

Personality and Self-Regulation: Trait and Information-Processing Perspectives

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ABSTRACT This article introduces the special issue of *Journal of Personality* on personality and self-regulation. The goal of the issue is to illustrate and inspire research that integrates personality and process-oriented accounts of self-regulation. The article begins by discussing the trait perspective on self-regulation—distinguishing between temperament and personality accounts—and the information-processing perspective. Three approaches to integrating these perspectives are then presented. These range from methodological approaches, in which constructs representing the two perspectives are examined in integrated statistical models, to conceptual approaches, in which the two perspectives are unified in a holistic theoretical model of self-regulation. The article concludes with an overview of the special issue contributions, which are organized in four sections: broad, integrative models of personality and self-regulation; models that examine the developmental origins of self-regulation and self-regulatory styles; focused programs of research that concern specific aspects or applications of self-regulation; and strategies for increasing the efficiency and effectiveness of self-regulation.

Not being able to govern events, I govern myself, and apply myself to them, if they will not apply themselves to me.

Montaigne, 1603

The term *self-regulation* refers to processes by which people control their thoughts, feelings, and behaviors. When people succeed at self-regulation, they effectively manage their perceptions of

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themselves and their social surroundings. They behave in ways that are consistent with their goals and standards of behavior. Conversely, when people struggle or fail at self-regulation, they lose control of their personal and social experience. Their behavior does not contribute to the fulfillment of important goals or correspond to standards of behavior to which they subscribe. Successful self-regulation is essential to adaptive functioning in all life domains.

Given the central role of self-regulation in adaptive and maladaptive functioning, it is not surprising that a large literature has developed on the topic. This literature is unusual in its breadth, spanning biological, developmental, personality, cognitive, and social psychology, and drawing attention from researchers in related disciplines such as sociology and education. Within psychology, the current vitality of this literature is evident in the number of edited volumes published during the most recent decade (e.g., Baumeister & Vohs, 2004; Boekaerts, Pintrich, & Zeidner, 2000; Cameron & Leventhal, 2003; de Ridder & de Wit, 2006; Heckhausen & Dweck, 1998). Despite this vitality, there has been relatively little study of self-regulation as a feature of personality or how personality is reflected in self-regulation. The goal of this special issue is to illustrate and inspire research that integrates personality and process-oriented accounts of self-regulation.

In this introduction to the special issue, I first sample from the literature on dimensions of temperament and personality traits with direct relevance to self-regulation. I next review the primary dimensions of information-processing models of self-regulation. I then discuss three means by which these perspectives could be integrated so that each perspective informs the other. I conclude with an overview of the articles in the special issue.

TRAIT PERSPECTIVE

Stable tendencies to self-regulate in particular ways or with characteristic levels of success or failure are reflected in personality traits. These can be divided into precursors to personality that manifest as childhood temperament and personality traits.

Temperament Constructs

The basic elements of the self-system and the capacity to self-regulate begin to emerge early in life. For example, behavioral inhibition

stabilizes by about 1 year of age (Kagan, 1997). The *ego*, the psychological structure and processes through which people relate to their social and physical environment, undergoes differentiation and change as the individual matures (Loevinger, 1976). In terms of self-regulation, the individual becomes increasingly more able to delay gratification and increasingly less prone to act impulsively or in response to external pressure (Hy & Loevinger, 1996). With the emergence of self-awareness and internalized standards of behavior comes the full-blown capacity to self-regulate.

A temperament construct with clear implications for self-regulation is *effortful control*, defined as the “ability to inhibit a dominant response to perform a subdominant response, to detect errors, and to engage in planning” (Rothbart & Rueda, 2005, p. 169). Although specific constructs and labels vary across models of temperament, most include two broad factors that reflect the tendency toward a dominant response of approach or avoidance. Through the exercise of effortful control, children are able to inhibit these dominant responses when they would conflict with a task in which they are engaged. Individual differences in effortful control begin to emerge by 2 years of age and by 4 years of age are temporally stable (Kochanska, Murray, & Harlan, 2000). Effortful control is a precursor to the constraint domain in adult models of personality.

