

## Chapter 4

# Is Relatedness Enough? On the Importance of Need Support in Different Types of Social Experiences

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Self-determination theory (SDT; Deci & Ryan, 2000, 2008; Niemiec, Ryan, & Deci, 2010; Ryan & Deci, 2000; Vansteenkiste, Niemiec, & Soenens, 2010) is an empirical approach to human motivation, emotion, and personality in social contexts. As with other developmental (Bowlby, 1969), clinical (Maslow, 1968), and social (Baumeister & Leary, 1995) perspectives in psychology, SDT recognizes the central importance of interpersonal relationships in the human experience and is deeply interested in how social dynamics can influence individuals' thoughts, feelings, and behaviors (La Guardia & Patrick, 2008). Humans are social beings, and therefore it is important to consider whether the sense of relatedness that can be derived from interpersonal experiences is enough to facilitate personal wellness and healthy social functioning.

According to SDT, all individuals require satisfaction of three basic psychological needs for autonomy, competence, and relatedness. Thus, in response to the question that was posed in the title, this chapter reviews recent research on the importance of need support—and especially support for autonomy—in different types of social experiences. Indeed, the importance of need support will be examined in non-reciprocal relationships, which are characterized by a clear and defined differential in authority between dyad members; in reciprocal relationships, which are characterized by the lack of a clear and defined differential in authority between dyad members; and in brief interactions, which involve two previously unacquainted individuals who engage in a mutual activity for a small amount of time. As will be discussed below, SDT assumes a universal perspective on the importance and compatibility of autonomy, competence, and relatedness. As a result, support

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for basic psychological need satisfaction can be expected to confer benefits for personal wellness and healthy social functioning across a variety of types of social experiences.

## **The Meta-theoretical Underpinnings of Self-Determination Theory**

The philosophical starting point for SDT is its organismic-dialectic meta-theory (Deci & Vansteenkiste, 2004; Ryan & Deci, 2002), which posits a specific set of assumptions about the nature of human beings that is used to guide subsequent theorizing about how social contexts can affect the natural developmental processes that promote full functioning and organismic wellness (cf. Niemiec & Ryan, 2013). From this perspective, humans are proactive (rather than passive) organisms who are oriented toward integration at the intrapersonal (autonomy) and interpersonal (homonomy) levels (Angyal, 1965). Such an organismic perspective on human nature is found in other psychological traditions, including psychoanalytic (Freud, 1923/1960; Loevinger, 1976), humanistic (Rogers, 1963), and developmental (Piaget, 1971) theories, and is echoed by thinkers from a wide range of other academic disciplines (Goldstein, 1963; Gottlieb, 2003; Kauffman & Clayton, 2006). Yet SDT builds on these meta-theoretical views with its assertion that the natural developmental tendencies toward psychological growth and adaptation to the environment are supported by social contexts that afford opportunities for volition, mastery, and connection with others. It follows, then, that humans are vulnerable to passivity and control, incompetence, and alienation, particularly when social conditions do not support (or actively thwart) their inherent propensities toward development and synthesis. Hence, SDT assumes an organismic-dialectic perspective on the nature of human beings.

## **The Psychological Content of Human Nature: Autonomy, Competence, and Relatedness**

This set of meta-theoretical considerations suggests that there is specific and identifiable psychological content to human nature, which contrasts with the standard social science model (Barkow, Cosmides, & Tooby, 1992) view that humans are born *tabula rasa* and thus may take multiple, idiosyncratic routes to attain wellness. From the perspective of SDT, all individuals require satisfaction of the basic psychological needs for autonomy, competence, and relatedness to function in a healthy, integrated way. These needs, which are defined as “innate psychological nutriment that are essential for ongoing psychological growth, integrity, and well-being” (Deci & Ryan, 2000, p. 229), specify the psychological content of human nature and are used within SDT to understand how personal experiences and social interactions affect psychological, social, and physical well-being. The need for

autonomy (de Charms, 1968) refers to the experience of behavior as choiceful, owned, volitional, and self-endorsed at a high level of personal reflection. It is important to note that the opposite of autonomy is not dependence but rather is heteronomy (Ryan & Deci, 2006), or the experience of behavior as pressured and controlled. The need for competence (White, 1959) refers to the experience of behavior as effective when interacting with the physical and social environment. The need for relatedness (Baumeister & Leary, 1995; Ryan, 1995) refers to the experience of close, caring, and mutually supportive connections with others.

In line with its organismic-dialectic meta-theory, SDT assumes a universal perspective on the importance of satisfaction of the basic psychological needs. In other words, satisfaction of autonomy, competence, and relatedness is theorized to confer benefits for the health and well-being of all individuals, regardless of gender, age, culture, social status, or any other delimiting factor. Indeed, research supports this theoretical tenet. For instance, Ryan, La Guardia, Solky-Butzel, Chirkov, and Kim (2005) found that the relation of need satisfaction to a composite index of well-being (indicated by subjective vitality, life satisfaction, self-esteem, and the reverse of depressive symptoms and anxiety) was not moderated by gender, suggesting that satisfaction of autonomy, competence, and relatedness is equally beneficial for the psychological health of men and women. Need satisfaction has been shown to predict psychological and social functioning across the lifespan, including among adolescents (Curran, Hill, & Niemiec, 2013; Thøgersen-Ntoumani, Ntoumanis, & Nikitaras, 2010), young adults (Niemiec, Ryan, & Deci, 2009; Sheldon & Niemiec, 2006), and working adults (Van den Broeck, Vansteenkiste, De Witte, Soenens, & Lens, 2010; Vansteenkiste et al., 2007), as well as across cultures, including in Bulgaria (Deci et al., 2001) and China (Vansteenkiste, Lens, Soenens, & Luyckx, 2006). Finally, the relevance of need support for physical and psychological health has been shown even in a sample of primarily poor and working-class Americans (Niemiec, Ryan, Patrick, Deci, & Williams, 2010; Williams, Niemiec, Patrick, Ryan, & Deci, 2009).

