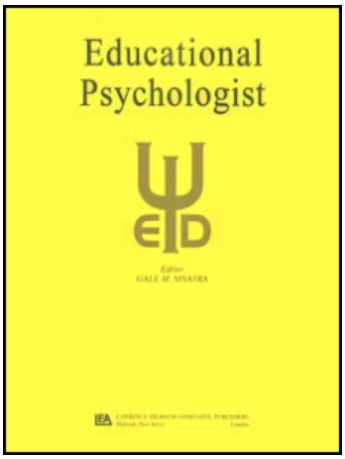

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An Education in Awareness: Self, Motivation, and Self-Regulated Learning in Contemplative Perspective

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An Education in Awareness: Self, Motivation, and Self-Regulated Learning in Contemplative Perspective

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Consistent with the aims of this special issue, we present a systems perspective on self/identity, predicated on William James's classic distinction between *I* and Me, and use this perspective to explore conceptual relations between self/identity, motivation to learn, and self-regulated learning. We define the *I* self functionally in terms of the capacity for the conscious shifting and sustaining of awareness. The *I* is conceived of as that aspect of the self-system that affords the potential for the conscious and willful, rather than the non-conscious and automatic, motivation and regulation of behavior. We introduce contemplative education as a set of pedagogical practices designed to cultivate conscious awareness in an ethical-relational context in which the values of personal growth, learning, moral living, and caring for others are nurtured. We discuss the implications of contemplative education for the cultivation of conscious and willful forms of learning and living among students and educators alike.

The purposes of this article are to (a) explore conceptual relations between *self/identity*, *motivation,* and*self-regulated learning* and (b) introduce *contemplative education* as a potential way of cultivating students' conscious and volitional forms of motivation and self-regulated learning in school and beyond. To address our first aim, we provide an overview of the Basic Levels of Self (BLoS) model and focus particular attention on that aspect of self called *I*. Defined as *awareness*, we describe *I* as an undertheorized and undereducated dimension of *self* that is the apparent basis of the human capacity for volitional living and learning. It is this part of the self-system (*I*), we propose, that makes possible not *freedom* from external conditions, as Frankl (1962) put it, but *freedom in attitude* towards conditions; not just *adaptation* to cultural environments, as Maslow (1968) put it, but the *transcendence* of such environments.

To address our second aim, we describe contemplative education as a set of practices that may foster particular forms of awareness in students, forms conducive to the conscious motivation and regulation of learning, and also to freedom and transcendence in life more generally. In this way, we see contemplative education as one means among others for realizing the aims of education in free and democratic societies. In addition to socializing young people in culturally sanctioned ways of thinking and feeling (i.e., *civic education*) and scaffolding their development of knowledge and disciplined ways of knowing (i.e., *subject-matter education*), we believe that public education in such societies should explicitly cultivate awareness and related volitional modes of attending, thinking, feeling, perceiving, acting, and interacting. Whereas the cultivation of civic-mindedness and the acquisition of subject-matter knowledge are essential for sociocultural participation, the cultivation of awareness and willful self-regulation are preconditions for deep learning, freedom of thought, creativity, harmonious social relationships, and myriad forms of personal and social renewal (Greenberg et al., 2003; Roeser, Peck, & Nasir, 2006). Thus, our second aim in this article is to introduce *contemplative education* as a set of pedagogical practices, originally developed in the great contemplative traditions of the world, that have as their aim personal growth and social transformation through the cultivation of conscious awareness and volition

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in an ethical-relational context. We discuss the educational significance of these *I* potentials for school motivation and self-regulated learning in terms of theory and research on the use of contemplative practices such as yoga and meditation with children, adolescents, and also educators.

SELF, MOTIVATION TO LEARN, AND SELF-REGULATED LEARNING

What is self and what relation does self have with motivation and self-regulated learning? Our answer to this question is informed by a recently developed heuristic, content-lean organizational framework of the self construct that is predicated on both the classic self psychology of William James (1890) and contemporary cognitive-affective systems approaches to self (e.g., Case, 1991; Harter, 2006; Mischel & Morf, 2003): the BLoS model (Roeser, Peck, et al., 2006). Although we focus here on details of the individual-level contents and processes associated with motivation and regulation, or the person side of the larger person-in-context system, the BLoS model is part of a more comprehensive theoretical framework that takes account of persons, contexts, and their dynamic interactions: the Basic Aspects of Self in Context model (Roeser, Peck, et al., 2006).

The BLoS model advances a definition of the self construct that, following James (1890), is centered on the distinction and interactions between two subsystems of the overall self (Me and *I*). The Me-selves, as the dynamic structured content of the *self-system* contained primarily in long-term memory (e.g., relatively-enduring beliefs and values; Leary & Tangney, 2003), play a fundamental role in the automatic motivation and regulation of goal-directed behavior by (a) providing relatively fast and automatic evaluative feedback concerning the presence of self-relevant benefits and harms and (b) by energizing and directing relevant response tendencies (Bargh & Chartrand, 1999; Epstein, 1990; Lazarus, 1991; Markus, 1977; McClelland, 1987). The *I*, as the *consciously experiencing subject* of the self-system (Galen, 2003; James, 1890) and sometimes described as the "vehicle of choice" (James, 1890; Leary & Tangney, 2003), is involved in conscious and willful (i.e., *volitional*) forms of motivation and self-regulation. By *volition* we refer, for example, to individuals' capacity for the willful and conscious activation of particular plans and goals within the stream of consciousness, and for willfully and consciously focusing and sustaining awareness on particular objects within the stream of consciousness for purposes of bringing goals to fruition in action. A key assumption in the BLoS model is that the motivation (i.e., energy) and regulation (i.e., direction) of goal-directed behavior are two primary *functions* of the self that manifest themselves as automatic or volitional processes associated with the Me-self and *I*-self, respectively (Roeser, Peck, et al., 2006). To provide support for this perspective, we review some general conceptions of motivation and self-regulated learning used in contemporary educational psychology. These diverse and often mutually inconsistent conceptions demonstrate the need for an organizational framework in which motivation and regulation are understood in relation to a more differentiated model of the self-system in which, for example, *I* is clearly distinguished from Me.

Defining Motivation

What is actually studied in research on *motivation*? Despite the apparently straightforward nature of the question, Ford (1992) detailed the long-standing identity crisis in the field of motivation around issues of construct definition and corresponding efforts to distinguish "motivation" from other cognitive and emotional phenomena. Snow, Corno, and Jackson (1996) also attempted to differentiate motivation from other cognitive, conative, and affective constructs relevant to the study of individual differences in learning and achievement. Graham and Weiner (1996) and Wigfield, Eccles, Schiefele, Roeser, and Kean (2006) discussed the history of shifting construct definitions in the field and the continuing divide between social-cognitive theories of motivation to learn and broader personality theories in which drives, needs, and traits, are central. With advances in research on socio-cultural and social-cognitive views of self and identity today, however, the distance no longer seems so great between broadband self-constructs (e.g., motives) and more narrowband motivational constructs (e.g., goals) studied in education (Elliot, 1997; Roeser, Peck, et al., 2006).

As just one example, in an effort to provide a more synthetic perspective on motivation and its links to self, Ford (1992) proposed a systems-oriented view of motivation as an "integrated patterning of a subset of cognitive and arousal processes, not a qualitatively distinct kind of psychological phenomena" (p. 40). In particular, he proposed that goals, personal agency beliefs (e.g., goal expectancies and context appraisals), and emotional arousal processes are all key motivational constructs that organize around situational demands and affordances and serve to ready the organism to act to attain (or avoid) a particular aim. Over time, through repeated experience with particular goals and situations, these organized patterns of mental processes are hypothesized to crystallize in the form of cognitive-affective self-representations that are relatively enduring, but nonetheless situationally attuned, features of personality (Ford, 1992; Mischel & Shoda, 1995). In this view, goals, emotions, beliefs concerning one's capacity to attain (or avoid) self-relevant goals, as well as the history of one's efforts at goal attainment or failure, represent key building blocks of the representational self. In other words, what is called *motivation* in terms of goals, beliefs, and emotions can also be called the Me-self (Leary & Tangney, 2003).

