THE DEVELOPMENT OF THE FIVE MINI-THEORIES OF SELF-DETERMINATION THEORY: AN HISTORICAL OVERVIEW, EMERGING TRENDS, AND FUTURE DIRECTIONS

Maarten Vansteenkiste, Christopher P. Niemiec and Bart Soenens

Self-determination theory is a macro-theory of human motivation, emotion, and personality that has been under development for 40 years following the seminal work of Edward Deci and Richard Ryan. Self-determination theory (SDT; Deci & Ryan, 1985b, 2000; Niemiec, Ryan, & Deci, in press; Ryan & Deci, 2000; Vansteenkiste, Ryan, & Deci, 2008) has been advanced in a cumulative, research-driven manner, as new ideas have been naturally and steadily integrated into the theory following sufficient empirical support, which has helped SDT maintain its internal consistency. To use a metaphor, the development of SDT is similar to the construction of a puzzle. Over the years, new pieces have been added to the theory once their fit was determined. At present, dozens of scholars throughout the world continue to add their piece to the "SDT puzzle," and hundreds of practitioners

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working with all age groups, and in various domains and cultures, have used SDT to inform their practice. Herein, we provide an historical overview of the development of the five mini-theories (viz., cognitive evaluation theory, organismic integration theory, causality orientations theory, basic needs theory, and goal content theory) that constitute SDT, discuss emerging trends within those mini-theories, elucidate similarities with and differences from other theoretical frameworks, and suggest directions for future research.

COGNITIVE EVALUATION THEORY

Intrinsic Motivation

Cognitive evaluation theory (CET; Deci, 1975), SDT's first mini-theory, was built from research on the dynamic interplay between external events (e.g., rewards, choice) and people's task interest or enjoyment (i.e., intrinsic motivation). At the time, this research was quite controversial, as operant theory (Skinner, 1971) had dominated the psychological landscape. The central assumption of operant theory was that reinforcement contingencies in the environment control behavior, which precluded the existence of inherently satisfying activities performed for non-separable outcomes. During this time, Deci proposed that people – by nature – possess *intrinsic motivation* (IM), which can manifest as engagement in curiosity-based behaviors, discovery of new perspectives, and seeking out optimal challenges (see also Harlow, 1953; White, 1959). IM thus represents a manifestation of the organismic growth tendency and is readily observed in infants' and toddlers' exploratory behavior and play. Operationally, an intrinsically motivated activity is performed for its own sake – that is, the behavior is experienced as inherently satisfying. From an attributional perspective (deCharms, 1968), such behaviors have an internal perceived locus of causality, as people perceive their behavior as emanating from their sense of self, rather than from experiences of control or coercion.

Theoretical Considerations

At this point, it is worthwhile to clarify the exact meaning of *enjoyment*, which is central to IM, and to contrast it with the hedonic approach to well-being (Kahneman, Diener, & Schwarz, 1999). Within SDT, IM does not involve the active and explicit pursuit of enjoyment prior to activity-engagement; that is,

we do not describe those who are intrinsically motivated as "enjoyment-seekers." Rather, enjoyment is a by-product of full immersion in an activity. This view contrasts with the hedonic approach, which stresses the importance of seeking immediate gratification from one's pursuits and can resemble a *carpe diem* approach to life (Zimbardo & Boyd, 1999). Hedonic activities may be enjoyable, but the positive feelings derived from such pursuits are likely to be superficial and short-lived because hedonic activities may be unrelated to the satisfaction of one's basic psychological needs. In line with this, Steger, Kashdan, and Oishi (2008) showed that daily engagement in hedonic activities (e.g., getting drunk, eating more than intended) did not contribute to daily well-being. In contrast, the enjoyment derived from IM is likely to be personally relevant and long-lasting, and to be conducive to personal growth and eudaimonia (Ryan, Huta, & Deci, 2008). Indeed, De Bilde, Vansteenkiste, and Lens (2009) found that having a present-centered, hedonic orientation was even inversely associated with being intrinsically motivated for one's school work, suggesting that hedonism can be used to compensate for a lack of interest. It is also useful to clarify the meaning of *interest* as used in CET and the hedonic approach. In CET, interest refers to the attraction one feels toward an activity; in the hedonic approach, hedonic activities serve one's self-interest or personal benefit. As such, in the hedonic approach (self-) interest represents a form of *extrinsic motivation* (EM), which refers to doing an activity to obtain some separable outcome (Ryan & Deci, 2000).

Empirical Basis of Cognitive Evaluation Theory

Undermining External Events

CET examines the factors that either undermine or support IM. Because intrinsically motivated behaviors are engaged spontaneously and volitionally, it follows that controlling external events (e.g., monetary rewards), which pressure people to think, feel, or behave in particular ways, can undermine IM. Theoretically, such events prompt a shift in the perceived locus of causality from internal to external, resulting in attenuated experiences of volition and interest. The first studies to examine the effects of controlling external events on IM were conducted by Deci (1971), in which participants worked on an interesting activity either in a rewarding or in a non-rewarding context. The findings suggested an undermining of IM by task-contingent rewards, such that rewarded participants were less likely to persist at the activity once the reward contingency was removed (i.e., during a free-choice period).

Subsequently, dozens of studies in the 1970s and 1980s demonstrated the undermining of IM by such controlling external events as threat of punishment, deadlines, evaluation, competition, and surveillance (see Deci & Ryan, 1985b, for an overview). Other studies showed that controlling external events affect the types of activities in which people decide to engage. For example, Pittman, Emery, and Boggiano (1982) found that rewarded participants preferred less complex (i.e., easier) tasks. Further, controlling external events not only undermine task persistence *after* the removal of the contingency, but also adversely affect experience *during* task engagement. For instance, controlling external events were found to predict less cognitive flexibility (McGraw & McCullers, 1979), more shallow learning (Grolnick & Ryan, 1987), less creativity (Amabile, 1979), and less positive emotional tone (Garbarino, 1975). Finally, being pressured to help another has been found to undermine both the helper's and the recipient's well-being, suggesting that the adverse effects of controlling contexts can radiate to others (Weinstein & Ryan, in press).

Interestingly, such findings could not be predicted by expectancy-valence theory (Wigfield & Cambria, this volume), which suggests that increasing the amount of motivation would yield positive outcomes. From this perspective, rewarding individuals for engaging in an interesting activity would enhance effort and motivation, as such individuals would have multiple reasons (intrinsic and extrinsic) for doing the activity. However, the findings reviewed above suggest that introducing a reward and then removing that contingency can have a substantial cost, manifest in reduced task interest. Thus, IM and EM were found to have an interactive, rather than additive, relation to each other over time.

Over 100 empirical articles have been published on the effects of rewards on IM, and several meta-analytic reviews provided support for the undermining effect (e.g., Tang & Hall, 1995). Others (Eisenberger & Cameron, 1996) found no undermining by most reward contingencies and thus suggested that CET be abandoned. Because these meta-analyses varied considerably in several important ways, Deci, Koestner, and Ryan (1999) conducted a new one and provided detailed insight into for whom and under which types of reward contingencies IM is undermined, enhanced, or unaffected. Results suggested that, on average, rewards undermine IM, although this effect was not evident for unexpected rewards and was less potent for performance-contingent (rather than engagement- or completion-contingent) rewards.

Such findings could be predicted by CET. Indeed, Deci and Ryan (1985b) suggested that satisfaction of the psychological needs for autonomy and

competence form the energetic basis for the development and maintenance of IM and, thus, external events that thwart those needs are expected to undermine IM. Because unexpected rewards are not perceived as controlling, as they are administered after completion of task engagement, they cannot thwart autonomy and, hence, cannot undermine IM. Likewise, because performance-contingent rewards convey positive feedback, the accompanying satisfaction of competence may partially counteract the detrimental effects of such rewards on autonomy. Notably, individuals given a less-than-maximum amount of a performance-contingent reward (e.g., Luyten & Lens, 1981) displayed a much steeper decline in IM than those given the maximum amount of a performance-contingent reward (see Deci et al., 1999), as the needs for both autonomy and competence were likely thwarted in the process.

Of course, external events do not occur in a vacuum and, accordingly, the social context in which those events occur can affect their functional significance (i.e., attributed meaning). Deci and Ryan (1985b) suggested that external events (e.g., rewards) can be introduced in an informational or in a controlling way. Informational events allow choice and provide competence-relevant feedback, whereas controlling events pressure people to think, feel, or behave in particular ways. Given their presumed differential impact on autonomy, informational events are less likely than controlling events to undermine IM. For example, on average surveillance undermines IM, presumably because surveilled individuals feel evaluated or perhaps distrusted, both of which are controlled experiences. This undermining effect, however, can be offset by the way in which surveillance occurs. If one is given a meaningful rationale for being watched (e.g., curiosity), then surveillance is less likely to be experienced as controlling and has been found not to undermine IM (Enzle & Anderson, 1993). Other research has demonstrated that performance-contingent rewards (Ryan, Mims, & Koester, 1983) and competition (Reeve & Deci, 1996) do not yield deleterious consequences for IM if those events are presented in a non-controlling manner.

Facilitative External Events

Because IM is supported by satisfaction of the needs for autonomy and competence, CET posits that external events that are conducive to need satisfaction facilitate task interest and enjoyment. A number of studies have supported this hypothesis. For example, Vallerand and Reid (1984) reported that positive feedback enhanced IM because it supported competence, while Patall, Cooper, and Robinson (2008) conducted a meta-analysis on

42 studies and found that choice, on average, enhances IM, presumably because it is conducive to the experience of autonomy.

Interestingly, similar to how the social context can attenuate the undermining of IM by controlling external events, so too the social context can diminish the facilitative effects of positive feedback and choice on IM. For instance, Ryan (1982) found that when participants were given positive feedback in a controlling way (i.e., ''Good. You're doing as you *should*''), relative to a non-controlling way, they lost their interest in the activity, presumably because they felt that the positive feedback was conditional upon their meeting the experimenter's standards. Similarly, Moller, Deci, and Ryan (2006) showed that controlled choice, which involved subtly pressuring participants to choose a particular option (e.g., ''The decision you make is up to you, but as there are already enough participants who chose option A, it would help the study a great deal if you chose option B'') failed to yield a vitalizing effect, relative to the provision of autonomous choice. The effects of choice are also likely to depend on whether (1) making a choice on a *particular* issue is important for the chooser, which would support autonomy; (2) the available options are considered meaningful (vs. unattractive) by the chooser, such that one is not confronted with the false choice of deciding between two undesirable alternatives, which would thwart autonomy; and (3) the number of available options is perceived as manageable (vs. overwhelming), such that one feels competent to select an option.

Regarding the latter issue, Iyengar and Lepper (2000) questioned the motivating power of choice from their finding that the provision of an extensive (i.e., 24 or 30), relative to a limited (i.e., 6), number of *options* predicted lower quality task engagement and less satisfaction with the selected option. From a CET perspective, however, the critical question is whether the number of options available affect people's basic psychological needs. In this respect, Iyengar and Lepper did not examine the effect of choice on autonomy per se, but rather examined the effect of one's felt effectiveness to make the decision. Indeed, it is interesting to note that participants who were given extensive options reported the decision-making process to be more difficult and frustrating, compared to those who had limited options, and also expressed more regrets about their chosen option. It is reasonable to suggest that being given too many trivial options (e.g., selecting among 24 different flavors of exotic jams; Study 1) may have thwarted participants' competence by creating stimulus overload, which may account for Iyengar and Lepper's conclusion that ''choice is demotivating.'' This analysis speaks to the importance of examining how

choice affects both the needs for autonomy and competence to understand whether choice truly has a motivating effect (see also Katz & Assor, 2007). Choice seems to be most vitalizing when one feels confident to select a particular option and when the selected option is self-endorsed and reflective of personal interests and values.

Directions for Future Research

Several potential directions for future research on CET deserve mention. One direction is to examine the effects of both controlling and informational external events on satisfaction of autonomy and competence, which are theorized to carry the effects of external events on IM (see Houlfort, Koestner, Joussemet, Nantel-Vivier, & Lekes, 2002, for an example). A second direction is to assess the effect of repeated exposure to external events. Most, if not all, research on CET has looked at the effect of a *single* exposure to an external event (e.g., rewards, deadlines). Mouratidis, Vansteenkiste, Lens, and Sideridis (2009) showed that students' within-person variation in their interest in and enjoyment of physical education covaried with experimentally varied, *successive* exposures to a series of physical education classes in which choice was provided or denied, such that students reported more IM when their physical education teachers provided choice. Such class-to-class oscillation in IM underscores the motivating potential of the immediate social context.

