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**Patron:**

**Journal Title:** Handbook of personality : theory and research /

**Volume: Issue:**

**Month/Year:** 2008 **Pages:** 654-678

**Article Author:** Ryan, R. M., & Deci, E. L.

**Article Title:** Self-determination theory and the role of basic psychological needs in personality and the organization of behavior

**Imprint:** New York : Guilford Press, ©2008.

**ILL Number:** 151313829



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## CHAPTER 26

# Self-Determination Theory and the Role of Basic Psychological Needs in Personality and the Organization of Behavior

Richard M. Ryan  
Edward L. Deci

### THE IMPORTANCE OF PSYCHOLOGICAL THEORY

Although it is not always reflected in the discourse of contemporary psychology, the most proximal determinants of human behavior lie in *experience*. It is the manner in which people interpret events and the perceived relations of those events to the actors' psychological needs that provide the *regnant causes* of intentional actions (Ryan & Deci, 2004).

Attesting to this point, consider that the most practical behavioral interventions are those that focus on changing a person's experience. Humans typically influence others through psychological (rather than physical) means: for example, facilitating insight or inspiration, engaging in persuasion, making salient subjectively relevant information or values, conveying regard or disdain, or changing contingencies to specifically alter others' explicit motives and goals. Even when people attempt to engineer others' behavior by directly controlling their environments (as advocated by B. F. Skinner, 1953), how the recipients experience the controls mediates how they respond. Similarly, even

as neuroscience gains increasingly detailed knowledge concerning the material underpinnings of experience, intervening at the level of people's subjective experience will continue to be the most practical means of changing human behavior (Breckler, 2006). Thus, when people's *aim* is behavior change, altering others' experience is the most available means for achieving the desired effect.

The significance of human experience goes beyond the scientific enterprise. Existentially, what defines a person's life is the way in which it is experienced. Well-being, mental health, and a life well lived are all about experiencing love, freedom, efficacy, and meaningful goals and values (Bauer, McAdams & Sakaeda, 2005; Ryan, Huta, & Deci, 2008), all of which are psychological phenomena. Although there are outer signs of successful living, they are unreliable compared to people's true experiences of their lives. The rich can be depressed and the poor happy; the famous can be lonely and the introvert secure. Thus, within their "objective" circumstances, the most important feature in people's lives is their experience of living, so enhancing that experience, with its various

consequences, is an important focus for psychological interventions.

In sum, it is typically people's feelings, beliefs, motives, and goals, and the *perceived* environment within which these feelings, beliefs, motives, and goals arise, that organize subsequent behavior. Yet oddly empirical psychology today still often finds suspect, or actively discounts, the importance of "subjective" phenomenon, when it is precisely subjective phenomenon that the discipline of psychology ought to lawfully explain.

## SELF-DETERMINATION THEORY AND THE EMPIRICAL STUDY OF HUMAN EXPERIENCE

Self-determination theory (SDT; Deci & Ryan, 1985b; Ryan & Deci, 2000b) is unabashedly a psychological approach to human behavior, which means that it typically considers people's experience to be the proximal determinant of action. In other words, the theory focuses on the way people interpret internal or external stimulus inputs, which, we assert, gain meaning and power from their direct or indirect relation to people's basic psychological needs. It is in this nexus of stimulus events or contexts and people's psychological needs that their subjective or functional experiences arise. Thus, it is there that we find what we believe to be the most important concepts for predicting behavior and its consequences (Ryan & Deci, 2004).

Although experience is the proximal determinant of most behaviors, it is important not to equate psychological experience with *self-reports*. Self-reports are themselves behaviors and thus must be considered in terms of *their* determinants (Robins & John, 1997). Although they can be useful for studying people's experiences and behaviors, self-reports are also shaped in part by the motives operative in the perceived social context of self-reporting and the person's interpretation of what is being asked. Moreover, people's experiences are frequently richer than what they can say about them, which makes phenomenology, or the study of experience, different from a self-report psychology. Thus, a psychology of experience may make use of self-reports, but it can also make use of inferences about experience as hypothetical intervening constructs, a point that Tolman (1932) argued so persuasively decades ago.

SDT does use hypothetical constructs. In its empirical investigations of behaviors, along with their antecedents, correlates, and consequences, the theory uses both self-reports and observations to define key psychological constructs. For example *intrinsic motivation* is defined as behavior done for its inherent satisfactions, and it is assessed behaviorally in terms of freely pursued behaviors, and experientially by a perceived internal locus of causality and feelings of interest. SDT also includes constructs concerning basic psychological needs as they shape the implicit and explicit meanings, or *functional significance*, people give to contexts and life events. SDT thus stands in the tradition of Heider (1958), White (1959), and deCharms (1968) in formalizing the principles through which persons organize and explain their own and others' actions, and the relations of various types of motives, reasons, and intentions to subsequent behavior. Although behavior can be studied at multiple levels of analysis and is both underpinned by people's biology and encapsulated within their culture, psychological principles remain the primary focus of SDT, for they typically supply the regnant causes of actions. It is through psychological processes that the chain of microphysical events that "compose into" complex behaviors is organized (Ryan & Deci, 2004).

At the same time that SDT is a theory of personal experience, it is also a theory of human nature, for it maintains that understanding subjective experience requires that one specify the nature of the self and its integrative tendencies as well as the basic psychological needs that lend greater salience to some events than to others (Ryan, 1995). Within SDT, specification of these natural or inherent needs, which have gravitational weight in behavioral dynamics, emerged empirically from a series of investigations over many years. As we studied motivational processes in laboratory experiments and field research, we found that a deep and meaningful theoretical explanation of phenomena that were otherwise isolated required an assumption of a small set of basic psychological needs, namely, those for autonomy, competence, and relatedness. This has led, successively, to four sets of formal propositions that we refer to as *mini-theories*, each of which focuses on a different set of phenomena. The four

mini-theories are connected and integrated by their relations to the core concept of basic psychological needs, and together they constitute SDT. Thus, the theoretical framework has grown in complexity over time, and it has also analyzed an increasing number of topics and moved into an increasing number of applied domains over the years.

SDT began as an exploration of the determinants of *intrinsic motivation*, of why people (and other organisms) often behave not so much for extrinsic incentive as for the satisfactions inherent in the behaving. This early work was formalized as *cognitive evaluation theory* (CET; Deci & Ryan, 1980) and concerned how social-contextual factors support, versus thwart, people's needs for autonomy and competence and thus impact their intrinsic motivation. Subsequently, SDT moved onto empirical work focused on *internalization*, that is, the question of how people acquire and integrate nonintrinsically motivated regulations and values. This second mini-theory, labeled *organismic integration theory* (OIT; Deci & Ryan, 1985b; Ryan & Connell, 1989), incorporates the idea of an assimilative, integrative, or synthetic tendency, which has been central to organismic theories of personality and development such as those of Freud (1923/1962), Piaget (1971), Goldstein (1939), and Rogers (1951). It attempts to explain what facilitates or forestalls that core integrative process and what results when the process is facilitated or forestalled to varying degrees (Ryan, 1995). The study of internalized, as well as intrinsic, motives led to a fuller consideration of the concept of relatedness as a basic psychological need, in addition to the needs for autonomy and competence that had proven essential in the formulation of CET.

Other research focused on individual differences in motivational orientations as predictors of behavior and other aspects of personality; and this work was formalized as *causality orientations theory* (COT; Deci & Ryan, 1985a, 1985b). Most recently, we outlined *basic psychological need theory* (BPNT; Deci & Ryan, 2000; Ryan & Deci, 2002), a fourth mini-theory that examines the extent to which personal and social events satisfy the postulated needs and thus promote, to varying degrees, healthy development and psychological well-being (Ryan & Deci,

2001, 2004). This mini-theory also provides the foundation for a theoretical formulation about how differing goal contents are associated with wellness (T. Kasser & Ryan, 1996; Vansteenkiste, Ryan, & Deci, in press). Subsequent theoretical formulations associated with SDT's four mini-theories have included how awareness functions to foster integration and need satisfaction (Brown & Ryan, 2003), how individual psychological processes flourish (or are derailed) at situational, domain, and even cultural levels of analysis (Chirkov, Ryan, Kim, & Kaplan, 2003; Vallender, 1997), how vitality and energy are enhanced or depleted (e.g., Moller, Deci, & Ryan, 2006; Ryan & Frederick, 1997), and how basic psychological needs play a critical role in personal relationships (Deci, La Guardia, Moller, Scheiner, & Ryan, 2006; Ryan, La Guardia, Solky-Butzel, Chirkov, & Kim, 2005).