A related temperament construct is *behavioral inhibition*, which focuses on variation in children’s reactions to unfamiliar or unexpected stimuli. In the presence of such stimuli, behaviorally inhibited children, as young as 1 year of age, exhibit stress and behavioral restraint. The neurophysiology of behavioral inhibition indicates overactivity in brain regions associated with fear (Fox, Henderson, Marshall, Nichols, & Ghera, 2005). Thus, behaviorally inhibited children are faced with the regulatory challenge of managing fear and anxiety in the face of the unexpected. Because a stimulus for self-regulation is unexpected feedback from the environment (Duval & Wicklund, 1972), behaviorally inhibited individuals face the challenge of managing such feedback while also managing the fear and anxiety such stimuli invoke.

These and other temperament constructs influence the emergence and development of self-regulation and underlie personality traits relevant to adult self-regulation. Although a large number of personality traits have some relevance for adult self-regulation, those that follow most clearly from temperament and are most likely to

appear in major models of personality can be grouped under the general headings of conscientiousness and impulsivity.

Conscientiousness and Related Constructs

Among the higher-order dimensions of personality, *conscientiousness* is the most clearly relevant for self-regulation. Although defined somewhat differently in lexical and psychometric models, conscientiousness generally concerns the ways in which people characteristically manage their behavior. People who are high on conscientiousness are confident, disciplined, orderly, and planful, whereas people who are low on conscientiousness are not confident in their ability to control their behavior and are spontaneous, distractible, and prone to procrastinate (Costa & McCrae, 1992). In research linking conscientiousness to behavior, the more narrowly focused facets underlying the domain are emphasized (Paunonen & Ashton, 2001). The facets—competence/self-efficacy, orderliness, dutifulness, achievement striving, self-discipline, and deliberation/cautiousness—reflect different behavioral tendencies characteristic of successful self-regulation (Roberts, Chernyshenko, Stark, & Goldberg, 2005).

A related higher-order dimension of personality is *constraint*, which reflects well the temperament trait of behavioral inhibition (Tellegen, 1982). Facets of constraint focus on the tendency to inhibit the expression of impulse and emotion (control), behavior at odds with social convention (traditionalism), and risk taking (harm avoidance). As with conscientiousness, in research on self-regulation, constraint is best considered in terms of its facets.

Impulsivity and Related Constructs

As a trait, *impulsivity* is the tendency to act without thought or planning. It is evident in early childhood (Clark, 1993) and has a strong neurobiological signature (Spinella, 2004). Impulsive behaviors typically are quick, often inappropriate, and frequently risky. People who are highly impulsive are prone to a host of high-risk behaviors characterized by poor self-control (e.g., Hoyle, Fejfar, & Miller, 2000; Krueger, Caspi, Moffitt, White, & Stouthamer-Loeber, 1996; Wulfert, Block, Ana, Rodriguez, & Colman, 2002). Although impulsivity can be assessed, and often is studied, as a trait, it also

appears as a constituent of broader traits and domains of personality such as extraversion and psychoticism in the PEN model (Eysenck, 1990), conscientiousness in the Five-Factor Model (Costa & McCrae, 1992), impulsive sensation-seeking in the alternative Five-Factor Model (Zuckerman, Kuhlman, Joireman, Teta, & Kraft, 1993), and the behavioral approach system in Gray's (1994) neurophysiological model. Impulsivity typically is cast as a behavioral liability; however, in conditions that do not allow for forethought or planning, impulsivity can be an asset (Dickman, 1990). In either case, behavior is not consciously regulated by the individual, and, therefore, the process models described below routinely do not apply.

The idea that self-control is not always adaptive is apparent in the *ego-control* construct (Block & Block, 1980). Ego control is defined as the "expression or containment of impulses and desires" (Letzinga, Block, & Funder, 2004). An important feature of this conceptual model is the notion that individuals can be over- as well as undercontrolled. Individuals who are undercontrolled do not suppress emotional expression and behavior even when so doing would violate personal or social standards of appropriateness. In terms of self-regulation, they do not exercise self-denial, are emotionally unstable, and are easily distracted. Individuals who are overcontrolled excessively inhibit emotional expression and behavior. In terms of self-regulation, they are rigidly organized, likely to exercise self-denial when it is not necessary to do so, and persist at tasks when it is no longer productive to do so. According to the model, although the self-regulatory styles of under- and overcontrolled people ordinarily are maladaptive, under certain conditions they are advantageous. For instance, the self-discipline and persistence characteristic of overcontrolled people would be beneficial when productivity under pressure is required. The spontaneity and emotional expressiveness of undercontrolled people would play well in many social settings. On average, however, a measured degree of ego control results in the most adaptive self-regulation.