This analysis of motivation in terms of goals, beliefs, and emotions is consistent with various theorists' views on

self. For instance, Carver and Scheier (2000) observed, in reference to "contemporary theories of the self-concept" (p. 50), that "a broad implication of this sort of theory is that the self is partly the person's goals" (p. 50). Similarly, Dweck, Higgins, and Grant-Pillow (2003) suggested that

> contents of the self—self-defining beliefs and values—come to life through people's goals . . . . Thus we propose that the contents of the self gain their importance and exert their influence through the motivational value they possess—through their ability to shape and energize people's goals. (p. 239)

Others have discussed how role identities (e.g., student, daughter, friend) and educational aspirations represent examples of self-defining beliefs and values, respectively, that exert "top-down" influence on goal selection and goal-organized behavior through the hierarchically structured nature of the representational self (e.g., Harter, 2006; Roeser & Galloway, 2002; Wigfield et al., 2006). In short, one answer to the question "What is actually studied in research on *motivation*?" is that, among other things, it is individuals and their selves pursuing goals in particular sociocultural contexts (Maehr & Braskamp, 1986).

An ongoing question for the field of educational psychology is how to integrate into a single conceptual framework the many theories of self content (e.g., beliefs, values, goals; see Wigfield et al., 2006) and self processes (e.g., attributions, appraisals) that constitute young people's motivation to learn in school (e.g., Roeser & Galloway, 2002; Snow et al., 1996). Our solution to this issue is to use "motivation" not as a reference to a separate domain of psychological phenomena, but as a general term referring to the *energizing* properties that characterize various aspects of the self-system, such as the valence attached to a learning goal or the emotional tone attached to a particular self-schema. In our view, a solution to the identity crisis in the field of motivation requires a framework in which motivation is understood in relation to the broader self-system, Me and *I*, in social context. Consistent with contemporary psychological research on self, this distinction between Me and *I* draws attention to (even though it is not synonymous with) the difference between automatic and volitional forms of motivation (see Roeser, Peck, et al., 2006).

Defining Self-Regulated Learning

What is self-regulated learning? Self-regulation in education is often discussed in terms of students' active participation in their own learning through the management of behavioral, emotional, cognitive, attentional, and environmental resources in the service of achieving desirable learning goals (Pintrich, 2000; Zimmerman, 2000). However, there is debate in the educational field about how best to precisely conceptualize and operationalize self-regulation (Wigfield et al., 2006). Some theorists refer to representational *content* such as goals and personal efficacy beliefs as self-regulatory mechanisms (e.g., Bandura, 1997), whereas others distinguish such content from what they term *volition*—a self-regulatory *process* that serves to protect activated belief-goal systems (i.e., *intentions*) from competing demands and to bring them to fruition in action under favorable conditions (e.g., Corno, 1993; Kuhl, 2000; Snow et al., 1996).

In addition, some view self-regulation as a volitional process, by definition, whereas others do not. Zimmerman (2000), for instance, defined self-regulation as "self-generated thoughts, feelings and actions that are planned and cyclically adapted to the attainment of personal goals" (p. 14; see also Winne, 1996). Here, self-regulation is defined as volitional processes involving goal-setting, planning, and monitoring. Similarly, Snow et al. (1996) attempted to bridge the gap between research on motivation (as goal content) and self-regulated learning (as intentional goal pursuit) by discussing both of these concepts in relation to the *conative* domain of mental functioning and its role in individual differences in learning and achievement. According to these authors, "conation is the tendency to take and maintain purposive action or direction towards goals" (p. 264). Among the community of scholars who use the term *conation*, the anticipatory mental processes that energize and direct an individual to act to attain particular goals are termed *motivation*. Distinct from motivation, in these terms, are those mental processes that make possible the *conscious* and *willful* initiation and maintenance of goal-directed action in the service of goal attainment—processes termed *volition*. Here, volition refers to processes that involve the conscious activation and translation of goals into intentions and actions and the conscious protection of these intentions from competing influences (Corno, 2001; Kuhl, 1984). Thus, those who use the term *conative* tend to view motivation and volition as a continuum—a kind of commitment pathway—in which individuals commit to certain goals and then consciously control action in the service of attaining those goals (Snow et al., 1996). This perspective and that of Zimmerman can be contrasted with research on implicit cognition showing that much of our behavior is motivated and regulated by nonconscious, automatic (self) processes (Bargh & Chartrand, 1999; Epstein, 1990; Lazarus, 1991). Is self-regulation a volitional process by definition, or can self-regulation also refer to automatic processes?

In sum, for some theorists, the concept of self-regulation refers to self contents and for others it is a self process. In addition, for some theorists the term *self-regulation* appears to implicate only those aspects of the self-system that afford the willful and conscious direction of behavior (e.g., Vohs & Baumeister, 2004; Zimmerman, 2000). For others, the concept of self-regulation involves structures of the self-system that automatically and nonconsciously direct behavior (e.g., Bargh & Chartrand, 1999; Vohs & Baumeister, 2004).

This diversity of perspectives caused Zeidner, Boekaerts, and Pintrich (2000) to conclude that

> there is considerable confusion in the literature with respect to the criterial attributions of self-regulation, its key components, and related constructs from the same semantic domain (p. 750) . . . [and] the fragmentation and disparate, but overlapping, lines of research within the self-regulation domain have made any attempt at furthering our knowledge an arduous task. Indeed, consistent nomenclature and taxonomy have been virtually impossible for many years because little coherence exists among theory and measures of self-regulation and other conative constructs. (p. 753)

In our view, a solution to the conceptual confusion in the field of self-regulation requires a framework in which self-regulation is understood in relation to the broader self-system, *I* and Me, in social context. With that aim in mind, we believe that the BLoS model, described next, can help move the disciplines of education and psychology toward theoretical integration and coherence by, for example, using the concepts of Me and *I* to further clarify the distinctions between automatic and volitional forms of self-regulation and, thereby, to provide new insight into the question "What is self-regulated learning?" Analogous to our definition of motivation as a general term referring to the energizing properties of self-system components, in the BLoS model we use regulation as a general term referring to the *directive* properties of both the *I*-self and Me-self systems. In these terms, there is a fundamental difference between *I-self-regulation* (which is volitional) and *Me-self-regulation* (which is automatic).

Defining Self

In sum, the study of motivation and self-regulated learning implicates the self. But what is self? Perhaps not surprisingly, there is not now, nor has there been historically, a consensual definition of *self* or *identity* in the social sciences (see Brubaker & Cooper, 2000; Coté & Levine, 2002; S. C. Peck, 2004; Roeser, Peck, et al., 2006; Sheldon, 2004). Nevertheless, despite many differing perspectives, at least one idea seems to have endured for more than a century; that is, the idea that there are at least two basic aspects of the self at the individual level of analysis: (a) one that is socioculturally constituted and psychologically represented as self-narratives, role scripts, belief systems, goals, and plans that *automatically* motivate and regulate behavior and (b) another aspect whose substance remains elusive but that nonetheless appears to afford capacities for the *willful and conscious* motivation and regulation of behavior. The most enduring rendering of the relation between this largely enculturated representational aspect of the self on the one hand, and that associated with conscious will on the other, was given by James (Markus, 1990).

THE BASIC LEVELS OF SELF

James's (1890) self-theory, consisting of ME and I, is an example of the "divided person metaphor" (Galen, 2003). James suggested that "*the constituents of the Self* may be divided into two classes, those which make up respectively—(*a*) The material Self; (*b*) The social Self; (*c*) The spiritual Self;[1] and (*d*) The pure Ego" (p. 292). The first three selves (i.e., the material, social, and spiritual selves) represent the Me-selves. The material self was described mainly in terms of the physical body and material possessions; the social self was described in terms of the recognition we get from other people; and the spiritual self was described as our "inner or subjective being, [our] psychic faculties or dispositions, taken concretely; not the bare principle of personal Unity, or 'pure' Ego" (p. 296). Whereas the material, social, and spiritual selves (as the Empirical Me) constituted the representational "objects" (i.e., content) of the self-system, the *I-self* (or "pure Ego") was described as the "subject" (i.e., process) of experience. Summarizing his conception of self, James (1890) made the following proposal: "*Hereafter let us use the words* ME *and* I *for the empirical person and the judging Thought*" (p. 371).