In this chapter, we address the concept of basic psychological needs, review the four mini-theories and some of the evidence supporting them, and briefly survey some new directions and applications of the theory. Our intention is to provide a comprehensive and coherent motivational framework for the empirical study of human personality in social contexts, as it develops and functions, affecting people's behavior and their psychological and physical health.

### THE CONCEPT OF PSYCHOLOGICAL NEEDS: ITS HISTORY AND USAGE WITHIN SDT

SDT is built upon the assumption that there are specifiable psychological nutriments, which, when afforded by an individual's social context, facilitate personality growth, well-being, and integrity (Deci & Ryan, 2000; Ryan & Deci, 2000a). These nutriments for personality—that is, these *basic psychological needs*—describe the universal, cross-developmental supports upon which integrated functioning depends, and which, in an ultimate sense, determine both the mental health of individuals and the vitality of the communities within which they are embedded.

Historically, the concept of psychological needs has been employed by theorists in two distinct ways, only one of which we

endorse and utilize. The first, and by far the most common, use defines needs as desires that people differentially hold and that motivate behavior across situations. From this perspective, the central concept is the strength of the needs, which are viewed as individual differences. Thus, need strength is said to be learned as a function of interactions with the social environment, and it is then used either as a direct or interactive predictor of other personality characteristics, behaviors, or psychological conditions. The second usage involves a more restrictive concept of needs as nutriments that are essential for an organism's development and wellness. This use of the term "needs" leads researchers to focus more on the degree to which they are satisfied versus thwarted rather than on their strength.

### **Needs as Wants or Desires**

The best-known theorists to use the concept of psychological needs were Murray (1938) and McClelland (1985). They both used needs in the first sense—as individual differences in the strength of a person's motives or desires. Specifically, Murray defined a need as "a force which organizes perception, apperception, intellection, conation and action in such a way as to transform in a certain direction an existing, unsatisfying, situation" (Murray, 1938, p. 124). Based on this broad definition, he postulated an array of both psychological and physical needs, including not only quite obvious needs such as that for affiliation, but also more specific desires such as the need to dominate others, and its opposite, the need to defer and submit. Murray and McClelland, as well as the scholars who followed in their tradition, used this broad concept of needs to generate a rich and productive body of research assessing the strength of individuals' needs and using that to predict a range of outcomes (e.g., Koestner & McClelland, 1990; McAdams, 1989; Winter, 1973).

It is noteworthy that Murray's conception of needs could be applied to virtually any motivating force or impetus to behavior. People's desires, motives, wants, or strivings all represent "forces that organize perception and action." Thus, Murray's definition fits with equal appropriateness into phrases like a dehydrated man's utterance that "I

need water" (Murray's thirst need) and a billionaire's remark that "I need another sports car" (Murray's acquisitive need). Although both "needs" may organize and activate goals, cognitions, and behaviors, there is no differentiation between objective needs, or necessities for health and wellness, and mere personal desires. In fact, although all of the motives Murray identified in his lengthy list of so-called needs can be salient energizers of behavior, many of them might be the products of insults to the psyche (e.g., the need for abasement, see Ryan, 2005), and some may produce as much damage as good for psychological health (e.g., acquisitiveness, see T. Kasser & Ryan, 1996).

### **Needs as Essential Nutriments**

SDT uses the alternative and more circumscribed definition of needs. Specifically, we denote a basic psychological need as a *nutriment essential for psychological growth, integrity, and wellness*. This formulation of the term "needs" thus parallels the role of physiological needs for physical growth and integrity, because both psychological needs and physiological needs concern the conditions and supports that are necessary for human beings to thrive. The concept of physiological needs, so defined, was central to Hull's (1943) drive theory of motivation and learning. Thus, our concept of need shares this defining element with Hull's but not Murray's concept of need, and it shares with Murray's (1938) but not Hull's concept the fact that the level of focus is psychological rather than physiological.

Because SDT defines needs as necessities for healthy development, the theory maintains that it is not necessary for people to be aware of, or to culturally value, basic psychological needs in order for their thwarting to have a negative functional impact on well-being. For example, a woman might say that she does not need relationships to be happy, but deprivation of the relatedness need will nonetheless be manifest as some type of decrement in both personal development and well-being. So viewed, needs are *objective* rather than subjective (Braybrooke, 1987; Plant, Lesser, & Taylor-Gooby, 1980); people require them whether or not they think they do, and failures of satisfaction will thus

have specifiable negative consequences. In the same way that, without proper socialization, children may not learn to value or prefer foods that are nutritious, instead valuing high-fat foods that objectively harm them, in some social contexts children may be more influenced to regulate themselves in controlled rather than autonomous ways, or to be more oriented toward selfishness than relatedness, even though doing so will harm them psychologically. Additionally, when people have been routinely unable to satisfy basic needs, they may block awareness of these needs as a way of defensively not having to experience the state of deprivation. For example, a person who avoids opportunities for relatedness may do so as an attempt to subjectively cope with a painful interpersonal past, but nonetheless, failure to obtain relatedness would still objectively be connected to psychological degradation.

Regardless of whether an individual is explicitly aware of needs, SDT maintains that the human psyche innately seeks out these nutriments and gravitates to sources of their fulfillment, either by directly seeking their gratification, or indirectly seeking it through need substitutes or compensatory activities. Psychological needs are thus hypothesized to energize much of human behavior, and many subjective desires are derived from the dynamics of basic needs. For example, materialists, who strongly desire wealth and possessions, are frequently people whose developmental backgrounds are characterized by need deficits in autonomy and relatedness (see, e.g., T. Kasser, Ryan, Zax, & Sameroff, 1995). Basic need deprivation in turn leads to a psychological sense of insecurity, which the acquisition of material excess is intended to ameliorate. Thus, although materialists may focus on material acquisition as a source of self-esteem and feelings of worth, this acquisitive activity does not “pay off” in terms of wellness because acquisition does not satisfy needs for autonomy and relatedness (T. Kasser & Ryan, 1996). As such, in SDT’s framework Murray’s “need for acquisitiveness” is not a need at all but a derivative motive—something that can become particularly strong for an individual in reaction to something more basic that has been missing. This “dynamic” approach allows us to predict both the etiology of derivative motives and the reason they do not enhance

well-being, even when achieved (e.g., Niemiec, Ryan, & Deci, 2007).

Positing basic needs also has importance for understanding and predicting the impact of variations in cultural and social systems (Vansteenkiste et al., in press). SDT suggests that societies and cultures maintain stability only by meeting the fundamental needs of their individual members. As detailed within OIT, supports for basic needs facilitate people’s internalization of familial and cultural values. In the absence of internalization, social values can be maintained only through coercion and pressure, which is more like duct tape than a social glue. That is, societies function most stably and optimally when they provide opportunities for needs, both physical and psychological, to be fulfilled (Chirkov, Ryan, & Willoughby, 2005).

### ***Three Basic Psychological Needs***

Because of the restrictiveness of our definition of needs, our list, unlike Murray’s, is very short. We thus far posit only three basic and universal psychological needs: those for autonomy, competence, and relatedness. *Autonomy* concerns the self-organization and endorsement of one’s behavior. It refers to the feeling that deCharms (1968) described as “being an origin.” More generally, autonomy concerns feeling volitional and congruent with respect to what one does (Ryan & Connell, 1989; Ryan & Deci, 2004). The opposite of autonomy is not dependence but heteronomy, which means feeling controlled by forces, whether external or internal, that are alien to the self. *Competence* refers to feeling effective in one’s actions—that is, experiencing opportunities to exercise, expand, and express one’s capacities (Deci, 1975; E. Skinner, 1995; White, 1959). Feelings of competence are enhanced by engaging optimal challenges and receiving positive feedback; they are diminished by conditions that deprive one of control over outcomes, signify that one does not have the capacities necessary for the task at hand, or are too easy. *Relatedness* refers to feeling connected with others and having a sense of belonging within one’s community (Deci & Ryan, 1991; Reis & Patrick, 1996). Relatedness satisfactions entail a sense that one is significant to others, which is often manifest in others’ willingness to care for one or to

receive the care one has to offer (Ryan et al., 2005).

