of consciousness for a wide range of outcomes, such as psychological and physical health, and the quality of one’s relationships and performance in multiple domains (e.g., Baer, 2003, 2006; Brown et al., 2007a; Grossman, Niemann, Schmidt, & Walach, 2004).

## Mindfulness Versus Self-Awareness

It is important to differentiate between the concept of mindfulness from the constructs of self-awareness and reflexive consciousness, which

have received much attention (e.g., Buss, 1980; Carver & Scheier, 1981). In a nutshell, such theories describe self-awareness in terms of knowledge about the self. For example, *private self-consciousness* is described as a tendency to be highly aware of internal states (Carver & Scheier, 1981). Nonetheless, this type of self-consciousness can reflect any type of internal state, including negative reactions or evaluative dispositions toward internal or external events rather than receptive openness. Similarly, *reflexive consciousness* (e.g., Baumeister, 1999) refers to metacognitive processes that operate within thoughts, emotions, and other contents of consciousness, and thus can involve varied cognitive and intellectual operations and biases.

Mindfulness is, in contrast, “prereflexive” and has at its root a perceptual and non-evaluative character: it means to simply and openly observe current events or engage in “bare” attention. It is not thoughts or cognitions, but rather the space between them that sets the context where they occur (Brown et al., 2007b). Drawing from a Zen metaphor, this quality of consciousness is like a polished mirror, merely reflecting what passes before it, without distortions or conceptual thoughts. The separation between consciousness (context) and mental content, also referred to as *decentering* and *desensitization* (Martin, 1997), allows more autonomous self-regulation because behavior is informed by authentic awareness, rather than distorted self-cognitions. To be clear, this unbiased receptivity is not an aloofness or disconnection with the world, but rather a more “alert participation in the ongoing process of living” (Gunaratana, 2002, p. 142).

Empirical evidence supports these distinctions between mindfulness and self-awareness. Research shows at best weak, and sometimes negative, relations of mindfulness and indicators of self-awareness, including private self-consciousness, public self-consciousness, reflection, and self-monitoring (Beitel, Ferrer, & Cecero, 2005; Brown & Ryan, 2003). More relevant to the present discussion, whereas mindfulness has been associated with adaptive outcomes and psychological health (e.g., Baer, 2003; Brown & Ryan, 2003), self-awareness, particu-

larly the aspect of “self-reflectiveness” (Trapnell & Campbell, 1999), has been related to maladaptive outcomes and poorer mental health.

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## Self-Regulation and Mindfulness: The “Why”

We have argued that the motives underlying behavior are closely related to the quality of engagement as well as to wellness consequences; such that those who pursue authentic interests and values are overall more vital and healthy. Yet, to pursue this trajectory of integration and autonomy, SDT posits that people are aided by environments that support the fulfillment of needs for autonomy, competence, and relatedness. Support for autonomy plays a particularly key role. This is evident in the fact that although support for relatedness and competence may foster the internalization of a behavior (i.e., one’s adoption of a regulation or value), these supports by themselves are not enough to promote integration, which is a process necessary for true self-regulation (e.g., Deci, Eghrari, Patrick, & Leone, 1994; Grolnick & Ryan, 1989; Williams & Deci, 1996). Hence, for integration to occur, people need to freely process and endorse their motives and regulations, as well as synthesize their meaning with other aspects of self, that is, feel the autonomy need satisfied.

Because mindfulness relates to one’s capacity to openly attend to current internal and external experiences, it enables and supports the self-insight and the self-reflection necessary for ensuring one’s values are in accordance with one’s behavior. Furthermore, it builds a framework that aids the blend of that particular behavior with values that are already part of the self. This awareness is an important substrate of integration, and therefore a critical ingredient of autonomy development (Deci & Ryan, 1985). In other words, one can only be highly autonomous when one is clearly aware of one’s values and goals, and thus is able to engage in behaviors that are congruent with one’s true self, free from external pressures or internal distortions or judgments.