A third direction for research is to examine the factors that promote or undermine the *generalization* (or transfer) of behaviors (see also Maehr, 1976), as previous work within CET was primarily concerned with the phenomenon of *persistence* (or maintenance). Persistence refers to the continued engagement in a requested activity once the socializing figure that introduced the activity is no longer watching. Persistence constituted the central outcome in the classic free-choice paradigm (Deci, 1971) developed within CET, as it involved the unobtrusive observation of engagement in an activity once the external contingency was removed. Generalization, however, refers to the transfer of a behavior to a different social context or to a different activity. Cross-context generalization describes a situation in which an activity performed in a particular context is transferred to a *different* context, whereas cross-activity generalization describes a situation in which the dynamics around an activity performed in a particular context are transferred to a *different* activity. For both cross-context and cross-activity generalization, we hypothesize that the type of motivational dynamics operative during initial task engagement will determine whether the behavior will be carried over to different contexts and to new activities.

Specifically, if external events prompt a controlled engagement in an activity, it is unlikely that the activity will be performed in a new context or will radiate to new activities. This is because the exposure to controlling external events can frustrate one's basic needs, such that one has less energy available to continue the behavior in a different context or to engage in new (albeit related) behaviors.

Within CET, only a small number of studies have examined generalization and, indeed, only cross-activity generalization has been considered. For example, Flink, Boggiano, and Barrett (1990) conducted an experiment showing that 4th-grade children whose teachers pressured them to perform well on an initial learning task displayed a performance deficit on a subsequent novel task, relative to those who were not pressured. Such results demonstrate that the adverse consequences of a controlling context during task engagement can radiate to new activities. Likewise, Enzle, Wright, and Redondo (1996) reported that when a task was introduced in an autonomy-supportive, relative to controlling, manner, participants showed heightened IM for a novel activity.

ORGANISMIC INTEGRATION THEORY

Extrinsic Motivation

Especially with age, the majority of behaviors in which people engage are not inherently interesting or enjoyable. Rather, adults spend much of their time meeting responsibilities and fulfilling important duties. This suggests that the concept and processes of IM, which are central to CET, are less or even not relevant for some activities (e.g., health-behavior changes, following traffic laws). When interest and enjoyment are absent, behavioral engagement requires EM, in which the activity is perceived as a means to a separable outcome. In early theorizing, IM and EM were considered separate and antagonistic (deCharms, 1968; Harter, 1981); specifically, IM was thought to be fully self-determined and EM was said to lack personal causation. Empirical examinations in the early 1980s (Koestner, Ryan, Bernieri, & Holt, 1984; Ryan, 1982), however, added important new pieces to the SDT puzzle, as they indicated that EM can vary in the degree to which it is experienced as autonomous versus controlled and, thus, suggested that different types of EM can be distinguished (Ryan & Connell, 1989).

Such work formed the basis for the postulation of a second manifestation of the organismic growth tendency, namely *internalization*. The process of internalization involves endorsing the value of extrinsically motivated behaviors (Ryan & Deci, 2000) and is critical for the self-initiation and maintenance of socially important, yet non-intrinsically motivated, behaviors. As such, internalization is central to successful socialization because when an individual has personally endorsed societal norms and rules, that person is more likely to follow them willingly, even in the absence of socializing agents (e.g., parents, teachers). Therefore, internalization can facilitate social responsibility through the adoption of cultural values and is at the heart of organismic integration theory (OIT; Deci & Ryan, 1985b), SDT's second mini-theory.

Toward a Differentiated View of Extrinsic Motivation

In an important study that helped lay the foundation for OIT, Ryan (1982) experimentally showed that people's interest in an activity can be diminished not only by salient external controls, but also by intra-individual pressures. One example of a controlling internal event is ego involvement, in which people perceive their self-worth as dependent on successful completion of a particular task. In Ryan's study, participants either were told that their performance on an activity was indicative of their creative intelligence (ego involvement) or simply had their attention drawn to the activity (task involvement). After receiving positive feedback on their successful task completion, ego-involved participants displayed less IM relative to task-involved participants, presumably because ego-involved participants had pressured themselves to do their best. Clearly, then, ego-involved participants were extrinsically motivated, as their task engagement was instrumental for demonstrating self-worth. Yet this type of EM differs from that engendered by having to meet external contingencies (the type of EM central to CET), as the reason for task engagement now resides *inside* the individual. Of course, the common feature to both is their controlled nature. Nonetheless, this study provided an important first indication of the utility of distinguishing different forms of EM.

So far, we have described EM as engendering an experience of pressure and control. It is important to consider, however, whether people necessarily feel like "pawns" (deCharms, 1968), lacking volition and autonomy, when extrinsically motivated. From a phenomenological perspective (Pfander, 1908/1967; Ricoeur, 1966), autonomy need not imply a literal absence of

external forces, so long as people fully concur with the reason for engaging in the activity. Said differently, EM will be experienced as autonomous to the extent that people feel a sense of ownership over their behavior and have fully endorsed the personal value and significance of the behavior. Koestner et al. (1984) examined the postulate that one can experience EM as volitional if both the value of and the reason for doing the activity are accepted. Before engaging in a painting activity, young children were given a set of norms and expectations about how to keep their art materials clean. The norms were introduced in an autonomy-supportive way or the children were pressured to stick to the norms. Results suggested that children in the autonomy-supportive, relative to the controlling, condition showed greater free-choice persistence at and creativity in their paintings. Thus, although children in both conditions were extrinsically motivated, as while completing the paintings they tried to satisfy external guidelines, those in the autonomy-supportive condition presumably followed the norms willingly and with a personal understanding of their importance, which contributed to their persistence and performance.

The Internalization Continuum

These experiments (Koestner et al., 1984; Ryan, 1982) provided an empirical basis for the next development in SDT; specifically, the conceptual differentiation of EM, which had heretofore been a unitary construct. From the perspective of OIT, people possess a natural tendency to transform social norms, mores, and rules into personal values and self-regulations so as to develop a more elaborated, unified sense of self (Ryan, 1993). There is considerable variation, however, in the extent to which the process of internalization functions successfully. Accordingly, four types of EM are distinguished, as depicted in Table 1. AU :1

The least autonomous form of EM is *external regulation*, in which people are motivated to obtain a reward or to avoid punishment. The value of the behavior has not been internalized at all and, accordingly, people behave solely to comply with external demands. To illustrate, a patient with anorexia who gains weight to earn a treatment-based incentive (e.g., going home for the weekend) would display external regulation. This type of regulation is rooted in operant theory (Skinner, 1971) and, indeed, external regulation is a powerful form of motivation. Even according to operant theory, however, the problem is with maintenance and transfer, as behaviors controlled by reinforcements will persist only so long as those contingencies

Table 1. Schematic Relation of the Six Types of Motivation According to SDT.

Type of Regulation	Amotivation	External Regulation	Introjected Regulation	Identified Regulation	Integrated Regulation	Intrinsic Regulation
Motivational intensity	Low	High	High	High	High	High
Motivational force	Discouragement and helplessness	Expectations, rewards, and punishment	Guilt, shame, and self-worth contingencies	Personal valuation and relevance	Harmonious and coherent commitment	Enjoyment, pleasure, and interest
Internalization	No	No	Partial	Almost full	Full	Not required
Underlying feelings	Futility and apathy	Stress and pressure	Stress and pressure	Volition and freedom	Volition and freedom	Volition and freedom
Locus of causality	Impersonal	External	External	Internal	Internal	Internal
Type of motivation	Amotivation	Extrinsic	Extrinsic	Extrinsic	Extrinsic	Intrinsic
		Controlled Motivation			Autonomous Motivation	

Source: Adapted from Ryan and Deci (2000).

are in effect, as such contingencies formed the very reason for behavioral engagement.

The next form of EM is *introjected regulation*, in which people are motivated to comply with a partially internalized contingency to gain pride and self-esteem, or to avoid feelings of guilt and shame. For instance, a person who recycles to avoid feeling guilty would display introjected regulation. Introjection, which commonly manifests as ego involvement, is etymologically rooted in the Latin words *intro* (inside) and *jacere* (to throw). In other words, the reason for doing the behavior has been "thrown inside" the individual and no longer requires external contingencies for enactment. Thus, the contingency underlying the behavior, which was formerly applied by others, is now applied to oneself. However, the regulation of the behavior has been "swallowed whole" (Perls, 1973) rather than "fully digested", engendering feelings of internal control. Such intrapersonal pressure is quite energy-depriving, which might explain why introjection only predicts short-term persistence (Pelletier, Fortier, Vallerand, & Brière, 2001).

The third form of EM is *identified regulation*, in which people understand and endorse the personal value and significance of a behavior and, as a result, experience a sense of freedom in doing it. For example, an obese teenager who decides to diet so as to take responsibility for his health would display identified regulation. Identification, which can involve finding meaning and choice in behavior, even when faced with adverse circumstances, corresponds to the tenets of existential thought (Ryan & Deci, 2004). As with introjection, identification involves behavior that is regulated by intrapsychic forces. However, rather than being accompanied by feelings of pressure, identified regulation is guided by personal values and self-endorsed commitments. As such, the regulation of the behavior has almost been fully internalized.

A final step toward full internalization involves the assimilation of identified values and goals and the alignment of those identifications with other aspects of the self. The fourth form of EM, *integrated regulation*, involves the synthesis of various identifications to form a coherent and unified sense of self, a process that likely requires considerable effort, reflection, and self-awareness. To illustrate, a smoker who understands the health benefits of cessation and wants to quit so that she might live to see her grandchildren grow up would display integrated regulation. At times, people understand the personal importance of a behavior, but they experience the identification as compartmentalized and inconsistent with other aspects of the integrated self. Consider, for example, a person who gives money to charity to help those in need while employing "black-market workers"

to avoid paying taxes. Interestingly, the importance of integration has been questioned by some postmodern thinkers. Gergen (1991), for instance, argued that adopting a chameleon-like personality could be an adaptive response to a world with multiple and at times competing demands. Such claims conflict with an organismic approach to personality in which the experience of multiple, but compartmentalized, identities represents fragmentation and non-optimal functioning (Ryan, 1993). In line with this, Downie, Koestner, ElGeledi, and Cree (2004) reported that the integration of cultural identities into the self was conducive to tricultural individuals' psychological well-being.

Theoretical Considerations

Clarification of several conceptual points seems warranted. First, IM does not represent the end point of the internalization process. Behaviors that initially were prompted by external sources can be internalized and, when integrated into the self, are enacted with a full sense of volition. However, this does not imply that such behaviors are experienced as inherently interesting or enjoyable. According to SDT, intrinsically motivated behaviors are themselves satisfying and performed for non-separable reasons, whereas well-internalized, extrinsically motivated behaviors are performed for separable outcomes and, thus, cannot – by definition – be intrinsically motivated. Nonetheless, it is possible that the integration of EM co-occurs with the development of IM (Deci & Ryan, 1985b).

Second, internalization represents a developmental process. That is, there is a natural inclination toward integration of the salient norms and values in the social environment (Deci & Ryan, 1985b). For instance, whereas adolescents may pursue particular hobbies to make a good impression on others, older individuals might behave according to their personal interests. In line with this, evidence suggests that with age children tend to regulate socialized behaviors more autonomously given sufficient environmental support (e.g., Chandler & Connell, 1987). We speculate that this trend would emerge because during development the integrative tendency can engender greater awareness and understanding of personal interests. Also, older individuals may find that acting in line with personal commitments yields more satisfaction than acting to meet external demands, which can encourage further exploration of one's values and interests. Similar assumptions have been made by researchers who focused on concepts such

as ego-identity (Erikson, 1968), personal expressiveness (Waterman, in press), and ego-development (Hy & Loevinger, 1996).