The specification of basic psychological needs as universal requirements for wellness and optimal functioning follows directly from the organismic-dialectic meta-theory of SDT, and data have supported this claim in a variety of life domains and cultures (Deci & Ryan, 2008). Yet the idea that satisfaction of the basic psychological needs would facilitate psychological, social, and physical health among all individuals is not without critics. Such debates have tended to focus on the importance of autonomy (rather than competence or relatedness) across several demographic groups. Speaking from a perspective of cultural relativism, Markus and Kitayama (1991, 2003) have suggested that autonomy is a value that is prominent in Western (but not Eastern) cultures and thus have questioned its relevance for individuals from Eastern societies. Iyengar and DeVoe (2003) have made similar arguments. Speaking from a feminist perspective, Jordan (1997) has suggested that autonomy is primarily a male value and thus has questioned its importance for women. Stephens, Markus, and Townsend (2007) have suggested that choice and agency are considered to be important among individuals from higher socioeconomic strata and thus have questioned their relevance to the lives of the working class. The common theme that underlies such criticisms is that autonomy is expected

to have importance only for groups of individuals that espouse its value. Yet from the perspective of SDT, autonomy does not refer to a culture-, gender-, or class-specific value but rather reflects the inner endorsement of cognitive, affective, and behavioral experiences and expressions. Accordingly, satisfaction of autonomy (as well as competence and relatedness), regardless of whether it is valued, is expected to promote personal and interpersonal wellness across demographic groups.

Another debate has focused on the dynamics among the basic psychological needs rather than on their universal importance, and specifically has addressed the compatibility of autonomy and relatedness. Indeed, some scholars outside SDT have suggested that these experiences may be antagonistic rather than complementary. For instance, Peterson and Taylor (1980) argued that children's progression toward autonomy during adolescence requires that they sever ties with parents. More recently, and with a focus on romantic relationships, Murray et al. (2009) asserted that interdependence imposes inevitable costs on autonomy. Such criticisms of autonomy, which focus on its universal importance and compatibility with relatedness, may stem from the specific definition given to autonomy by scholars outside SDT. As an example, within the developmental literature some theorists (Blos, 1979; Levy-Warren, 1999) maintain that autonomy development involves both the emotional and physical detachment from parents and the assumption of more personal responsibility without reliance on parents. When defined as a process of separation and individuation, autonomy may be viewed as antagonistic to a sense of relatedness and, indeed, the aforementioned criticisms have conceptualized autonomy as independence and distinction from others. It is interesting to note, though, that both emotional separation and independence have been associated with lower levels of adolescent functioning (Beyers & Goossens, 1999; Lopez, Campbell, & Watkins, 1988; Ryan & Lynch, 1989). As well, Soenens et al. (2007) reported that parental promotion of independence is empirically distinguishable from promotion of volitional functioning, and only the latter conceptualization of autonomy (which is aligned with SDT) was shown to predict unique variance in adolescents' psychosocial functioning. Again, within SDT the concept of autonomy (versus heteronomy) refers to an experience of self-governance that is based on personally endorsed interests, values, and goals, and is a construct that is distinct from independence (versus dependence).

From the perspective of SDT, the basic psychological needs for autonomy, competence, and relatedness are evolved experiential nutriment that are complementary and necessary for healthy functioning and wellness, and data have supported this theoretical proposition. Using structural equation modeling, Niemiec et al. (2006) demonstrated that supports for autonomy and relatedness from mothers and fathers loaded onto common latent factors, thus underscoring the compatibility of these two needs. Moreover, need support from both parents was found to predict composite indexes of well-being (indicated by life satisfaction and positive affect) and ill-being (indicated by depressive symptoms and negative affect) in theoretically consistent ways. Further highlighting the complementary nature of autonomy and relatedness, Ryan, Stiller, and Lynch (1994) found that adolescents who had stronger connections with their parents reported higher levels of volition and

well-being. Using a cluster-analytic approach, Soenens, Vansteenkiste, and Sierens (2009) reported that parents can support their children's volitional functioning in a way that is perceived as promoting either independence from or dependence on the parents. Indeed, ratings of self-esteem and depressive symptoms did not differ between children who belonged to the *volitional independence* cluster and those who belonged to the *volitional dependence* cluster. These results speak to the compatibility of autonomy and relatedness, as volitional dependence on parents did not have an adverse effect on children's well-being. Taken together, this set of findings stands in opposition to the suggestions of Peterson and Taylor (1980) and Murray et al. (2009) that the experience of autonomy is antagonistic to interdependence in close relationships and reliance on others.