Related to impulsivity and ego control is the construct of *disinhibition*, the inability to control demands on attention, cognition, and behavior that interfere with desired behavior. Specifically, disinhibition involves an inability to prevent interference from competing stimuli, irrelevant thoughts or demands on attention, and reflexive and automatic behaviors. Alternatively, disinhibition can be viewed as a failure of the *behavioral inhibition system*, which

evaluates the relevance of stimuli in terms of what is expected given the situation, responds to inhibitory signals associated with stimuli that are unexpected, and motivates behavior aimed at reducing the influence of those stimuli on cognition, motivation, and behavior (Gray, 1991). In terms of self-regulation, people high in disinhibition are likely to struggle to stay on track in the pursuit of important goals or outcomes.

This selective review of temperament and personality constructs relevant to self-regulation suggests how and, to some extent, why people vary in terms of how they self-regulate, how often they self-regulate, and the degree of success or failure at self-regulation they routinely experience. The trait perspective on self-regulation, exemplified by these constructs, suggests underlying neurophysiological influences and positions self-regulation in the broader context of differences in personality. With rare exception, however, the trait perspective provides little insight into the cognitive, affective, and behavioral processes that define a specific instance of self-regulation.

INFORMATION-PROCESSING PERSPECTIVE

An alternative, although not incompatible, perspective on self-regulation focuses on the specific processes by which information about the self is processed and the implications of that processing for motivation and behavior. The original model of this type, which is prototypic of models that take this perspective, was described within objective self-awareness theory (Duval & Wicklund, 1972). According to the theory, when attention is directed toward the self, an evaluation ensues in which current self-representation is compared against internalized standards of correctness as reflected in an ideal self-representation. This comparison yields affect—typically, negative affect—stemming from the unfavorable discrepancy between current and ideal self-representations. The negative affect motivates behavior aimed at reducing the discrepancy either through behavior designed to change current self-representation to more closely approximate ideal self-representation or to direct attention away from the self. Characteristics of this conceptualization that are apparent in other information-processing models of self-regulation include self-awareness, comparison of current self-representation with a behavioral standard, and the management of any unfavorable

discrepancy between self-representation and the standard (e.g., Carver & Scheier, 1981; Higgins, 1987; Pyszczynski & Greenberg, 1987). In these models, self-regulation has succeeded when self-representation and the salient behavioral standard are reconciled and attention shifts from the self back to the environment.

Related models offer greater detail in terms of the process and its components. Perhaps the most influential of these models is the control-process model of self-regulation (Carver & Scheier, 1981). This model places less emphasis on self-awareness and negative affect and greater emphasis on sources of behavioral standards and the process by which the discrepancy between those standards and current self-representation are managed. Embellishments to the model focus on the awareness of the rate at which discrepancies are reduced and the implications of this awareness for affect (Carver & Scheier, 1990). Self-discrepancy theory focuses more specifically on sources of behavioral standards, distinguishing between “ideal” and “ought” self-representations and detailing the emotions that arise when each is contrasted with current self-representation (Higgins, 1987). As a group, these models offer a rich and detailed account of what people are doing and feeling when they are self-regulating.

Fundamental to these models is the assumption that self-regulation is conscious and effortful. The assumption of consciousness is particularly evident in models that accord self-awareness a central role in the process (e.g., Duval & Wicklund, 1972). The assumption of effort is evident in that all of the models assume an unsatisfactory state that is overcome through cognitive or behavioral strategies. This assumption is underscored and, to some extent, validated by accumulating evidence that people are less effective at self-regulation when their ability to expend effort so doing has been compromised (Muraven & Baumeister, 2000).

The extent to which these assumptions are, in fact, fundamental has been called into question by a growing body of evidence indicating that some portion of people’s goal-oriented behavior is nonconscious and automatic (Bargh & Williams, 2006). Moreover, the influence of goals activated outside of consciousness on behavior equals the influence of goals activated in a conscious manner (Bargh, Gollwitzer, Lee-Chai, Barndollar, & Troetschel, 2001). Whether the process initiated by nonconscious activation is similar to the conscious process described earlier is unclear. Furthermore,

it is not clear whether activation of all behavioral standards would initiate nonconscious self-regulation or whether goals are unique in this regard. Nonetheless, it is evident that, at least some of the time, the regulation of behavior requires neither consciousness nor effort.