Third, the recognition that some forms of EM are relatively autonomous has resulted in a conceptual shift in SDT. Whereas the distinction between IM and EM was central to CET, this paradigm has been replaced by a distinction between *autonomous motivation* and *controlled motivation*. Autonomous motivation involves the regulation of behavior with the experiences of volition, psychological freedom, and reflective self-endorsement; the behavior has an internal perceived locus of causality. Both identified regulation and integrated regulation, in addition to IM, are autonomous forms of motivation. Controlled motivation, in contrast, involves the regulation of behavior with the experiences of pressure and coercion to think, feel, or behave in particular ways; the behavior has an external perceived locus of causality. Both external regulation and introjected regulation are controlled forms of motivation. Importantly, the shift toward a distinction between autonomous motivation and controlled motivation does not negate the findings and core principles of CET, which focuses on IM and the external events that undermine or support it (i.e., the extreme poles of the self-determination continuum). Thus, new pieces were added to the growing "SDT puzzle" while previous pieces were left intact.

According to OIT, both autonomous motivation and controlled motivation reflect high involvement in an activity, although these two types of motivation have very different qualities (Vansteenkiste, Lens, & Deci, 2006b). Further, autonomous motivation and controlled motivation are contrasted with amotivation, in which people lack intentionality. Such non-intentional behavior can result from a perceived non-contingency between behavior and outcomes, from feeling incapable to perform the behaviors necessary to achieve desired outcomes, or from a lack of valuation of the activity (Deci & Ryan, 1985b).

Fourth, it is useful to link autonomous motivation and controlled motivation to the concept of *value*, as discussed in expectancy-valence models (Vroom, 1964; Wigfield & Cambria, this volume). Within such models, values (along with expectancies) are considered the determinants of motivated action through their effects on valences (Feather, 1992). Many studies have shown that the value of an activity is an important predictor of behavioral choice and performance. An important question from the OIT perspective, however, concerns the reason one attaches high valence to a particular activity. Such strong valuation could be motivated either by external demands, internal pressures, or a personal endorsement of the behavior. Indeed, Vansteenkiste, Lens, De Witte, and Feather (2005)

showed that unemployed individuals' valence of a future job (employment value) was strongly correlated with both autonomous and controlled reasons for job search. Thus, a strong valuation can be driven by qualitatively different reasons (viz., autonomous and controlled) for the activity, which yield differential relations to adjustment.

Empirical Basis of Organismic Integration Theory

The Benefits of Internalization

The differentiation of EM has generated dozens of studies since Ryan and Connell's (1989) seminal article on the internalization continuum. During the first half of the 1990s, the internalization continuum was examined in several domains representing central aspects of people's lives, including relationships, religion, work, education, prosocial behavior, and parenting. Subsequently, this research was extended to such domains as life goals, politics, physical activity, and the environment. Most recently, domains holding particular relevance for some people have received empirical attention, including psychotherapy, unemployment, migration, health care, eating regulation, and gaming.

In contrast to CET, the studies conducted within OIT often relied on self-report questionnaires, rather than experimental manipulations, to assess the antecedents and consequences of the motives for behavioral engagement. Such research considerably broadened the scope of the macro-theory and provided evidence for the ecological validity of SDT. This was important because some had criticized CET for studying a phenomenon (viz., IM) that is seldom observed in daily life (cf. Gagné & Deci, 2005), although several real-life experimental studies have been conducted within CET (e.g., Vansteenkiste, Simons, Lens, Soenens, & Matos, 2005a). Thus, the empirical investigations testing OIT naturally complemented the work within CET.

OIT suggests that greater internalization is predictive of enhanced physical, psychological, and social wellness. At least three methodological approaches to the statistical aggregation of the internalization continuum have been used to examine this hypothesis. First, some researchers have examined the correlates of the different forms of EM as well as IM (e.g., Ryan & Connell, 1989; Burton, Lydon, D'Alessandro, & Koestner, 2006). Second, others have assessed the independent effects of autonomous motivation and controlled motivation (e.g., Vansteenkiste, Zhou, Lens, & Soenens, 2005b). Third, some have used a *relative autonomy index* to predict outcomes, in which the forms of EM are differentially weighted according to

their location along the continuum of self-determination, with controlled regulatory styles weighted negatively and autonomous regulatory styles weighted positively (e.g., Niemiec et al., 2006). Regardless of the methodology used, studies have indicated that more autonomous, relative to controlled, motivation is associated with greater persistence, performance, social functioning, and physical and psychological wellness (for review, see Deci & Ryan, 2000).

The Facilitation of Internalization

Given that internalization is conducive to myriad positive outcomes, it is important to consider the factors that facilitate this process. Just as autonomy and competence form the natural ingredients for IM, contexts that support these needs are thought to promote internalization (Deci & Ryan, 2000). That is, to the extent that people can feel choiceful and effective in undertaking non-enjoyable behaviors, they are more likely to personally endorse those actions. Furthermore, in considering the factors that facilitate internalization, it became necessary to introduce the need for relatedness (Baumeister & Leary, 1995; Ryan, 1995) as a third basic psychological need and a new piece of the "SDT puzzle." Relatedness refers to the need to experience mutual care and concern for close others. Indeed, social norms and values are more likely to be adopted and internalized when introduced by socializing agents to whom people feel close, rather than distant. Children are, for instance, more likely to accept norms and guidelines introduced by their parents, relative to strangers. Thus, full internalization is most likely to occur in social contexts that are autonomy-supportive (rather than controlling), competence supportive (rather than chaotic and demeaning), and relatedness supportive (rather than rejecting and withholding). In contrast, partial internalization is likely to occur when social contexts support only the needs for competence and relatedness (Markland & Tobin, in press).

Dozens of questionnaire-based studies in a variety of life domains, but far fewer experimental studies, have lent credence to the importance of need-supportive contexts in facilitating internalization (e.g., Niemiec et al., 2006). Herein, we discuss three illustrative experiments. Deci, Eghrari, Patrick, and Leone (1994) did a study in which participants performed a boring vigilance task. Three need-supportive ingredients were manipulated in a 2 (rationale vs. no rationale) $\times$ 2 (acknowledgement of feelings vs. no acknowledgement) $\times$ 2 (low vs. high controllingness) design. Interestingly, participants' engagement time increased linearly according to the number of need-supportive factors. Also, participants' *quality* of persistence was

examined by inspecting the correlations between engagement time and three self-reported variables related to the task (viz., choice, usefulness, interest/enjoyment) in two groups – persistent participants exposed to zero/one versus two/three need-supportive factors. Importantly, among those who received need support, the correlations were positive and significant (indicating integrated regulation), whereas among those who did not receive need support, the correlations were negative (indicating introjected regulation). This examination of within-cell correlations underscores the importance of moving beyond only considering the *quantity* of persistence to examine its *quality*, as engagement time can be congruent with or alienated from one's affective experiences.

Joussemet, Koestner, Lekes, and Houlfort (2004) reported the results of two experimental studies assessing the effects of autonomy support and engagement-contingent rewards on the internalization of motivation for a dull task. Deci et al.'s (1999) meta-analysis pointed out that rewards had no impact on free-choice persistence at an uninteresting activity. However, the studies included in the meta-analysis were limited by their considering only the quantity of participants' persistence and it is possible that under reward contingencies people may display a qualitatively different type of persistence. Joussemet et al. found that although rewards do not undermine the *quantity* of engagement, they do create a more fragmented and alienated form of behavioral regulation when administered in a controlling way. That is, the association between behavioral persistence and affect was negative for those in the controlling reward condition, whereas that correlation was positive for those in the autonomy-supportive condition, suggesting that their behavior was congruent with their emotional experiences. Such results argue against the common socialization practice of using rewards to fore people to engage in non-intrinsically motivated behaviors.

Recently, in a field study Jang (2008) examined the motivational power of one component of autonomy support – provision of a meaningful rationale. Rationale provision was found to enhance engagement time on an uninteresting learning activity. Interestingly, the motivational benefits of rationale provision increased over time. Moreover, internalization of the motivation for the uninteresting activity fully explained the direct positive effect of rationale provision on behavioral engagement.

Directions for Future Research

There are many important directions for future research on OIT. One direction is to examine whether the theoretical continuum of

self-determination requires further refinement. Assor, Vansteenkiste, and Kaplan (2009) posited that introjected regulation could be bifurcated into approach and avoidance subtypes. They suggested that behavior might be regulated with an experience of internal pressure to *avoid* such negative feelings as shame, guilt, and anxiety, or to *approach* such positive feelings as self-aggrandizement and pride. Consistent with the approach-avoidance tradition in motivation (e.g., Atkinson, 1958; Elliot, 1999), Assor et al. found that introjected avoidance regulation yielded more negative correlates than introjected approach regulation. Further, identified regulation was a stronger predictor of positive outcomes than both subtypes of introjected regulation. Interestingly, identified regulation was more strongly correlated with introjected approach regulation than with introjected avoidance regulation, suggesting that introjected approach regulation is somewhat more autonomous than introjected avoidance regulation. This seems logical given that avoiding negative outcomes is more stressful and autonomy-thwarting than approaching positive outcomes (Elliot & Sheldon, 1998).

These findings underscore three important points. First, they disconfirm Carver and Scheier's (1999) criticism that the differential correlates of autonomous motivation and controlled motivation are due to autonomous motivation's being approach-regulated and controlled motivation's being avoidance-regulated. Assor et al. (2009) found that feeling internal pressure to achieve contingent self-worth (i.e., introjected approach regulation) was associated with less adaptive outcomes than willingly endorsing one's behavior (i.e., identified regulation), although both forms of EM are approach-regulated. Second, they call for an examination of whether the approach-avoidance distinction may be incorporated across the internalization continuum. For example, external regulation can manifest as either avoiding punishment or approaching a reward. Further, identified regulation can manifest as approaching one's personal values and commitments, although failing to do so might engender feelings of guilt and anxiety that one would aim to avoid. Such feelings are likely to be ontological (May, 1983), as they arise when an individual is unable to personally express oneself. Third, they underscore the importance of designing domain-specific measures of internalization that include a balanced number of approach- and avoidance-regulated items.

A second direction for research is to examine whether *not* engaging in a particular activity is necessarily a reflection of amotivation or whether the reason for non-engagement can be internalized and thus experienced as more or less autonomous. In other words, having reflected upon a particular request, some might choose not to engage in an activity to give priority to

alternative actions. For instance, a driver might deliberately choose not to follow prescribed traffic rules (e.g., not speeding) because he believes the situation is safe enough to do so. Alternatively, others might feel pressured not to engage in a requested activity. Consider, for example, a student whose mother suggests that she search for a summer job, but the student's friends prefer that she be available to hang out during the summer and thus pressure her into not searching for a job. Such controlled non-engagement might also take the form of defiance, as when people defy another's request so as to "save face" or to maintain independence. For instance, an adolescent with anorexia might simply reject her parents' wish for her to eat more because she believes that her parents' request is illegitimate. Such rebellious reactions are controlled, as they are driven by a reaction against external forces that one resists obeying. In short, then, it is possible for both activity engagement and non-engagement to be experienced as either autonomous or controlled.

In this respect, Vansteenkiste, Lens, De Witte, De Witte, and Deci (2004) examined the motives given by unemployed individuals for searching and not searching for a job, and found that autonomous motivation not-to-search related positively to the experience of being unemployed and to general well-being, whereas controlled motivation not-to-search related negatively to the experience of being unemployed. Notably, autonomy-supportive contextual factors may promote autonomous non-engagement in an activity. For example, Vandereycken and Vansteenkiste (2009) examined the effects of allowing patients with eating disorders to make an informed choice about whether to continue or to terminate treatment after the first few weeks of treatment. The implementation of this autonomy-supportive strategy reduced patients' drop-out rate during subsequent treatment, relative to another program in which such choice was denied. This choice implementation likely facilitated autonomous engagement in therapy among those who continued treatment, as well as autonomous disengagement from therapy among those who terminated treatment.