It is interesting to note, as well, that the dynamic between these two needs is such that their satisfaction can be pitted against one another. To illustrate, parental conditional regard is a common socialization technique in which children must forgo satisfaction of autonomy in order to gain the attention, affection, and approval of their parent(s). The message that parents who use this strategy communicate to their children is, "I will love you more if you do as I say" and/or "I will love you less if you do not do as I say." Of course, the conditional nature of their support for relatedness is rarely communicated by parents in such explicit terms, yet children's perception of this need conflict has been shown to yield deleterious consequences for their self-regulation and well-being (Assor, Roth, & Deci, 2004; Roth, Assor, Niemiec, Ryan, & Deci, 2009). In sum, the needs for autonomy and relatedness appear to be complementary (Ryan & Powelson, 1991), yet their satisfaction can be placed into conflict by controlling social contexts. This underscores the importance of an experience of relatedness that is marked by an absence of pressure and coercion for the promotion of healthy relationships (Ryan, 1991).

## **The Tenets of Need Support: Autonomy, Competence, and Relatedness in a Social Context**

So far, the focus of this chapter has been on the definition and compatibility of autonomy, competence, and relatedness. Indeed, for more than 40 years research conducted within SDT has shown that experiences of need satisfaction are at the very heart of what it means to live well and in accord with one's nature (Ryan & Deci, 2001; Ryan, Huta, & Deci, 2008). That being said, humans are social beings (Baumeister & Leary, 1995) and, as a result, need satisfaction often occurs in a social context. Accordingly, it is important to consider some specific ways in which others in the social surround can provide support for satisfaction of autonomy, competence, and relatedness. This integration of human motivation and interpersonal relationships, in turn, will provide a context for a review of research on the importance of need support in different types of social experiences.

Support for basic psychological need satisfaction begins with an authority figure (parent, teacher, manager, and so on) or peer (friend, romantic partner, colleague,

**Table 4.1** Strategies that can be used to provide support for autonomy, competence, and relatedness

Support for autonomy	<ol style="list-style-type: none"> <li>1. Elicit, acknowledge, and accept the person's thoughts and feelings</li> <li>2. Explore values and how they relate to the situation being discussed</li> <li>3. Encourage self-initiation and provide a desired amount of choice</li> <li>4. Provide a meaningful rationale when limits are set and for other relevant requests</li> <li>5. Minimize use of controlling language ("should", "must", "ought", and "have to")</li> </ol>
Support for competence	<ol style="list-style-type: none"> <li>1. Maintain a positive attitude toward success</li> <li>2. Initiate a conversation to identify barriers to success</li> <li>3. Create optimal challenges in a context of autonomy support</li> <li>4. Assist the person with skills building and problem solving</li> <li>5. Provide immediate, accurate, and effectance-relevant feedback</li> <li>6. Provide structure through the communication of clear, consistent, and reasonable guidelines</li> </ol>
Support for relatedness	<ol style="list-style-type: none"> <li>1. Assume a warm, empathic, and non-judgmental stance toward the person</li> <li>2. Provide a sense of unconditional positive regard</li> <li>3. Communicate genuine care, interest, focus, and non-contingent support toward the person</li> </ol>

and so on) who takes the perspective of another person. Table 4.1 provides a brief overview of several strategies that can be used to provide support for autonomy, competence, and relatedness. Consider the following two hypothetical individuals for the purpose of illustration. Marie is in her late-30s and is the mother of Juliette, a young girl who recently has been having difficulties at school.

### *Support for Autonomy*

To provide support for her daughter's autonomy, Marie starts by eliciting and acknowledging Juliette's thoughts about her experiences at school. In doing so, it is important for Marie to interact with Juliette in a direct, respectful, and non-confrontational way. For instance, Marie may say, "There seems to be some difficulty at school. How do you see the situation?" At the same time, Marie takes interest in Juliette's feelings around her experiences at school. Indeed, it is important for Marie to remain non-judgmental toward and accepting of Juliette's emotions, regardless of their valence. Having a clear understanding of Juliette's point of view affords Marie an opportunity to begin to encourage active problem solving. Thus, one component of autonomy support is to elicit, acknowledge, and accept all of the person's thoughts and feelings on a particular matter.

Another component of autonomy support is to explore values and how they relate to the situation being discussed. Accordingly, Marie initiates a conversation about the types of goals or aspirations that Juliette considers to be personally important. This may involve a consideration of intrinsic values such as personal growth, meaningful affiliation, community involvement, and physical health, and extrinsic

values such as wealth, popularity, power, and an appealing image (Kasser & Ryan, 1996; Ryan et al., 1999). In doing so, it is important that Juliette be encouraged to reflect on her values and to consider how what she does at school may help and/or hinder her attaining those goals. Interestingly, Niemiec, Ryan, Deci, and Williams (2009) demonstrated that a similar values exploration in the health care domain predicted maintenance of health-behavior change over 2 years.