To codify the Jamesian distinction between these two basic constituents of the self-system, the Me and *I*, and to update our understanding of these two constituents given current developments in psychological science, we put forth the BLoS heuristic model (Roeser, Peck, et al., 2006; see Figure 1). A central assumption of the BLoS model is that the self comprises several different "levels" systems (cf. S. C. Peck, 2007). For example, conceptualizing the *I* in systematic relation to the Me appears to require viewing the *I*-self system (i.e., the *continuum of awareness*) as existing and functioning as part of a levels system that is distinct from, and situated obliquely in relation to, the *levels of representation* constituting the Me-self system. After a brief description of the multiple levels of representation constituting the Me-self system (see Figure 1), we then explore the implications of there being a quasi-distinct *I*-self system. We describe this *I*-self system in terms of a continuum of awareness that (a) exists separately from, but is functionally interdependent with, the Me-self system and (b) affords conscious and volitional, rather than nonconscious and automatic, modes of motivation and "self" regulation.

James's Me-Selves in Modern Perspective

From a contemporary perspective, James's Me-selves can be understood to be synonymous with the body and the representational self (Harter, 2006), including the narrative self that is contained in long-term memory (Damasio, 1999; McAdams, 1990). The BLoS model describes various forms of mental

[1] James's use of the term "spiritual" was, in most cases, equivalent to the contemporary term "psychological."

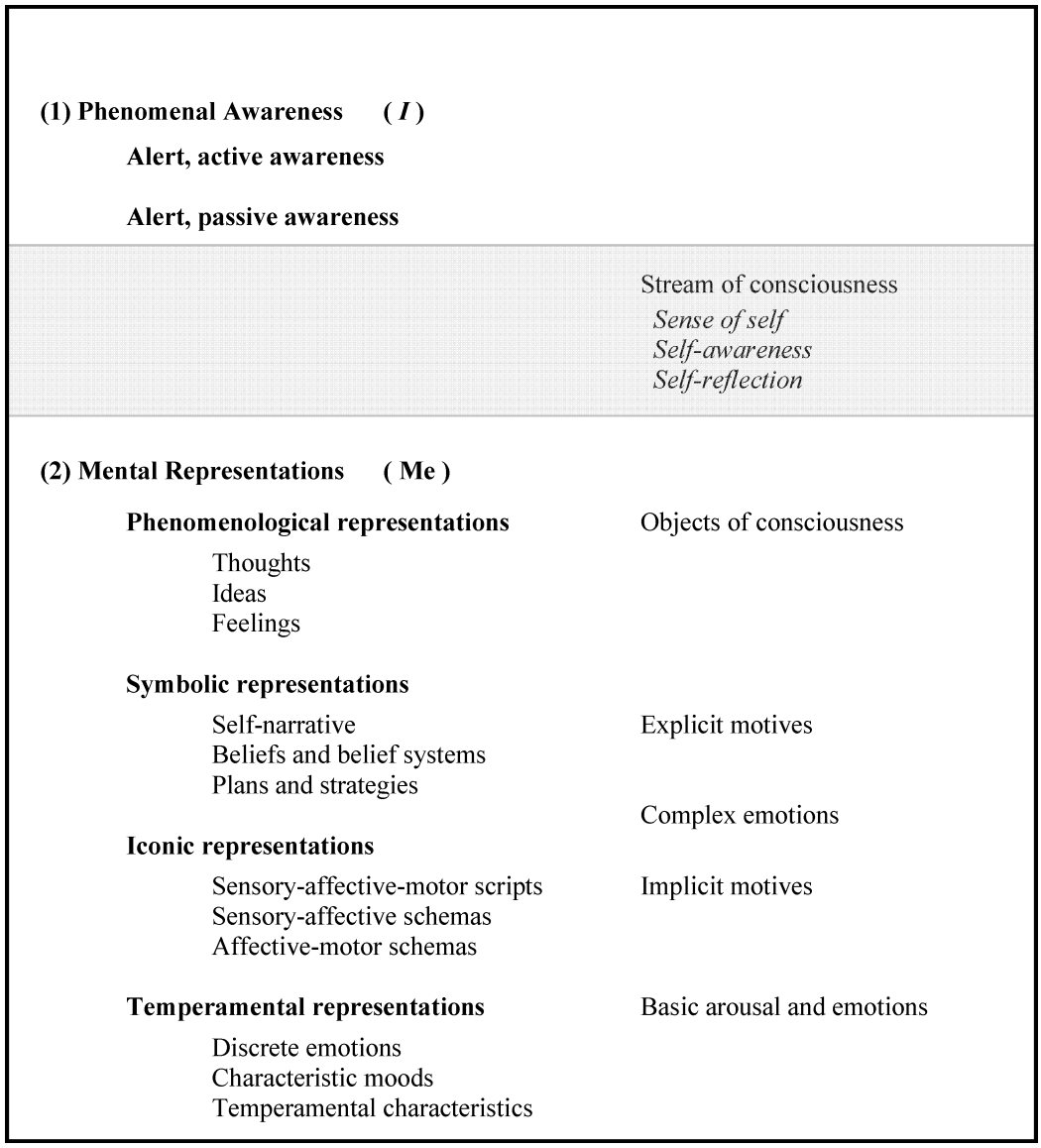

FIGURE 1 Basic Levels of Self model.

representation (and associated processes) that constitute the bulk of what James referred to as the Me[2] (see Figure 1; Roeser, Peck, et al., 2006). These include *temperamental* characteristics, emotions, and moods (e.g., stimulus reactivity, core emotions, energy level), affectively-charged *iconic* representations (e.g., implicit motives), and valenced *symbolic* representations (e.g., beliefs, values, goals, and their higher order integration into a "life narrative"). All of these factors are hypothesized to play significant roles in the motivation and regulation of behavior through their roles in environmental appraisal and consequent energizing influence on individuals' goal-directed behavior in particular situations (Dweck et al., 2003; Ford, 1992). Contents of the Me-selves (on any level of representation) are selectively sensitive to (i.e., activated by) sensory stimulation associated with environmental objects (e.g., self-relevant benefits and harms) similar to those initially involved with the original construction of the representation. For instance, memories of past school performances are activated automatically in assessment situations based on their similarity to those encountered in the past, and these activated memories (as patterns of goals, personal agency beliefs, and emotional arousal processes) energize and direct individuals to act in a particular way, with a particular intensity (Ford, 1992; Maehr & Braskamp, 1986).

[2]James's "social selves" refer to context factors and so, rather then considering them as integral parts of the self system, which is the focus of BLoS, they are considered within the broader framework of the Basic Aspects of Self in Context model (Roeser et al., 2006) which includes a systematic description of the multilevel physical and social context.

In other words, as a result of the attunement of these organized patterns of internal representations to specific environmental affordances (Ford, 1992; Mischel & Morf, 2003), Me-self content automatically "motivates" (i.e., energizes) and "regulates" (i.e., directs) thinking, feeling, and behaving by being *available* and *activated* in response to self-relevant benefits and harms in the social and natural worlds (Dweck et al., 2003; Lazarus, 1991; cf. Higgins, 1996, on availability vs. accessibility).

Hypotheses about the specific kinds of benefits (e.g., esteem, competence, autonomy, relatedness, belonging, safety) and harms that are self-relevant, and therefore around which the representational self is organized, vary across theorists and their meta-theories (e.g., Case, 1991; Ryan & Deci, 2000; Epstein, 1990; Lazarus, 1991; Maslow, 1968). Nonetheless, there is a shared assumption that basic needs for safety, contact, attachment, freedom from pain, hunger and cold, belonging, autonomy, and competence are central organizing principles in social life and in individuals' developing Meselves. In sum, the various representational dimensions of the Me-self enable relatively automatic, nonconscious, rapid, and efficient meaning making with respect to central human needs, priorities, and the "average expectable environments" that address them (Bargh & Chartrand, 1999; Epstein, 1990; Markus, 1977; Metcalfe & Mischel, 1999; Ryan & Deci, 2000).

The BLoS model also clearly distinguishes between the phenomenological representations that constitute the contents within what James (1890) called the "stream of consciousness"—or what can be construed alternatively as short-term, or working, memory—and our capacity to passively or actively focus awareness on this activated content (e.g., S. C. Peck, 2007). In BLoS, phenomenological representation refers not to consciousness (or to "explicit" information processing) but to the subset of temperamental, iconic, and symbolic content that is "activated" at any given point in time. This view highlights the fact that representational content can be activated and actively mediating behavior while being completely outside the focus of awareness.[3] Further, although phenomenological representations are *in*formed by contents and processing originating within other levels of Me (e.g., core emotions, schemas, beliefs, goals, etc.), they are not isomorphic with this information. For example, activated beliefs, in the absence of awareness, do not produce a conscious experience of self/identity (even if they influence behavior). Rather, the *sense of* identity is constructed from simultaneously activated temperamental, iconic, and symbolic content that is both (a) represented phenomenologically as past and present images of "me" and (b) is the object of focal awareness. In other words, consistent with James (1890), the sense of identity is best described in terms of the *subjective relationship* between *I* awareness and activated representational contents (Me).