Aiming to empirically demonstrate the previous argument, Brown and Ryan (2003) conducted the first studies that explicitly investigated mindfulness and related it to the SDT framework. The authors developed the Mindful Attention Awareness Scale (MAAS) to measure this construct both as a disposition and as a “state.” They demonstrated that the MAAS was positively correlated with both dispositional and state autonomy, as well as with the other two basic needs described by SDT, relatedness and competence. Moreover, to understand the role of mindfulness in regular day-to-day living, they conducted additional investigations using experience-sampling procedures. Both student and working adult samples, after having completed a measure of trait mindfulness, were assessed for state mindfulness, affect, and the relative autonomy of their behavior at the receipt of a pager signal, sent three times a day on a quasi-random basis. In both samples, higher levels of both dispositional and state mindfulness predicted more autonomous activity in daily life and lower levels of unpleasant affects. Interestingly, the effects of trait and state mindfulness on autonomy were independent, suggesting that even momentary experiences of mindfulness contribute to more volitional self-regulation and emotional well-being.

These positive relations between autonomous regulation and mindfulness beg the question of the mechanisms and processes through which these relations occur. We shall now discuss processes through which they may obtain, namely: (1) interference with automatic maladaptive behaviors that are incongruent with one’s endorsed values; (2) promotion of less ego-involvement and cognitive distortion, freeing the self from internal and external pressures.

### **De-automatizing and Integrative Role of Mindfulness**

One of the pathways for the salutary effects of mindfulness is that it may decrease the likelihood of automatic maladaptive behaviors. Research on automatic and implicit processes has shown that

a substantial part of our day-to-day cognitive, emotional, and overt behavior does not require conscious awareness and attention. In other words, a good deal of our thoughts and actions occur automatically without intentional effort (Bargh, 1997; Deci & Ryan, 1980; Tart, 1994). Despite the many pragmatic benefits for this automaticity of behavior (e.g., one’s speed in response to situational demands, or the greater availability of cognitive resources for more relevant tasks; Aarts & Dijksterhuis, 2000; Mitchell, Nosek, & Banaji, 2003), there are also costly consequences. When acting non-consciously one is more susceptible to engage in many habitual problematic and self-defeating behaviors, which if reflected upon are not congruent with one’s self-endorsed values (e.g., Clark & Rhyno, 2005; Levesque & Brown, 2007; Ryan & Deci, 2006; Verplanken & Velsvik, 2008). Mindfulness, through awareness and attention, pulls people closer to what is currently taking place, without judgmental or evaluative attachments. This awakened state allows consciousness to become clear and fresh, which, in turn, acts as a liberating agent of conditioned responses, and allows people to better reflect upon the “why” of actions, thus promoting more self-endorsed, autonomous behavior (Brown et al., 2007a). This connects with evidence showing that enhanced attention and awareness can prevent the enactment of automatic habits or reactions (e.g., Dijksterhuis & Knippenberg, 2000). For example, Gollwitzer (1999) experimentally induced individuals to be aware of their automatic stereotypic beliefs toward elderly people, and found that subsequently these stereotypic thoughts were less readily automatically triggered. In this same way, mindfulness has been shown to be a protective factor against automatization of behavior, thus leading to more self-determined, autonomous regulation.

Levesque and Brown (2007) investigated the role of mindfulness as a moderator between implicit regulation (assessed using the Implicit Association Test—IAT; Greenwald, McGhee, & Schwartz, 1998) and explicit regulation of day-to-day behavior using an experience-sampling strategy. Both implicit and explicit measures

assessed the degree to which the participant's regulation was autonomous or controlled. Results showed that implicit regulation style predicted day-to-day regulation only for those lower in dispositional mindfulness. That is, for those high in mindfulness, the degree of daily autonomy was relatively high independently of implicit autonomy level; in other words, it was high even when participants implicitly associated themselves with pressure and control. These results underscore the de-automatizing role of mindfulness, overriding maladaptive tendencies and catalyzing self-endorsed behavior. This is thought to occur because mindfulness acts as a brake or redirector between salient primes and responses to them (Deci & Ryan, 1980).

Focusing on this integrative aspect of mindfulness, Brown and Ryan (2003) reported that those higher in trait mindfulness showed greater congruence between implicit or non-conscious emotional state (assessed using the IAT; Greenwald et al., 1998) and explicit self-reported counterpart. Given that implicit measures are not controlled by consciousness, these results indicate that more mindful individuals are more attuned to their implicit emotions demonstrated by greater concordance with the analogous explicit self-descriptions. Note that, in the case of emotions, this last study suggests that mindfulness is related to a greater association between implicit and explicit emotional states; whereas when it comes to motivation, mindfulness seems to be associated with a greater dissociation between maladaptive implicit motivational orientation and adaptive behavioral motivation. These results are not contradictory because in both cases mindfulness appears to provide a space for reflection: individuals who are more attuned to their emotions are in a better position to be in touch with their true selves and behave genuinely; individuals who have an implicit tendency toward controlled motivation, but are able to stop and reframe their course of action, may behave more autonomously. Thus regardless of the direction of the relationship between implicit and explicit measures, this open awareness works as a facilitator of integration and authentic self-regulation.

