

Designing Positive Psychology: Taking Stock and Moving Forward

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CHAPTER

11 A Task-Focused Mind Is a Happy and Productive Mind: A Processing Perspective

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Abstract

This chapter seeks to make the point that positive psychological functioning can be viewed in terms of task-focused rather than self-focused processing. It makes a strong case for this idea and links it to multiple and diverse sources of evidence. Subsequently, however, multiple questions concerning the model are discussed. Such questions include relations of the dual-process model to other dual-process models, potential boundary conditions, and directions for future research.

Keywords: [positive psychology](#), [psychological functioning](#), [dual-process model](#), [task-focused processing](#), [self-focused processing](#)

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Taking Stock

Positive psychology can be defined as a set of topics, an agenda, and/or a scientific enterprise. As a set of topics, the field of positive psychology studies a heterogeneous set, including (but certainly not limited to) character and virtue, subjective well-being, optimal social functioning, intrinsic motivation, curiosity, forgiveness, wisdom, meaning in life, educational practices, counseling practices, and indeed the optimal society (Seligman & Csikszentmihalyi, 2000). As an agenda, positive psychology represents an attempt to move and shape the psychology field in a particular direction favoring positive outcomes (Seligman & Csikszentmihalyi; Sheldon & King, 2001). As a scientific enterprise, positive psychology reflects the study of a variety of desirable psychological outcomes (e.g., happiness) using rigorous research methods (Gable & Haidt, 2005) and the development of scientifically proven intervention efforts (Seligman, Steen, Park, & Peterson, 2005).

In our view, defining positive psychology as a set of topics could, at some point, pose problems to the field as a whole. This is so because it is an open question whether the positive psychology movement would be able to hold together an increasingly diverse set of topics over time. As any body of findings increases, psychologists tend to gravitate toward specialization (Mayer, 2005; Posner & Rothbart, 2007). Such specialization, if it occurs, would make it even more difficult for topics to remain linked together under the umbrella of positive psychology.

Of more concern to us are the views of positive psychology as an agenda and science. Agendas are ideological and guided by convictions. Science, on the other hand, is empirical and data-driven. Agendas can inspire and stimulate science, and positive psychology has definitely served this purpose (Bacon, 2005; Gable & Haidt, 2005). Nevertheless, pairing an agenda with a science may sometimes result in compromises to the science involved. There are risks for at least some versions of positive psychology to overstep empirical facts in favor of ideological viewpoints (Lazarus, 2003). Therefore, it is important to keep an open mind when considering the evidence (Oishi, Diener, & Lucas, 2007; Steger, Kashdan, Sullivan, & Lorentz, 2008).

One example of the tension between agenda and science involves the identification of certain individual difference variables as positive ones (Peterson & Seligman, 2004). Such lists can be arbitrary when not governed by psychometric evidence or by unambiguous guidelines as to what qualifies as a personal strength. Even if such taxonomic issues can be solved, there is still the problem of identifying how and why such individual difference variables function as they do. An important issue in this respect, and one germane to our chapter, is the distinction between traits and processes. This distinction is mirrored in the personality literature by the contrast of taxonomic and process-based approaches to personality, which Cervone (1997; Cervone & Shoda, 1999) has suggested may not be reconcilable. Although we have been more optimistic concerning the possible reconciliation of these disparate approaches to personality (Robinson, 2007a; Tamir & Robinson, 2004), much work remains to be done (Matthews & Gilliland, 1999; Robinson, 2007b).

We are still far from understanding the processes associated with positive psychological functioning. For example, taken to the extreme, each of the 24 taxonomy-based personal strengths identified by Peterson and Seligman (2004) might be associated with distinct and non-overlapping processes. If so, an overwhelming task lies ahead. In contrast, a process-oriented approach could identify larger dynamics that might underlie multiple positive psychological attributes. In this chapter, we take such a process-oriented approach and make the case for a particular distinction between two modes of processing that appear to be associated with a wide range of positive psychological outcomes. By doing so, we hope to highlight the potential interrelations between these outcomes and point to the mechanisms that might be involved.

A major portion of the chapter will seek to make the point that positive psychological functioning can be viewed in terms of task-focused rather than self-focused processing. We will make a strong case for this idea and link it to multiple and diverse sources of evidence. Subsequently, however, multiple questions concerning the model will be discussed. Such questions include relations of our dual-process model to other dual-process models, potential boundary conditions, and directions for future research.