The significance of this conceptualization of the Me-self system for educational psychology is that it provides a framework within which to organize the diversity of constructs relevant to individual differences in school learning and achievement beyond the cognitive constructs so prominent in the field today (e.g., goals, expectancies, self-concepts; see Wigfield et al., 2006). The BLoS conceptualization of the Me-self system includes both cognitive and emotional arousal constructs that have long been neglected in the field (Graham & Weiner, 1996; Linnenbrink & Pintrich, 2002; Roeser, Eccles, & Strobel, 1998; Schutz & Lanehart, 2002) and places them in relation to the *I*-self and volitional constructs that continue to be prominent in the field today (Boekaerts, Pintrich, & Zeidner, 2000; Corno, 1993; Snow et al., 1996).

Consistent with Neo-Piagetian perspectives on self (e.g., Case, 1991; Harter, 2006), the BLoS model, rather than attempting to define constructs such as emotion, motivation, and cognition in terms of some kind of presumed single phenomenon, describes these phenomena in terms of specific representational contents and processes existing at multiple levels of the overall self-system (see Figure 1). For example, emotion is defined partly in terms of innate temperamental structures that provide the initial basis for the experience of basic emotions (Ekman, 1992), partly in terms of mood and the learned sensory-affective-motor (iconic) schemas that combine temperamental inputs into more complex blends of emotional experience (McClelland, 1987), and partly in terms of the conscious, phenomenological experience that is produced by the temperamental and iconic inputs (Lazarus, 1991).

From this perspective, motivation and regulation at the level of the Me-self can be understood in terms of the energic and directive components that are characteristic of its elements. For example, the affective charges intrinsic to iconic representations (i.e., sensory-affective-motor schemas, or "implicit motives") are energic, whereas the structured content of iconic representations (i.e., the stored pattern of specific sensory stimuli and associated response dispositions) are directive (Bowlby, 1988; Case, 1991; Elliot, 1997; McClelland, 1987). Similarly, the valenced charges intrinsic to symbolic representations (e.g., goals, values, and plans, or "explicit motives") are energic, whereas the structured content of symbolic representations (i.e., the specific form of the represented "objects") are directive (Harter, 2006; Markus & Nurius, 1986). The higher order symbolic system called the self-narrative is constructed from many lower order evaluative beliefs, goals, and plans and is consequently, imbued with a high amount of motivational energy that directs behavior relatively automatically. The motivational energies of the Me-self have been described in terms of emotion; approach and avoidance motives and goals; and hoped for and feared possible selves (Elliot, 1997; Lazarus, 1991; Markus & Nurius, 1986; McClelland, 1987). One interesting

[3] Activated psychological contents that are "not in awareness" but that nonetheless affect behavior are studied in the social sciences today under the rubric of "implicit processes" (cf. Roeser, Peck, et al., 2006).

implication of this approach for the study of school motivation concerns whether or not Me-self contents across these levels provide summative (e.g., Thrash & Elliot, 2002) or conflictual (e.g., Aronson & Steele, 2005) approach/avoidance energies in the motivation of achievement behavior (Roeser, Peck, et al., 2006).

James's *I*-Self in Modern Perspective

What characterizes the *I*-self? This remains an elusive question linked to the general "problem of consciousness" (e.g., Leary & Tangney, 2003). As James (1890) noted more than 100 years ago,

> trying to define more accurately [the *I*-self's] precise nature, we should find opinions beginning to diverge. Some would say that it is a simple active substance, the soul, of which they are thus conscious; others, that it is nothing but a fiction, the imaginary being denoted by the pronoun I; and between these extremes of opinion all sorts of intermediaries would be found. (p. 298)

After a lengthy review of various philosophical positions on the substantive nature of the *I*-self, James (1890) concluded that "I" is synonymous with "Thought" and that "it is enough to know that it exists; and that in everyone, at an early age, the distinction between Thought as such, and what it [Thought] is of or about, has become familiar to the mind" (pp. 296–297). James relegated any further conclusions about the substantive nature of the *I* to either metaphysical speculation or future scientific discoveries. More than 100 years later, we are forced to the same conclusion because of a lack of empirical evidence pertaining specifically to the substantive nature of the *I*, as defined here and by James.

Nevertheless, in terms of the *functional* nature of the *I*, scientific research has identified several distinct modes and functions of awareness. For example, Damasio (1999) used the term *core consciousness* to describe the *alert passive mode of awareness* that is present at or very near birth and that is a necessary condition for conscious experience. He argued that awareness is a simple biological phenomena that is stable across the life span; independent of long-term memory, reasoning, and language; and manifest only as a kind of short-term memory pulse forever illuminating the present moment (*here and now*). In these terms, awareness *is* and forms the ground of conscious mental life (cf. Tart, 1975). A second mode, an *alert active mode of awareness*, has been identified and associated with volitional action or *I-self-regulation*. This mode involves the *willful shifting and sustaining of awareness* (cf. Lieberman, Gaunt, Gilbert, & Trope, 2002; Posner & Rothbart, 2000; Shiffrin & Schneider, 1977).

Drawing on this and related work, we leave a definitive definition of the substantive nature of the *I* to future discoveries but, nonetheless, define the *I* functionally in terms of the simple capacity for shifting and sustaining the focus of attention through awareness (Roeser, Peck, et al., 2006). This capacity affords a variety of possibilities for volitional motivation and self-regulation described in the various subdisciplines of psychology under the guise of "executive control" (Fischer & Daley, 2007). For example, executive functions have been defined as "general-purpose control mechanisms that modulate the operation of various cognitive subprocesses and thereby regulate the dynamics of human cognition" (Miyake, Friedman, Emerson, Witzki, & Howerter, 2000, p. 50). These dynamics include mental set shifting and selection (Miyake et al., 2000); updating and monitoring of information and comprehension (Paris, Brynes, & Paris, 2001); the inhibition and control of dominant emotional, conceptual, and behavioral response tendencies (Eisenberg, Champion, & Ma, 2004; Metcalfe & Mischel, 1999; Posner & Rothbart, 2000); the control of spatial orienting (Derryberry, 2002); the subjective synthesis of experience (James, 1890); the control of intentions until translated into action (Corno, 1993); awareness of one's knowledge claims and the warrants for them (e.g., Kuhn, 2000); perspective taking, and so on (see Zeidner et al., 2000).

From the perspective of the BLoS model, it is at the interface between the *I* and the phenomenological Me (as the activated representational contents of self) that the mechanistic automaticity of the temperamental, iconic, and symbolic Me-self subsystems can, potentially, be volitionally regulated and controlled. For example, consciously shifting the focus of awareness away from phenomenologically activated content that is inconsistent with goal progress (e.g., thoughts of going out with friends while studying for an exam) and toward content that is consistent with goal progress (e.g., thoughts and feelings of doing well on the exam), and then consciously shifting awareness toward,[4] and sustaining the focus of awareness on, goal-relevant content (e.g., one's notes) serves to inhibit a dominant response (i.e., going out with friends) and (re)activate the nondominant response (i.e., studying for the exam; e.g., Metcalfe & Mischel, 1999). This capacity for selectively activating and deactivating Me-self content through the willful shifting and sustaining of the focus of awareness is the basis for planning, reflection, and the volitional motivation and regulation of behavior (Case, 1991).

I, Me, and the Fusion Continuum

The definitions of *I* and Me outlined in this article enable us to consider their mutual relations in ways that are instructive with respect to the study of motivation, volition, and self-regulated learning in contemporary educational psychology (cf. Roeser, Peck, et al., 2006). For example, similar to how James (1890) distinguished between "Thought" (as *I*) and

[4] We know of no current theory or research describing the detailed causal dynamics associated with how focusing awareness away from objects represented phenomenologically and "toward" objects that are *not* currently represented phenomenologically can activate such latent content.

"what Thought is about" (as Me), distinguishing "awareness" (as *I*) from "phenomenological representation" (as Me) allows us to define volitional and automatic forms of motivation and self-regulation.