A third direction for research is to examine individuals' motivational profiles as they relate to outcomes, thereby using a person-centered rather than a dimensional approach. Such an approach is instructive for various reasons. For instance, the person-centered approach offers a more in-depth understanding of the different types of motivational profiles that can be used to characterize individuals, which might also be instructive for practitioners (e.g., therapists, school counselors) interested in developing programs for different individuals. Also, this data-analytical technique provides new ways to test competing hypotheses. For instance, the argument

maintained in expectancy-valence theories and echoed by lay beliefs that being highly motivated (regardless of the type of motivation) yields beneficial effects can be contrasted with the SDT perspective, which suggests that the type of motivation is also useful in predicting important outcomes. Using a person-centered approach to test this hypothesis, Ratelle, Guay, Vallerand, Larose, and Senécal (2007) and Vansteenkiste, Sierens, Soenens, Luyckx, and Lens (2009) found that students characterized by high levels of autonomous motivation and low levels of controlled motivation displayed better academic outcomes, relative to those characterized by the opposite motivational profile, although both groups had equal amounts of motivation. These findings are in line with SDT but contradict quantitative perspectives on motivation, as they suggest that being highly motivated does not necessarily yield beneficial effects, especially when one's motivation is controlled.

A fourth direction for research is to examine whether internalization predicts generalization (or transfer) of behaviors, similar to our recommendation for future research on CET. For example, some governments encourage their constituents to recycle by selling expensive garbage bags, thereby deterring people from filling those bags with recyclable materials. One of the critical questions is (1) whether people continue recycling while on vacation when garbage bags are free (i.e., cross-context generalization) and (2) whether they engage in a broad array of pro-environmental behaviors, such as conserving water or driving in an ecologically responsible way (i.e., cross-behavior generalization). According to OIT, autonomous motivation is conducive to both behavioral persistence and generalization because, when more fully internalized, behavior is not dependent on external contingencies of reinforcement. In line with this, Hagger, Chatzisarantis, Culverhouse, and Biddle (2003) found that high-school students who reported more autonomous reasons for physical education were more likely to exercise during their leisure time, suggesting that the benefits of autonomous motivation in physical education radiated to a new context. Further, in an experimental study, Vansteenkiste, Simons, Soenens, and Lens (2004c) found that an autonomy-supportive introduction of a new exercise (viz., Tai-Bo) during a physical education class promoted enrollment in a Tai-Bo club four months later. Some recent studies provided initial evidence for cross-activity generalization. Muraven, Gagné, and Rosman (2008) showed that controlled, relative to autonomous, engagement in a relatively boring activity that required self-control (e.g., not typing the letter *e*) predicted poorer performance on a subsequent, unrelated self-control task, as mediated by reduced vitality. Finally, Mata et al. (2009) reported that exercise motivation

was associated with more healthy eating regulation in an intervention program among obese individuals that primarily targeted physical activity change, thus suggesting a motivational spill-over effect.

A fifth direction for research is to examine whether OIT's taxonomy of EM adds explanatory precision to domain-specific approaches to motivation. For instance, Allport and Ross (1967) distinguished between intrinsic and extrinsic religious orientations. Those with an intrinsic religious orientation have internalized their religious beliefs (e.g., humility, compassion) "without reservation" and accommodate or reorganize other goals to bring them into harmony with their religious convictions. Those with an extrinsic religious orientation, in contrast, approach religion in an instrumental way to attain "self-centered" ends (e.g., safety, solace). Recently, Neyrinck, Lens, Vansteenkiste, and Soenens (in press) showed that Allport and Ross's intrinsic–extrinsic distinction does not correspond to SDT's distinction between IM and EM. Specifically, the intrinsic religious orientation related positively to well-internalized EM, but was unrelated to IM, suggesting that such an orientation might more accurately be labeled as internalized EM. A similar conceptual refinement could be applied to the motivation measure for smoking cessation developed by Curry, Wagner, and Grothaus (1990), which is primarily grounded in the intrinsic–extrinsic motivation distinction that formed the basis for CET.

CAUSALITY ORIENTATIONS THEORY

Autonomous, Controlled, and Amotivated Functioning at the Dispositional Level

In contrast to CET and OIT, which examine motivational dynamics in particular life domains or situations, causality orientations theory (COT; Deci & Ryan, 1985a), SDT's third mini-theory, focuses on individual differences in global motivational orientations. That is, COT adds a new piece to the "SDT puzzle" by applying the dynamics of behavioral regulation to an understanding of people's personality-level functioning. The term "causality orientation" contains the Latin root *causa*, which refers to the reason behind, or the cause of, behavioral initiation (deCharms, 1968). According to COT, individuals differ in how they typically perceive the source of their behavioral initiation. People who are high on the *autonomy orientation* tend to act in accord with their own emerging interests and self-endorsed values, interpret external events as informational, and thus

typically regulate their behavior autonomously. In contrast, those who are high on the *control orientation* tend to act in accord with external or internal demands, interpret external events as pressuring, and thus typically regulate their behavior with an experience of control. Finally, people who are high on the *impersonal orientation* tend to perceive their life experiences as beyond personal control and, accordingly, are prone to pervasive feelings of helplessness, ineffectiveness, and passivity; such an orientation is the dispositional equivalent of amotivation and is conceptually related to Rotter's (1966) concept of external locus of control.

Deci and Ryan's (1985a) specification of causality orientations was later adopted in Vallerand's (1997) hierarchical model of motivation, which suggests that motivation can be studied at three hierarchically organized levels – global individual differences, social contexts, and specific situations. Consistent with the proposed interrelation among these three levels of motivation, research has shown that the causality orientations are meaningfully related to domain-specific motives. Williams and Deci (1996), for instance, reported that the autonomy and control orientations were associated with autonomous and controlled reasons for participating in a medical interviewing course, respectively.

Theoretical Considerations

Because causality orientations are relatively stable individual differences, it is important to distinguish them from other personality constructs, particularly the Big Five traits. Whereas the Big Five traits can be considered core personality dimensions (Asendorpf & van Aken, 2003), as AU :2 they are highly stable and have a substantial genetic basis, the causality orientations can be considered surface personality dimensions, as they are more malleable and shaped by socialization experiences. Indeed, causality orientations represent dynamic outcomes that develop as a function of the amount of received need support in interaction with genetic and biological factors. Importantly, COT suggests that *each* of the three causality orientations exists to varying degrees within each of us. As a result, situational cues can elicit otherwise latent causality orientations that, once triggered, influence perception and action. For instance, a braggart may trigger a control orientation in a conversation partner that, in turn, may elicit a competitive and defensive stance toward the braggart. Nonetheless, each individual has a predominant motivational orientation that characterizes his/her disposition in general.

Empirical Basis of Causality Orientations Theory

An Initial Investigation

Deci and Ryan (1985a) developed the General Causality Orientations Scale (GCOS) to assess general motivational orientations and found them to be differently related to a broad array of personality and adjustment outcomes. Specifically, the autonomy orientation related positively to ego-development and self-esteem, and negatively to self-derogation. Interestingly, those who scored high on the autonomy orientation also reported a greater tendency to support their children's autonomy and had children who were more securely attached. Thus, the autonomy orientation may be transmitted intergenerationally through autonomy-supportive parenting. The control orientation, by contrast, related positively to the Type-A coronary-prone behavior pattern and to public self-consciousness, indicating that control-oriented individuals experience substantial tension and stress, and are highly sensitive to others' evaluations. Bridges, Frodi, Grolnick, and Spiegel (1983) reported that the mothers of resistant babies scored high on the control orientation, suggesting that such children are anxious about losing their mother's approval, just as their mothers are concerned with others' approval. The impersonal orientation showed the least adaptive profile of personality functioning and adjustment. Specifically, those who scored high on the impersonal orientation reported greater self-derogation, depressive symptoms, and social anxiety, as well as impaired ego-development and low self-worth. Mothers with an impersonal orientation had children who displayed an avoidant attachment pattern, which may engender feelings of inadequacy at a very young age.

Open Versus Defensive Modes of Responding

A central line of research within COT has examined the relation of the autonomy and control orientations to openness and defensiveness, respectively. Hodgins and Knee (2002) argued that because autonomy-oriented individuals experience more psychological freedom and choice, they likely would process information and interact with others with a sense of openness, engendering greater tolerance and non-biased responding. In contrast, because control-oriented individuals often feel preoccupied with meeting external demands and maintaining self-worth, they likely would feel threatened by intrapersonal and interpersonal pressures. They would react to such pressures by processing information in a biased, self-serving way and would relate to others in a more defensive, strategic, and intolerant manner. Indeed, studies have provided support for this line of reasoning.

First, the autonomy and control orientations have been shown to yield differential relations to people's awareness and knowledge of their attitudes, personality traits, and behavior. Specifically, Koestner, Bernieri, and Zuckerman (1992, Study 1) reported that the association between self-report and behavioral (i.e., free-choice persistence) assessments of IM was stronger among autonomy-oriented, relative to control-oriented, individuals. Similar findings were observed between self-report and behavioral (i.e., returning a questionnaire on time) measures of conscientiousness (Koestner et al., 1992, Study 2). Overall, then, autonomy-oriented individuals report higher levels of self-knowledge, whereas control-oriented individuals report more biased and inaccurate self-perceptions.

Second, the autonomy and control orientations have been shown to yield differential relations to people's processing of information that could inform them about their capabilities, interests, and identity (i.e., self-relevant information). Koestner and Zuckerman (1994), for instance, showed that autonomy- and control-orientated individuals react differently to success versus failure feedback on a puzzle task. Whereas individuals high on the autonomy orientation showed the same amount of persistence in the success and failure conditions, those high on the control orientation persisted more in the failure condition. Also, the persistence shown by control-oriented participants related negatively to their positive affect during the free-choice period. This suggests that control-oriented individuals attempted to restore feelings of self-worth by "proving themselves" following failure feedback, resulting in conflicted, ego-involved persistence. In a related study, Knee and Zuckerman (1996) showed that autonomy-oriented individuals did not display a self-serving bias, as manifested in their tendency to adopt a self-aggrandizing attitude after success and to deny responsibility for failure.

Such differences between autonomy- and control-oriented individuals in processing self-relevant information also manifest in how they approach the developmental process of identity exploration. For example, Soenens, Berzonsky, Vansteenkiste, Beyers, and Goossens (2005) found that the autonomy orientation was associated with an information-oriented style, in which adolescents engage in an open and flexible exploration of identity-relevant alternatives. In contrast, the control orientation was associated with a normative style, which is characteristic of adolescents who safeguard their adopted identity commitments against discrepant self-relevant information in an assimilative, defensive fashion.

Third, the autonomy and control orientations have been related to markedly different interpersonal styles. Whereas autonomy-oriented individuals tend to relate to others with a sense of openness and honesty, those

with a control orientation tend to relate to others in an intolerant, closed-minded, and manipulative way. For instance, Hodgins, Liebeskind, and Schwartz (1996) showed that autonomy-oriented individuals' provided fewer lies and more mitigating themes (e.g., concessions and excuses) after offending someone than those with a control orientation. Hodgins et al. suggested that following an offense, autonomy-oriented individuals are authentically concerned with the restoration of the relationship, rather than with "saving face" and protecting their reputation. Other studies have shown that control-oriented individuals have a more Machiavellian interpersonal orientation (McHoskey, 1999), and display more aggression in sports (Goldstein & Iso-Ahola, 2008) and while driving (Neighbors, Vietor, & Knee, 2002), because they tend to dehumanize others by considering them as obstacles that need to be removed (Moller & Deci, 2009; Vansteenkiste, Mouratidis, & Lens, in press).

Priming Unconscious Motivational Orientations

Rather than relying on self-reports of global motivational orientations, recent studies have made use of priming procedures to activate the autonomy and control orientations outside conscious awareness to examine how these latent, unconscious motivational orientations affect behavior, performance, and well-being. The findings of these studies largely paralleled those obtained using the GCOS. More specifically, primed autonomy and control orientations have been shown to predict open (vs. defensive) intrapersonal and interpersonal functioning, performance, and adjustment in theoretically consistent ways. In one of the first priming studies, Levesque and Pelletier (2003) activated the autonomy and control orientations by using a scrambled sentence task. Autonomy-primed participants descrambled sets of words that contained terms related to autonomy (e.g., choice, freedom), whereas control-primed participants descrambled sets of words that contained terms related to control (e.g., should, forced). Results showed that autonomy-, relative to control-, primed participants, reported more enjoyment during a subsequent crossword puzzle task. Using a similar priming procedure, Hodgins and colleagues have shown that control-, relative to autonomy-, primed participants, displayed a more defensive intrapersonal orientation, as reflected in a stronger self-serving bias (Hodgins, Yacko, & Gottlieb, 2006, Study 2); reported higher self-handicapping (i.e., making anticipatory excuses for failure; Hodgins et al., 2006, Study 3); and had a larger discrepancy between explicit and implicit self-esteem (Hodgins, Brown, & Carver, 2007). Control-primed individuals also experienced lower implicit self-worth (Hodgins et al., 2007) and displayed poorer performance

on a rowing machine (Hodgins et al., 2006, Study 3). These findings have been confirmed using both supraliminal and subliminal procedures (Radel, Sarrazin, & Pelletier, 2009).