Two Modes of Processing: Task-Focused and Self-Focused

Central to our framework is a distinction between two modes of processing. Task-focused processing is externally oriented and is concerned with maximizing goal-directed behavioral outcomes. Self-focused processing, on the other hand, is internally oriented and concerned with epistemic questions related to the phenomenological self. Task-focused processing can therefore be viewed in terms of engagement with the environment, whereas self-focused processing can be viewed in terms of some degree of preoccupation with the self. Because attention is limited (James, 1890; Pashler, 1998), these two modes of processing should be inversely related. That is, to the extent that one is task-focused, self-focus should be inhibited and vice versa. There are data in support of this tradeoff of task- and self-focused processing modes, reviewed below.

Seminal theories in social psychology have made a case for the benefits for a self-focused mode of processing (Carver & Scheier, 1981; Duval & Wicklund, 1972). However, we believe that such benefits have been overstated and in fact make a case for the opposite point, namely that a task-focused mode of processing is generally more conducive to positive affect, mental health, and desirable behavioral outcomes. In this respect, our analysis is consistent with modern thinking on the self, which generally views preoccupation with the self as a source of problems rather than benefits (Crocker & Wolfe, 2001; Leary, 2004). The integrative potential of our dual-process model is first highlighted. Subsequently, we marshal multiple sources of evidence in support of the psychological benefits of a task-focused mode of processing.

Integrative Potential

The modes of processing highlighted appear to have considerable integrative potential in relation to prominent constructs in the positive psychology literature. For example, task-focused processing may underlie states of curiosity and interest. Curiosity is defined in terms of an open-minded desire to seek knowledge and involves full engagement with the environment (Kashdan, Rose, & Fincham, 2004). Interest is similarly defined as a desire to learn new information (Silvia, 2006). Curiosity and interest, therefore, likely reflect a state of task-focused processing.

p. 162 Ryan and Deci (2000; 2001) have long argued for the benefits of intrinsic motivation, characterized by the desire to engage in an activity for its own sake rather than for the purpose of obtaining external rewards. Intrinsic motivation has been characterized in terms of high engagement with the task environment and low levels of self-focus (Ryan, 1982). Indeed, Plant and Ryan (1985) found that an induction of self-focus undermined intrinsic motivation. This result is consistent with our view that task-focus and self-focus are distinct modes of processing that inhibit each other. More broadly, we suggest a potentially close link of intrinsic motivation to a task-focused mode of processing, though this issue will be revisited.

Csikszentmihalyi has often conceptualized optimal states in terms of those that produce high levels of *flow* (Csikszentmihalyi, Abuhamdeh, & Nakamura, 2005). Flow is a state in which one is engaged with the task at hand and perceives a high level of challenge but also a high level of skill to meet that challenge. States of flow are associated with higher levels of task achievement and lower levels of self-consciousness (Hektner, Schmidt, & Csikszentmihalyi, 2007). Similar to intrinsic motivation, therefore, a state of flow likely involves higher levels of task-focused processing and lower levels of self-focused processing.

In a literature of relevance to positive psychology, approach motivation is often characterized in terms of assertive, goal-directed interactions with the environment (Depue & Collins, 1999). Avoidance motivation, on the other hand, has been viewed as defensive in nature, self-protective, and inhibited (Carver, Sutton, & Scheier, 2000). Of importance to our process-related analysis, we suggest that a task-focused mode of

processing is likely to support and underlie higher levels of approach motivation, whereas a self-focused mode of processing is likely to support and underlie higher levels of avoidance motivation. Such relations may not be isomorphic, though, and we will thus revisit approach and avoidance later in the chapter.

Our integrative analysis thus far makes two important points. The first is that multiple motivational perspectives on positive psychological functioning—whether related to curiosity, flow, intrinsic motivation, or approach motivation—appear to overlap in nature. The second is that the overlap involved appears to support a common processing perspective. Specifically, task-focused processing, relative to self-focused processing, appears more conducive to positive psychological functioning. We seek to make this point in the sections that follow. Subsequently, we consider issues of discriminant validity and boundary conditions.

Modes of Processing, Correlates, and Consequences

There are good reasons for thinking that a task-focused mode of processing inhibits a self-focused mode of processing and vice versa. Relevant evidence comes from the coping literature, which has documented inverse relations between action-oriented versus state-oriented responses to threat or challenge (Kuhl, 2000), problem-focused versus emotion-focused coping (Lazarus & Folkman, 1991), and primary (i.e., attempts to change the situation) versus secondary (i.e., attempts to change the self) control strategies (Morling & Evered, 2006). Other evidence suggests that these modes of processing are likely to be reliant on regions of the brain that are mutually inhibitory (Lieberman & Eisenberger, 2005). Such considerations are reflected in Figure 11.1, which depicts an inhibitory relation between these distinct modes of processing.