From the perspective of the BLoS model, volitional motivation is the activation of and sustaining of focus on particular goals and scripts (i.e., Me-self contents) through alert, active awareness. For example, consciously adopting the goal of studying for an exam and then sustaining awareness on study materials for an exam can be viewed as consciously energizing studying behavior. In contrast to the term *motivation*, which refers to facets of both *I* and Me, the term *volition* in the BLoS model refers only to *I* and its functions of shifting and sustaining the focus of awareness. In these terms, what is called *volition-as-a-process* (Corno, 1993; Kuhl, 1984) refers to the functioning of *I* (Leary & Tangney, 2003), and what is called *self-regulated learning* (Zimmerman, 2000) refers to *I*-self-regulated learning. In other words, one implication of the BLoS model is that it affords a means of rethinking the "motivation-volition continuum" (Snow et al., 1996; Zimmerman, 2000) in terms of the Me and *I*. By positing awareness (*I*) as a quasi-independent dimension of self, and motivation as a facet of self that manifests as both *I* and Me, we imply that alert, active awareness, or volition, plays only a small role in most motivational and self-regulatory processes (cf. Tart, 1975). In most instances, the *I* is only passively alert and, in a sense, *fused* with the activated contents of Me in the stream of consciousness. Volition refers to those relatively rarer moments of active, alert awareness operating on the contents of phenomenal experience from a more free than fused relationship and perspective. In short, we propose that the self-system is better construed as an automaticity-volition continuum than as a motivation-volition continuum.

This was the view of Tart (1975) who proposed a "continuum of awareness" that can be used to differentiate several different ways that awareness is manifested in relation to attention, motivation, regulation, and the (Me-) self. For example, Tart proposed that

> there is an experiential continuum at one end of which attention/awareness and the particular content of awareness are essentially merged and at the other end of which awareness of being aware exists in addition to the particular content of the awareness. In between are mixtures.. . . The lower end of the self-awareness continuum, relatively total absorption, is probably where we spend most of our lives, even though we like to credit ourselves with high self-awareness. (p. 15)

Psychologists have provided empirical support for the idea that normal waking consciousness can be understood in terms of a form of automaticity characterized by more or less beneficial habits of body, mind, and speech together with an alert but passive awareness. In this mode of functioning, active awareness generally plays little or no role in attention and the motivation and regulation of behavior. Various forms of self-representations—symbolic, iconic, and temperamental in nature—are activated by situational cues and "play out" automatically (below the threshold of awareness), for better or worse, in school (Corno, 2001; Dweck, 1999) and life more generally (Bargh & Chartrand, 1999). This automatic mode of functioning, in which awareness is passive and essentially fused with the phenomenal stream of consciousness, is most common and efficient from an information processing point of view (Epstein, 1990). The specific content and valence of such activated representations is key to understanding their adaptive or nonadaptive nature in particular settings such as the classroom.

TABLE 1
Correlated Psychological Processes Along the Experiential Continuum of Awareness

Psychological Processes	*Continuum of Awareness* ← →	
	Passive, Alert	*Active, Alert*
Modes of Attention	Automatic attention	Effortful attention
Modes of Motivation	Automatic motivation	Effortful motivation
Modes of Self-Regulation	Me-self regulation	*I*-self regulation
Modes of Self-Relating	*I*/Me fusion	*I*/ME distinction

In contrast, the other end of this continuum is characterized by active, alert awareness and, in rare cases, a meta-awareness described as *being aware of being aware* (see Lutz, Dunne, & Davidson, 2007).[5] From the perspective of the BLoS model, notions of forethought, planning, monitoring, volition, and metacognition in educational psychology (e.g., Corno, 1993; Kuhn, 2000; Zimmerman, 2000) are reflective of this end of the automaticity-volition spectrum. This end of the continuum can be characterized in terms of an active awareness that is relatively free from, and stands in some relation to, the flow of phenomenologically represented objects, including beliefs about oneself. This kind of awareness is particularly useful for reflecting on (Me-) self, contemplation of intellectual matters, being present in social interactions, or for any task where conscious attention really matters to the quality of the outcome. In Table 1, we describe both of these modes of functioning in relation to attention, motivation, self-regulation, and self-relating. The basic conjecture here is that individuals' capacity to separate their awareness from activated contents in the stream of consciousness affords possibilities for effortful forms of attention and the volitional motivation and regulation of behavior. Further, this capacity also affords the potential for developing compassionate forms of relating to ourselves (I with Me) and others (I/Me with Thou).

[5]There are important issues concerning the various states and stages of phenomenological awareness, such as "pre-egoic consciousness," "ego-consciousness," and "witness consciousness" that we are glossing over here because of space limitations (see Lutz et al., 2007; Tart, 1975; Wallace, 2006).

Daily experience is filled with many examples of more or less fused forms of the relation between *I* and Me. According to the BLoS model, every aspect of the physical and social environment that influences our conscious experience (i.e., becomes both represented phenomenologically and the object of focal awareness) must be processed and filtered, as information, through the sensory, perceptual, and other Me-self representation systems before emerging into the phenomenological field. Each such information processing episode appears to take a minimum of approximately 500 ms and involves considerable input from prior experiences stored in the brain as long-term memory or knowledge (McCrone, 2001; Newell, 1990). Further, it is only after having passed through the many layers of the Me-self that this information, as represented in the phenomenological field, can become the focus of awareness. This is why the behavioral impulses associated with Me-self content activated during the 500 ms between sensory stimulation and phenomenological representation can seem too difficult to inhibit; that is, these behavioral impulses are already beginning to be acted out by the time *I*-self awareness has the opportunity to examine and possibly inhibit them. Nevertheless, once available to *I*-self awareness, these phenomenological representations and the underlying Me-self representations that were used to generate them can be influenced by the simple (even if challenging) acts of shifting and sustaining the focus of awareness. In the next section, we introduce *contemplative education* as a novel form of education that aims to inculcate the more mindful and volitional forms of mental functioning characteristic of the right side of Table 1.

INTRODUCING CONTEMPLATIVE EDUCATION

Contemplative education is concerned with the development of the "whole person" and is a form of humanistic education that first originated in the world's great contemplative spiritual traditions, especially in India (Thurman, 2006). Although the definitions of contemplative education are diverse (e.g., Garrison Institute, 2005; Hart, 2004), we define it as a set of pedagogical practices designed to cultivate the potentials of mindful awareness and volition in an ethical-relational context in which the values of personal growth, learning, moral living, and caring for others are also nurtured. So defined, contemplative education complements several existing public school movements such as moral and character education, youth development programs, and social and emotional learning programs that aim to cultivate young people's moral and civic identities as well as their social-emotional development (Damon, 2002; Eccles & Gootman, 2002; Greenberg et al., 2003). It relies upon and enriches each of these existing educational movements by providing a specific set of practices for cultivating mindful and intentional forms of living and learning. As James (1890) noted more than 100 years ago,

> the faculty of voluntarily bringing back a wandering attention, over and over again, is the very root of judgment, character, and will. . . . An education which should improve this faculty would be *the* education *par excellence*. But it is easier to define this ideal than to give practical directions for bringing it about. (p. 424)

For more than 2,500 years, the contemplative traditions of India have developed highly sophisticated curricula and corresponding sets of practices by which the refinement of awareness, attentional training, and the ethical development of individuals can be cultivated (Kabat-Zinn, 2003; Lutz et al., 2007; Thurman, 2006). Indeed, these three educational aims were traditionally seen as constituting the purpose of education in Ancient India (Mookerji, 1947/2003). As one Indian contemplative, Swami Vivekananda, put it,

> we need the kind of education by which character is formed, strength of mind increased, the intellect is expanded, and by which one can stand on one's own feet. (Vivekananda, n.d.)