Another set of strategies that can be used to support autonomy focuses on self-initiation and self-direction of behavior. With an understanding of Juliette's perspective, Marie begins to encourage self-initiation around how Juliette might address her difficulties at school, and is sure to provide a desired amount of choice. Some scholars outside SDT have questioned the utility of choice and self-determination, suggesting they may be demotivating (Iyengar & Lepper, 2000) or even tyrannical (Schwartz, 2000). In contrast to such views, Patall, Cooper, and Robinson (2008) conducted a meta-analysis on 42 studies and found that choice is associated with higher levels of intrinsic motivation, which is an exemplar of volitional functioning (Niemiec & Ryan, 2009). Of course, Marie may find it useful to establish limits around Juliette's school-related activities and, if so, then Marie is sure to provide a meaningful rationale for those limits and for other relevant requests. In support of this practice, Koestner, Ryan, Bernieri, and Holt (1984) demonstrated that children's intrinsic motivation is maintained when limits are set in an autonomy-supportive way. As well, Marie minimizes her use of controlling language ("should", "must", "ought", and "have to") while interacting with her daughter, as such language has been shown to undermine intrinsic motivation (Ryan, 1982; Ryan, Mims, & Koestner, 1983), depth of processing, performance, and persistence (Vansteenkiste, Simons, Lens, Sheldon, & Deci, 2004).

### *Support for Competence*

To provide support for her daughter's competence, Marie starts with a positive attitude toward Juliette's success at school and initiates a conversation to identify barriers to success, which is particularly important given her recent difficulties at school. Another element of competence support is to create optimal challenges, or experiences that are interesting and require resourcefulness for successful completion (Deci & Ryan, 1985). A core feature of optimal challenges is that the experience is neither too easy nor too difficult, which is conceptually similar to the state of flow (Csikszentmihalyi, 1990) in which personal skills are matched to situational demands. It is interesting to note that such preference has been observed even among infants at 7 and 8 months of age, who were found to allocate attention selectively to visual sequences that are neither too simple nor too complex, but rather allow for an intermediate rate of information absorption (Kidd, Piantadosi, & Aslin, 2012). It is also important that optimal challenges are pursued in a context of autonomy support, as research has shown that children (Danner & Lonky, 1981) and adults (Shapira, 1976) naturally select activities that stretch their capacities but that contingent rewards undermine their preference for such challenges.

Marie also attempts to assist her daughter with skills building and problem solving, and gives Juliette immediate, accurate, and effectiveness-relevant feedback along the way. Past research has shown that positive verbal feedback is conducive to optimal experience (Deci, 1971) and that negative feedback is antithetical to such experiences (Vallerand & Reid, 1984). Indeed, support for competence is aligned with provision of structure, another important feature of need support that involves the communication of clear, consistent, and reasonable guidelines to others (Reeve, 2002). It is interesting to note, as well, that structure has been associated with satisfaction of all three needs (Taylor & Ntoumanis, 2007), and that the benefits of structure are amplified under conditions of autonomy support (Jang, Reeve, & Deci, 2010; Sierens, Vansteenkiste, Goossens, Soenens, & Dochy, 2009).

### ***Support for Relatedness***

To provide support for her daughter's relatedness, Marie is sure to assume a warm, empathic, and non-judgmental stance toward Juliette in their interactions. Marie also provides a sense of unconditional positive regard for her daughter (Rogers, 1957), especially when confronting additional setbacks and difficulties. Such an interpersonal style is antagonistic to parental conditional regard and has been shown to yield positive consequences for children's self-regulation, emotion regulation, and interest-focused engagement at school (Roth et al., 2009). Overall, then, support for relatedness involves a genuine communication of care, interest, focus, and non-contingent support toward another person (La Guardia & Patrick, 2008).

### ***A Call for Additional Research***

Most, if not all, of these strategies have received either direct or indirect validation from previous research within SDT. That being said, some of these strategies have received no empirical attention in the domain of interpersonal relationships. Thus, it is important for additional research to examine these strategies systematically in different types of social contexts and interpersonal experiences.

## **On the Importance of Need Support in Different Types of Social Experiences**

From the perspective of SDT, social contexts and relational partners can either support or thwart satisfaction of the basic psychological needs. Attesting to the benefits of need support for social wellness, relationship-specific levels of need satisfaction have been systematically linked to within-person variations in attachment security



(La Guardia, Ryan, Couchman, & Deci, 2000) and emotional reliance (Ryan et al., 2005) across those relationships. Accordingly, it is important to consider the importance of need support across various types of social experiences, namely, in non-reciprocal relationships, in reciprocal relationships, and in brief interactions.

### *Evidence in Non-reciprocal Relationships*

In non-reciprocal relationships, such as those that occur between parents and children, managers and employees, teachers and students, doctors and patients, coaches and athletes, or even God and believers (see Soenens et al., 2012), there is a clear and defined differential in authority between dyad members. Indeed, most of the research within SDT on the importance of need support has examined social interactions that involve an authority differential, and several of the chapters in this volume have addressed these dynamics. To avoid too much overlap, this brief review of evidence in non-reciprocal relationships focuses on the importance of need support in parent-child interactions.

Interactions between parents and children have a central role in the human experience (van IJzendoorn, 1995), and thus it is useful to consider the correlates of need support in this type of non-reciprocal relationship. In fact, the importance of parental support for satisfaction of children's basic psychological needs has been noted almost from the start of life, and has been observed in childhood, adolescence, and early adulthood. For instance, controlling vocalization from mothers has been shown to undermine the mastery motivation of infants at 12 months of age (Grolnick, Frodi, & Bridges, 1984) and at 20 months of age (Frodi, Bridges, & Grolnick, 1985), and has been shown to undermine the intrinsic motivation of children at 6 and 7 years of age (Deci, Driver, Hotchkiss, Robbins, & Wilson, 1993). Controlling parenting has been shown to be a risk factor for physical aggression among children in day care (Hart, Nelson, Robinson, Olsen, & McNeilly-Choque, 1998) and during childhood from 6 to 12 years of age (Joussemet et al., 2008). Such a parenting style is antithetical to need support (Soenens & Vansteenkiste, 2010) and, indeed, provision of autonomy support from parents has been associated with higher levels of executive functioning among infants at 18 months and at 26 months of age (Bernier, Carlson, & Whipple, 2010), as well as higher levels of self-regulation and adjustment among 8- to 12-year olds (Grolnick & Ryan, 1989). The results of these studies suggest that parental support for basic psychological need satisfaction is conducive to intrinsic motivation, executive functioning, self-regulation, and adjustment in infancy and throughout childhood.