The criterion for distinguishing a need from a motive, again, pertains to its necessity for growth, integrity, and wellness. As we show later in the chapter, SDT provides evidence that when any of the three basic psychological needs for autonomy, competence, and relatedness are frustrated or thwarted, the individual will exhibit diminished motivation and well-being. Conversely, it is largely only insofar as behaviors satisfy one or more of these basic needs that they foster positive experience and a sense of vitality and mental health. By using a restrictive and verifiable definition of needs, we avoid what has been historically perhaps the most common criticism of need-related theories; namely, that there is a potentially infinite list of needs that can be postulated. In fact, we have seen little evidence for any psychological needs beyond the three we have isolated (Ryan & Deci, 2000a). Moreover, the list allows us to examine various aspects of social environments, whether concrete events or broader societal factors, and to make a clear set of hypotheses about how they will affect aspects of growth, integrity, or wellness.

### ***The Universality of Basic Needs***

Another significant implication of our definition of psychological needs is that they are natural and universal. Psychological needs are natural in the sense that they are an invariant, indeed foundational, aspect of the psychological architecture of the human organism, and they are universal in that they apply to all persons regardless of gender, upbringing, or culture. Stated simply, SDT maintains that the effects of need support versus deprivation will generalize across all individuals and cultural contexts. It does not imply, however, that all individuals or cultural groups will explicitly value or support these needs, or that the needs will be satisfied versus thwarted in the same ways in different cultures or developmental epochs. Basic psychological needs may be expressed differently, and the vehicles through which they are satisfied may differ in different societies or stages of life, but their necessity is unchanging. Although cultures differ, for example, with some espousing the primacy of the group over the individual and others

espousing the primacy of the individual over the group, this does not, for example, negate the underlying necessities of all people satisfying the needs for relatedness and autonomy, respectively.

Indeed, it is a fundamental tenet of SDT that the reason people have a developmental readiness to adopt and internalize ambient cultural values is that by doing so they satisfy basic psychological needs. By assimilating the values of their group, individuals become more connected and related, and more competent and effective. Furthermore, the tendency for the individuals to make ambient values their own—that is, to integrate them into their sense of self—allows them to experience enactment of these values as autonomous. Put differently, needs supply the underlying processes that explain how cultures become part of individual personality. These essentials are thus apparent across historical, cultural, political, and economic contexts.

On the other hand, economic and cultural contexts can be compared in terms of the degree to which they support versus thwart the fulfillment of basic needs. Put differently, not all cultures, contexts, or economic structures are equally “good” for humans. Some may be better at satisfying their members’ basic psychological needs, and those cultures or economies will be expected to have members with a higher average well-being. This point differentiates SDT from the absolute cultural relativism that characterizes much of modern social science (see, e.g., Iyengar & DeVoe, 2003; Schweder, Mahapatra, & Miller, 1990) that views cultures as molding a fully malleable, if not empty, human nature. In contrast to that relativist view, which fails to provide an explanation for cultural transformation—that is, for people changing their cultures—the psychology of needs contained in SDT clarifies the limits of cultural imposition and specifies the means through which people seek changes in cultures (see Inghilleri, 1999). SDT also suggests directions for human betterment and thriving, which clearly some cultures and economic systems have been more adept at than others (Vansteenkiste et al., in press).

We turn now to a brief description of each of the four mini-theories that make up SDT, and then move on to a few recent advances in theoretical and applied work related to SDT.

## COGNITIVE EVALUATION THEORY

As already noted, from the time of the earliest work leading to SDT, we have made a distinction between intrinsic and extrinsic motivation. When *intrinsically motivated* people engage in an activity because they find the activity itself interesting and personally satisfying. Intrinsic motivation is a spontaneous motivator of proactive growth-promoting behaviors and a critical element in healthy cognitive and personality development. *Extrinsic motivation* propels us to engage in an activity because it leads to some separable consequence, such as the attainment of a reward, the avoidance of a punishment, or the achievement of a valued instrumental outcome.

Early cognitive theories of motivation, most notably expectancy-value theories (e.g., Atkinson, 1964; Porter & Lawler, 1968; Vroom, 1964), implied or asserted that these two types of motivation were additive, yielding total motivation. The first studies of intrinsic motivation with humans tested that assertion. Specifically, Deci (1971) explored whether providing extrinsic rewards to people for doing a task they were intrinsically motivated to do would result in a total motivation equivalent to the addition of the two. Deci found that when extrinsic rewards were given to people for doing an intrinsically interesting task, they subsequently evidenced less intrinsic motivation than they had had before being rewarded. In other words, the extrinsic and intrinsic motivations were not additive; instead, the introduction of extrinsic incentives *decreased* intrinsic motivation for the activity. In contrast, positive competence feedback increased intrinsic motivation, suggesting that this type of input was positively associated with intrinsic motivation.

The undermining of intrinsic motivation by rewards was a very controversial finding (e.g., Calder & Staw, 1975; Scott, 1976) largely because of the centrality of operant behaviorism (B. F. Skinner, 1953) within psychology at that time. Indeed the finding has remained somewhat controversial in the years since (e.g., Eisenberger, Pierce, & Cameron, 1999). Nonetheless, there have been more than 100 published experiments examining the effects of extrinsic rewards on intrinsic motivation, and a definitive meta-

analysis (Deci, Koestner, & Ryan, 1999) confirmed that tangible rewards are indeed, on average, detrimental to intrinsic motivation. However, within CET reward effects are more complex than this "on average" effect might indicate, and a consideration of how reward effects are experienced by their recipients will allow a more finely tuned understanding of these effects.

### *Functional Significance: Informational and Controlling*

CET was originally formulated to explain reward effects and, more broadly, the effects of extrinsic factors (e.g., deadlines, imposed goals, competition, surveillance, and evaluations), on intrinsic motivation (Deci, 1975; Deci & Ryan, 1980). Stated specifically, CET posits that any motivating factor (e.g., a reward) has two functional aspects that affect people's intrinsic motivation—a *controlling aspect* and an *informational aspect*—and that it is the relative salience of the controlling and informational aspects of the factor that determines its effect on people's intrinsic motivation. The *controlling aspect* thwarts satisfaction of the need for autonomy, for it leads people to experience their behavior as having an *external perceived locus of causality* (deCharms, 1968). Whether or not the motivator coerces (as is the case with threats of punishment; Deci & Cascio, 1972) or seduces (as is the case with rewards; Deci, 1971), if the motivator is experienced as controlling, it will undermine people's sense of autonomy. The *informational aspect*, in contrast, satisfies the need for competence by signifying effective performance. Thus, the informational aspect enhances intrinsic motivation primarily through strengthening perceived competence.

Implicit in this theoretical proposition is the idea that it is the interpretation of situational factors by the person that affects the person's intrinsic motivation. In the terms of CET, rewards and other extrinsic motivators have a *functional significance* to people—that is, a psychological meaning as a function of the degree to which the informational or controlling aspects are salient. As such, this represents a concrete instance of how it is the person's phenomenology in the situation that determines the effects of the situational factor on his or her motivation. CET also speci-

fies aspects of the social context that tend to conduce to a controlling or informational significance for an event, but experience remains the hypothetical variable that mediates the outcomes. Understanding the relation of events to experience thus helps one know how to structure and deliver rewards effectively, without compromising either people's positive experiences or subsequent interest in the activity.

### ***Other External Events and Social Contexts***

After the initial experiments on tangible and verbal rewards, other experiments examined the effects of other concrete events on intrinsic motivation. For example, results of the studies indicated that deadlines (Amabile, DeJong, & Lepper, 1976), competition (Deci, Betley, Kahle, Abrams, & Porac, 1981), surveillance (Lepper & Greene, 1975; Plant & Ryan, 1985), judgmental evaluations (even when positive) (Smith, 1975), and imposed goals (Mossholder, 1980) undermined intrinsic motivation. We interpret the findings as indicating that, on average, people experience these events as controlling, or, using the concept introduced by deCharms (1968), the events tend to shift the perceived locus of causality for the behavior from internal to external, thus diminishing people's sense of autonomy. In contrast, the events of offering people choice about what to do or how to do it (Zuckerman, Porac, Lathin, Smith, & Deci, 1978) and acknowledging people's feelings about a situation (Koestner, Ryan, Bernieri, & Holt, 1984) have been found to enhance intrinsic motivation because they tend to promote a more internal perceived locus of causality, thus satisfying people's need for autonomy.

Additional studies indicated that for positive feedback to have its enhancing effects on intrinsic motivation, it has to be given in a noncontrolling way so that people feel responsible for the performance that is being affirmed (Fisher, 1978; Ryan, 1982). Furthermore, studies showed that negative performance feedback tended to decrease intrinsic motivation because it signifies incompetence, thus thwarting the need for competence (Deci & Cascio, 1972; Vallerand & Reid, 1984). In many cases, negative feedback also decreases extrinsic motivation by conveying that people cannot attain de-

sired outcomes. This message will leave them *amotivated*, or lacking in either intrinsic or extrinsic motivation for the relevant activities.