Models of self-regulation in the information-processing tradition address important concerns regarding what an instance of self-regulation entails. They describe stimuli that initiate the process, components of the process, how the process unfolds, and, ultimately, the conditions that cause the process to terminate. Although the information-processing perspective offers a detailed account of the process of self-regulation, it offers little in the way of explaining the origins of this process and variation across people in the characteristic ways the process unfolds.

INTEGRATING THE PERSPECTIVES

Although the trait and information-processing perspectives on self-regulation have yielded important empirical and theoretical advances, each offers only a partial explanation of self-regulation. Trait accounts are generally decontextualized, and processing accounts generally ignore fundamental differences between persons. A fuller account of self-regulation would be provided through an integration of these complementary but rarely integrated perspectives. Elsewhere, I have presented a general framework for integrating trait and process variables in the study of behavior (Hoyle, 2000). In the remainder of this section, I draw on that framework to suggest three ways in which the trait and information-processing perspectives on self-regulation could be integrated.

Distal-Proximal Approach

One means of integrating the trait and information-processing approaches focuses on the causal order of their influence on behavior. In this approach the initial focus is a trait-behavior association. Because traits are preexisting characteristics of individuals, the assumption of this approach is that the influence of a trait on a specific instance of behavior unfolds in a situated process. In such a model, traits are distal influences that operate on behavior through a proximal, online process. Research that exemplifies this approach

is rare within the self-regulation literature (for an example, see Tobin, Graziano, Vanman, & Tassinari, 2000). To some extent, this relative lack of distal-proximal research is not surprising because of how studies inspired by the trait and information-processing perspectives typically are done. Research from the trait perspective typically relies on unsituated measurement of traits and summary measures of behavior. Research from the information-processing perspective typically concerns specific instances of a specific behavior in a controlled setting. Investigators working from the information-processing perspective are best situated to integrate perspectives, needing only to measure relevant traits, preferably before and in a different setting from the controlled setting in which process and behavior are observed.

Conditional Influence Approach

An alternative means of integrating the two approaches is to examine self-regulatory processing at different levels of temperament or personality traits. For such studies to be successful, neither the self-regulatory process nor the trait on which it is conditioned need to have previously been linked to the behavior. Indeed, it is possible that the consideration of a self-regulation-behavior link at different levels of a trait would reveal an association not evident when the link is evaluated in an unconditional model. In this integrative approach, the effect of the trait on the behavior is not of primary interest; thus, traits need not belong to the category of traits directly relevant to self-regulation (although, frequently, they will). An example of such a trait is self-monitoring. Individuals high in self-monitoring are more likely to experience public self-awareness and reference social standards, whereas individuals low in self-monitoring are more likely to experience private self-awareness and reference personal standards (Hoyle & Sowards, 1993). Thus, key aspects of the self-regulatory process are conditional on the level of self-monitoring. The implementation of research consistent with this approach would not differ from the implementation of research consistent with the distal-proximal approach. The two approaches differ in terms of the assumed relation between trait and process—causal in the distal-proximal model, no relation assumed in the conditional model—and the assumed relation between the trait and process and the behavior—both trait and

process causally related to behavior in the distal proximal model, no relation between trait and behavior assumed in the conditional model.

Conceptually Integrated Approach

In the distal-proximal and conditional approaches to integrating the trait and information-processing perspectives on self-regulation, the constructs and processes are separately measured or operationally defined and then integrated in the statistical modeling of the data. A more profound integration would be conceptual models that simultaneously implicate traits and processes in such a manner that measures and operational definitions of each account for the other. At the individual trait level, such efforts have been attempted for impulsivity (Carver, 2005), narcissism (Morf & Rhodewalt, 2001), and self-monitoring (Hoyle & Sowards, 1993). Dynamic models of personality (e.g., Mischel, 2004), which define personality as invariance in situated emotion, thought, and behavior, hold promise for a broader integration of the trait and information-processing perspectives (see also Cervone, 2004; Morf, this issue). The development of such models for self-regulation require the thoughtful integration of temperament, personality, and information-processing constructs in such a way that traits can be understood in terms of process and processes can be understood as expressions of traits.