Parental support for children's satisfaction of autonomy, competence, and relatedness has been shown to promote psychological well-being, physical health, and social functioning among adolescents and young adults as well. For instance, provision of autonomy support from parents has been associated with lower levels of alcohol use among adolescents (Wong, 2008), as well as higher levels of a composite index of well-being (indicated by life satisfaction, self-esteem, self-actualization,

and the reverse of depressive symptoms) among adolescents from Russia and the United States (Chirkov & Ryan, 2001). This latter finding is particularly noteworthy in that the importance of autonomy support was equivalent across these two nations, even though Russian adolescents perceived lower levels of need support than their counterparts in the United States. Addressing the importance of parental need support for healthy social functioning among adolescents, Soenens, Vansteenkiste, and Niemiec (2009) proposed that parents can prohibit their children's affiliation with deviant peers either in an autonomy-supportive or in a controlling way. Indeed, results suggested that autonomy-supportive prohibition is associated with lower levels of deviant peer affiliation and involvement in problem behaviors, whereas controlling prohibition is associated with higher levels of deviant peer affiliation and involvement in problem behaviors. Among young adults, Kanat-Maymon and Assor (2010) found that perceived maternal control is associated with lower levels of empathic concern and empathic support, as well as higher levels of personal distress. Indeed, the adverse consequences of maternal control were amplified under conditions of maternal responsiveness to distress, which again underscores the importance of an experience of relatedness (represented by maternal responsiveness) that is marked by an absence of pressure and coercion (Ryan, 1991).

Another line of research that is relevant to SDT has examined the influence of parental psychological control on adolescents' psychosocial functioning. Psychological control involves the excessive use of parenting strategies that intrude upon the child's psychological experience (Barber & Harmon, 2002; Soenens & Vansteenkiste, 2010), including guilt induction, shaming, instilling anxiety, invalidation, and love withdrawal. Such manipulative tactics are theorized to thwart the child's natural developmental tendencies toward volitional functioning and wellness. Indeed, past research has shown that psychological control from parents is associated with lower levels of commitment making, identification with commitment (Luyckx, Soenens, Vansteenkiste, Goossens, & Berzonsky, 2007), and self-esteem (Soenens, Vansteenkiste, Luyten, Duriez, & Goossens, 2005), as well as higher levels of depressive symptoms (Soenens et al., 2005), eating disorder symptoms and maladaptive perfectionism (Soenens et al., 2008), and relational aggression and loneliness (Soenens, Vansteenkiste, Goossens, Duriez, & Niemiec, 2008). Together, the findings from these studies speak to the importance of parental need support for their children's psychological, physical, and social wellness.

### *Evidence in Reciprocal Relationships*

In reciprocal (or peer) relationships, such as those that occur between close friends, romantic partners, colleagues, or classmates, there is no clear and defined differential in authority between dyad members. Rather, these types of relationships are more likely to involve a mutual sense of care, concern, and support. Although there is a paucity of research on the importance of support for basic psychological needs in reciprocal relationships, it is reasonable to posit a similar set of dynamics due to

the universal importance of autonomy, competence, and relatedness for interpersonal wellness. In fact, two sets of studies have examined the correlates of need support and need satisfaction in peer relationships.

Deci, La Guardia, Moller, Scheiner, and Ryan (2006) conducted two studies to examine mutuality of need support in close friendships. In a first study, results suggested that the amount of need support received from a friend is associated with higher levels of basic psychological need satisfaction, emotional reliance, security of attachment, dyadic adjustment, and inclusion of the friend in the self. In a second study, results suggested that the benefits of need support extend to indexes of psychological health, including higher levels of self-esteem, vitality, positive affect, and perceived ability to express positive and negative affect, as well as lower levels of depressive symptoms, anxiety, and negative affect. Moreover, the amount of need support given to a friend predicted independent variance in need satisfaction, relationship quality, and psychological well-being after controlling for the amount of need support received from the friend. Indeed, a similar set of correlates was observed among male-male and female-female dyads, thus highlighting the importance of need support in close friendships.

Patrick, Knee, Canevello, and Lonsbary (2007) conducted three studies to examine the role of need satisfaction in romantic relationship functioning and psychological health. In a first study, results of a meta-analysis conducted on eight samples suggested that basic psychological need satisfaction in romantic relationships is associated with higher levels of personal and dyadic well-being. In a second study, results suggested that need satisfaction is associated with higher levels of satisfaction and commitment to the relationship, as well as lower levels of perceived conflict and defensive responding to conflict. Of course, individuals in close relationships often exert mutual influence on each other (Kelley & Thibaut, 1978). Bespeaking the interdependent influence of autonomy, competence, and relatedness in romantic relationships, one's own need satisfaction predicted higher levels of satisfaction, as well as lower levels of perceived conflict and defensive responding to conflict, in the partner as well. In a third study, participants were tracked for 10 days and completed a diary record after each disagreement that they had with their romantic partner during that time. In line with the previous findings, results suggested that need satisfaction is associated with higher levels of post-disagreement satisfaction and commitment to the relationship. Therefore, given that need satisfaction is likely to be experienced with relational partners who are need supportive (Deci et al., 2006; see Ryan, 1995), the results of these studies underscore the importance of need support in romantic relationships.