Considerable research on CET has examined the general ambience of situations—that is, whether the social context tends to be autonomy supportive or to be controlling and pressuring. Consistently, studies have found positive links between interpersonal contexts that are autonomy supportive and both intrinsic motivation and well-being (Deci, Schwartz, Sheinman, & Ryan, 1981; Ryan, 1982). Furthermore, experiments showed that offering rewards in an autonomy-supportive way tends to enhance intrinsic motivation relative to no rewards and no feedback, but it does lead to less intrinsic motivation than just positive feedback that is comparable to what is conveyed by the rewards. This finding indicates that positive competence information conveyed by these "performance-contingent" rewards can have a positive effect on intrinsic motivation, but that this is not due to the reward *per se* but rather the competence feedback it provides (Deci et al., 1999; Ryan, Mims, & Koester, 1983).

In sum, CET focuses primarily on the enhancement or undermining of intrinsic motivation and posits that factors that conduce to perceived autonomy and competence are essential for maintained and enhanced intrinsic motivation. From this formulation has come a number of field studies in classroom, work, sport, and game contexts, in which factors associated with autonomy and competence have impacted intrinsic motivation (Ryan & Deci, 2000b).

### **ORGANISMIC INTEGRATION THEORY**

Much of the research encompassed by CET tended to show how extrinsic rewards and contingencies can undermine intrinsic motivation, which is a prototype of autonomous behavior, implying that extrinsically motivated behavior tends not to be autonomous. Indeed, there was a period in which many writers generally considered intrinsic and extrinsic motivation to be antagonistic, suggesting that the former is autonomous or self-determined, whereas the latter is not only not autonomous but is detrimental to

it (see, e.g., deCharms, 1968). However, the SDT perspective has been that, although rewards and other extrinsic motivators do often undermine intrinsic motivation, extrinsically motivated behavior can be autonomous. We suggested (e.g., Ryan, Connell, & Deci, 1985) that extrinsic motivation can become autonomous via *internalization*, a process through which external values and regulations can be taken in and integrated, to varying degrees, with one's sense of self. OIT was formulated to explicate the phenomena associated with the process of internalization of extrinsic motivation (Deci & Ryan, 1985b).

OIT specifies four types of extrinsic motivation and distinguishes them on the basis of the degree to which the motivation has been fully internalized and transformed into self-determined motivation. More specifically, the four types of extrinsic motivation fall along a continuum of relative autonomy in terms of the degree to which the resulting behavior associated with the four types of motivation will be autonomous or self-determined. All four types of extrinsic motivation do represent types of motivation, so they stand in contrast to *amotivation*, which represents a lack of motivation. Furthermore, they differ from intrinsic motivation because the basis for even the most internalized type of extrinsic motivation is not interest in the activity *per se* but rather in the activity's instrumental importance. Thus the four types of extrinsic motivation lie on the relative autonomy continuum between amotivation, which is accompanied by the experience of lowest autonomy, and intrinsic motivation, which is characterized by a high level of autonomy.

The least autonomous type of extrinsic motivation is *external regulation*, which is the classic type of extrinsic motivation based in rewards and punishments. It is the type of extrinsic motivation that was investigated in many of the experiments discussed in the CET section, and it is the type that was central to operant behaviorism. When externally regulated, people act because of the external contingencies besetting them. The principle problem with external motivation is not that it isn't a powerful motivator, but rather that it does not *internally* motivate, so it has poor maintenance and transfer.

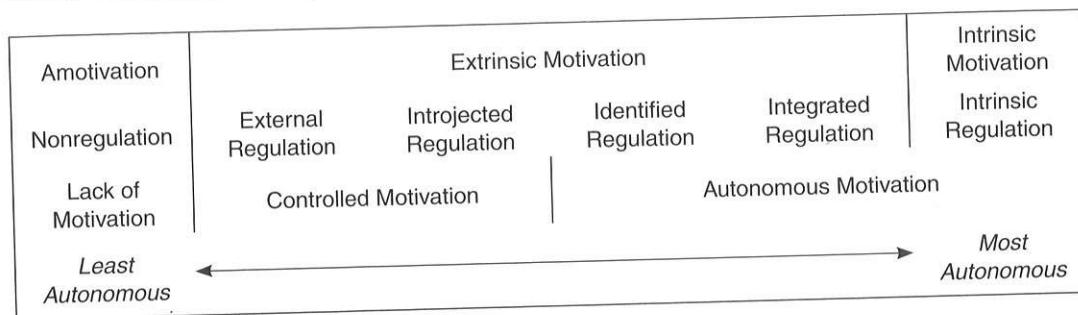
The next type of extrinsic motivation, moving along the relative autonomy continuum, is *introjected regulation*. This type of extrinsic regulation involves behavior being controlled by an internalized motivation, but it is not one that people have fully endorsed. Rather, it is as if the internalized regulation is controlling the person in whom it resides. With introjected regulation, people are internally controlled to do what they "have to do" to maintain self-esteem (e.g., to affirm their self-worth), to avoid feeling guilty, or to live up to their beliefs about what will lead to others' approval. Introjected regulation is a very interesting case because it is a type of internal motivation that is more controlled than autonomous.

*Identified regulation* is the third type of extrinsic motivation and is a relatively self-determined type of extrinsic motivation, for people have identified with the personal importance of the activity for their own self-selected goals, values, or aspirations. Thus, they have accepted the regulation as their own by transforming it into a personally endorsed type of regulation. Finally, *integrated regulation* is a highly self-determined type of extrinsic motivation. It occurs as people evaluate an identification and bring it into coherence with other aspects of themselves. Without integration, identifications would be important to people but might not be well coordinated with other aspects of the self—that is, with other values, goals, and needs. Integrated regulation approximates intrinsic motivation in its degree of self-determination, but whereas intrinsic motivation is the innate motivation that emerges spontaneously from interest, integrated regulation is based in the importance of an activity for the person's values and goals.

The relative autonomy continuum of motivation appears in Figure 26.1. Amotivation, the four types of extrinsic motivation, and intrinsic motivation are arranged in the figure from left to right, showing increasing amounts of the degree to which the types of motivation represent autonomy and an expression of one's true sense of self.

#### ***Facilitating versus Inhibiting Internalization***

OIT proposes that people are naturally inclined to internalize attitudes, values, be-



**FIGURE 26.1.** The types of motivation and regulation within self-determination theory as specified in organismic integration theory. The degree of relative autonomy for each type of motivation and regulation becomes greater within each row as it moves from left to right.

haviors, and mores that are ambient in their social environments and endorsed by others with whom they are (or wish to be) connected. Yet the theory further proposes that when the social environment allows satisfaction of the basic psychological needs, people will be most inclined to internalize and integrate aspects of the social world, including extrinsic motivations, but when the social environment thwarts need satisfaction, people will be less effective in their internalizations. Stated differently, when the social context is such that people can build their competencies, connect with others, and act in ways that are self-endorsed, they will be most inclined to integrate into the self the structures that are transmitted by the social world. However, when it is relatively controlling, people will be more resistant to taking in and integrating these structures. Moreover, OIT suggests that people are most inclined to internalize norms, values, and practices they can comprehend and competently perform. In short, internalization is impacted by all three basic needs.

Substantial research has supported the proposition that people internalize values and regulations more fully when the socializing context is more supportive of autonomy. For example, Deci, Eghrari, Patrick, and Leone (1994) did a laboratory experiment in which they found that three facilitating factors—(1) providing a rationale for a requested behavior, (2) acknowledging people's feeling about the behavior (e.g., that they might find it boring), and (3) highlighting choice rather than control—all contributed to making the context supportive of needs and thus to facilitat-

tating internalization. When the facilitating factors were present, greater internalization occurred. In contrast, when these facilitating factors were not present (e.g., when the context was controlling), the little internalization that did occur resulted in introjected regulation rather than integrated regulation. Other studies have also shown that internalization is most effective in autonomy-supportive interpersonal contexts. For example, Williams and Deci (1996) found that medical students internalized course values more fully when the learning context was more supportive of autonomy, and Grolnick and Ryan (1989) showed that parents who were rated by interviewers as more autonomy supportive had children who had more fully internalized the value of learning and were more self-regulated in their motivation for schoolwork.