> The training by which the current and expression of will are brought under control and become fruitful, is called education.. . . . All success in any line of work is the result of this. High achievements in arts, music, etc. are the result of concentration. When the mind is concentrated and turned back on itself, all within us will be our servants, not our masters. (Swami Vivekananda, as cited in Avinashilingam, 1970, p. 680)

At minimum, contemplative education involves active student participation with a competent teacher (in the form of a person or a set of teachings) and a set of experiential learning opportunities designed to help students develop clear, calm, and concentrated states of awareness in a context of personal growth and values such as humility, curiosity, open-mindedness, open-heartedness, and caring for others. Experiential learning opportunities might involve being in nature, doing art, learning physical disciplines involving set sequences of movements (e.g., tai chi, yoga), engaging in guided imagery, contemplating existential questions, or practicing meditation. The element common to such diverse activities that demarcates them as "contemplative education" is the presence of a disciplined practice (one in which constraints are placed on normal mental/physical habits), in which the shifting and sustaining of the focus of awareness on particular objects over time (as in one-pointed awareness) or the shifting and sustaining of the focus of awareness on the moment to moment flow of phenomenologically represented content (as in mindfulness) is the central practice (see Goleman, 1988; Hart, 2004; Holland, 2004; Kaplan, 2001; Lantieri, 2001; Rockefeller, 2006; Wall, 2005).

The teaching of contemplative practices occurs, by definition, within a relational context in which personal growth and ethics are emphasized. That is, on one hand the practices are taught as methods for helping individuals to become more centered, calm, attentive, and happy in the context of everyday life. On the other hand, such practices are also framed in terms of how one's personal happiness is interdependent with the happiness of others and in terms of how one can become more aware of the needs, perspectives, and well being of others by being calm and clear oneself. For example, students who practice yoga in gym class might be taught that they do the practices to quiet and focus their minds and bodies and to become more relaxed, more energized and awake, and more aware of themselves and others as they go about their daily activities.

Contemplative practices such as yoga that cultivate one-pointed awareness in a context of personal growth and interpersonal ethics are associated with the calming of the body and the mind. Specifically, the practice of focusing awareness on a single object (e.g., a physical pose, the breath) promotes sensory inhibition and a "relaxation response" (Benson, 1975; Lazar et al., 2000). This initial focusing and calming is called "concentration practice" (i.e., *dharana*) in yoga traditions and "calming practice" (i.e., *shamatha*) in Buddhist traditions.

Once the capacity of consciously and stably attending to a single object is established to a certain degree (e.g., the ability to concentrate), and the body and mind are quieted through this form of effortful control (Posner & Rothbart, 2000), further practice can cultivate nondirective, open, vigilant, and receptive forms of awareness (see Lutz et al., 2007). Practices that cultivate these forms of awareness in a context of personal growth and interpersonal ethics are hypothesized to lead to the development of progressively less reactive and more insightful mental states (Wallace, 2006). These forms of awareness are sometimes called *mindfulness* (Brown, Ryan, & Creswell, 2007; Kabat-Zinn, 2003). In BLoS terms, the realization of mindful states involves an active form of *I*-self regulation in which awareness is sustained not on any particular phenomenological representation in the stream of consciousness but on the stream itself, without attachment.

Evidence suggests that most human beings, under normal conditions of living, do not spontaneously develop these *I* potentials of concentration and mindfulness beyond conventional levels unless they undergo some form of specialized mental training (see Alexander & Langer, 1990; Tart, 1975; Wallace, 2006) or what we are calling "contemplative education." At the same time, research on meditation, as a central form of specialized mental training and contemplative education, has shown that meditation produces a series of beneficial outcomes in adults that are captured by the BLoS model—those reflecting executive functioning, motivational orientations toward self and others, and their implications for health and well being. Specifically, positive outcomes of meditation have included (a) relaxation, stress reduction, and enhanced immune response (e.g., Benson, 1975; Davidson et al., 2003; Lazar et al., 2000; MacLean et al., 1997); (b) greater attentional regulation capacity and, possibly, related cortical thickening in the prefrontal lobes (e.g., Carter et al., 2005; Chan & Woollacott, 2007; Jha, Krompinger, & Baime, 2007; Lazar et al., 2005; Slagter et al., 2007); (c) clearer and more mindful awareness (Shapiro, Oman, Thoresen, & Plante, 2007); and (d) the development of a less defensive orientation toward oneself and others (e.g., Emavardhana & Tori, 1997; Farb et al., 2007).

Providing an education that helps young people develop the kinds of executive control and healthy mindsets discussed here could help to prevent emotional-behavioral difficulties and promote positive development (Greenberg et al., 2003). According to the BLoS model and related work, cultivating *I*-self functions during childhood and adolescence, when the mental and neural systems subsuming these functions are relatively more plastic and malleable than in adulthood, should be inversely associated with self-regulation failure, poor self-awareness, and unhealthy mindsets later in life. Consequently, we predict that adults having a history of contemplative practice during childhood and adolescence will be at lower risk for curtailed educational attainments, chronic stress, depressed mood, substance use, ill health, and family difficulties (e.g., Vohs & Baumeister, 2004; Kabat-Zinn, 2003; Langer, 1997). We also believe that the core skill sets and ideas that are hypothesized to be affected by contemplative education are centrally relevant to the aims of public education in the 21st century. These aims include the development of self-regulatory capacity, moral character, engagement in service, and a sense of realistic idealism regarding both personal and social change (Damon, 2008; Greenberg et al., 2003; Noddings, 2005; Partnership for 21st Century Skills [http://www.21stcenturyskills.org/]).

CONTEMPLATIVE EDUCATION, MOTIVATION, AND SELF-REGULATED LEARNING

According to the BLoS model, a key set of mechanisms by which contemplative practices are predicted to affect school-related motivation and self-regulated learning involve executive control and mindful awareness. These processes are relevant to motivation and self-regulated learning because of the functions they serve, including (a) the conscious inhibition of undesirable but dominant (and activation of desirable but nondominant) response tendencies, (b) the conscious monitoring and updating of information during goal pursuit and learning, and (c) the conscious reflection on existing, and reconstruction and encoding of new, representational content.

Executive Control

A main hypothesis with regard to contemplative education is that practices like yoga or meditation are means of

increasing the strength of executive control processes, specifically, the *I*-self-regulatory functions of shifting and sustaining the focus of awareness. Some of the most impressive evidence for the benefits derived from the use of these *I*-self capacities has been generated by more than 3 decades of research associated with Mischel's "delay of gratification" paradigm (e.g., Metcalfe & Mischel, 1999). In this work, children's ability to shift their awareness away from desired objects and to sustain it on less interesting objects (e.g., to gain larger rewards) is generally associated with less impulsivity and negative affect. Over time, this *I*-self-regulatory capacity to inhibit the dominant response tendency is associated with both social-emotional (e.g., better stress management) and academic (e.g., higher SAT scores) benefits.

Research has also established that learning and consolidation of new material occurs best in situations where stress is moderate, negative affect is minimized, and positive affect is enhanced (e.g., Fredrickson, 2001; Greenberg et al., 2003). Consequently, the extent to which contemplative practices enhance executive control processes that are central to the ability to cope with stress and regulate negative emotion, subject-matter learning, and classroom behavior should also be enhanced (e.g., Boekaerts, 1993). Similarly, based on research showing that the mental rest afforded by recess can set the stage for better classroom behavior and learning (Jarrett et al., 1998; Kaplan, 2001; Pellegrini & Smith, 1993), we hypothesize that the relaxation and positive affect engendered by certain types of meditation should have similarly beneficial effects on classroom behavior and learning.

Finally, because sustained attention through awareness helps to stabilize information in memory (Derryberry, 2002), the strengthening of students' ability to volitionally regulate their attention through contemplative practice may have implications for subject-matter learning; for example, by increasing the depth of processing of new information. In addition, contemplative practices could hypothetically train the skill of self-monitoring, which could be used during learning to monitor comprehension. In-depth information processing and monitoring should, in turn, promote the conceptual complexity, coherence, and clarity of students' developing subject-matter knowledge (e.g., Paris et al., 2001; Pintrich, 2000).

Identity and Worldview Beliefs

According to the BLoS model, another mechanism by which contemplative practices produce healthy states of mind conducive to deep learning involves the development of motivational "mindsets" (e.g., representational constructs) whose contents involve estimations of mental abilities and scripts for dealing with competence-related setbacks. These include beliefs about the malleability of abilities as well as strategies and scripts for how to cope with inevitable setbacks associated with learning new and challenging things (e.g., Corno, 2001; Dweck, 1999). Because contemplative practices require the mastery of challenging mental and physical skills (e.g., sitting silently and watching the in-coming and out-going breath or maintaining a particular physical pose), engagement in these practices, in the hands of a competent teacher, provides numerous opportunities for the development of new ways of understanding oneself and one's attempts to learn and be resilient during the process of learning. For example, Roeser, Berry, et al. (2006) found that students who practiced meditation and believed that it fostered mental control were also more likely to believe that their intellectual abilities were malleable rather than fixed compared to students in comparison schools where meditation was not practiced. In sum, the accent on plasticity, self-effort, and a focus on gradual improvement through sustained practice that accompanies the use of contemplative practices such as meditation or yoga may promote the construction of Me-self structures and processes comprised of motivational beliefs concerning the malleability of intelligence (Dweck, 1999), achievement goals aimed at mastery and improvement (Maehr & Braskamp, 1986), and attributions to malleable sources of difficulty and adaptive sources of coping, particularly when confronting setbacks (e.g., Neff, Hsieh, & Dejitterat, 2005).