OVERVIEW OF THE SPECIAL ISSUE

Articles in this special issue of the *Journal of Personality*, in various ways and to varying degrees, integrate models of temperament and personality with models of self-regulatory processing. The first two articles are broad in scope, evincing the conceptual integration described earlier. The next two describe programs of research on the developmental origins of self-regulation. Next is a set of five articles that are more narrow in scope, focusing on specific aspects or applications of models of self-regulation. The final two articles concern strategies for increasing the efficiency and effectiveness of self-regulation.

Morf fittingly opens the special issue by presenting a model that integrates the trait and information-processing perspectives on self-regulation within a general, dynamic personality framework. She defines personality as the individual's unique approach to

constructing and maintaining self-representations through intrapersonal and interpersonal self-regulatory processes. Morf's model accommodates both automatic and effortful processes that unfold either totally within the person or as an interaction between the person and the experienced social world. Personality traits are defined as a function of how the individual routinely interprets situations and self-regulates to them. She illustrates the usefulness of the proposed framework by dissecting three personality constructs: narcissism, dependency, and rejection sensitivity. For instance, narcissism is defined as a self-defeating cycle of self-regulation in which the individual simultaneously constructs and undermines a highly favorable self-representation. Morf's contribution sets the stage for the remainder of the special issue by demonstrating the conceptual integration of trait and information-processing perspectives on self-regulation.

In another broadly focused contribution, Ryan and Deci discuss the concept of autonomy in self-regulation terms. Their analysis touches on a core assumption of many models of self-regulation—that individuals exercise will in choosing among behaviors and outcomes. In their view, true self-regulation implies autonomy, which varies from one action to the next. Furthermore, people vary in their tendency to function autonomously; that is, they vary in the extent to which they regulate their own behavior. Echoing a theme from Morf's article, Ryan and Deci emphasize the role of social-environmental hindrances and affordances to the exercise of autonomy: situations either pull for external control or offer support for autonomy. They offer a critique of theoretical perspectives that question the possibility of autonomy and, therefore, self-regulation. By disentangling independence and autonomy, they show how behavior contingent on the environment can, nonetheless, be autonomous if the individual exercises choice in allowing for the environmental influence. Similarly, automatized behaviors can be autonomous if, upon reflection, they would be chosen by the individual and, if desired, could be overridden. They distinguish between having choices, construed by some theorists as a negative, and being able to choose; only the latter is relevant for autonomy.

The article by Kochanska and Aksan is the first of two that concern the developmental origins of individual differences in the capacity to self-regulate, that is, how young children progress from—to use Ryan and Deci's terms—externally controlled to autonomous. In

Kochanska and Aksan's model, one means by which behavior becomes autonomous is through the development of conscience, which they define as "an inner self-regulatory system." They present findings from three longitudinal studies in which data were gathered from young children ranging in age from toddler to early school age and their mothers and, in one instance, their fathers as well. As evidence for conscience as an early personality system, they demonstrate cross-situational consistency in moral emotions and conduct, within situation correspondence between moral emotions and conduct, and longitudinal stability of moral emotions and conduct (modest in the first 2 years of life but clearly evident in Years 3 to 5). The willingness at an early age to comply with parental standards of conduct contributes to later autonomous self-regulation; this willingness stems from a set of early dispositions—committed compliance (contrasted with situational compliance) and two inhibitory factors: fearfulness and effortful control. Whereas fearfulness is implicated in the early expression of moral emotions, moral conduct emerges as a result of a constellation of factors, including fearfulness, effortful control, and responsiveness to parents. Kochanska and Aksan speculate as to how self-regulation within the self-system emerges from conscience at 5 years of age.

Manian, Papadakis, Strauman, and Essex present findings from their work with children 5 years and older. Their focus is children's preferred style of self-regulation as a function of the behavioral standards emphasized by their parents. The standards on which they focus—ideals and oughts—are associated with promotion and prevention styles of self-regulation, respectively. These characteristic styles become elements of personality. According to regulatory focus theory, these standards emerge through contingent interactions with parents. A promotion focus develops from parenting that emphasizes accomplishment and the realization of hopes and aspirations. A prevention focus develops from parenting that focuses on adherence to rules designed to promote safety and responsibility. Children internalize these standards to varying degrees, giving rise to variability in the extent to which each class of standards is customarily referenced in self-regulation. Marian et al. present findings from two large studies of children and their parents indicating that the ways in which parents regulate their children's behavior translate into the typical means by which children come to regulate their own behavior.