### ***Autonomous and Controlled Motivation***

Research on the internalization of extrinsic motivation is important for many reasons, most notably because many activities that are central to our lives are not particularly interesting and thus not intrinsically motivating, but are done for instrumental or extrinsic reasons. Many behaviors entailed in work, school, sport, or the arts, for example, are not inherently interesting, even if they have a clear function or purpose. Yet it is possible to be autonomous in carrying out such extrinsically motivated activities. Accordingly, this research shifted primary attention from the distinction between intrinsic and extrinsic motivation, which was the basis for the de-

velopment of CET, to the distinction between autonomous and controlled motivation.

Stated differently, SDT emphasizes the difference between autonomous motivation (including identified/integrated extrinsic motivation and intrinsic motivation) and controlled motivation (including extrinsic motivation that is regulated externally or by introjects), and much of the application of the theory focuses on promoting change from controlled forms of regulation to more autonomous forms of regulation.

### ***Consequences and Correlates of Autonomous Motivation***

Work that informed the development of CET and OIT has been important, in part, because research has made clear that there are strong positive relations between autonomous motivation and both effective performance and psychological health and well-being. Thus, by understanding how to maintain and enhance autonomous motivation, we are in a position to facilitate more adaptive behaviors and experiences. While enhancing autonomous motivation is a matter that can be argued to be of some importance in its own right, its value derives largely from the positive correlates and consequences associated with autonomous (versus controlled) motivation. Accordingly, a great deal of research, both laboratory experiments and field research, has examined this issue. The general hypothesis guiding the research states that both autonomous motivation in individuals and autonomy support in the social context will promote more effective performance and better psychological health and well-being.

The literature attesting to the veracity of this hypothesis is very large (Ryan & Deci, 2000b), so we provide just a few examples. Using a method developed by Ryan and Connell (1989) to assess autonomous motivation as a domain-specific individual difference, Ryan, Rigby, and King (1993) found that individuals' autonomous motivation for engaging in religious behaviors was positively related to their psychological well-being; morbidly obese patients whose motivation was more autonomous lost more weight and maintained the loss better (Williams, Grow, Freedman, Ryan, & Deci, 1996); individuals who were more autonomous in their moti-

vation toward the environment engaged in more proenvironment behaviors than those who were more controlled (Green-Demers, Pelletier, & Menard, 1997); and people who were more autonomous in following politics enjoyed learning about politics more and were more likely to vote than people whose motivation was more controlled (Koestner, Losier, Vallerand, & Carducci, 1996). These are but a few of the varied studies that have related the autonomous motivation of children and adults to positive consequences in many of life's domains.

Other studies have related autonomy support in the social context to various performance and well-being outcomes. For example, experiments have examined this issue with respect to learning, in each case distinguishing between superficial learning (i.e., rote memorization) and deeper learning (i.e., conceptual understanding). In an experiment done with college students learning about neurophysiology, Benware and Deci (1984) found that when the context supported more active engagement with the learning activity, students evidenced better conceptual understanding and comparable rote memorization compared to when the context was more pressuring and controlling. Comparable results were found for an experimental manipulation with fifth-grade students, and in addition, assessment of the children's motivation indicated that when they were more autonomously motivated they maintained their learning better over time (Grolnick & Ryan, 1987).

Still other studies have found that when people experience an interpersonal climate as more supportive of autonomy, they display greater well-being. For example, adult outpatients who experienced their physician as more autonomy supportive adhered to their medication prescriptions better than those who found their physicians more controlling (Williams, Rodin, Ryan, Grolnick, & Deci, 1998); working adults who experienced their supervisors as more autonomy supportive experienced greater need satisfaction at work and, in turn, displayed more engagement and better psychological health (Baard, Deci, & Ryan, 2004); and high-school students from Russia and the United States who experienced their teachers and parents as more autonomy supportive were also more engaged in their

schoolwork and showed better psychological adjustment (Chirkov & Ryan, 2001).

## CAUSALITY ORIENTATIONS THEORY

The various types of autonomous and controlled motivation discussed within OIT are considered to be types of regulation that represent behavior- or domain-specific individual difference. However, they are viewed as being only moderately stable, because we believe that social-contextual conditions will influence the strength of the various types of regulation, leading to changes in these more specific motivational orientations. Indeed, for example, several studies have been done to document the enhancement of autonomous motivation (i.e., identified, integrated, and intrinsic regulation) by autonomy-supportive social contexts (e.g., Williams, Freedman, & Deci, 1998).

Within SDT we also recognize that it is sometimes useful to characterize people's general or global motivational orientations. COT was formulated as a third mini-theory to explicate individual differences in general motivational orientations (Deci & Ryan, 1985a). The theory specifies three orientations: the autonomy orientation, the controlled orientation, and the impersonal orientation. The *autonomy orientation* indexes the degree to which people tend to interpret the social context as autonomy supportive and informational; tend to be aware of their own inner needs, interests, and values and use them as guides for their behavior, all of which conduce toward autonomous self-regulation. The *controlled orientation* reflects the degree to which people look for cues and controls in the environment or in their own introjects and let those regulate and determine their behavior. Thus, this orientation concerns people's behavior being directed by demands, rewards, threats, and self-esteem contingencies. The *impersonal orientation* represents the degree to which people tend to feel as if they have no control over desired outcomes in their lives and thus experience a general sense of loss and amotivation.

Causality orientations are viewed as developmental outcomes in which the interaction of the active organism with a social environment—which, to varying degrees,

supports autonomy, controls behavior, and/or conveys incompetence over multiple situations and extended periods of time—result in a specifiable level of each orientation. Thus, people come to view themselves in relation to their environments as somewhat autonomous, somewhat controlled, and somewhat impersonal, and the three orientations can be used to predict various outcomes (Vallerand, 1997).

Research (Deci & Ryan, 1985a) has found the autonomy orientation to be associated with greater ego development (Loevinger, 1985), self-actualization, and self-esteem, as well as the tendency to support autonomy in others. The autonomy orientation has also predicted successfully maintaining weight loss in a low-calorie diet program (Williams et al., 1996) and being engaged and well adjusted in one's job or volunteer work (Gagné & Deci, 2005). Studies have found the controlled orientation to be linked to proneness to conformity, public self-consciousness, and the Type A coronary-prone behavior pattern. Williams and colleagues (1996) found the controlled orientation to predict less maintenance of positive behavior change. Finally, our research found the impersonal orientation to be positively associated with tendencies toward depression, self-derogation, external locus of control, and social anxiety, and negatively related to self-actualization and self-esteem (Deci & Ryan, 1985a).

A number of researchers have elaborated on the implications of COT. For example, Koestner and colleagues (1996) related the causality orientations to more effective emotional regulation, and Koestner, Bernieri, and Zuckerman (1992) showed that more controlled versus autonomy-oriented persons exhibit less consistency among attitudes, traits, and behaviors. Hodgins and Knee (2002) reviewed evidence that autonomous versus controlled persons are less defensive and more open interpersonally, thus enhancing capacities for relatedness and personal growth (e.g., Knee, Lonsbary, Canevello, & Patrick, 2005). Neighbors and Knee (2003) have shown how causality orientations predict proneness to peer pressure and conformity. These represent just a few studies bespeaking the importance of these individual differences in how persons orient to the world and motivate their own actions and interactions.

## BASIC PSYCHOLOGICAL NEEDS THEORY

As already discussed, central to SDT is the proposition that there are three fundamental and universal psychological needs: the needs for competence, autonomy, and relatedness. These needs are a linchpin for all four of the SDT mini-theories. They are central to CET because they provide an account of how social-contextual factors affect intrinsic motivation and its corresponding outcomes. They are important for OIT because they provide an account of internalization and how the social context affects internalization and integration of extrinsic motivation and how that relates to healthy development. They are relevant to COT because they explain the development of the different motivational orientations and why they relate differently to other psychological constructs, as well as effective performance and psychological well-being.

As this research has developed, we found it increasingly necessary to formulate a fourth mini-theory, labeled basic psychological needs theory (BPNT; Ryan & Deci, 2002), that makes explicit our assumptions concerning needs and their relations, not just to motivational processes, but to wellness and vitality more generally. This is especially important for developing testable hypotheses about the varied effects of goals and aspirations on life outcomes, and for our cross-cultural perspective on the universal underpinnings of human psychological dynamics. The basic tenets of BPNT include the following:

1. Psychological needs define the necessary cross-developmental and cross-cultural nutriments for wellness and optimal functioning.
2. Various motives, aspirations, and goals can be evaluated with respect to their potential for satisfying or thwarting basic needs, and thus their impact on wellness will follow from these relations.
3. Within- and between-person variations in wellness are a function of need satisfaction, with all three needs demonstrating independent and interactive contributions.