### *Evidence in Brief Interactions*

Although the vicissitudes of need support are likely to be most salient and readily apparent among individuals in established relationships, it is reasonable to posit a similar set of dynamics between strangers at the beginning of a new interaction.

In fact, two sets of experiments have examined the effects of contextual support for need satisfaction on the interaction quality of previously unacquainted dyads.

Using several manipulations that previously have been shown to be autonomy supportive or controlling, Niemiec and Deci (2012) conducted a set of five experiments on the causal role of contextual support for autonomy in facilitating interaction quality between strangers. In each of the studies, one naïve participant and confederate (Experiments 1–4) or two naïve participants (Experiment 5) were told that the study examined how personality styles affect the development of closeness between strangers and then completed a task designed to generate self-disclosure (see Aron, Melinat, Aron, Vallone, & Bator, 1997). After spending 20 min responding to the closeness-generating questions, the two individuals were moved to separate rooms and the naïve participants completed a series of dependent measures that assessed their experiences during the self-disclosure task.

In Experiment 1, deprivation of autonomy was operationalized as receipt of a monetary reward for engagement in the self-disclosure task. Past research has demonstrated that contingent rewards undermine the experiences of autonomy (Houliort, Koestner, Joussemet, Nantel-Vivier, & Lokes, 2002) and intrinsic motivation (Deci, Koestner, & Ryan, 1999) in children and adults, and that reminders of money prime a self-sufficient orientation (Vohs, Mead, & Goode, 2006). In line with hypotheses, participants in the reward condition reported lower levels of autonomy and relatedness, emotional reliance, relationship satisfaction, and positive affect (marginal) compared to those in the no-reward condition. In Experiment 2, provision of autonomy was operationalized as autonomy support for engagement in the self-disclosure task. Previous research has shown that elements of autonomy support such as choice, a meaningful rationale, and acknowledgement of feelings are conducive to the experience of autonomy (Deci, Eghrari, Patrick, & Leone, 1994; Zuckerman, Porac, Lathin, Smith, & Deci, 1978). Participants in the autonomy-support condition reported higher levels of autonomy, emotional reliance, relationship satisfaction, positive affect, and vitality (marginal) compared to those in the no-support condition.

In Experiment 3, deprivation of autonomy was operationalized as ego-involvement and objective self-awareness, as both have been shown to undermine intrinsic motivation (Plant & Ryan, 1985; Ryan, 1982). Also, a behavioral measure of closeness was collected in this study, which was operationalized as the amount of distance that participants placed between two chairs for a presumed final interaction with the confederate (see Vohs et al., 2006). In parallel with the findings from the previous experiments, participants in the ego-involvement condition reported lower levels of autonomy and relatedness, emotional reliance, relationship satisfaction, positive affect, and vitality, as well as higher levels of negative affect, compared to those in the task-involvement condition. It is interesting to note that those in the ego-involvement condition put more distance between their chairs for a presumed final interaction. In Experiment 4, deprivation of autonomy was again operationalized as receipt of a monetary reward for engagement in the self-disclosure task, and results were comparable to those of Experiment 1. As well, data that assessed confederates' experiences during the self-disclosure task were collected to determine whether the adverse effect of contingent rewards would radiate to the confederates,

even though they were kept blind to experimental condition. Confederates who interacted with participants in the reward condition reported lower levels of autonomy and relatedness, relationship satisfaction, positive affect, and vitality.

In Experiment 5, dyads that consisted of two naïve participants completed a scrambled sentence task (Hodgins, Brown, & Carver, 2007) intended to prime an autonomy orientation, a controlled orientation, or a neutral orientation. Past research has suggested that the autonomy orientation is associated with more positive social experiences (Hodgins, Koestner, & Duncan, 1996). Aligned with the results of the previous experiments, autonomy-primed dyads reported higher levels autonomy and relatedness, emotional reliance, relationship satisfaction, positive affect, and vitality compared to neutral-primed dyads. As well, autonomy-primed dyads put less distance between their chairs for a presumed final interaction (the contrast between autonomy- and control-primed dyads was not tested, although the means and standard deviations for control-primed dyads were similar to the descriptive statistics for neutral-primed dyads). Taken together, the results of these experiments underscore the importance of social contexts that afford choice and minimize control for an experience of interaction quality in new, brief encounters.