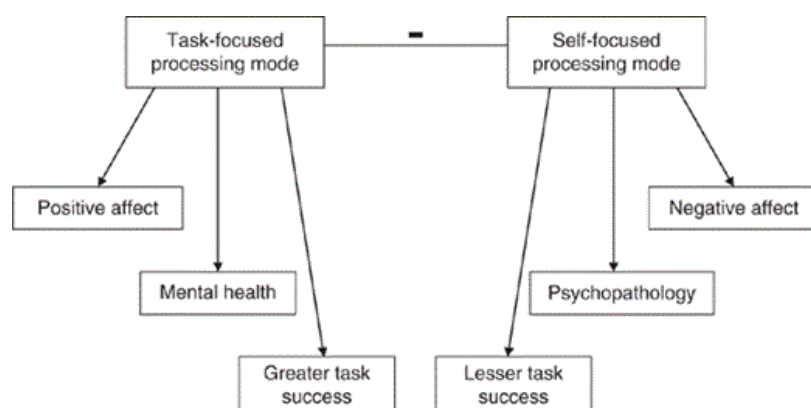


Figure 11.1 Two Modes of Processing and Their Hypothesized Correlates and Consequences.

As further depicted in Figure 11.1, we suggest that a predominantly task-focused mode of processing is conducive to positive affect, mental health, and behavioral success, all important outcomes in positive psychology (Seligman, & Csikszentmihalyi, 2000). By contrast, Figure 11.1 suggests that a predominantly self-focused mode of processing contributes to negative affect, psychopathology, and lesser success in behavioral terms, all constructs inimical to optimal functioning (Widiger, Verheul, & van den Brink, 1999). If so, a strong potential case could be made for the relevance of our processing distinction to positive psychology.

Emotional experiences. Curiosity (Kashdan et al., 2004), interest (Silvia, 2006), and inspiration (Thrash & Elliot, 2004) have all been shown to be predictive of higher levels of positive emotional experience. The common core to such constructs, we suggest, involves a greater degree of engagement with the task environment. In other words, to the extent that one is task-focused rather than self-focused, processing is

likely to be inherently more rewarding. This suggestion fits with strong sources of data linking cross-temporal variations in positive affect to cross-temporal variations in behavioral striving and attempts at task-mastery (e.g., Kashdan, Biswas-Diener, & King, 2009). For example, individuals report higher levels of positive affect when they are active (Watson, 2000) and diurnal variations in activity and positive affect are strongly correlated (Watson, Wiese, Vaidya, & Tellegen, 1999).

Duval and Wicklund (1972) suggested that self-focused attention is somewhat necessarily aversive and therefore should contribute to negative emotional states, at least in the short term. This point was disputed by Carver and Scheier (1981), who suggested that self-focused attention is likely to be associated with negative emotional experiences only when the individual views it as difficult if not impossible to rectify a perceived self-discrepancy. Current thinking on self-focus and/or consciousness of the self is more consistent with the initial perspective of Duval and Wicklund. For example, Baumeister (1987) contends that self-focus can be linked to existential problems in functioning and to negative emotional experiences, a perspective increasingly echoed by modern self-scholars (Crocker & Knight, 2005; Leary, 2004).

In support of such ideas, a recent meta-analysis convincingly established a robust relationship between self-focused states and negative (but not positive) emotional experiences (Mor & Winquist, 2002). Similarly, although dispositional variations in private self-consciousness were initially viewed in emotion-neutral terms (Carver & Scheier, 1981), this no longer appears to be the case. Specifically, Trapnell and Campbell (1999) convincingly established that a major component of private self-consciousness involves tendencies toward rumination and negative affect. Although further developments in this literature are likely (e.g., Kross, Ayduk, & Mischel, 2005), we conclude that the preponderance of evidence favors the idea that a task-focused mode of processing, relative to a self-focused mode of processing, appears more conducive to higher levels of hedonic balance (i.e., the relative balance of positive to negative emotional experiences).