Several studies have directly measured satisfaction of the needs for autonomy, com-

petence, and relatedness in various settings to examine its relations to motivation, performance, and well-being. As examples, need satisfaction predicted both performance evaluations and psychological adjustment of employees in a banking firm (Baard et al., 2004); satisfaction of the basic needs predicted security of attachment at the between-person level and also to parents and peers at the within-person level (La Guardia, Ryan, Couchman, & Deci, 2000); all three needs were predictive of more optimal relationship functioning (Patrick, Knee, Canevello, & Lonsbary, 2007); college students' reports of well-being varied from day to day as a function of the variations in need satisfaction (Reis, Sheldon, Gable, Roscoe, & Ryan, 2000); and satisfaction of the basic needs in the daily lives of elderly residents in an institution for the aged were positively related to well-being and perceived health (V. M. Kasser & Ryan, 1999).

### ***Need Satisfaction and the Big Five Traits***

Needs are postulated to reflect inherent dimensions of organismic functioning by specifying those nutriments associated with thriving. As such, need satisfaction is not an enduring aspect of the personality, because it meaningfully fluctuates with changing environmental supports and the person's capacity to find satisfaction within them. In short, need satisfaction is not a trait. Traits, by contrast, reflect more enduring characteristics that differentiate between people (see John, Naumann, & Soto, Chapter 4, this volume; McCrae & Costa, Chapter 5, this volume); they have predictive value across situations, time, and domains. Yet traits also fluctuate at a within-person level. That is, people can be more or less extraverted than one another, but it is also true that each person is more extraverted in some situations and less so in others. In fact, there is evidence of substantial within-person variation in traits, but there had not been a systematic account of that variation.

According to SDT the variation in traits is quite systematic. Specifically, SDT predicts that people will express traits closer to their ideal trait profiles when in contexts that support autonomy, competence, and relatedness. Thus, recently researchers found that, at a within-person level, when people were with

social partners who were more autonomy supportive, they were both more satisfied and vital, and expressed Big Five traits closer to their ideals, which in the context of relationships meant that they were more extraverted, open, and agreeable and were less neurotic than their general or average trait dispositions (Lynch, La Guardia, & Ryan, 2007). These results were similar to those obtained in another study (Sheldon, Ryan, Rawsthorne, & Ilardi, 1997), which found a similar pattern for different life domains in which people could be more versus less authentic.

### ***Need Satisfaction across Cultures***

Numerous studies have also examined need satisfaction across cultures. Insofar as SDT maintains that the basic needs are universal, it has been important to empirically test the effects of need satisfaction in a wide variety of cultures with different societal values and mores. Although few have disputed the significance of either relatedness or competence needs across cultures, the most controversial issues have concerned the need for autonomy. In our view this is because, in a number of theories (e.g., Markus & Kitayama, 1991), the issue of autonomy is conflated with the issue of independence and individualism, whereas in the SDT view autonomy concerns the *self-endorsement and valuing of one's own practices*, and thus it can accompany dependence or independence, individualism or collectivism, traditionalisms or modernisms. However, when any of these practices or values are imposed or introjected, the theory suggests, ill-being results.

A growing body of evidence is supporting the critical role played by all three needs across cultures. For example, in samples of employees in Bulgarian companies operating primarily by central planning principles and employees of a U.S. company operating by capitalist principles, employees' basic need satisfaction predicted both engagement at work and psychological health and well-being (Deci et al., 2001). Chirkov and colleagues (2003) studied the internalization of values in Korea, Russia, Turkey, and the United States, assessing the degree to which people in these cultures experienced autonomy with respect to ambient cultural practices. Results indicated that feeling greater autonomy (or fuller internalization) was associated with

well-being in all cultures. Chirkov and colleagues (2005) also examined Canadian and Brazilian students and found that in these cultures, both cultural fit and well-being were associated with need satisfactions, which were facilitated by autonomy-supportive contexts. Sheldon, Elliot, Kim, and Kasser (2001) examined what makes events satisfying in Korean and U.S. samples and found that all three basic needs had explanatory salience in both cultures. In sum, these and numerous other studies have provided strong evidence that basic psychological needs, including autonomy, are universally important for well-being across cultures.

### ***Aspirations and Life Goals***

One of the central findings of SDT has been that if a goal is pursued for autonomous reasons, it will be associated with psychological health and well-being. Other SDT-related work has investigated the *content* of goals, suggesting that some goal contents are more aligned with well-being because they promote satisfaction of the basic psychological needs and thus will be associated with both greater happiness and personal growth (Bauer et al., 2005; Ryan, Sheldon, Kasser, & Deci, 1996).

Kasser and Ryan (1996) assessed the importance people place on the life goals of wealth, fame, and image, which are closely associated with the American Dream, as well as the life goals of personal growth, relationships, and community. They referred to the former group of goals (i.e., wealth, fame, and image) as *extrinsic aspirations*, indicating that their attainment does not promote inherent need satisfaction but rather is a means to an end and may in fact represent an attempt by people to get external validation of their personal worth as a substitute for not experiencing basic need satisfaction. Another set of goals (i.e., growth, relationships, and community) was labeled *intrinsic aspirations*, conveying that these goals are more directly linked to satisfaction of the basic psychological needs for autonomy, competence, and relatedness. They found first that intrinsic and extrinsic goal types were distinguishable in factor analyses. They also found that the relative importance an individual placed on extrinsic aspirations was negatively related to a wide array of well-being indicators, whereas

the relative importance of intrinsic aspirations was positively related to well-being. This same phenomenon was demonstrated in both Russian and U.S. samples (Ryan et al., 1999). Indeed, subsequent research has replicated this basic finding in adults, school-age children, businesspersons, and the residents of numerous other nations. In fact, Grouzet and colleagues (2005) showed the reliability of the intrinsic versus extrinsic goal distinction across 15 varied cultures.

#### *Goal Contents and Motives*

Just as the finding about the undermining of intrinsic motivation by extrinsic rewards (especially monetary rewards) was controversial when it first appeared in the early 1970s, the finding that extrinsic goal contents (especially wealth) are associated with ill-being has also been controversial. For example, Carver and Baird (1998) and Srivastava, Locke, and Bartol (2001) have suggested that it is not the goal contents but the motives behind them that are detrimental. Because extrinsic goal contents and controlled regulations are correlated, Carver and Baird argued that it is likely the controlled motivation rather than the extrinsic goal that is problematic for well-being. In response, we and our colleagues did a set of three studies to examine this issue (Sheldon, Ryan, Deci, & Kasser, 2004). We assessed both the goal contents (extrinsic vs. intrinsic) and motives (controlled vs. autonomous) and found, as expected, that extrinsic aspirations did correlate significantly with controlled regulation of the goal pursuits. However, we entered both the goal contents and motives into simultaneous analyses and found that each variable contributed significant independent variance. In other words, the relative importance of extrinsic goals was negatively related to psychological ill-being even after the variance in ill-being explained by controlled regulation had been removed.

#### *Goal Attainment*

The above-mentioned studies of goal contents all assessed the importance people place on goals. The next issue considered in this field of research was the relation of goal attainment to well-being. The important question is, does the attainment of all valued goals yield positive well-being outcomes, or

might the content of the goals moderate the relation of the goal attainment to well-being? Goals theorists such as Locke and Latham (1990) have suggested that attainment of all valued goals is beneficial for people. SDT maintains, however, that goal attainments are associated with wellness as a function of their capacity to yield basic psychological need satisfactions. Examining this issue in the United States and Russia, it was found that the degree to which people attained extrinsic aspirations was not related to their well-being, after controlling for attainment of intrinsic aspirations; whereas their attainment of intrinsic aspirations was uniquely related to well-being after controlling for attainment of extrinsic aspirations (T. Kasser & Ryan, 2001; Ryan et al., 1999). More recently, we did a longitudinal study in which we considered change in well-being as a function of change in intrinsic and extrinsic goal attainment (Niemiec, Ryan, et al., 2007). We found that attainment of intrinsic goals led to increases in well-being and decreases in ill-being; however, attainment of extrinsic goals did not affect well-being and added to people's ill-being. Furthermore, the positive effect of intrinsic aspirations on well-being was mediated by satisfaction of the three basic psychological needs. In short, strong relative pursuit of extrinsic aspirations is associated with poorer psychological well-being, and attainment of extrinsic aspirations does not help well-being—in fact, it may contribute to people's ill-being. In contrast, both the pursuit and attainment of intrinsic goals is strongly related to psychological health.