Continuing the focus on regulatory styles, Brazy and Shah examine the influence of regulatory style on social experience. They distinguish between people's focus on promotion and prevention and the effectiveness with which they self-regulate by using promotion and prevention strategies. They introduce an innovative new approach to assessing regulatory focus in terms of the relative latency in reactions to ideal and ought stimulus words. The heart of their contribution is the argument that regulatory focus influences the groups individuals join and the ways in which they act toward those groups and their members. For instance, the strength of promotion focus affects movement toward group members, whereas the strength of prevention focus affects movement away from members of other groups. Regulatory focus also predicts the emotions people feel toward in-group and out-group members; promotion-related emotions are more associated with in-group members and prevention-related emotions are more associated with out-group members. They discuss the intriguing finding that people sometimes assume the regulatory focus a significant other would take in a given situation when subliminally reminded of the significant other. Brazy and Shah conclude by suggesting ways in which regulatory focus might influence other interpersonal and intergroup processes.

Hoyle and Sherrill continue the focus on self-regulatory standards but move from ideals and oughts to possible selves, which have the distinctive feature of representing the self at a future point in time. They begin by detailing conceptual definitions of the possible-selves construct with a specific focus on aspects of these definitions that link possible selves with motivation and behavior. They conclude that the large body of work involving possible selves has been only modestly successful at linking possible selves with motivation and behavior despite efforts to tailor the construct to feature aspects of self-representation likely to enhance the link. Hoyle and Sherrill argue that the role of possible selves in motivation and behavior is better understood by embedding the construct in process accounts of self-regulation. They describe findings from two studies in which possible selves are so embedded. In one study they show how possible selves serve as a source of behavioral standards implicated in control-process models of self-regulation. In the other study, they present data from a preliminary study of possible selves in an interpersonal model of self-regulation. They conclude by discussing further refinements to the measurement and conceptualization of

possible selves that would increase the yield of the construct in studies of self-regulation and behavior.

Sansone and Thoman describe their work on the self-regulation of motivation. In their model, while an individual is engaged in goal-directed behavior motivated by personal and/or situational characteristics, their motivation might increase or decrease as a function of their experience of engaging in the behavior. Of particular import is the degree to which the behavior is experienced as interesting. They specifically consider occasions when motivation provided by personal or situational characteristics is high but interest is low. It is under these conditions that individuals might sustain the behavior by increasing interest through self-regulation. They note that although regulating interest might have the payoff of sustaining the behavior, it might also undermine productivity or result in unwise persistence. In terms of traits, Sansone and Thoman report that people high in conscientiousness persist without regulating interest, but people high in hardiness persist by regulating interest. These traits seem to distinguish individuals who are outcome (high conscientiousness) versus process (high hardiness) oriented. They find that the presence of others provides the opportunity for individuals high in interpersonal orientation to increase interest in a task, in the present and in the future, by working on it with others. These studies exemplify the integration of the trait and information-processing perspectives on self-regulation through the conditional influence approach described earlier.

Rasmussen, Wrosch, Scheier, and Carver present findings from two lines of work on adaptive self-regulation in their control-process model of self-regulation. Important to the work showcased in their article is the notion of expectations regarding whether behavioral efforts at self-regulation will be successful. Optimists and pessimists differ in their typical expectations and therefore in the valence of affect associated with attempts at self-regulating. Research on coping with major health concerns (e.g., major surgery, cancer treatment) indicates less emotional distress and better outcomes for patients high in optimism. Optimism is associated with adaptive self-regulation in the form of positive framing of the outcome and active attempts to manage it, resulting in reduced emotional distress. Pessimism is associated with maladaptive self-regulation involving denial and giving up, resulting in heightened emotional distress. The second line of research reviewed by Rasmussen et al. concerns

whether persistent attempts at self-regulation are always adaptive. Their concern is the degree to which people are able to disengage from goals either when those goals can never be attained or when progress toward attaining the goal has stalled. They propose a two-step process in which people first abandon the goal they are unable to attain and then replace it with a goal for which the expectation of attainment is positive. They demonstrate that confronting unattainable goals is not uncommon and that individual differences in the ability to enact this process are associated with less stress and rumination, greater feelings of mastery, and better physical health. They speculate that optimism and the ability to manage goals might be related because knowledge of one's ability to abandon unattainable goals and move on to other goals should result in positive expectations regarding the ability to successfully self-regulate.