Psychopathology. Multiple theories of depression link it to low levels of engagement with the environment. For example, Lewinsohn and Libet (1972) viewed depression in terms of deficits in obtaining pleasure from daily activities. Tomarken and Keener (1998) summarize a body of evidence linking depression to hypoactivation of the left prefrontal cortex, a structure known to mediate proactive attempts to shape the environment according to one's goals (Davidson, 1999). Mogg and Bradley (1998) link depression to the withdrawal of active coping resources from interactions with the environment. Rottenberg, Gross, and Gotlib (2005) provide physiological sources of evidence for the idea that depressed individuals appear to be disengaged and nonresponsive to environmental sources of stimulation. We note that there are also sources of data linking schizophrenia to low task-focused efforts (Bellak, Hurvich, & Gediman, 1973) and to diminished task monitoring in neurocognitive terms (van Veen & Carter, 2006).

We have suggested that high levels of self-focus may exacerbate psychopathological symptoms, and there are multiple sources of support for this idea. Ingram's (1990) review led him to conclude that high levels of self-focus appear endemic to multiple mood and anxiety disorders. This suggestion has been substantiated in a quantitative meta-analytic review (Mor & Winquist, 2002). Higher levels of self-consciousness have been linked not only to depression but also to anxiety, obsessive-compulsive disorders, and phobias. For example, Gehring, Himle, and Nisenson (2000) suggested that obsessive-compulsive individuals suffer from an overactive self-critical monitor (also see Paulus, Feinstein, Simmons, & Stein, 2004). It is further worth noting that high levels of self-focus have been implicated in individual differences in shyness (Henderson & Zimbardo, 2001), social anxiety (Rodebaugh, 2009), and behavioral inhibition among children and adolescents (Kagan & Snidman, 2004). Finally, Pennebaker (2000) reviews evidence for the point that self-focus leads to exaggerated symptom perception and reporting.

Clinical psychologists generally operate under the assumption that distinct diagnoses and symptoms are mediated by distinct underlying mechanisms. However, the comorbidity of the mood and anxiety disorders

(Clark, Watson, & Mineka, 1994) and the personality disorders (Widiger & Trull, 2007) suggests that there may be important common factors that generally predispose one to disordered symptomatology. We suggest that our distinction of two processing modes may have significant value to such an integrative view of mental functioning. To the extent that task-focus is low, poorer coping with environmental stressors would somewhat naturally occur (Monroe & Simons, 1991). To the extent that self-focus is high, problematic symptoms would be more salient and therefore consequential (Ingram, 1990). The combination of low task-focus and high self-focus would be particularly problematic.

Task performance. The majority of life tasks that individuals view as important are those that necessarily rely on some degree of task-focused effort (Cantor, 1990; Gollwitzer, 1999). For example, studying hard for an exam, resisting temptations, and overcoming procrastination cannot be accomplished passively (Baumeister, Heatherton, & Tice, 1994). Instead, all such endeavors appear to rely on a common resource that has been termed effortful control (Rothbart, Ahadi, & Evans, 2000), ego control (Baumeister, Muraven, & Tice, 2000), or executive attention (Posner & Rothbart, 2007).

In reviewing such literature, we (Robinson, Schmeichel, & Inzlicht, 2010) have suggested that effort is nothing more than task-focus (Sarter & Gehring, 2006). That is, individuals fail to achieve their difficult goals precisely because they fail to maintain such goals when significant distractions or obstacles occur (Fishbach & Zhang, 2008; Miller & Cohen, 2001). Robinson et al. (2009a) reviewed multiple sources of evidence for this idea across cognitive (e.g., Duncan et al., 2008), social cognitive (e.g., Muraven & Slessareva, 2003), and neurocognitive (e.g., Inzlicht & Gutsell, 2007) lines of investigation. Self-regulation failures, from this perspective, are synonymous with tendencies to lose task-focus in the face of threats or challenges (Koole & Jostmann, 2004; Kuhl, 2000).

Further, it stands to reason that higher levels of task-focus would promote goal-success. We have suggested that intrinsic motivation can be viewed (at least in part) in terms of task-focus, and it is therefore informative that higher levels of intrinsic motivation have been shown to promote better performance, learning, and task persistence (Ryan & Deci, 2001). Similarly, the state of flow (i.e., absorption in a task) has been linked to higher levels of task-achievement (Hektner et al., 2007). Curiosity and interest, which we also suggest are reliant on a task-focused mode of processing, also lead to higher levels of learning and achievement over time (Silvia, 2006).

By contrast, higher levels of self-focus often appear to be problematic to performance. Preoccupation with the self has been shown to undermine performance in the stereotype threat literature (Steele, 1997), the test-anxiety literature (Sarason, Sarason, & Pierce, 1990), the literature on trait anxiety (Eysenck, Derakshan, Santos, & Calvo, 2007), and in the context of high levels of neuroticism (Fetterman, Robinson, Ode, & Gordon, 2010). From one perspective, self-focus can be viewed in terms of a processing load that reduces the central executive's capacity (Clark & Rhyno, 2005). From another (though related) perspective, operating in a self-focused mode would inhibit task-focus according to our model and others (Dijksterhuis, Bargh, & Miedema, 2000; Eisenberger, Lieberman, & Satpute, 2005; Morling & Evered, 2006).