Directions for Future Research

There are many important directions for future research on COT. One direction is to examine stability and change in the causality orientations. If causality orientations reflect surface personality dimensions, then they should be less stable than core personality dimensions. Further, longitudinal research could show that, despite being relatively stable, causality orientations are susceptible to change in response to environmental influences (e.g., need support). A second direction for research is to address the measurement of the GCOS, which was developed in the 1980s when OIT had not yet been fully developed. Although Deci and Ryan (1985a) provided evidence for the validity of the scale, a closer inspection of the items indicates that the operationalization of the autonomy orientation was limited to items tapping emerging interests, whereas the control orientation measure was limited to items referring to monetary rewards and external approval. Thus, the operationalization of the autonomy and control orientations was heavily influenced by the distinction between IM and EM, which is at the heart of CET – the most developed and refined theory at the time. However, given that new pieces have been added to the "SDT puzzle" it seems appropriate to reevaluate the GCOS. Because autonomy involves acting upon one's interests *and* personal values, and controlled functioning can take the form of external *and* internal pressure, it is important to operationalize the autonomy and control orientations in a more inclusive manner.

A third direction for research is to examine whether interpersonal supports for autonomy interact with the causality orientations in predicting behavior and well-being. From a match-perspective, it could be argued that control-oriented individuals would benefit from being in a controlling environment, as the motivational orientation would match the contextual dynamics. Because control-oriented individuals' basic needs would be frustrated in a controlling environment, according to COT such individuals would be expected to suffer in such an environment. To date, most studies on autonomy support (vs. control) and research on causality orientations have been conducted in relative isolation from each other. Black and Deci (2000) examined such interactions and found that students' autonomous motivation and perceived teacher autonomy support interacted to predict

performance, but not adjustment. Interestingly, low autonomy-oriented students benefited from perceiving their instructors as autonomy-supportive, which contradicts the match-perspective prediction that such individuals would fare better in controlling contexts.

BASIC NEEDS THEORY

A Unifying Principle

The concept of basic psychological needs has been woven throughout our discussion of SDT. Within CET need satisfaction was used to explain the effects of external events on IM, whereas within OIT and COT need satisfaction accounted for the effects of the social environment on the internalization of societal norms and rules, and the development of global motivational orientations, respectively. In addition to representing a unifying principle within SDT (Niemiec et al., in press), the concept of need satisfaction is important in its own right. Basic needs theory (BNT; Ryan & Deci, 2002), SDT's fourth mini-theory, specifies innate psychological nutriments that are necessary for psychological and physical health, and social wellness. Following the principle of Ockham's razor (the law of parsimony) and to avoid proliferation of the number of basic psychological needs, a *minimal* number of needs (i.e., three) have been proposed to account for a *maximal* number of phenomena across ages, genders, and cultures.

The need for autonomy (deCharms, 1968) refers to the experience of volition and psychological freedom. With autonomy, one experiences choice in and ownership of behavior, which is perceived as emanating from the self and is in accord with abiding values and interests. The need for competence (White, 1959) refers to the experience of effectance in one's pursuits. The need for relatedness (Baumeister & Leary, 1995) refers to the experience of reciprocal care and concern for important others. In line with SDT's cumulative, research-driven development, this does not preclude the specification of additional needs, but a new need would only be added following strong theoretical arguments and empirical support.

Supporting Basic Psychological Needs

Parallel to the basic needs, BNT specifies three dimensions of the social environment that support (rather than thwart) those needs. Specifically,

autonomy-supportive (rather than controlling) contexts support autonomy, well-structured (rather than chaotic and demeaning) contexts support competence, and warm and responsive (rather than cold and neglectful) contexts support relatedness. Consider each in turn.

Autonomy-supportive individuals promote the volition of those they socialize. In doing so, such individuals provide the amount of choice desired by the person being socialized, offer a meaningful and realistic rationale when choice is constrained, and try to understand the other's perspective. In contrast, controlling individuals direct the thoughts, feelings, and behaviors of those they socialize. In doing so, such individuals may use overt, externally pressuring tactics (e.g., controlling language, punishments), or more covert, subtle techniques of manipulation, including conditional regard (Assor, Roth, & Deci, 2004), guilt induction (Vansteenkiste et al., 2005a), and shaming (for a review, see Soenens & Vansteenkiste, in press-a). Several studies in various life domains have shown that perceptions of autonomy support (relative to control) are associated with higher well-being, better performance, and more behavioral persistence.

Whereas autonomy support promotes the self-initiation of behavior, structure is critical for the competent pursuit of one's goals. Interestingly, some have proposed that structure and autonomy support are contrasting socialization styles, as if these styles are situated at opposite ends of a continuum (see Reeve, 2009). BNT maintains that autonomy support is *not* a laissez faire socialization technique in which guidance is lacking and unlimited freedom is granted, which certainly would reflect the opposite of a well-structured environment (Jang, Reeve, & Deci, in press). Indeed, although guidelines may structure and limit behavior, such restrictions are not necessarily experienced as controlling. Rather, people are more likely to personally endorse and volitionally follow social norms that are introduced in an autonomy-supportive way. Thus, both autonomy support and structure are essential for effective socialization, as the former describes the way rules and expectations are introduced and the latter describes the clarity of those norms.

Interpersonal support, as described within the socialization literature (Davidov & Grusec, 2006), is provided through warmth (or the ability to amicably connect with others and to partake in mutually enjoyable activities) and responsiveness to distress (or the ability to empathize with and respond to others' unpleasant feelings in a way that provides solace and comfort). The importance of interpersonal support has been highlighted by such theories as attachment theory (Bowlby, 1988) and acceptance–rejection theory (Rohner, 2004). According to SDT, interpersonal support is

necessary for the satisfaction of the need for relatedness, as it fosters a sense of connectedness, love, and understanding within relationships.

Advantages of Specifying Basic Psychological Needs

There are several advantages to positing the existence of basic psychological needs (Deci, 1992). First, this concept allows for theorizing about the *energization* of behavior, which, in addition to the direction of behavior, is an important component of motivation (Deci & Ryan, 1985b). Many theories of motivation however, only focus on the direction of behavior. In contrast, SDT maintains that basic psychological needs represent an energetic resource that propels a variety of motivated behaviors.

Second, this concept allows for a discussion of human nature and the specific psychological factors that are essential for optimal human development. Various scholars typically fail to address these important questions, either because they focus on a circumscribed phenomenon (e.g., unrealistic optimism), which obviates their grappling with such issues, or because they assume (implicitly or explicitly) that no inherent human nature need to be specified. Other scholars argue that humans are born as *tabula rasa* (blank slates) upon which cultural values and norms are imprinted during socialization, a perspective known as the Standard Social Science Model (SSSM; Barkow, Cosmides, & Tooby, 1992). According to the SSSM, culturally acquired behaviors are not evaluated according to their compatibility with human nature, but rather according to whether those behaviors are emphasized by the environment, and well-being is expected to result from a match between one's behavior and ambient social values. In contrast, SDT posits that *all* humans, regardless of whether their behaviors fit or do not fit the social context, require satisfaction of autonomy, competence, and relatedness for psychological growth and wellness (Deci & Ryan, 2000).

Third, this concept enables researchers to synthesize a broad range of divergent phenomena. For instance, within SDT the satisfaction versus thwarting of basic needs has been used to explain such positive outcomes as well-being, productivity, and cooperation, as well as such negative outcomes as depression, pathology, and racism, among many others. Fourth, this concept gives researchers a theoretical basis for understanding which dynamics of social contexts (homes, organizations, schools) promote versus hinder high-quality motivation, productivity, and well-being. Related to this, the specification of basic psychological needs is important from an

applied perspective, as this concept gives socializing agents a means to predict whether their interaction styles, organizational structures, and educational practices will promote optimal outcomes.

Characterization of Basic Psychological Needs

Early motivation theorists, most prominently Hull (1943), focused on physiological drives (viz., hunger, thirst, sex), which are non-nervous-system tissue deficits that activate behaviors to reduce those drives. In contrast, the focus of BNT is on psychological needs, which provide an important source of energy (in addition to physiological drives and emotions) and are considered the essential nutriments for optimal functioning. Just as plants require sun, soil, and water to grow, humans require satisfaction of the needs for autonomy, competence, and relatedness to function optimally at the physical, psychological, and social levels (Ryan, 1995). An important characterization of basic needs, therefore, is that when satisfied, they promote humans' thriving and optimal functioning, and prevent illness.

A second important characterization of basic needs is that they are *innate*, from which three implications can be derived. First, it implies that satisfaction of the basic psychological needs is critical throughout one's entire life, from birth until death. Second, it implies that the benefits of need satisfaction do not necessarily require conscious, cognitive processing to accrue, as even children as young as one-year old benefit from being in need-supportive environments (Grolnick, Bridges, & Frodi, 1984). Third, it implies that the needs for autonomy, competence, and relatedness are *universal* nutriments necessary for optimal functioning, regardless of gender, social class, and cultural context.

A third important characterization of basic needs is that when thwarted, people may cope in a variety of maladaptive ways (Deci & Ryan, 2000). One such maladaptive coping response is to develop *need substitutes*, which represent strong desires (e.g., material success, a thin body, social approval) that strongly affect cognition, emotion, and behavior. Although achieving such desires may yield some derivative satisfaction, such feelings are short-lived, as those ends fail to satisfy basic psychological needs. For instance, a materialist may experience a derivative sense of competence if he is successful in business, but such satisfaction is likely short-lived and his pursuit of financial success may in time cause work–family conflict (Vansteenkiste et al., 2007b), thus interfering with his satisfaction of relatedness. Consider also an adolescent who has such a strong desire for

social recognition that she spreads rumors about her classmates. Although this relationally aggressive style may enhance her popularity, it is unlikely to promote her developing close relations with others (Soenens, Vansteenkiste, Goossens, Duriez, & Niemiec, 2008).

A second maladaptive coping response is to develop rigid behavior patterns, which may provide short-term feelings of security, stability, and efficacy, but interfere with genuine need satisfaction. For instance, maladaptive perfectionists often obsess about achieving very demanding standards. Although such high standards may provide structure, their rigid pursuit is likely to interfere with the satisfaction of autonomy (Shafran & Mansell, 2001), as such standards preclude opportunities for full absorption in the activity.

Theoretical Considerations

Needs as Experiential Inputs Versus Needs as Motives

BNT's definition of basic psychological needs as innate nutriments necessary for integrated functioning differs from the more prominent usage of the concept provided by Murray (1938). According to Murray, psychological needs are relatively stable differences in desires that vary in strength across individuals as a function of their socialization history. From this perspective, individuals learn to associate positive emotions with particular motives (e.g., affiliation, achievement, power) during development, resulting in differences in the strength of those preferences. An important implication of this acquired "needs" perspective is that the satisfaction of these motives is only beneficial for people who desire to have those motives satisfied; thus, people will most likely experience wellness in contexts that match their acquired "needs." For example, those with a strong desire for achievement are expected to benefit from a context that emphasizes outperforming others (Senko & Harackiewicz, 2002). BNT, in contrast, posits that the basic needs for autonomy, competence, and relatedness are innate requirements for psychological growth, even for those who do not place strong importance on those needs. To the extent that basic needs are satisfied, positive outcomes are expected to follow. In line with this, Mouratidis, Vansteenkiste, Lens, and Sideridis (2008) demonstrated that positive feedback enhanced IM, even for those who did not value doing well on the activity.

When needs are thwarted, initially an individual is likely to persist in an attempt to satisfy basic needs by looking for new routes to need satisfaction (Deci & Ryan, 2000). For instance, following critical feedback an individual

might have an increased desire for competence. Indeed, Sheldon and Gunz (in press) showed that experiential deficits in autonomy, competence, and relatedness predicted corresponding motives to overcome those deficits. This study, however, did not examine whether pursuing a need after an experienced deficit predicted subsequent need satisfaction. We doubt this would be the case, as there are a number of reasons that people would be less likely to feel maximally satisfied once their pursuit is consciously and/or reactively driven.