#### *Goal Framing*

In the studies of goals reviewed so far, intrinsic and extrinsic goals were assessed as individual differences, and the relative strength of people's intrinsic versus extrinsic goals was used to predict outcomes. In other research, however, Vansteenkiste and his colleagues have conducted experiments in which the concepts of intrinsic and extrinsic goals were used to frame people's engagement with a task. In these experiments, participants were told that doing a particular activity would be instrumental to either an intrinsic or extrinsic goal, and then the behavior and experience of the two groups of participants were examined. Furthermore, many of the studies by

Vansteenkiste and colleagues on goal framing also investigated the effects of presenting the goals with an autonomy-supportive versus controlling communication style. For example, in one set of studies, learning situations were used in which (1) education students learned about recycling and reusing materials either to help save the environment (intrinsic goal) or to save money (extrinsic goal); (2) business students learned about approaches to communicating either for personal development (intrinsic) or to be more successful at work (extrinsic); and (3) younger students learned a physical activity either to be healthier (intrinsic) or to look better (extrinsic) (Vansteenkiste, Simons, Lens, Sheldon, & Deci, 2004). These conditions were crossed with communication style, and the outcomes were indicators of learning, performance, and persistence. All three studies yielded similar results: Persons given intrinsic goal framing subsequently learned the material more deeply, took additional opportunities to find out about the topics, and performed better when tested on what they had learned, compared with those given extrinsic goal framing. Furthermore, those who were given a goal induction with an autonomy-supportive style learned and performed better than those who were given it with a controlling style, as predicted on the basis of OIT. Finally, interactions revealed that the condition in which the intrinsic goal framing was given in an autonomy-supportive way not only led to the most positive outcomes, but these outcomes were more positive than would be expected from the two main effects.

In sum, studies of intrinsic versus extrinsic goals, whether done with individual differences in the importance of the goals or with the framing of tasks in terms of intrinsic versus extrinsic goals, indicate that holding intrinsic goals is associated with more positive learning, performance, and well-being outcomes than is the case for holding extrinsic goals.

### SELECTED RECENT RESEARCH IN SDT

As a broad theory of motivation and psychological development, SDT has many applications and possible extensions. Recently SDT research has been very active in a number

of new areas that cannot be adequately reviewed herein. For example, Vallerand and his colleagues have differentiated two forms of passion, namely *harmonious passion* and *obsessive passion*. The former is characterized by greater internalization and integration of a person's passion into identity, whereas the latter is characterized by more controlled motives. Using this distinction Vallerand and colleagues (e.g., 2003) have shown important differences in both persistence and wellness as people pursue passions. Sheldon and his colleagues (e.g., Sheldon, Elliot, et al., 2004) have focused on the *self-concordance* of personal goals and strivings (Emmons, 1986), defined in terms of both more autonomous versus controlled motivation and greater linkages with basic needs, showing in both U.S. and international samples that greater self-concordance enhances both wellness and performance. SDT research has also focused on distinguishing hedonic from eudaimonic processes in well-being, examining both the antecedents and consequences of each (Ryan & Deci, 2001; Ryan et al., 2008). These strains of research on people's passions, the self-concordance of personal goals and strivings, and the pathways to wellness illustrate the ways in which the SDT framework is generative of new hypotheses and findings of applied significance.

In what follows we highlight, again for illustrative purposes, three of the other areas of recent interest: the role of awareness and mindfulness in behavior regulation, the importance of autonomy support in fostering enduring intimate relationships; and a theory of psychological energy or vitality.

#### ***Awareness and Mindfulness***

Considerable research has now confirmed that social contexts have a substantial effect on the degree to which people are autonomously motivated, the degree to which they place greatest importance on intrinsic life goals, and, in turn, the degree to which they display greater human thriving. But self-determination is by no means just a function of social contexts. It is a personal characteristic, and people have the possibility of displaying more self-determination regardless of the social climate. That is, even in situations that are quite pressuring and demanding, people can still act with a relatively high

level of autonomy. Furthermore, people who are quite strongly control oriented can take responsibility for becoming more autonomy oriented. The key to such a change is awareness.

*Awareness*, according to Perls (1973), is relaxed attention. Simply to attend to something is not enough for awareness; the attention must be interested, open-minded, and relaxed. Introjects, for example, can force one to attend to some internal or external stimulus, but that is not awareness because it is forced and has an underlying agenda. Awareness is about wondering what will emerge when you attend to something and take interest in whatever it is. Indeed, awareness is about letting true meanings emerge rather than imposing meanings on stimuli. By being more aware of their own internal conditions—of their needs, feelings, interests, values, desires, and introjects—people can make their own choices even when they are surrounded by pressures and criticisms, and they can move toward a regulation that is guided by choices more of the time. In short, people can, through awareness, turn controls into information to be used in making choices that are meaningful and right for them.

Although the relation of awareness to self-determination has long been a topic with SDT (Deci & Ryan, 1980, 1985b), SDT researchers have recently begun to examine the awareness issue using the concept of *mindfulness* (Brown & Ryan, 2003), which has been studied both as an experience at a particular time (i.e., a state) and as a more enduring tendency (i.e., an individual difference or trait). Acting in a self-regulating way is facilitated when one is openly in touch with what is actually occurring in the moment, as well as with one's personal interests and values; this is particularly so in situations that are not supportive of the person's need satisfaction. In the Brown and Ryan research both the disposition and state of being aware of and receptive to one's inner psychological experiences and values were found to be associated with more autonomous motivation, more positive affect, and greater well-being. Mindfulness has also been facilitated with brief inductions and with longer-term programs intended to bring people to a state of greater internal quiet and centeredness, and it has resulted in various positive outcomes

(Brown, Ryan, & Creswell, 2007). For example, using a brief induction, Broderick (2005) found that those participants in the mindfulness condition were more able to cope effectively with dysphoric moods. Using longer programs to induce mindfulness, Kabat-Zinn, Lipworth, and Burney (1985) found that it reduced psychological symptoms in pain patients, and Brown and Ryan (2003) found that mindfulness decreased fatigue, stress, and disturbed mood in cancer patients.

Our central premise is that, through mindfulness, people can take responsibility for becoming more autonomous, thus gradually ameliorating the negative effects that have resulted from their being controlled and amotivated in various past and present circumstances. For instance, Legault, Green-Demers, Grant, and Chung (2007) showed that persons with more autonomous motivation to regulate prejudice demonstrated both lower explicit and implicit prejudice. Niemiec, Brown, and Ryan (2007) recently showed in multiple experiments that people high in mindfulness did not show the defensive reactions involving prejudice and out-group derogation that typically follow from the mortality salience inductions used within terror management theory (Greenberg, Solomon, & Pyszczynski, 1997). Mindfulness allows people to explore their inner psychic landscape and to gain insight into why, for example, they may be passive, controlled, apathetic, or alienated. With this increased insight they will be in a position to develop greater sensitivity to inner needs and outer realities, and the autonomy to act in ways that yield greater ongoing need satisfaction.

At the same time it is important to note that explicit awareness is not always a necessary condition for acting autonomously. Many behaviors in which we engage are habitual and automatic, and some are unconsciously primed (see Kilstrom, Chapter 23, this volume; Schultheiss, Chapter 24, this volume). In our view (see Deci & Ryan, 1980; Ryan & Deci, 2006), however, implicit processes can instigate either autonomous or controlled activities and goals. Often habitual and automatic behaviors serve purposes that would, when reflected upon, be fully self-endorsed (e.g., automatically shifting one's car into a higher gear as RPMs rise), whereas others are associated with behaviors

that are not self-congruent (e.g., impulsive eating or aggression). In other words, the issue of implicit versus explicit processing is not isomorphic with that of autonomy versus control. Nonetheless having the capacity to reflectively access motives and goals, and being able to accept or reject potential actions on the basis of integrated interests and values are critical capacities for autonomous functioning.

### **Close Relationships**

SDT maintains that healthy and satisfying close personal relationships require satisfaction of the basic psychological needs for autonomy and competence as well as for relatedness. Several recent SDT studies have tested this reasoning. For example, La Guardia and colleagues (2000) assessed students' security of attachment with their mothers, fathers, romantic partners, and best friends, in addition to their level of satisfaction of the needs for autonomy, competence, and relatedness within each of those relationships. The researchers reported that need satisfaction with a particular relational partner accounted for significant variance in attachment security with that partner. That is, there was substantial within-person variability in security of attachment with different partners, and basic need satisfaction within relationships explained that variability. Subsequent analyses considered the three needs separately, and it turned out that satisfaction of each of the separate needs within a relationship was a significant predictor of security of attachment in that relationship. In more recent research multiple relationships were examined within persons in diverse cultural samples drawn from China, Russia, and the United States (Lynch et al., 2007). Here, too, it was found that perceived autonomy accounted for within-person variations in relationship-specific satisfaction and vitality, an effect that was not moderated by cultural membership of the individual's style of self-construal.