To add to these findings, another study by Brown and Ryan (2003) found that mindfulness was associated with "emotional intelligence" (Salovey, Mayer, Goldman, Turvey, & Palfai, 1995), specifically in a dimension that is closely associated with emotional self-knowledge: clarity of emotional experience. Such self-insight is thought to be a crucial result of the present-centered awareness essential for self-regulation and more integrated functioning.

### **Liberating Role of Mindfulness: A Thought Is Just a Thought**

Open attention and awareness also foster autonomous behavior because they can help free individuals from the external and internal controlling forces that are alien to the authentic self (Brown et al., 2007a). As Hodgins and Knee (2002) put it, "Individuals who are functioning autonomously...are responsive to reality rather than directed by ego-invested preconceived notions" (p. 89). Mindful individuals have an observant stance toward experience rather than a cognitive reflexive stance that constantly informs thoughts about the self. Stated differently, they recognize the "self" as a process of integration and assimilation and not as the product of self-evaluations. This raises the question of "self": What is "self" and how can we formally define it?

Scholars from many fields, echoing the centrality that the construct presents for the human experience, have been concerned with the concept of "self" (Brown, Ryan, Creswell, & Niemiec, 2008). The two notions of self that predominate today are the "I" self (McAdams, 1990), mainly studied within organismic and developmental theories (e.g., Deci & Ryan, 1991; Loevinger & Blasi, 1991); and the "Me" self at the core of social constructionist views of self.

The "Me" self or "self-as-object" refers to the creation of personal identity, and is derived from the Mead-Cooley tradition (Ryan, 1993; Ryan & Deci, 2011). This concept of self concerns one's identification with specific roles, attributes, group memberships, and beliefs, which individuals are often motivated to protect or enhance. Under this

view of self, people strive to meet the standards associated with these internalized and culturally derived-self images (Ryan & Brown, 2003). When maintaining such self-representations becomes a predominant goal, it brings with it a variety of anxieties, conflicts, and defensive reactions (Brown, Ryan, et al., 2008).

On the other hand, the “I” self or “self-as-process” view construes self not as a concept or set of self-evaluations, but rather as the inherent integrative tendencies of people to grow and create coherence in their experiences. Behavior motivated by the “I” self is more fully self-endorsed and whole-hearted, and is more likely to be positively experienced, whereas behavior motivated by the “Me” self is more closely related to controlled regulation (Ryan et al., 2012). Mindfulness, with its open attention to the present moment, promotes the “I” self regulation and its synthetic tendencies by a greater allowing of and interest in what is occurring, and by freeing the individual from evaluative mental concepts, ego-involvement, and self-centered biases, all characteristics of the “Me” self (Ryan & Rigby, 2015).

There is growing evidence linking mindfulness with both (1) less ego-involvement and defensive reactions, and lower stress appraisals and (2) more autonomous self-regulation. First, many studies using the SDT framework demonstrated how ego-investment in outcomes impedes autonomy, increases pressure and tension, and lowers vitality (e.g., Nix, Ryan, Manly, & Deci, 1999; Ryan, 1982). In addition, other investigations showed how actions performed mindfully are less likely to be driven by ego-concerns, and less prone to high stress reactions (Kernis & Goldman, 2006; Niemiec et al., 2010; Ryan & Brown, 2003; Weinstein, Brown, & Ryan, 2009). As Brown, Ryan, et al. (2008) describe, mindfulness “entails a shift in the locus of personal subjectivity from conceptual representations of the self and others to awareness itself” (p. 82). As a consequence, it lessens the intra- and interpersonal pressures that the Me-self entails, and liberates the individual from the often automatic cognitive distortions and defensive reactions that can disrupt the integrative process underlying

true self-regulation or autonomy (Brown, Ryan, et al., 2008; Martin & Erber, 2005; Ryan & Brown, 2003). Expressed differently, for highly mindful people, rejections or successes do not involve their self-worth and are not destabilizing rather, are simply seen as part of the personal growth process, a hallmark of the “I” self. As a result, this “quieting of the ego” allows them to behave volitionally and without the need to prove, maintain, or stay attached to conceptions of the Me-self, which is a pathway toward integrated functioning (Niemiec, Ryan, & Brown, 2008; Ryan & Rigby, 2015).