Cognitive Underpinnings

We have suggested that higher levels of task-focus (relative to self-focus) are conducive to optimal functioning. We provided support for such ideas, yet in a manner that was necessarily reliant on some degree of inference concerning the processes involved. The purpose of the present section is both to understand task-focus from cognitive and neurocognitive perspectives and to provide additional support for its benefits, thus defined.

Task-focus as response speed. To the extent that task-focus is high, reaction time performance should be faster. This suggestion is consistent with results showing that reaction time performance is slower when individuals are tired, distracted, or stressed, all factors that would interfere with full attention to the task (Sanders, 1998). It is therefore informative that slow reaction time performance, as an individual difference variable, predicts problematic outcomes such as delinquency and crime (Jensen, 1998), health problems (Gottfredson & Deary, 2004), and even earlier deaths (Deary & Der, 2005). By contrast, faster processing speed in the same studies can be viewed as health-protective and promoting.

In individual difference terms, faster processing speed has been shown to be a robust correlate of general intelligence or the “g” factor (Jensen, 1998). This does not mitigate the potential of processing speed measures as indices of task-focus, as general intelligence has been viewed in terms of greater levels of task-focus (Duncan et al., 2000). On the other hand, slow processing speed could be reflective of other variables aside from task-focus, such as premorbid brain damage (Deary & Der, 2005). It may therefore be useful to control for baseline processing speed in understanding the purported benefits of a task-focused mode of processing.

One of the classic behavioral markers of high levels of motivational engagement is better performance following practice (McClelland, 1987). In reaction time tasks, processes of this type can be examined by assessing the extent to which individuals speed up across trials (Ackerman, 1988; Pashler, 1998). In a recent set of studies, we (Robinson, Meier, Tamir, Wilkowski, & Ode, 2009b) administered a number of basic choice categorization tasks, following which we quantified processing speed early in such tasks versus later. To then quantify individual differences in task-focus or engagement, we created residual scores such that they assessed the extent to which individuals “got into” the tasks across time.

Consistent with hypotheses, we (Robinson et al., 2009) found that this implicit processing measure of task-focus predicted positive affect and depressive symptoms in three studies and did so across diverse protocols such as those involving informant reports or experience-sampling procedures. Specifically, task-focused individuals (i.e., those whose performance improved to a greater extent across time) experienced and displayed higher levels of positive emotion and were also less prone to depressive symptoms. Such results not only reinforce the value of implicit assessments of personality (Robinson & Neighbors, 2006), but do so in support of the idea that higher levels of task-engagement are hedonically beneficial.

In what we view to be a conceptually related study, Pronin and Wegner (2006) randomly assigned individuals to one of two processing speed conditions. One condition required individuals to be maximally task-focused in that they had to read sentences aloud at a faster rate than they would otherwise do so. The comparison condition allowed individuals to read the same sentences at a more leisurely pace. Pronin and Wegner found that individuals assigned to the fast processing condition subsequently reported higher levels of positive affect and lower levels of depressive symptomology, both in state-related terms. Thus, there is experimental support for the idea that faster processing speed, which we suggest is closely related to task-engagement, improves one’s mood states.

Task-focus as activation of the dorsolateral prefrontal cortex. The strategic control of cognitive and emotional processes is reliant on frontal lobe brain structures (Zelazo & Cunningham, 2007). Yet an important division of labor contrasts lateral and medial portions of the frontal lobe, which are differentially involved in task-focused efforts versus emotional processing, respectively (Lieberman, 2007). When individuals control outcomes through the investment of working memory and task-focused effort, the dorsolateral portion of the prefrontal cortex (dlPFC) is differentially activated (Knight & Stuss, 2002). By contrast, when individuals determine the emotional significance of stimuli, the ventromedial portion of the prefrontal cortex (vmPFC) is differentially activated (Tranel, 2002).