First, when needs are thwarted, people may become sensitive to environmental cues that signal opportunities for need satisfaction. For instance, Gardner, Pickett, Jefferis, and Knowles (2005) found that lonely individuals, who presumably lacked relatedness satisfaction, displayed an increased attention to social cues and opportunities for interpersonal interaction. Such heightened sensitivity to environmental cues might lead previously need-deprived individuals to interpret a subsequent need-supportive experience as less supportive than when their needs are satisfied. Indeed, van Prooijen (2009) showed that relative to those whose autonomy was satisfied, autonomy-deprived participants experienced a no-voice decision-making process as less fair. This suggests that previously controlled individuals interpreted subsequent events more strongly as autonomy-frustrating, thereby potentially inducing a negative spiral.

Second, the regulation of behaviors intended to satisfy needs can vary in relative autonomy. When needs are thwarted, one might become explicitly focused on pursuing need satisfaction because of ego involvement. That is, need-deprived individuals may be preoccupied with potential need-satisfying activities because they base self-worth on their successful completion of such tasks. When feeling incompetent, for instance, one may have a strong desire to prove oneself as capable and effective. Likewise, when feeling lonely, one may have a strong desire to portray oneself as having an extensive social network. Finally, when feeling pushed around and unable to voice personal preferences, one may have a strong desire to be independent and differentiated from others. Thus, when needs are thwarted, people may actively pursue opportunities for need satisfaction so as to regain self-worth, which is unlikely to contribute to need satisfaction. In fact, Ryan, Koestner, and Deci (1991) and Vansteenkiste and Deci (2003) demonstrated that providing negative feedback to ego-involved individuals engendered inauthentic persistence during a free-choice period. Presumably, such persistence was done to feel competent after having received critical feedback, but the behavior was experienced as internally conflicted and, thus, not genuine. Paradoxically, the controlled pursuit of competence may

have precluded participants' opportunity to satisfy their needs, as feeling controlled may have detracted from competently engaging the activity.

Although need deprivation appears to prompt heightened attention to social cues and a stronger *desire* for need satisfaction, this does not preclude the possibility that need-deprived individuals (a) anticipate less satisfaction from subsequent need-satisfying experiences (due to previous experiences of need deprivation) and (b) derive less satisfaction from those new experiences. In line with this, Moller, Deci, and Elliot (in press) used diary and experimental methodologies to show that individuals high in person-level relatedness (i.e., those who reported higher general levels of relatedness) expected greater need satisfaction from a relational event (anticipated value) and experienced days and events in which their relatedness was supported as more satisfying (experienced value). Thus, different from the studies mentioned above, Moller et al. examined subsequent need *satisfaction* and found that those high in general need satisfaction found subsequent need-supportive events more affectively rewarding and need satisfying. Interestingly, Reis, Sheldon, Gable, Roscoe, and Ryan (2000) and Moller et al. used the term *sensitization* to explain their findings and suggested that satisfaction of relatedness makes an individual more sensitive to opportunities for relatedness, leading people to perceive need-supportive events as more important and satisfying.

In short, it appears that both need-deprived and need-satisfied individuals are sensitive to new need-satisfying experiences, albeit at different moments and in different ways. Given that need-deprived individuals tend to reactively monitor their environment for need-satisfying signals, they are alert or sensitive to potentially new need-satisfying stimuli *before* such stimuli occur. Rather than reactively seeking new need-satisfying experiences, previously need-satisfied individuals tend to be *spontaneously* immersed in ongoing activities. When asked whether they anticipate deriving satisfaction from a new event, their history of need-satisfying experiences may lead them to expect and experience greater subsequent need satisfaction, relative to need-deprived individuals. Thus, for need-satisfied individuals the sensitization process occurs *after* need satisfaction has occurred. Although need-deprived individuals might initially increase in alertness for and motivation to approach new need-satisfying events (Sheldon & Gunz, in press), their failure to derive as much satisfaction from new need-satisfying encounters (Moller et al., in press) might lead them to devalue the importance of new need-satisfying experiences over time. Indeed, the initially controlled reactions of need-deprived individuals might be gradually replaced by a sense of helplessness; they might feel

incapable of getting their basic needs met, leading them to attach less importance to need satisfaction, a process referred to as accommodation or desensitization (Deci & Ryan, 2000; Moller et al., in press). These dynamics await further empirical testing.

The Universal Importance of Autonomy

Several contemporary psychologists have questioned the importance of autonomy for such groups as Easterners (Iyengar & DeVoe, 2003), women (Jordan, 1997), and the working class (Stephens, Markus, & Townsend, 2007). Herein, we discuss the cultural relativist perspective (Markus & Kitayama, 2003) and later we consider the relevance of autonomy for Easterners, women, the impoverished, and, indeed, all humans. Markus and Kitayama have disputed the universal importance of autonomy by arguing that autonomy is a typical Western concept that is unlikely to yield the same well-being correlates for Easterners, whose culture emphasizes social harmony and interdependence. Such a view is rooted in the SSSM, as it suggests that autonomy will only promote desirable outcomes for those whose culture emphasizes the importance of acting autonomously. Clearly, this view is at odds with SDT and, accordingly, it is important to discuss this complex, multi-faceted controversy.

First, SDT and cultural relativists define autonomy in different ways. Whereas cultural relativists typically equate autonomy with individualism, independence, and uniqueness, BNT defines autonomy as the experience of volition, choice, and psychological freedom. When defined as independence, it follows that such a concept would not be relevant to those who value interdependence. However, within BNT the opposite of autonomy is not dependence (i.e., reliance on others to guide one's behavior and decision making), but rather the experience of pressure or coercion to behave in particular ways (Vansteenkiste et al., 2005b), and we maintain that autonomy will have functional benefits in cultures that emphasize both independence (Western values) and interdependence (Eastern values). When defined as volition and choice, it follows that one can feel either free or coerced to act independently or to remain dependent on others. To illustrate, both a Belgian and a Chinese college senior may feel choiceful (vs. controlled) in her decision to live by herself (i.e., to become independent) or to live with her family (i.e., to remain dependent), with divergent outcomes associated with the degree to which her decision is experienced as autonomous (Kins, Beyers, Soenens, & Vansteenkiste, 2009).

Second, and fully in line with the cultural relativist perspective, we recognize that differences in emphasis on independence versus interdependence are

learned through socialization. Despite mean-level differences in a culture's emphasis on independence versus interdependence, BNT maintains that the behaviors associated with both types of functioning can vary in the degree to which they are experienced as psychologically free or coerced. A more volitional (relative to pressured) pursuit of either independence or interdependence (regardless of the dominant cultural values) is expected to promote optimal functioning, and this has been confirmed in several studies (e.g., Rudy, Sheldon, Awong, & Tan, 2007).

Third, BNT's claim that satisfaction of autonomy yields positive effects across cultures does not contradict the idea that there exists considerable cross-cultural variation in how psychological needs are satisfied. For instance, Iyengar and Lepper (1999) reported that for European Americans making a personal choice was more intrinsically motivating than having the choice made by one's mother or the experimenter. However, for Asian Americans having the choice made by one's mother was comparable to making a personal choice, although both were more intrinsically motivating than having the choice made by the experimenter. At first sight, such findings seem to challenge BNT's assumption that autonomy is a universal need. However, from the perspective of BNT such findings illustrate the considerable cross-cultural variation in how autonomy can be satisfied. For those from an individualistic culture, behaving autonomously (with a sense of volition) implies making a personal choice, whereas those from a collectivistic culture seem to feel volitional when behaving in accord with the choice of someone who they trust (e.g., their mother), perhaps because they have identified with that person's choice for them. Indeed, Bao and Lam (2008) found that pre-adolescent Chinese children reported comparable levels of IM when making a personal choice as when the choice was made by an adult (viz., parent, teacher) to whom they felt close, presumably because their need for relatedness was satisfied. Notably, although Bao and Lam obtained their results in a culture that emphasizes social harmony and relationships, BNT posits that similar results would be found among those from an individualistic culture, as relatedness is equally important in both cultures. In short, the specification of innate and universal needs does not preclude differences in socialization affecting how those needs are satisfied. Thus, it is critical to examine the dynamic interplay among the basic needs to understand how the social environment supports need satisfaction in different cultures.

Covariance among the Elements of Need Support

Although the elements of need support have been isolated and examined separately (Sheldon & Filak, 2008), in daily interactions supports for

autonomy, competence, and relatedness are likely to covary. Such covariance may occur because the elements of need support are based, in part, on an accurate understanding of another's perspective. Specifically, autonomy support involves the provision of choice and a meaningful rationale when choice is constrained, competence support involves the provision of a desired amount of information and guidance, and relatedness support involves the provision of a desired amount of care and concern. When an individual truly understands another's internal frame of reference, the provided choice, information, and concern can be experienced as genuine, helpful, and caring. Thus, accurate empathy seems to be a precondition for supporting all three needs, which may explain why the three facets of need support strongly covary. Further, some elements of need support might satisfy a single need, whereas others might satisfy two or three needs. For instance, a meaningful rationale might help an individual grasp the value of an activity (autonomy support) and provide structure for the activity (competence support). Choice, however, would likely only satisfy autonomy. Thus, because there is no one-to-one association between need support and need satisfaction, the elements of need support are often highly correlated.

Empirical Basis of Basic Needs Theory

Basic Psychological Needs and Wellness

A central tenet of BNT is that satisfaction of each of the basic needs contributes unique variance to the prediction of psychological wellness, productivity, and social functioning. Empirical evidence supporting this proposition has been obtained in many life domains, including school, work, exercise, and sports. Need satisfaction has even been shown to predict outcomes other than one's immediate psychological functioning, such as long-term health-behavior change (Williams, Niemiec, Patrick, Ryan, & Deci, 2009a) and medication adherence (Williams et al., 2009b). Further, need satisfaction has been shown to facilitate wellness across the lifespan, from early childhood (e.g., Grolnick et al., 1984) to adulthood (e.g., Vansteenkiste et al., 2007b). The amount of need satisfaction accumulated during one's life has even been found to negatively predict mortality (Kasser & Ryan, 1999). Other studies have demonstrated that daily variations in need satisfaction contribute independently to within-person fluctuations in well-being (Reis et al., 2000) and to within-person differences in security of attachment (La Guardia, Ryan, Couchman, & Deci, 2000).

Thus, the "ups and downs" in daily emotional experiences and in the quality of relationships covary with fluctuations in need satisfaction. Need satisfaction not only varies at the between- and within-persons levels, but also at the group level. To illustrate, Kelly, Zuroff, Leybman, Martin, and Koestner (2008) showed that group differences in need satisfaction predicted higher positive affect and performance over and above the differences in need satisfaction between group members.

Recently, investigators have examined the importance of having one's basic psychological needs satisfied to a relatively equal extent (i.e., balanced need satisfaction). Sheldon and Niemiec (2006) found that balanced need satisfaction predicted higher adjustment and lower mother-rated oppositional defiant behaviors among children, even while controlling for the total amount of need satisfaction. Interestingly, not only imbalance among the needs, but also imbalance in need satisfaction across contexts detracts from well-being. Milyavskaya et al. (2009) showed that adolescents who reported imbalanced need satisfaction across multiple contexts had lower well-being and school grades. To explain these findings, Milyavskaya et al. suggested that a lack of balance in need satisfaction may undermine identity development, as such imbalance may reflect their inability to reconcile the demands of multiple, context-bounded identities.

The Universal Benefits of Need Satisfaction

BNT suggests that the basic psychological needs are universal requirements for human flourishing. Consistent with this proposition, studies have demonstrated the importance of basic needs for the well-being of people living in both individualistic (Western) cultures, including the United States (Reis et al., 2000) and Belgium (Luyckx, Vansteenkiste, Goossens, & Duriez, 2009), and collectivistic (Eastern) cultures, including Bulgaria (Deci et al., 2001), South Korea (Jang, Reeve, Ryan, & Kim, 2009), Russia (Lynch, La Guardia, & Ryan, 2009), and China (Vansteenkiste, Lens, Soenens, & Luyckx, 2006c). Further, need satisfaction has been found to facilitate health-behavior change among a sample of poor, working-class Americans (Williams et al., 2009a), and to promote the psychological and physical health of men and women alike (Ryan, La Guardia, Solky-Butzel, Chirkov, & Kim, 2005). Together, these findings contradict the reasoning of Markus and Kitayama (2003), Jordan (1997), and Stephens et al. (2007), who combine to suggest that need satisfaction (in particular, autonomy) is only beneficial for Western, working-class males.