Several studies support the argument that mindfulness, because of its grounding in reality and detachment from ego-involved contingencies and self-centered biases, attenuates reactivity to threatening or stressful situations (see Baer, 2003; Brown, Ryan, et al., 2008). As a prime example, Niemiec and colleagues (2010) conducted several experiments informed by *Terror Management Theory* (TMT; Greenberg, Solomon, & Pyszczynski, 1997). TMT posits that humans respond defensively to reminders of death (e.g., through suppression of death thoughts, self-esteem enhancement, and defense of their cultural worldview). In seven experiments, Niemiec et al. demonstrated that trait mindfulness mitigates defensive responses to existential threat. Moreover, these experiments showed that this effect was due to the fact that those higher in mindfulness more fully processed death thoughts in an immediate sense, and because of that, were less likely to be holding on to threat and behaving defensively in subsequent moments. These studies connect with other research on relationship conflicts (Barnes, Brown, Krusemark, Campbell, & Rogge, 2007); social exclusion (Creswell, Eisenberg, & Lieberman, 2008), emotional threat (Arch & Craske, 2006), and other ego threats by showing that an open, mindful processing of situations promotes fewer defensive reactions to adverse situations, and, in turn, increases adaptive responses and well-being (Brown, Ryan, et al., 2008).

In another example Weinstein et al. (2009) demonstrated how mindfulness, by fostering less

defensive thinking patterns and more openness toward challenging events, promotes less negative cognitive appraisals of situations, and reduced levels of perceived stress. Across four studies that included experimental, longitudinal, and experience sampling designs, the authors found that mindful individuals made more benign stress appraisals, and reported more adaptive stress responses, and these, in turn, fully or partially mediated the relations between mindfulness and well-being. For example, in a longitudinal study, first-semester freshmen within a single course completed measures of mindfulness, cognitive appraisal, coping, and ill-being at three points during the semester: at the beginning, 1–2 days before the mid-term, and during final exams. The longitudinal design underscored that more mindful individuals tended to appraise challenging situations as less threatening, and respond in more adaptive ways over time.

In sum, it appears that open and receptive observation of internal and external events can lead to positive outcomes. Moreover, when behavior is not driven by ego-concerns, it is more likely to be congruent and authentic. An alternative but not antithetical explanation is that mindfulness, in its ability to enhance self-endorsed behavior, may prompt a more selective choice of situations (Brown & Ryan, 2003; Weinstein et al., 2009). This higher predominance of self-endorsed volitional activity may be conducive to a greater tolerance of unpleasant situations, thus over time reducing exposure to stressors, which in turn contributes to well-being.

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### **Self-Regulation and Mindfulness: The “What”**

So far we argued that mindfulness facilitates more autonomous self-regulation, leading to greater satisfaction of the fundamental psychological needs of autonomy, competence, and relatedness, and thus wellness. Nonetheless, also critical to SDT is the goal content or the “what” of authentic functioning (Deci & Ryan, 2000; Ryan et al., 1996).

### **Mindfulness as a Pathway to Intrinsic Goal Orientation**

A growing body of research suggests that mindfulness increases one’s focus on intrinsic aspirations, resulting in greater well-being and healthier lifestyle decisions (Brown & Kasser, 2005). Mindfulness has also been associated with greater empathy and compassion for others (Beitel et al., 2005; Brown et al., 2007a). For example, Shapiro, Schwartz, and Bonner (1998) reported that medical students who received mindfulness training displayed increases in empathy over time relative to a control group, even in high-stress contexts such as finals week. Barnes et al. (2007), in an investigation of the role of mindfulness in romantic relationship stress, found that it might enhance healthy romantic relationship functioning. The authors suggest that these benefits stem from an inclination to other-centeredness or a greater disposition to be present to the partner, even in challenging situations. Mindfulness has also been related to the promotion of intrinsic values such as community involvement, relationships, ecological stewardship, and lower materialism over extrinsic values such as popularity and wealth (Brown & Kasser, 2005; Brown, Kasser, Ryan, & Konow, 2008).