This distinction is important because lesions to the vmPFC result in subtle deficits in social behavior and decision-making, but not to anhedonia (Wallis, 2007). On the other hand, lesions to the dlPFC result not only in poor cognitive performance but also in symptoms that are central features of major depression such as lethargy, catastrophic thinking, and prolonged states of negative affect (Saint-Cyr, Bronstein, & Cummings, 2002; also see Gotlib & Hamilton, 2008). Further, McClure, and colleagues (e.g., McClure, Laibson, Loewenstein, & Cohen, 2004) demonstrated that activation of the vmPFC led individuals to make non-optimal choices in decision-making and specifically those that favored a myopic focus on short-term rewards. By contrast, activation of the dlPFC led individuals to make more rational choices favoring long-term outcomes over short-term gains.

A study of Eisenberger et al. (2005) is particularly important in the present context. These authors examined brain activation in response to unexpected stimuli requiring a response. They found that higher levels of extraversion, which have been linked to higher task-focused processing in previous cognitive studies (Lieberman, 2000), predicted greater dlPFC activation during the task. On the other hand, private self-consciousness (related to self-focus: Carver & Scheier, 1981) predicted greater vmPFC activation during the task. Levels of vmPFC and dlPFC activation were also inversely correlated across participants, suggesting that self-focus inhibits task-focus and vice versa according to this neurocognitive model.

The dlPFC has been characterized as the one structure of the brain that mediates task-focused processing to the greatest extent (Miller & Cohen, 2001). It is therefore informative that lesions to this brain structure are problematic in multiple ways—emotionally, behaviorally, and in terms of clinically significant symptoms (Knight & Stuss, 2002; Saint-Cyr et al., 2002). We accordingly suggest that what is viewed in terms of optimal human functioning in the positive psychology literature may be profitably thought of in terms of using the task-focused resources of the dlPFC (e.g., goal-maintenance, the inhibition of inappropriate processing routines, etc.) to support greater adaptation to the environment. On the basis of such considerations, we encourage further integration efforts linking dlPFC functioning to the sorts of strengths and virtues emphasized by the positive psychology movement.

Task-focus as dopamine availability. There are multiple reasons for thinking that higher levels of task-focus can be viewed in terms of greater dopamine availability. Arnsten and Robbins (2002) reviewed multiple sources of relevant data from animal models and concluded that greater availability of dopamine shifts processing such that it favors task-focus over passive reactions to environmental input. Lesion studies of this type have shown that damage to dopamine-generating regions of the brain result in passive behavior and a striking absence of goal-directed action (Berridge, 1999). By contrast, artificially increasing dopamine availability by drugs results in more vigorous motor behavior and the greater pursuit of potentially rewarding stimuli (e.g., food, drugs, water, sex: Berridge).

This animal literature on dopamine availability has entertained a number of specific hypotheses, though. One theory of dopamine availability links it to superior learning (Schultz, 2004), another links it to increased motor output (Ashby, Alfonso-Reese, Turken & Waldron, 1998), and another links it to increased reward sensitivity (Berridge, 1999). Dopamine availability has also been viewed in terms of pleasure (Shizgal, 1999) or positive affect (Ashby, Isen, & Turken, 1999). Readers should consult a special issue of *Psychopharmacology* (e.g., Berridge, 2007) for a nuanced consideration of such subtly different views.

What we suggest, instead, is that many of the diverse correlates and consequences of dopamine availability appear to converge on its link to greater levels of task-focus. For example, dopamine availability would facilitate learning because of increased task-involvement (e.g., Ackerman, 1988), would facilitate motor activity because of its link to active coping (e.g., Arnsten & Robbins, 2002), and would facilitate pleasure because of the hedonic benefits of completing a task successfully (e.g., Carver et al., 2000). The bottom line, then, is that viewing task-focus and its multiple benefits in terms of dopamine availability appears to have considerable value (Knutson & Wimmer, 2007).

Moving Forward

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Science progresses both through integration efforts and through making distinctions. Our focus thus far has been on integration efforts. In this connection, we highlighted the apparent benefits of task-focus (relative to self-focus) to emotion and behavior as well as to greater freedom from psychopathology. We reviewed sources of evidence as diverse as those from personality, social, clinical, cognitive, and neuroscience literatures. Viewing optimal functioning from a task-focused perspective thus appears to have considerable integrative value. Distinctions are important too, however. Accordingly, and to better flesh out relations between the present two-process model and others, we discuss points of overlap and non-overlap.