Weinstein, Hodgins, and Ryan (2010) conducted two experiments to examine the causal role of primed motivation orientations on interaction quality and joint creative task performance. In a first study, previously unacquainted dyads received either an autonomy orientation prime, a controlled orientation prime, or an orientation-free neutral prime. Dyad members then completed the Remote Associates Task, a task that requires verbal creativity for success. Results suggested that autonomy-primed dyads reported higher levels of closeness, empathy, and positive affect, as well as lower levels of negative affect, compared to neutral-primed dyads. The autonomy-primed dyads also reported higher levels of engagement in the task and actually solved more problems correctly than the neutral-primed dyads. Control-primed dyads showed the opposite pattern. In a second study, previously unacquainted dyads received either an autonomy orientation prime or a controlled orientation prime, and then completed the Remote Associates Task and played a game of charades, which requires non-verbal creativity for success. Results suggested that autonomy-primed dyads exhibited higher levels of observer-coded closeness behavior, encouragement, and engagement. The autonomy-primed dyads also reported higher levels of emotional and cognitive attunement, empathy, and positive affect, as well as lower levels of negative affect, and showed a higher level of performance on each task. Together, the findings from these experiments suggest that contextual support for need satisfaction is conducive both to interaction quality and to task performance in novel interactions.

## Concluding Remarks

The concept of basic psychological needs is a unifying principle within SDT. Autonomy, competence, and relatedness specify the psychological content of human nature and can be used to understand how personal experiences and social

interactions affect the natural developmental processes that promote full functioning and organismic wellness. The purpose of this review was to highlight recent research on the importance of support for basic psychological needs across a variety of types of social experiences. Such evidence was noted in non-reciprocal relationships, in reciprocal relationships, and in brief interactions, which underscores the universal importance of need support for the promotion of psychological, physical, and social wellness.

This prompts the question of why socializers and other relational partners may, at times, be controlling, especially in light of the adverse consequences of such an interpersonal style. Of course, some endorse attitudes toward controlling others' behavior (Grolnick, Benjet, Kurowski, & Apostoleris, 1997), and these types of attitudes can be transmitted intergenerationally (Assor et al., 2004). Yet it is also important to note that experiences of pressure can induce controlling attitudes and behaviors in socializers and other relational partners, as Grolnick (2003) suggested that need support requires adequate time and psychological resources. For instance, Grolnick, Gurland, DeCoursey, and Jacob (2002) found that mothers in an ego-involving condition, which is marked by a high level of pressure, were more controlling toward their children and, in fact, their children were shown to be less creative on an experimental task.

As an alternative to a controlling style, socializers and other relational partners may adopt an attitude of trust in organismic development (Landry et al., 2008), which is marked by a belief that the natural developmental tendencies toward integration and adaptation to the environment will operate most effectively in the absence of pressure and coercion. Indeed, Landry et al. found that mothers who report higher levels of trust make fewer social comparisons about their children and have more relaxed expectations for developmental milestones. As well, these mothers were observed to be more autonomy supportive of their 1-year old child, as indicated by higher levels of flexibility, perspective taking, and following the infant's pace. Such trust was associated with fewer behavior problems over time. It would be quite interesting for future research to examine the correlates of trust in organismic development in other interpersonal domains, such as work, education, romantic relationships, health care, and athletics.

Is relatedness enough? In other words, is the sense of relatedness that can be derived from interpersonal experiences enough to facilitate personal wellness and healthy social functioning? As made clear within this review, the importance of need support—and especially support for autonomy—for the promotion of intrapersonal and interpersonal well-being is quite apparent.

## References

- Angyal, A. (1965). *Neurosis and treatment: A holistic theory*. New York: Wiley.
- Aron, A., Melinat, E., Aron, E. N., Vallone, R. D., & Bator, R. J. (1997). The experimental generation of interpersonal closeness: A procedure and some preliminary findings. *Personality and Social Psychology Bulletin*, 23, 363–377.
- Assor, A., Roth, G., & Deci, E. L. (2004). The emotional costs of parents' conditional regard: A self-determination theory analysis. *Journal of Personality*, 72, 47–88.