Another example of the SDT studies of relationships examined mutuality of autonomy support as a predictor of need satisfaction, relationship quality, and well-being among close friends (Deci et al., 2006). Using a method developed by Griffin and Gonzales (1995) for analyzing dyad data, the researchers found that there tended to be mutuality

in the level of autonomy support provided by each partner in close friendships and that receiving autonomy support from one's close friend was associated with greater need satisfaction, relationship quality, and well-being. Further analyses indicated that giving support for autonomy to a close friend also was positively related to basic need satisfaction, relationship quality, and well-being for the giver, after controlling for the autonomy support received.

In short, both giving and receiving autonomy support in a close friendship are related to relationship quality and well-being. Interestingly, similar findings were reported by Knee and colleagues (2005) in the context of heterosexual couples, and Patrick and colleagues (2007) showed that need satisfaction was not only related to individual well-being but also relational wellness. Ryan and colleagues (2005) also showed that one's willingness to depend on another person is a function of perceived need supports. As the dynamics of relationships are studied in more detail, it is becoming ever clearer that the quality and depth of connections between people is a function of the degree to which satisfactions of all three basic needs is afforded in their relationship.

### ***Psychological Energy and Self-Regulation: Vitality and Its Sources***

The idea that the regulation of behavior has costs in terms of energy dates back at least to Breuer and Freud. The empirical study of psychological energy has, however, become more active over the last decade. SDT researchers have specifically focused on *energy dynamics* and how motives determine either vitalization or depletion. For example, Ryan and Frederick (1997) showed that activities and lifestyles associated with basic need satisfaction foster greater vitality and feelings of aliveness, whereas factors associated with thwarted autonomy, competence, and relatedness deplete energy. Nix, Ryan, Manly, and Deci (1999) also demonstrated that the same activity was less draining when it was either self- or autonomously directed, compared to being externally directed or controlled. More recently, Moller, Ryan, and colleagues (2006) showed that autonomous self-regulation based in true choice is not subject to the ego-depletion effect (e.g., Baumeister, 2002).

Thus, SDT offers some important caveats to Baumeister's (2002) ego-depletion model.

More specifically, the ego-depletion model suggests that the exercise of self-regulation or volition is generally depleting. SDT argues, however, that it is specifically controlling forms of self-regulation that deplete. In contrast, autonomy, or true volition, in which the self endorses and organizes the action, does not lead to depletion. Moreover, whereas ego-depletion models do not specify a psychological source of energy or revitalization, SDT specifically suggests that people gain regulatory energy through need fulfillment. Thus, events in which there are positive experiences of autonomy, competence, or relatedness strengthen the self and the subjective energy on which it draws.

The Self Determination Theory has been studied in many settings: school/family education, work organizations, and clinical trials. Based on Cognitive Evaluation Theory, allowing autonomy help meet psychological needs (self-regulation), performance and well-being.

### APPLYING SDT IN LIFE'S DOMAINS

An enormous amount of research has examined basic SDT principles in a variety of real-world settings. For example, much work has been done in the realm of education, showing that when teachers are more autonomy supportive, students become more autonomously motivated, show better adjustment and well-being, and tend to learn better, especially at the conceptual level (Reeve, Deci, & Ryan, 2004). These studies have spanned from the elementary school level (e.g., Deci, Schwartz, et al., 1981; Ryan & Grolnick, 1986) to college level chemistry courses (Black & Deci, 2000). Studies of parents have similarly shown how controlling versus autonomy-supportive parenting techniques undermine interest, persistence, performance, and adjustment in the academic domain (see Grolnick, 2003; Grolnick & Ryan, 1989).

In the domain of work organizations, Deci, Connell, and Ryan (1989) found that the autonomy supportiveness of first-line managers in a Fortune 500 company predicted the levels of their employees' trust, felt security, and satisfaction with job characteristics. Furthermore, an intervention intended to teach managers to be more autonomy supportive did result in increased support of autonomy by managers, relative to a control group that did not get the intervention, and even more importantly the enhanced autonomy support of managers re-

sulted in increased trust and satisfaction in their employees. Other studies (e.g., Baard et al., 2004) have indicated that managers' autonomy support predicted the degree of need satisfaction experienced by their employees, even when controlling for the employees' autonomous causality orientation. In turn, the degree of need satisfaction predicted the employees' performance evaluations, and it negatively predicted their anxiety and somatic symptoms. In short, autonomy support in the workplace has been found to enhance autonomous motivation, need satisfaction, performance, and well-being in various studies in the United States and abroad (Gagné & Deci, 2005).

Another area where SDT has been applied to guide many studies, including randomized clinical trials, is medical encounters between practitioners and patients. Autonomy support provided by practitioners has been found to predict increases in perceived competence and autonomous motivation for engaging in a treatment regimen, and these in turn have predicted such outcomes as smoking cessation, glycemic control, lower LDL cholesterol, and adherence to medication (see Williams, Deci, & Ryan, 1998, for a review). Furthermore, an intensive autonomy-supportive intervention was developed for smoking cessation. Relative to usual care in the community, participants in the intervention group displayed increases in autonomous motivation, perceived competence, adherence to medications intended to facilitate cessation, as well as actual cessation at the end of 6 months (Williams, McGregor, Sharp, Levesque, et al., 2006). A follow-up study indicated that there was still significantly greater abstinence in the intervention group than the control group 18 months after the beginning of treatment (Williams, McGregor, Sharp, Kouides, et al., 2006).

The importance of autonomy support and basic need satisfaction have also been demonstrated in domains as diverse as sport (Gagné, Ryan, & Bargmann, 2003), politics (Koestner et al., 1996), aging (V. M. Kasser & Ryan, 1999), pro-environmental behavior (Green-Demers et al., 1997), video games (Ryan, Rigby, & Przybylski, 2006), and psychotherapy (Markland, Ryan, Tobin, & Rollnick, 2005), among others. A comprehensive review of such empirically grounded,

real-world demonstrations and applications of SDT-derived principles is well beyond the scope of this review. Yet, the growing body of real-world findings based on SDT shows again how consideration of the psychological factors that proximally determine behavior provides the most practical approaches for changing social practices and improving human outcomes.

## CONCLUSION

SDT has at its core the concept of basic, universal psychological needs for competence, autonomy, and relatedness. Unlike most other theories that use the concept of psychological needs to assess individual differences in motive strength, SDT proposes that these basic needs represent the necessary nutrients for healthy, full functioning. Thus, SDT specifies that these needs must be satisfied for individuals to experience optimal psychological development, performance, and well-being within any domain and across cultural contexts. As it has developed, SDT has used the concept of basic psychological needs to integrate a wide range of phenomena that have been encompassed by SDT's four mini-theories; namely, cognitive evaluation theory, organismic integration theory, causality orientations theory, and basic psychological needs theory. Moreover, the concept of basic psychological needs has been useful in extending SDT to a variety of new research areas, including subjective energy, mindfulness, and close relationships. Finally, the concept of needs has proven to be practically useful, as shown by SDT's applications in far-ranging domains: education, parenting, work, medicine, sport and exercise, politics, aging, and psychotherapy. SDT, in short, has aimed at providing a fuller understanding of what it is that people truly need for optimal living, and all that distracts from, or undermines, those needs being fulfilled.

Despite the growth of SDT as a framework of study, as an empirically based open theory SDT has much room for continued refinement and expansion of its propositions, as well as for improvements in the specification and implementation of theory-based interventions aimed at behavioral, organizational, and social change. As a psychologically focused theory, SDT will also need to

continue to interface with both more molecular levels of analysis in the neurosciences (e.g., Ryan, Deci, Grolnick, & La Guardia, 2006) and more global analyses supplied by economic, cultural, and historical perspectives (Vansteenkiste et al., in press). Yet the primary focus of SDT will remain on human psychology, where all of these levels of analysis intersect in the determination of human experience, which not only gives rise to our behavior but also represents the substance of our living existence. SDT thus remains unabashedly psychological in its approach because, as we see it, it is at that level of analysis that hypotheses concerning the questions of central concern to humans can most readily be advanced. More importantly, a psychological level of analysis is the most pertinent to making a practical, real-world difference in how we behave and to shaping the values we internalize and embrace.

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