The Importance of Support for Autonomy

Within BNT, much research with self-reports has shown that perceived autonomy support promotes well-being in a variety of life domains. In addition, various experimental studies (e.g., Vansteenkiste, Simons, Lens, Sheldon, & Deci, 2004a) have shown that an autonomy-supportive, relative to a controlling, communication style predicts deep learning and performance.

Within adolescent psychology, some psychologists, influenced by separation-individuation theories, equate autonomy support with independence promotion (Silk, Morris, Kanaya, & Steinberg, 2003), which differs in at least two ways from the promotion of autonomy as defined by BNT (Soenens et al., 2007). First, although parents can promote independence in an autonomy-supportive way, independence can also be promoted in a controlling way, such that children feel they have no choice other than to become self-reliant. Second, when parents cannot support their child's independence, they still can support their volition. Indeed, rules constrain behavior and, thus, limit independence. However, by providing a meaningful rationale for those guidelines and trying to be empathic, parents can support volition even though they limit independence.

To examine the distinction between the views of BNT and separation-individuation theories, Soenens et al. (2007) assessed adolescents' perceptions of their parents' promotion of both independent and volitional functioning, and found that both constructs were moderately positively correlated with each other and with psychological well-being. However, only parental promotion of volition (but not independence) accounted for unique variance in well-being when both constructs were simultaneous predictors. These results suggest it is critical for adolescents to perceive parental support for expressing their preferences and enacting their personal values, rather than to perceive parental support for independence and self-reliance. Whereas some adolescents may choose to be independent, others may act independently for controlled reasons, either because they do not feel ready to be independent (premature independence) or because they wish to rebel against their parents (defiant independence).

A subsequent study (Soenens, Vansteenkiste, & Sierens, 2009) showed that parental promotion of both volition and independence differentially related to psychologically controlling parenting. Whereas promotion of independence was orthogonal to psychologically controlling parenting, promotion of volition was antithetical to it. Next, Soenens, Vansteenkiste, and Luyten (in press) developed items assessing parents' attempts to force children to remain dependent through the use of guilt trips or conditional regard. Soenens et al. (in press) found that the children of such parents

displayed a more dependent orientation, which in turn predicted depressive symptoms. Together, then, the work of Soenens, Vansteenkiste, and friends suggests that adolescents who perceive their parents as promoting either independence or dependence in a controlling (relative to autonomy-supportive) manner experience lower well-being.

The Importance of Support for Competence

The concept of structure has received far less attention than autonomy support within BNT. Grolnick and Ryan (1989) conducted structured interviews with children in 3rd through 6th grade to obtain ratings of parental autonomy support and structure. They reported that autonomy support related positively to children's academic autonomous self-regulation and grades, while structure predicted children's control beliefs. More recently, Cleveland and colleagues examined the relations of parental autonomy support and structure to preschool children's reminiscence of daily events. In an observational study, Cleveland and Reese (2005) showed that the two parenting styles could be distinguished and that by 65 months of age, children of high structuring parents (i.e., parents who asked open-ended, elaborative questions) recalled more daily events than those of low structuring parents. Subsequently, Cleveland, Reese, and Grolnick (2007) found that elaborative structure related positively to children's memory of the details and narrative quality (i.e., coherence) of a standardized event, while autonomy support predicted children's observer-rated engagement (see also Jang et al., in press). Finally, using self-reports of autonomy support and structure, Sierens, Vansteenkiste, Goossens, Soenens, and Dochy (2009) found that structure only had a positive relation to students' self-regulated learning when it was provided in an autonomy-supportive way.

The Importance of Support for Relatedness

Support for relatedness has generally been found to predict a host of positive outcomes, including social competence, empathy, and secure attachments (Rohner, 2004). However, at times socializing agents may be involved and show concern in a controlling way, thus providing love at the expense of autonomy. One such socialization strategy is parental conditional regard (PCR; Assor et al., 2004; Roth, Assor, Niemiec, Ryan, & Deci, 2009), in which parents provide love and affection when their child behaves according to their expectations, but withdraw love and affection when their child fails to meet their expectations. In essence, such parents contingently provide love in order to pressure their child into compliance, thereby pitting the child's need for relatedness against autonomy. PCR has been shown to

promote children's inner tension and resentment toward parents (Assor et al., 2004; Roth et al., 2009). Other studies have revealed harmful consequences of social contexts that pit autonomy against relatedness. For example, a combination of controlling (i.e., autonomy-inhibiting) and supportive (i.e., relatedness-providing) parenting is related to a maladaptive pattern of developmental outcomes in children and adolescents, including poor academic achievement (Aunola & Nurmi, 2004) and poor empathic skills (Kanat-Maymon & Assor, 2010), as well as externalizing problems (Aunola & Nurmi, 2005). Importantly, with conditional support for relatedness, parents love is likely to be driven by their agenda and must be "earned" by the child. Such support is limited, strategic, and not genuine; therefore, conditional regard is unlikely to provide deep, enduring satisfaction of relatedness.

Directions for Future Research

Several potential directions for future research on BNT deserve mention. One direction is to validate both domain-general and domain-specific measures of need satisfaction. Researchers have often relied on ad hoc measures, which make it difficult to compare findings across studies. Such validation work has been done in the domains of exercise (Wilson, Rogers, Rodgers, & Wild, 2006) and organizations (Van den Broeck, Vansteenkiste, De Witte, Lens, & Soenens, in press), and future research could extend this work to other life domains.

A second direction for research is to examine the etiology of need substitutes. Indeed, recent research has begun to explore these dynamics. For instance, Soenens et al. (2008) showed that patients with eating disorders, relative to a matched control group, perceived their fathers as more psychologically controlling. Such autonomy deprivation presumably leaves individuals vulnerable to adopting self-critical, perfectionist standards that, in turn, promote eating pathology. In a more direct test of this idea, Thøgersen-Ntoumani, Ntoumanis, and Nikitaras (in press) found that adolescents who reported a lack of need satisfaction had a stronger focus on weight-control strategies and, in turn, lower body satisfaction. Qualitative research might provide insight in how need-thwarting experiences give rise to the emergence of need substitutes and psychopathology (Ryan, Deci, Grolnick, & La Guardia, 2006).

A third direction for research is to examine whether basic needs explain the impact of various environmental factors on outcomes. Indeed,

domain-specific theories often identify the critical factors that contribute to optimal development but fail to adequately explain the mechanisms that underlie these effects; the concept of basic psychological needs might fill this gap. To illustrate, Van den Broeck, Vansteenkiste, De Witte, and Lens (2008) showed that need satisfaction is a critical mechanism that explains the health-enhancing and -impairing effects of job resources and job demands (Karasek, 1979), respectively. Further, some (Markland, Ryan, Tobin, & Rollnick, 2005; Vansteenkiste & Sheldon, 2006) have argued that need satisfaction might explain the positive effects of motivational interviewing (Miller & Rollnick, 2002) on clinical outcomes, such as drop-out, behavioral change, and relapse.

GOAL CONTENT THEORY

The Content of Life Goals

In addition to studying the reasons underlying behavioral regulation and the concept of basic psychological needs, a growing body of research from SDT has examined the correlates of different types (intrinsic and extrinsic) of life goals, or aspirations, that people pursue (for a review, see Kasser, 2002; Vansteenkiste et al., 2006b). Kasser and Ryan (1996) distinguished intrinsic goals (viz., personal growth, close relationships, community contribution, physical health) from extrinsic goals (viz., money, fame, image) and argued that, whereas intrinsic aspirations are likely to satisfy the basic needs for autonomy, competence, and relatedness, extrinsic aspirations are likely to be unrelated to need satisfaction. These goal contents are theorized to have differential relations to basic needs, in part, because intrinsic goal pursuit may engender an *inward* orientation that is conducive to need satisfaction, whereas extrinsic goal pursuit may engender an *outward* orientation that is focused on garnering self-worth through achievement and external validation, detracting from basic need satisfaction (Vansteenkiste, Soenens, & Duriez, 2008a). Because of their different foci, Ryan, Sheldon, Kasser, and Deci (1996) argued that ''not all goals are created equal'' and, therefore, are likely to have differential relations to physical, social, and psychological health.

Originally, the distinction between intrinsic and extrinsic goals was incorporated within BNT, as extrinsic aspirations are considered to be compensatory goals that people value and pursue in times of need deprivation. An emphasis on extrinsic goals as need substitutes is fueled

both by the media and advertising industry, which portray wealth, social recognition, and achieving "the right look" as the ultimate routes to identity development (Dittmar, 2007; Soenens & Vansteenkiste, in press-b) and happiness (Kasser, 2002). Indeed, individuals who are deprived of need satisfaction and who experience identity diffusion may be more likely to buy into extrinsic goals, hoping that such pursuits will provide a source of identity, meaning, and self-worth (La Guardia, 2009). The problem, however, is that such pursuits are not likely to provide genuine satisfaction of basic needs, which is integral to healthy personality development and wellness.

To meaningfully organize the burgeoning research on the content of life goals, it seems appropriate and timely to introduce a fifth mini-theory of SDT, namely goal content theory (GCT). We maintain that the pursuit of intrinsic goals represents a third manifestation of the organismic growth tendency (Vansteenkiste et al., 2006b), along with IM and internalization, which are central in CET and OIT, respectively. That is, we posit that people have a natural tendency to move toward intrinsic goals and away from extrinsic goals, although such shifts do not happen automatically, but require contextual supports for need satisfaction. Accordingly, research has shown that need-supportive contexts promote movement away from extrinsic goals and toward intrinsic goals (Sheldon, Arndt, & Houser-Marko, 2003), whereas need-thwarting contexts hinder such change (Sheldon & Krieger, 2004). Further, we propose that the structure of goal contents will be similar across different types of cultures.

Theoretical Considerations

It is important to clarify several conceptual points. First, the distinction between intrinsic and extrinsic goals is not unique to GCT. For example, Fromm (1976) proposed a distinction between a *having* orientation and a *being* orientation, while Van Boven and Gilovich (2003) proposed a distinction between *experiential* purchases and *material* purchases. Moreover, the extrinsic aspirations for wealth and an appealing image (viz., the thin-ideal) have been examined extensively by consumer (e.g., Richins & Dawson, 1992) and body dissatisfaction (e.g., Stice, 2001) psychologists, respectively.

Second, GCT is not intended to be an all-inclusive theory of goals. The list of goals proposed within GCT is not exhaustive because some goals (e.g., hedonism) are neither used to validate self-worth nor inherently growth-promoting and, therefore, cannot be classified as intrinsic or

extrinsic. Unlike most other research (e.g., Schwartz, 1992), GCT does not intend to chart the universal structure of human strivings. Rather than being *descriptive* in nature, GCT is *prescriptive* in nature, as it formulates clear predictions regarding the correlates of goal contents. These claims are derived from the extent to which goal contents are consistent with human nature and, thus, likely to satisfy basic psychological needs. For instance, individuals who contribute to their community through volunteering are likely to build meaningful relationships and thus satisfy their need for relatedness, whereas those who aim to amass wealth are likely to view colleagues as rivals and experience conflict between their work and family, thereby detracting from satisfaction of relatedness and autonomy (Vansteenkiste et al., 2007b).

Third, although related, intrinsic and extrinsic aspirations are distinct from IM and EM, which are central to CET and OIT, respectively. Indeed, both intrinsic and extrinsic goals can be pursued for either autonomous or controlled reasons. For instance, a retiree may volunteer either because he would feel guilty for not contributing to society (controlled motivation) or because he really likes volunteering (autonomous motivation). Similarly, an adolescent may strive for a physically appealing body because her partner praises her good looks (controlled motivation) or because she personally values this goal (autonomous motivation). Thus, although intrinsic goals tend to be pursued for autonomous reasons and extrinsic goals tend to be pursued for controlled reasons (Sheldon, Ryan, Deci, & Kasser, 2004), the content of, and reasons for pursuing, aspirations can be empirically crossed.