The contribution by Crocker, Brook, Niiya, and Villacorta reviews their work on contingencies of self-worth. They define successful self-regulation as focusing on the goals one deems most important and adapting to setbacks or challenges to attaining those goals by adjusting, abandoning, or replacing ineffective strategies with new ones. In their view, the capacity for successful self-regulation, as they have defined it, is not tied to level of self-esteem. Rather, it is tied to the pursuit of self-esteem; the more an individual is engaged in regulating his or her self-esteem (i.e., self-validation), the less likely he or she is to succeed at regulating toward other important goals. Moreover, the pursuit of self-esteem in domains on which self-esteem is contingent is associated with low intrinsic motivation, high stress, and premature abandonment of relevant activities. Crocker et al. suggest that the degree to which the pursuit of self-esteem compromises the pursuit of other important goals is conditioned on two factors—effort and learning orientation. In the event of a self-esteem-threatening outcome or performance, a mastery orientation can reduce the sting when effort is low (although it does not provide this buffering effect when effort is high). Crocker et al. conclude by discussing the possibility that a learning orientation that embraces failure as an opportunity for growth and improvement might offer the antidote to a self-regulatory system burdened by overriding concerns for self-worth.

The final two articles begin with the assumption that attempts at self-regulation often are inefficient or ineffective. Baumeister, Gailliot, DeWall, and Oaten focus on why this might be the case.

They liken the capacity for self-regulation to strength or energy such as that generated by a muscle. They review evidence indicating that, as with muscular strength, this capacity is limited; thus, it can be exhausted, leading to ego-depletion and consequent failures of self-regulation. They present findings from a significant number of studies that, together, establish the convergent and discriminant validity of the ego-depletion construct. They next present findings from their research on strategies for increasing the capacity for self-regulation. Their research indicates that, under certain conditions, training in self-regulation results in improved self-regulation following depletion. Specifically, they find that practice at self-regulating in specific domains (e.g., exercise) results in improved self-regulation in other domains (e.g., domestic habits) as well. Baumeister et al. also examine the interplay between self-regulatory capacity and personality traits. They reason that when the capacity for self-regulation is compromised, the influence of personality on behavior may be strengthened or weakened. When social convention runs contrary to what personality might dictate, ego depletion, by undermining the capacity to follow social convention, will result in pronounced effects of personality on behavior (cf. Caspi & Moffitt, 1993). Conversely, when the expression of a personality trait involves self-regulation, ego depletion should thwart that expression, resulting in a reduction in the influence of personality on behavior. Integrating these two lines of research, Baumeister et al. argue that people's behavior would be more closely aligned with their personality traits if their capacity for self-regulation were less likely to fall victim to ego depletion.

Leary, Adams, and Tate complete the special issue by proposing a strategy for managing situations in which attempts at self-regulation produce undesired outcomes. Examples include increased frequency of thoughts one is trying to suppress, overeating by individuals on a diet, and poorer sleep by individuals trying to control their sleep. To combat these ironic effects, Leary et al. propose a novel strategy—hypo-egoic self-regulation. Sometimes, hypo-egoic states, characterized by low self-awareness and/or heightened focus on concrete behaviors in the present moment, occur spontaneously, as in the case of the performance of a well-learned behavior and the state of flow. Hypo-egoic self-regulation is the intentional effort to produce or prolong hypo-egoic states. This regulation can involve taking steps to reduce self-awareness or taking steps to focus on concrete

behaviors in the present. Leary et al. describe strategies for pursuing either route to a hypo-egoic state. For instance, self-awareness can be reduced through extensive practice or meditation. A focus on concrete behavior can be promoted by stimulating a focus on how, rather than why, a behavior is enacted or by training focused narrowly on behavior in the present moment (e.g., mindfulness). Leary et al. conclude by reviewing a series of individual differences likely to be associated with the ability to experience hypo-egoic states. This novel conceptualization suggests that, under certain conditions, the most successful self-regulation strategy is not to self-regulate.

The special issue comprises a strong set of contributions from scholars at the forefront of the current wave of interest in self-regulation. They present findings from productive research programs that focus on self-regulatory processes while attending to individual variation in how those processes unfold. I hope the special issue inspires deeper consideration of self-regulatory processes by temperament and personality researchers and a better accounting for temperament and personality by social-cognitive researchers as they develop new models of and approaches to the study of self-regulation.

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