We first point to frameworks that appear to be non-overlapping with ours. The implicit-explicit processing distinction (Fazio & Olson, 2003) is orthogonal to our distinction between task-focus and self-focus because we conceptualize both processing modes as implicit in nature and operation. The automatic-controlled processing distinction (Schneider & Shiffrin, 1977) is also not germane to the present framework. Instead, we conceptualize both self-focus and task-focus in terms of controlled processing, albeit in relation to different goals and objectives (Eisenberger et al., 2005). The private-public self-consciousness distinction (Carver & Scheier, 1981) is also not relevant, as task-focus cannot be equated with public self-consciousness (Csikszentmihalyi et al., 2005). Finally, our distinction should not be equated with that between mastery and performance goals, as both such goals seem best characterized in terms of task-focus rather than self-focus (Senko, Durik, & Harackiewicz, 2008).

Issues of overlap are less certain in relation to other models. Gollwitzer (e.g., 1999) contrasts two mindsets, one that is deliberative in nature (i.e., concerned with which course of action to pursue) and another that is implemental in nature (i.e., concerned with instantiating a particular course of action, once chosen). Viewing deliberative mindsets in terms of self-focused processing appears to have some value, as does viewing implemental mindsets in terms of task-focused processing. From another perspective, though, deliberative and implemental mindsets may be both characterized as task-focused, as both relate to the control of action. Thus, it is uncertain whether self-focus is represented in Gollwitzer's model.

A prominent meta-theory of optimal functioning views it in terms of higher levels of intrinsic relative to extrinsic motivation (Ryan & Deci, 2000; 2001). Intrinsic motivation can be viewed in terms of performing behaviors because one wants to do them, whereas extrinsic motivation can be viewed in terms of performing behaviors because such actions are expected to produce rewards, whether monetary or social. Above, we suggested that there should be some relationship between intrinsic motivation and a task-focused mode of processing, particularly because intrinsic (relative to extrinsic) motivation is thought to energize behavior to a greater extent (Ryan & Deci, 2008). On the other hand, we concede that this relationship may not be especially tight. For example, the prospect of a good grade can be highly motivating to some individuals (Senko et al., 2008), and extensive efforts may sometimes support primarily self-focused endeavors such as updating a personal diary (Kaufman, Grigorenko, & Sternberg, 2009). For such reasons, the present distinction between task- and self-focused processing should not be equated with that between intrinsic and extrinsic motivation.

Prominent motivational theories of personality link positive affect to approach motivation and negative affect to avoidance motivation (Carver et al., 2000; Elliot & Thrash, 2002; Zelenski & Larsen, 1999). Although it seems somewhat intuitive to link approach motivation to task-focus and avoidance motivation to self-focus, such links again do not appear particularly strong. Avoidance motivation can lead to high levels of task-focused effort, a point perhaps best supported in literature linking individual differences in anxiety and related constructs to higher levels of vigilance for threatening stimuli (Mogg & Bradley, 1998), greater apparent levels of cognitive effort (Eysenck et al., 2007), and higher levels of performance in certain particular circumstances (Carver & Scheier, 1981; Eysenck & Eysenck, 1985). Such considerations suggest

that the present distinction between task- and self-focused processing modes cannot be equated with the distinction between approach and avoidance motivation.

Instead, we emphasize the overlap of the present processes with those highlighted in the stress-coping literature. Rothbaum, Weisz, and Snyder (1982) contrasted modes of processing involving primary (i.e., changing the situation) versus secondary (i.e., changing the self) control. Lazarus and Folkman (1991) made a similar distinction between problem-focused versus emotion-focused coping. Kuhl (2000) has contrasted action-oriented versus state-oriented responses to stress. We suggest that a task-focused mode of processing would facilitate primary control and problem-focused coping and would be reflective of an action-oriented response to environmental stressors. Beyond such models, though, we suggest that individuals differ in their reliance on task-focused versus self-focused modes of processing quite independent of their responses to environmental stressors. If so, the present processing model is more general than those highlighted in the stress-coping literature.

p. 168 Carver and Scheier (1981) suggested that self-focused processing may be adaptive. Yet they also reviewed sources of evidence for the idea that self-focus (a) makes individuals aware of discrepancies that often cannot be rectified (e.g., Gibbons & Wicklund, 1976), (b) is associated with aversive experiences in such contexts (e.g., Carver, Blaney, & Scheier, 1979), and (c) leads individuals to withdraw their task-focused efforts in a manner that can be ultimately problematic (e.g., Lewin, 1935). The test anxiety literature substantiates the latter point quite consistently: To the extent that one is self-focused in a performance context, self-doubts occur that can be quite detrimental to optimal performance (e.g., Sarason et al., 1990).