Self-Compassion and Mindfulness

Another set of qualities associated with mindful awareness and attitudes toward oneself that may be cultivated through contemplative practice is what Neff (2003) termed "self-compassion." According to the BLoS model, predicated on James' distinction between *I* and Me as fundamental constituents of self, there is a phenomenological relationship—our *I* with our "Me's"—that is essential for health and well-being. This intrapsychological relational process can be influenced by contemplative practice in terms of what Neff described as self-compassion. Self-compassion is defined in terms of three components: (a) being aware of and open to one's own suffering, as in being willing to observe painful experiences, thoughts, and feelings without identifying with or fixating on them; (b) taking a kind, nonjudgmental, and understanding attitude toward oneself in instances of pain or difficulty rather than being self-critical; and (c) framing one's difficulties in light of the shared human experience of challenge and suffering rather than as something that isolates us from others. The first factor, from the perspective of the BLoS model, depends mainly on *I*-self functions (e.g., mindfulness); the other two factors depend mainly on the Me-self, or representational knowledge relevant to motivation and self-regulated learning.

In a study of college students, Neff et al. (2005) found that self-compassion was positively associated with the pursuit of perceived competence and mastery achievement goals, in which the focus of awareness is on learning and improvement, and negatively associated with fears of failure and the pursuit of socially comparative achievement goals in

which the focus of awareness is divided between learning and one's ego-status and performance compared to others. Further, Neff and colleagues found that among college students who perceived their midterm grades as indications of "failure," self-compassion was associated with more adaptive coping strategies for raising grades (e.g., applying more effort, seeking academic support). From the perspective of the BLoS model, this suggests that in the face of failure, some individuals are able to actively shift and sustain their awareness on positive self-representations and coping skills rather than becoming stuck in ruminations on failure and its implications for self-worth. This example also suggests the need to develop healthy representational resources (Me-self) that can be focused on and activated in learning situations where less healthy representational constructs may be activated (e.g., perceived helplessness; Dweck, 1999).

Shapiro, Carlson, Astin, and Freedman (2006) termed the *I*-self awareness aspect of self-compassion as "re-perceiving." They defined re-perceiving as a shift in perspective in which individuals are able to disidentify with the moment-to-moment phenomenological representations arising in awareness and witness them with greater clarity and objectivity. Such re-perceiving is hypothesized to (a) produce less emotional reactivity to the particular contents of the "stream of consciousness"; (b) afford greater flexibility to respond to those contents as a consequence of being aware of and "over-riding" automatic habitual responses; and (c) create a calm and clear mental context from which to think, speak, and act. Others have called this nonjudgmental, moment-to-moment, intentional form of awareness *mindfulness* (Brown et al., 2007; Kabat-Zinn, 2003).

Empathy, Compassion, and Mindfulness

The development of executive control through contemplative practices may not only provide opportunities for the development of self-compassion but also cultivate empathy and compassion for others. This prediction follows from the idea that the capacity to inhibit dominant response tendencies provides opportunities for gathering more information and for formulating more thoughtful and empathic responses to social situations. Empathy, as a felt awareness of another's state, only leads to compassionate responses in situations where others are in need if one is able to overcome the natural reactions of personal distress and fear in such situations (Eisenberg et al., 2004). Such emotional reactions typically engender avoidance tendencies. Thus, mindful awareness and the regulation of dominant response tendencies are generally essential to developing empathy and compassion. Such capacities may facilitate perceiving the ethical dimensions of such situations with greater clarity beyond arousal and fear (Dreyfus, 1995). This, in turn, may increase the likelihood that individuals will respond to situations of distress with compassion rather than avoidance (Singer, 2006). To the extent that contemplative practices cultivate the skills necessary for empathy and compassion, they may also increase students' prosocial behavior in the classroom. Prosocial behavior, in turn, should engender positive effects on learning through mechanisms of positive peer and teacher support for learning (e.g., Wentzel & Wigfield, 1998).

Membership in a Community

The silent practice of yoga and meditation (or other contemplative activities) together as a school community may engender effects on felt belonging and felt membership that facilitate students' motivation, learning, and achievement in school. For example, in private secondary schools in India in which youth practiced regular meditation, Roeser, Berry, and colleagues (2006) found that adolescents perceived morning and afternoon meditation sessions as "transitional periods" between home and school. Many students reported enjoying the time to be with themselves, in silence, as a community. Affording students such shared rituals and means of self-exploration may be a novel way of fostering a reflective *community of learners* (A. L. Brown, 1997). Previous research suggests that the most effective transfer of the skills learned in contemplative practice settings to academic learning settings would occur in environments where educators were committed to the creation of school-wide "mindful communities of learners" in which self-regulation and reflection were habits of mind that were valued and practiced school-wide throughout the school day (A. L. Brown, 1997; Langer, 1989).

Teacher–Student Relationships

Finally, the use of contemplative practices, to the extent they engender any of these positive effects on students, may also engender reciprocal effects between students and teachers such as positive spirals of prosocial emotion and behavior (Fredrickson, 2001). To the extent students' self-regulatory capacity and behavior in the classroom is enhanced by such practices, they may engage with teachers in more positive and prosocial ways that elicit similar responses. In addition, to the extent students' classroom behavior improves, teachers' perceptions of and actual efficacy as a teacher can be expected to increase (Bandura, 1997; Roeser & Midgley, 1997). Research is needed to assess whether contemplative educational programs for teachers can reduce their levels of professional stress and enhance their capacity to regulate their own emotions in the high stress environment of the classroom. These factors, in turn, could promote positive spirals of prosocial emotion and behavior between themselves and students (Jennings, 2007; Jennings & Greenberg, 2009; Winzelberg & Luskin, 1999).

The creation of "contemplative school cultures" in which contemplation becomes a part of the everyday routine of a school is likely to be important for the sustainability and transfer of effects of any implementation of contemplative education (e.g., Sarason, 1990). Such efforts could begin with

programs for students, programs for teachers and administrations, both, or some temporal sequencing (e.g., teachers get programs first and then are trained to bring them into the classroom with students). Research could examine social influences that occur when a whole school engages in contemplative practices—particularly modeling effects in which participating teachers and older students model the value of doing the practices and leadership on how to do the practices for younger members of the community (Roeser, Berry, et al., 2006).

Research on Contemplative Practices With Children and Adolescents

Research on the use of contemplative practices such as tai chi, hatha yoga, and meditation with children and adolescents in secular settings of the clinic and the school is still in a nascent stage (Garrison Institute, 2005). Many of the studies that have been done are preliminary and lacking in scientific rigor. Nonetheless, these studies mark a beginning of the new field of contemplative education and are briefly discussed below.

Studies with clinical populations. Several studies have examined the use of hatha yoga as a complementary treatment for young people diagnosed with Attention-Deficit/Hyperactivity Disorder (ADHD; Harrison, Manocha, & Rubia, 2004; Jensen & Kenny, 2004; H. L. Peck, Kehle, Bray & Theodore, 2005). The core hypothesis behind these studies was that the sustained awareness and somatic activity that is characteristic of hatha yoga practice would produce relaxation and increased self-control and reduce the muscular tension and anxiety that tend to exacerbate ADHD symptoms. All three studies showed that children enjoyed hatha yoga and showed reduced symptoms, but study limitations suggest the need for further research (Rojas & Chan, 2005). Because impaired attention is a core symptom of anxiety, mindfulness meditation was tested as a means of enhancing the attentional processes of anxious children ages 7 and 8 (Semple, Reid, & Miller, 2005). Preliminary results supported the viability of using mindfulness meditation techniques with children, but no scientific conclusions about the effectiveness of such practices for anxious children were established. Similar findings regarding the use of mindfulness meditation with adolescents with ADHD have been reported (Zylowska et al., 2008).