Empirical Basis of Goal Content Theory

The Structure of Goal Contents

Initial work within GCT (Kasser & Ryan, 1993) distinguished the pursuit of financial success from personal growth, close relationships, and community involvement. Kasser and Ryan (1996) subsequently showed that the aspirations fall into two general categories, namely intrinsic and extrinsic. These factor-analytic results have been replicated using samples from cultures characterized as individualistic (Belgium; Vansteenkiste et al., 2007b), moderately collectivistic (Russia; Ryan et al., 1999), and collectivistic (South Korea; Kim, Kasser, & Lee, 2003). Using more refined descriptive techniques (viz., multidimensional scaling analysis), Grouzet and colleagues (2005) showed that the structure of intrinsic and extrinsic goal contents was observed in 15 cultures across the globe.

The Relation of Goal Contents to Wellness and Performance

A central tenet of GCT is that intrinsic and extrinsic goal contents differentially predict well-being and adjustment. One line of research relevant to this hypothesis has examined the *importance* of intrinsic and extrinsic aspirations, showing that the importance of intrinsic (relative to extrinsic) goals related positively to well-being and negatively to ill-being. Other work has shown that the effects of intrinsic (relative to extrinsic) goal contents generalize beyond individuals' personal well-being to health-related, interpersonal, and societal outcomes. In the health-care domain, smokers who had maintained their aspirations for physical health at one-year post-treatment were more likely to attain tobacco abstinence at two-years post-treatment (Niemiec, Ryan, Deci, & Williams, 2009b). Further, the importance of intrinsic (relative to extrinsic) goals has been found to predict *less* alcohol and drug use, romantic relationship conflict, and prejudicial and discriminatory attitudes toward immigrants, as well as *more* trust in romantic relationships. Finally, there are important societal benefits associated with the importance of intrinsic (relative to extrinsic) goals, including less egoistic responses in scarce-dilemma situations and a smaller ecological footprint (for a review, see Kasser, 2002; Vansteenkiste, Timmermans, Lens, Soenens, & Van den Broeck, 2008b).

Interestingly, based on the match-perspective (e.g., Sagiv & Schwartz, 2000), which is rooted in the SSSM, it can be argued that the effects of pursuing intrinsic (relative to extrinsic) goals would depend on the kind of goals that prevail in one's environment. Therefore, the pursuit of extrinsic goals would not be harmful in an environment that places high emphasis on such goals. This position stands in contrast to GCT, as we underscore the importance of considering which goals are congruent with basic psychological needs rather than with the goals prevailing in the social environment to derive predictions about the adaptive value of goals. A number of studies have examined these conflicting hypotheses. In line with the match perspective, Sagiv and Schwartz found that business students who valued extrinsic (relative to intrinsic) goals reported higher psychological well-being, whereas psychology students reported more optimal functioning when they valued intrinsic (relative to extrinsic) goals. In contrast, in two subsequent studies (Kasser & Ahuvia, 2002; Vansteenkiste, Duriez, Simons, & Soenens, 2006a) extrinsic (relative to intrinsic) goal pursuits were associated with lower well-being and more internal distress among business students, even though extrinsic goals tend to be emphasized in their environment. Furthermore, Sheldon and Krieger (2004) reported that law students shifted away from intrinsic goals and toward extrinsic goals during

their first year of law school. Given that law schools typically foster status-seeking and image-building (Krieger, 1998), a match perspective would suggest that such changes should be adaptive. In spite of this, these changes predicted a decline in psychological well-being.

A second line of research has examined the *attainment* of intrinsic and extrinsic aspirations. Kasser and Ryan (2001) found that attainment of intrinsic (relative to extrinsic) goals related positively to the quality of interpersonal relationships and psychological health. Examining the cross-cultural generalizability of these findings, Ryan et al. (1999) reported that among US and Russian students, attainment of intrinsic (relative to extrinsic) goals related positively to psychological health. Further, Niemiec, Ryan, and Deci (2009a) conducted a longitudinal study and found that attainment of intrinsic aspirations related positively to well-being and negatively to ill-being, whereas attainment of extrinsic aspirations was unrelated to well-being and actually contributed to ill-being. Finally, Van Hiel and Vansteenkiste (2009) showed that whereas seniors' attainment of intrinsic goals contributed to their ego-integrity and death acceptance, extrinsic goal attainment positively predicted despair. Together, these studies qualify the expectancy-valence theory (Wigfield & Cambria, this volume) and social cognitive theory (Bandura, 1997) views, which suggest that attainment of valued goals, regardless of their content, is conducive to psychological wellness.

A third line of research has examined the *contextual promotion* of intrinsic and extrinsic aspirations. Vansteenkiste and colleagues conducted a series of experiments showing that framing a learning activity as conducive to intrinsic (vs. extrinsic) goal attainment promoted deeper learning, better achievement, and longer persistence. Such results were found regardless of both the specific intrinsic and extrinsic goals that were promoted and the specific learning activities (e.g., exercise, studying) that were taught (for a review, see Vansteenkiste et al., 2006b). Interestingly, the detrimental impact of extrinsic (vs. intrinsic) goal framing emerged even among participants who valued extrinsic goals more strongly than intrinsic goals, suggesting that a ''match'' does not yield benefits (Vansteenkiste et al., 2008b).

Further, the experimental manipulation of intrinsic and extrinsic goals has permitted a direct comparison of competing hypotheses offered by GCT and expectancy-valence theory on the effect of goal promotion. Vansteenkiste et al. (2004b) contrasted an intrinsic goal framing condition with a double goal (intrinsic and extrinsic) framing condition, while Vansteenkiste et al. (2004b) contrasted an extrinsic goal framing condition with a no-goal control condition. If, as suggested by expectancy-valence

theory, promotion of *any* goal would increase the utility value of an activity and thus have a motivating effect, then participants in the double goal framing condition and extrinsic goal framing condition would be expected to show better outcomes than those in the intrinsic goal and no-goal control conditions, respectively. In contrast, GCT predicts that promotion of extrinsic goals would distract the learner from the activity and thus undermine learning, performance, and persistence. In line with the predictions of GCT, results demonstrated that participants in the intrinsic goal framing condition and no-goal control condition showed better learning, performance, and persistence than those in their respective comparison conditions, thereby supporting the proposition that not all goals are beneficial for motivation.

In addition to being studied at the situational level (i.e., prior to engagement in a specific learning activity), goal promotion can also be examined at the domain (e.g., organizations, schools) and global levels (Vallerand, 1997). Regarding the latter, Duriez, Soenens, and Vansteenkiste (2008) found that parental promotion of intrinsic (relative to extrinsic) goals related positively to tolerance toward out-groups.

The Relation of Goal Contents to Basic Needs

GCT further posits that intrinsic and extrinsic goal contents differentially predict satisfaction of the basic psychological needs, which accounts for the differential relations of goal contents to psychological, physical, and social wellness. A small but growing number of studies have lent support to this hypothesis. For instance, Vansteenkiste et al. (2007b) showed that need satisfaction at work mediated the relations of the importance of extrinsic (relative to intrinsic) work value orientations to job-related outcomes and work–family conflict. In the exercise domain, Sebire, Standage, and Vansteenkiste (2009) found that need satisfaction partially accounted for the relation of intrinsic (relative to extrinsic) goal content to psychological well-being, exercise anxiety, and physical self-worth. Thøgersen-Ntoumani et al. (in press) reported that a stronger focus on the intrinsic goal of physical health positively predicted basic need satisfaction, which, in turn, was negatively related to the thin-ideal adoption and engagement in unhealthy weight-management behaviors; in contrast, the pursuit of physical attractiveness was positively related to the thin-ideal adoption. Further, Niemiec et al. (2009a) found that change in need satisfaction accounted for some of the association between change in attainment of intrinsic aspirations and change in well-being; change in attainment of extrinsic aspirations was unrelated to change in need satisfaction.

The Development of Goal Contents

There are at least two possible routes through which people develop strong values for intrinsic or extrinsic goals (Kasser, 2002). First, over time people may come to endorse the salient goals promoted by their culture, similar to a process of modeling. Thus, employees for whom competition and financial success are the central values of their organization may come to value and pursue those same goals. Indeed, Schwartz (2006) showed that those in capitalistic societies tended to value extrinsic values (e.g., achievement, power) more than intrinsic values (e.g., universalism, self-direction). Second, over time people exposed to need-supportive contexts may come to endorse intrinsic goals, whereas those exposed to need-thwarting contexts may come to endorse extrinsic goals. Indeed, the pursuit of extrinsic goals may be used to cope with the irritation, anxiety, and insecurity associated with need deprivation. In line with this, Kasser, Ryan, Zax, and Sameroff (1995) found that teenagers of mothers who supported their autonomy and relatedness placed greater importance on intrinsic goals (relative to financial success), and Williams, Cox, Hedberg, and Deci (2000) found that adolescents of autonomy-supportive parents were more likely to endorse intrinsic (relative to extrinsic) goals.

Directions for Future Research

GCT can be expanded in several different directions. One direction is to consider whether the list of intrinsic and extrinsic goals might be expanded. From the perspective of GCT, new goals would only be added if they are clearly linked to satisfaction of basic psychological needs. If such a relation cannot be made, there is no theoretical basis for predicting whether a new goal would be beneficial or harmful to wellness. One viable candidate to be added as an additional extrinsic goal is *power*, which was found to co-load with financial success and fame in factor analyses (Ryan et al., 1999; Vansteenkiste et al., 2007b). A second direction for research involves the development of domain-specific assessments of aspirations, as not all goals are equally relevant in all life domains. For example, the intrinsic aspiration for physical health is important in the domains of health care (Niemiec et al., 2009a) and exercise (Sebire et al., 2009), but is less relevant in the work domain.

A third direction for research is to examine additional, lower-level mediational processes that might account for the effects of intrinsic and extrinsic goals. We propose that need satisfaction represents a

macro-mediational process between goal contents and outcomes, which may be complemented and enriched by an examination of *micro*-mediational processes (e.g., attentional and cognitive factors). For instance, a woman who exercises in pursuit of the thin-ideal (an extrinsic goal) might be overly attentive to the number of calories she has burned while running on a treadmill or might spend more time looking at herself in the mirror than looking for opportunities to connect with others, thus detracting from full immersion in the her exercise (Vansteenkiste, Matos, Lens, & Soenens, 2007a). Such preoccupations are likely to undermine need satisfaction. Identifying such lower-level mediational processes might provide further insight into how intrinsic and extrinsic goal promotion and pursuit affect need satisfaction and functioning (Vansteenkiste et al., 2008a).

A fourth direction for research is to examine whether the differential relations of goal contents are carried by the motives (autonomous and controlled) that underlie them, as proposed by Carver and Baird (1998). A number of studies at general (Carver & Baird, 1998; Sheldon et al., 2004) and domain-specific (education: Vansteenkiste et al., 2004a; exercise: Ingledew & Markland, 2008; Sebire et al., 2009) levels have examined this issue, but have produced mixed results, with some studies showing independent effects (Sheldon et al., 2004) and others not (Sebire et al., 2009). The independence of the ''what'' and ''why'' of goal pursuits might depend on a number of factors (the domain under investigation, the outcomes examined, the formulation of goal items, and the meaning attributed to a goal). For example, it is possible that because goal contents are cognitive in nature they are more predictive of cognitive–attitudinal outcomes (e.g., prejudice), whereas because motives are experiential and affective in nature they are more predictive of affective outcomes (e.g., well-being).

CONCLUSION

The literature on SDT has witnessed an exponential increase in the last decade. The theory has attracted the attention of dozens of scholars across the globe, perhaps due to its coherent and internally consistent development. The strong meta-theoretical (i.e., organismic dialectical) foundation of SDT provides an ideal basis to generate and test novel hypotheses that meaningfully account for observed phenomena. Moreover, it provides an antidote against the theoretical eclecticism in modern psychology, a movement that fits within the current postmodern cold-buffet culture where it is ''bon ton'' to take ideas from diverse theories, compile one's own

model, and present oneself as theoretically pluralistic. We hope this chapter will provide a source of inspiration for scholars to further develop SDT, thereby fitting their own piece into the "SDT puzzle."

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