Pertinent to this discussion is a study conducted by Brown and Kasser (2005) on a diverse national sample of adults differing in lifestyle. They compared intrinsic and extrinsic value orientation, mindfulness, and multiple indicators of subjective well-being and ecologically responsible behavior. Results indicated that higher levels of mindfulness were related to greater intrinsic value orientation; and both variables were associated with subjective well-being and more ecologically responsible behavior. Brown and Kasser suggested that mindfulness may foster greater reflection on one’s consumption and market choices and their ecological impacts. In turn, they suggested that increased environmental and prosocial behaviors supply intrinsic satisfactions that enhance well-being (De Young, 1996, 2000).

In yet another relevant project, Brown, Kasser, Ryan, Linley, and Orzech (2009) conducted a series of studies on the role of mindfulness on

*financial desire discrepancy* (the difference between what one has and what one desires) and subjective well-being. In an initial study of British undergraduates, results revealed that mindfulness was associated with smaller financial discrepancy, which partially explained the positive relationship between mindfulness and well-being. Two more studies replicated these findings, controlling for financial status and showing similar findings for working adults. A final, quasi-experimental investigation was conducted to elucidate causation pathways. Participants were attendees at residential mindfulness meditation training centers who participated in a 4-week-training program. Findings suggested that increases in mindfulness were related to declines in financial desire discrepancy and increases in subjective well-being. Furthermore, these relations were not accounted for by financial status or recent financial status changes. While these studies highlight the associations between mindfulness, intrinsic values, and well-being, other research within SDT suggests that these salutary effects stem, in part, from the promotion of healthy self-regulation (Brown & Ryan, 2003, 2004; Deci & Ryan, 2000; Kasser & Ryan, 1996).

To summarize, the arguments above underscore the idea that mindfulness increases one's valuing of intrinsic goals and life pursuits. Intrinsic aspirations are, in turn, inherently related to basic need satisfaction, in contrast to extrinsic goals, which are pursued for their instrumental value, and only fulfill basic needs indirectly or even distract from them. Finally, basic need satisfaction is associated with autonomous self-regulation and well-being. Considering the pressured societies we live in, where, as never before, consumerist messages seductively incite the pursuit of material goods, the display of wealth, and portray the glories of fame, mindfulness is an important asset that can act as a buffer, and reduce susceptibility to such extrinsic prompts and values. That is, because of their heightened awareness of internal and external states, more mindful individuals may more easily realize that materialistic values are distant from their most essential needs and from behaviors that represent healthy self-regulation (Brown et al., 2009).

## Conclusions

Mindfulness is a deceptively simple concept concerning an open, receptive awareness to the present. Yet this simple phenomenon has manifold influences on the pathways leading toward authentic self-regulation and well-being. In this chapter we reviewed evidence concerning *how* this state of consciousness permeates critical components of SDT, globally referred to as the “why” and the “what” of regulation of behavior; thus, framing mindfulness as an essential “how” of living well.

Central to autonomous self-regulation is the capacity to reflectively consider one's behavior and its congruency with one's personal values and needs. The enhanced attention and awareness of mindfulness promotes such ability. This awakened state also allows consciousness to acquire a clarity and freshness that act as liberating agents of automatic responses, and brings people to reflect upon the “why” of actions, hence fostering more self-endorsed behavior. Finally, it appears that mindfulness can function as an antidote against external and internal controlling forces that frequently undermine the selection and enactment of more volitional behaviors. Mindfulness is a powerful integrative agent, and SDT views integration as crucial to the development of more autonomous forms of motivation.

When awareness of inner and outer circumstances is heightened, so are people's abilities to attend to prompts arising from basic needs, and to consciously self-organize and self-regulate their actions in a manner fulfilling such needs. Consequently, one is more likely to focus on and attain intrinsic life goals, living more eudaimonically in the process. This is supported by both research connecting mindfulness to intrinsic over extrinsic goals, and the relations between these goals and qualities of action, vitality, and overall wellness.

Beyond all the aforementioned benefits of mindfulness, we must not overlook a valuable aspect of this construct: the vividness that it adds to current experience and the moment-to-moment sensory contact with life, without dense evaluative filtering of experience (Brown & Ryan, 2003; Kabat-Zinn, 2005). In the chaotic, often rushed

environment of modern society, where people strive to accomplish something every minute and where multi-tasking is the normal mode of operation, there is consequently little time for contemplation of one's experiences, and little inclination to turn off the cruise control in order to reflect on the present moment. In this lifestyle of speed and production, with its increasing commercial, social, and political attention capturing messages and pressures, mindfulness emerges as a pivotal tool for autonomous, vital, living.

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