Several studies examined the combined effect of relaxation and imagery techniques on the lung function and stress levels of children and adolescents with asthma. The hypothesis was that stressors are emotional triggers for asthma and, to the extent young people with asthma could become aware of these triggers and learn to invoke stress-management techniques in response, they could potentially prevent the onset of symptoms. The relaxation component of the intervention involved a "body scan"; that is, a contemplative practice of focused awareness in which the individual progressively attends to and releases stress from all parts of the body. Results for four adolescents and four children showed enhanced lung functioning and decreases in self-reported anxiety (Dobson, Bray, Kehle, Theodore, & Peck, 2005; H. L. Peck, Bray, & Kehle, 2003). Although the results require replication, it is noteworthy that both the children and adolescents in these small studies reported enjoying their engagement in the somatic awareness exercises. Similarly, other small-scale pilot studies have examined the viability of using yoga and meditation techniques with adolescents dealing with considerable amounts of life stress to teach them stress management techniques (Derezotes, 2000; Sibinga et al., 2007). Although these formative assessments all supported the feasibility of using such practices with youth, more research on the effectiveness of such practices is needed.

Studies with school populations. In one of the few published studies involving hatha yoga with school-age children (ages 8–13), Telles, Hanumanthaiah, Nagarathna, and Nagendra (1993) found that a 10-day training in physical postures (*asanas*), voluntary regulation of the breath (*pranayama*), maintenance of silence, and visual focusing exercises (*tratakas*) were associated with greater performance on a test of physical steadiness compared to controls. Understanding the effects of cultivating physical balance and somatic awareness on emotional balance and mental awareness is an area for future research (e.g., Wallace & Shapiro, 2006).

Benson and colleagues developed a "Relaxation Response (RR) curriculum" in which students, as part of their health education class, were taught about stress, its effects, and effective ways to manage it. Students were trained in a two-step meditation technique consisting of (a) choosing and then focusing awareness on a single object (e.g., image, word, phrase) and (b) adopting a stance of nonjudgment and non-self-consciousness with respect to efforts to maintain their awareness on the "object of meditation." In one randomized, cross-over experimental design with 10th-grade sophomores in upstate New York, results showed that, compared to controls, exposure to the RR curriculum was associated with an increase in adolescents' feelings of esteem over time (Benson et al., 1994). No differences in blood pressure or physiological arousal during a challenging mental arithmetic task were found. A second study with middle school students in South Central Los Angeles looked at how length of exposure to the RR curriculum over the course of a 3-year period was related to changes in students' academic achievement, attendance, and work habits (Benson et al., 2000). Results showed that students who had more than two exposures to semester-long classes in which teachers had been trained in the relaxation response curriculum showed higher grades, better work habits, and more cooperation than students who had two or fewer exposures. However, the lack of randomization, the absence of a control group, and the fact that the student outcomes were rated, in part, by teachers who were not blind to the conditions of the study mitigate against drawing firm conclusions

about the efficacy of the RR curriculum with middle school students. A third study examined how a 6-week mind–body intervention in which the RR method was taught to college students was associated with changes in their self-reported stress and anxiety. Results showed the intervention was associated with greater reductions in self-reported distress, state anxiety, and stress among experimental versus control participants (Deckro et al. 2002). Although promising, more rigorously controlled research with non-self-report measures is needed to establish the effects of the RR curriculum.

Transcendental Meditation (TM), a form of silent focused awareness on a word, has also been studied in school-aged youth. In a random assignment intervention study with 156 African American high school students at risk for hypertension, Barnes, Treiber, and Johnson (2004) found that 4 months of practice with TM (two 15-min sessions daily) was associated with decreased daytime systolic and diastolic blood pressure among adolescents in the meditation group compared to controls. In three randomized experiments with high school students in Taiwan, So and Orme-Johnson (2001) found that 6 to 12 months of meditation (two 15-min sessions daily) was associated with increases in fluid intelligence, speed of information processing, practical intelligence, and field independence and decreases in state and trait anxiety among those in the meditation group compared to various control groups. Several other nonexperimental studies on the use of meditation, tai chi, and hatha yoga with nonclinical populations have documented the general acceptance and enthusiasm children and adolescents report with respect to engaging in such practices (e.g., Napoli, Krech, & Holley, 2005; Roeser, Berry, et al., 2006; Wall, 2005).

In summary, our review of evidence on the viability and effects of using contemplative practices such as hatha yoga and tai chi, body scans, and meditation with children and adolescents arrives at conclusions that are generally in agreement with the Garrison Institute (2005) report. In that report, the authors concluded that there were few peer-reviewed papers, scant details about programs, failure to employ rigorous research methodologies (e.g., blindness to condition, control groups, use of non-self-report methodologies), and general lack of agreement on the active ingredients of programs and ways to measure their effectiveness. They singled out research under the rubric of "social emotional learning" as an exception to these critiques (e.g., Greenberg et al., 2003), and we concur. We also note that the studies of TM reviewed herein appeared to be sound. Finally, we agree that despite problems with methodology, almost all of the studies we reviewed support the feasibility of using contemplative practices with school-age children and adolescents, though this must be done with attention to developmental factors and the secular setting of school. At this time, it is premature to say how effective contemplative practices are at promoting *I*-self regulatory functions and associated Me-self development in children and adolescents.

Research and Practical Challenges for Contemplative Education in Public Schools

Several challenges need to be addressed in the science and practice of contemplative education. First, a rationale for how contemplative pedagogical practices can support and enhance the educational missions of public schools must be further elaborated (Hart, 2004). This is especially true in an age of high-stakes testing and accountability measures. Although we believe reforms in accountability practices are necessary in education today, the existence of such ubiquitous testing practices and the stress they engender for educators and students alike could, paradoxically, provide a strong rationale for the benefits of implementing educational practices that reduce stress and enhance mental states conducive to mindful learning. Second, continuing curriculum development is needed to create a set of contemplative pedagogical techniques that are (a) able to be implemented in secular educational settings for children and adolescents in age-appropriate, nonsectarian ways, and (b) amendable to scientific study. Third, empirical research of the highest quality is needed to provide evidence concerning age-appropriate contemplative practices and how these practices advance and complement the aims of social–emotional learning, character education, and subject-matter learning. Fourth, modules for the education and support of teachers in how to use contemplative practices with children and adolescents need to be developed, implemented, and assessed.

The importance of supporting teachers and administrators in the design and implementation of these techniques through continuing education cannot be underestimated as such practices make there way into education (e.g., Jennings, 2007). We believe the best place to start the continuing education of educators in such techniques is to have them practice them in their own lives so that their benefits can be experienced first hand and studied scientifically. Subsequently, teachers can be educated in the delivery of such techniques to students, and studies at that level can progress. Eventually, efforts to infuse a contemplative orientation into the cultures and daily schedules of whole schools—*contemplative communities of learning*—could be attempted and assessed. Indeed, in places like Vancouver, British Columbia, some of these efforts are already underway (Schonert-Reichl, November 6, 2008, personal communication).

CONCLUSION

Consistent with the aims of this special issue, the purpose of this article was to explore conceptual relations between the *self/identity* construct and the constructs of *motivation* and *self-regulation* as studied in contemporary educational psychology from the perspective of a systems view of the self first articulated by William James. By distinguishing between the Me and *I*, we provided a systems perspective on

how self/identity is deeply implicated in the study of motivation and self-regulated learning in educational psychology. We also proposed that what James called the *I*-self, and that which we defined as the willful capacity to shift and sustain awareness, is an undertheorized and undereducated dimension of human identity that underlies our capacity for volitional motivation and learning. We described various modes and functions of *I*-self awareness in relation to the motivation and regulation of behavior, despite the fact that the substantive nature of *I* remains elusive.

A second purpose of this article was to introduce contemplative education as a set of pedagogical practices designed to cultivate conscious awareness in an ethical-relational context in which the values of personal growth, learning, moral living, and caring for others are nurtured. We briefly reviewed the nascent evidence for whether the introduction of contemplative educational practices with children and adolescents is feasible and concluded that the evidence is encouraging but still underdeveloped. We conclude that contemplative education, as an "education in awareness," has the potential to transform the lives of young people for the better, although creative curriculum development and rigorous scientific research are needed to evaluate the soundness of this conclusion.

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