The work of Carver and Scheier (1981) is seminal, yet their suggestion that self-focus promotes optimal functioning now appears problematic. Quite the opposite appears to be the case. Effective self-regulation does not require self-focus (Robinson et al., 2009a), and self-focus often undermines effective self-regulation (Baumeister et al., 1994; Clark & Rhyno, 2005). This point can be made with reference to literature linking self-focus to psychopathology (Ingram, 1990), bulimic symptoms (Cooley & Toray, 2001), alcohol abuse (Sayette, 1999), and self-harm or suicide attempts (Tassava & Ruderman, 1999). Indeed, it is striking that both preoccupation with the self, in the form of narcissism (Twenge, Konrath, Foster, Campbell, & Bushman, 2008), and neuroticism (Twenge, 2000), have increased in parallel from the 1950s to today. Thus, self-focus appears to be a problematic rather than functional tendency according to modern literature on the self (Baumeister & Boden, 1994; Leary, 2004).

Can self-focus co-occur with significant achievements and therefore magnify their hedonic impact? Langston (1994) suggested so on the basis of his results, which primarily involved asking individuals to savor aspects of their lives. In the absence of such manipulations, though, we are somewhat convinced that people rarely employ self-focus in this affect-enhancing manner. Rather, there is somewhat convincing evidence that self-focus typically results from the recognition of failing to meet important self-standards (Higgins, 1987; Wicklund, 1979). Thus, although recruiting self-focus to bask in one's successes could well serve a mood-enhancing function, self-focus does not appear to naturally operate this way.

The reader may be thinking that there are some positive psychology constructs—such as mindfulness—that appear to support the idea that at least certain forms of self-focus may be beneficial. Mindfulness is quite distinct from self-focus, however. Self-focus often occurs in the context of lack of insight into the self (Trapnell & Campbell, 1999), and the benefits of mindfulness cannot be explained in terms of either private or public self-consciousness (Brown & Ryan, 2003). Finally, a quick perusal of the items of Brown and Ryan's mindfulness scale reveals that many of the items suggest lack of awareness of the environment, not the self (e.g., "I forget a person's name almost as soon as I've been told it"). In summary, mindfulness should not be equated with self-focus.

The implications of the current analysis for positive psychological interventions are several. First, it is important to identify individuals' task-focused goals. When individuals do not know what they want to accomplish, positive psychology counseling (Joseph & Linley, 2005) may be particularly helpful. Second, to the extent that such incentives can be identified, individuals should generally be encouraged to pursue them full-heartedly (Brown & Dutton, 1995; Csikszentmihalyi, 1990). Third, there appear to be hedonic and performance benefits to quieting the self-conscious mind, a point repeatedly emphasized in this chapter. We further suggest that the easiest way to lessen self-focus is to adopt a task-focused approach to daily activities (Kuhl, 2000; McClelland, 1987). With repeated practice in doing rather than doubting, we suspect that the task-focused mode of processing can be reinforced, just as nearly any mode of processing becomes habitual with sufficient practice (Bargh & Chartrand, 1999; James, 1890).

Final Considerations

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Self-focus can be viewed in terms of a “stop” signal that may be adaptive under certain conditions (Dijksterhuis et al., 2000). Therefore, individuals lacking any self-focus might be generally more effective in their behaviors, but at a potential cost when circumstances favor a change in processing strategies (Fazio, Ledbetter, & Towles-Schwen, 2000). From another perspective, though, the task-focused resources of the dlPFC appear exquisitely sensitive to such requirements to change processing strategies across trials and over time (Kerns et al., 2004; van Veen & Carter, 2006). For this reason, we suggest that theories equating self-focus with self-regulation potential (Carver & Scheier, 1981; Wicklund, 1979) appear to be contradicted by modern thinking on how the brain recruits and instantiates self-control (Lieberman & Eisenberger, 2005; Robinson et al., 2009a).

Does our perspective suggest that impulsive responding can be generally favored? No. Impulsive responding, defined in terms of fast responding at the expense of accurate responding, would not generally serve the self (Dickman & Meyer, 1988). On the other hand, there is no necessary tradeoff of processing speed and accuracy (Sanders, 1998). To the extent that processing speed is entrained to task-focused goals, multiple benefits to the self are likely to accrue. This was a major theme of the chapter and one that was well substantiated.

In more general terms, we suggest that positive psychology must increasingly establish itself as an empirical science rather than a set of topics or an agenda. To facilitate this transition, questions of process and mechanism are likely to be increasingly important in subsequent years and decades. The present chapter can be viewed as supporting the idea that a basic distinction between task- and self-focused modes of processing appears to have considerable leverage and scope. Task-focused processing, we suggest, captures an important source of variance (though not the only one) in understanding the fully functioning individual.

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