- Barber, B. K., & Harmon, E. L. (2002). Violating the self: Parental psychological control of children and adolescents. In B. K. Barber (Ed.), *Intrusive parenting: How psychological control affects children and adolescents* (pp. 15–52). Washington, DC: APA.
- Barkow, J. H., Cosmides, L., & Tooby, J. (1992). *The adapted mind: Evolutionary psychology and the generation of culture*. New York: Oxford University Press.
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*, 497–529.
- Bernier, A., Carlson, S. M., & Whipple, N. (2010). From external regulation to self-regulation: Early parenting precursors of young children's executive functioning. *Child Development*, *81*, 326–339.
- Beyers, W., & Goossens, L. (1999). Emotional autonomy, psychosocial adjustment, and parenting: Interactions, moderating and mediating effects. *Journal of Adolescence*, *22*, 753–769.
- Blos, P. (1979). *The adolescent passage*. Madison, CT: International Universities Press.
- Bowlby, J. (1969). *Attachment and loss: Vol. 1. Attachment*. New York: Basic Books.
- Chirkov, V. I., & Ryan, R. M. (2001). Parent and teacher autonomy-support in Russian and U.S. adolescents: Common effects on well-being and academic motivation. *Journal of Cross Cultural Psychology*, *32*, 618–635.
- Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York: HarperCollins Publishers.
- Curran, T., Hill, A. P., & Niemiec, C. P. (2013). A conditional process model of children's behavioural engagement and behavioural disaffection in sport based on self-determination theory. *Journal of Sport & Exercise Psychology*, *35*, 30–43.
- Danner, F. W., & Lonky, E. (1981). A cognitive-developmental approach to the effects of rewards on intrinsic motivation. *Child Development*, *52*, 1043–1052.
- de Charms, R. (1968). *Personal causation*. New York: Academic.
- Deci, E. L. (1971). Effects of externally mediated rewards on intrinsic motivation. *Journal of Personality and Social Psychology*, *18*, 105–115.
- Deci, E. L., Driver, R. E., Hotchkiss, L., Robbins, R. J., & Wilson, I. M. (1993). The relation of mothers' controlling vocalizations to children's intrinsic motivation. *Journal of Experimental Child Psychology*, *55*, 151–162.
- Deci, E. L., Eghrari, H., Patrick, B. C., & Leone, D. R. (1994). Facilitating internalization: The self-determination theory perspective. *Journal of Personality*, *62*, 119–142.
- Deci, E. L., Koestner, R., & Ryan, R. M. (1999). A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation. *Psychological Bulletin*, *125*, 627–668.
- Deci, E. L., La Guardia, J. G., Moller, A. C., Scheiner, M. J., & Ryan, R. M. (2006). On the benefits of giving as well as receiving autonomy support: Mutuality in close friendships. *Personality and Social Psychology Bulletin*, *32*, 313–327.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
- Deci, E. L., & Ryan, R. M. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, *11*, 227–268.
- Deci, E. L., & Ryan, R. M. (2008). Facilitating optimal motivation and psychological well-being across life's domains. *Canadian Psychology*, *49*, 14–23.
- Deci, E. L., Ryan, R. M., Gagné, M., Leone, D. R., Usunov, J., & Kornazheva, B. P. (2001). Need satisfaction, motivation, and well-being in the work organizations of a former Eastern Bloc country. *Personality and Social Psychology Bulletin*, *27*, 930–942.
- Deci, E. L., & Vansteenkiste, M. (2004). Self-determination theory and basic need satisfaction: Understanding human development in positive psychology. *Ricerche di Psicologia*, *27*, 23–40.
- Freud, S. (1960). *The ego and the id*. New York: Norton. (Original work published 1923).
- Frodi, A., Bridges, L., & Grolnick, W. S. (1985). Correlates of mastery-related behavior: A short-term longitudinal study of infants in their second year. *Child Development*, *56*, 1291–1298.
- Goldstein, K. (1963). *The organism*. Boston: Beacon.
- Gottlieb, G. (2003). Probabilistic epigenesis of development. In J. Valsiner & K. J. Connolly (Eds.), *Handbook of developmental psychology* (pp. 3–17). London: Sage.

- Grolnick, W. S. (2003). *The psychology of parental control: How well-meant parenting backfires*. Mahwah, NJ: Erlbaum.
- Grolnick, W. S., Benjet, C., Kurowski, C. O., & Apostoleris, N. H. (1997). Predictors of parent involvement in children's schooling. *Journal of Education and Psychology*, *89*, 538–548.
- Grolnick, W., Frodi, A., & Bridges, L. (1984). Maternal control styles and the mastery motivation of one-year-olds. *Infant Mental Health Journal*, *5*, 72–82.
- Grolnick, W. S., Gurland, S. T., DeCoursey, W., & Jacob, K. (2002). Antecedents and consequences of mothers' autonomy support: An experimental investigation. *Developmental Psychology*, *38*, 143–155.
- Grolnick, W. S., & Ryan, R. M. (1989). Parent styles associated with children's self-regulation and competence in school. *Journal of Education and Psychology*, *81*, 143–154.
- Hart, C. H., Nelson, D. A., Robinson, C. C., Olsen, S. F., & McNeilly-Choque, M. K. (1998). Overt and relational aggression in Russian nursery-school-age children: Parenting style and marital linkages. *Developmental Psychology*, *34*, 687–697.
- Hodgins, H. S., Brown, A. B., & Carver, B. (2007). Autonomy and control motivation and self-esteem. *Self and Identity*, *6*, 189–208.
- Hodgins, H. S., Koestner, R., & Duncan, N. (1996). On the compatibility of autonomy and relatedness. *Personality and Social Psychology Bulletin*, *22*, 227–237.
- Houliort, N., Koestner, R., Joussemet, M., Nantel-Vivier, A., & Lekes, N. (2002). The impact of performance-contingent rewards on perceived autonomy and competence. *Motivation and Emotion*, *26*, 279–295.
- Iyengar, S. S., & DeVoe, S. E. (2003). Rethinking the value of choice: Considering cultural mediators of intrinsic motivation. In V. Murphy-Berman & J. J. Berman (Eds.), *Nebraska symposium on motivation: Cross-cultural differences in perspectives on self* (Vol. 49, pp. 129–174). Lincoln, NE: University of Nebraska Press.
- Iyengar, S. S., & Lepper, M. R. (2000). When choice is demotivating: Can one desire too much of a good thing? *Journal of Personality and Social Psychology*, *79*, 995–1006.
- Jang, H., Reeve, J., & Deci, E. L. (2010). Engaging students in learning activities: It is not autonomy support or structure but autonomy support and structure. *Journal of Education and Psychology*, *102*, 588–600.
- Jordan, J. V. (1997). Do you believe that the concepts of self and autonomy are useful in understanding women? In J. V. Jordan (Ed.), *Women's growth in diversity: More writings from the Stone Center* (pp. 29–32). New York: The Guilford Press.
- Joussemet, M., Vitaro, F., Barker, E. D., Côté, S., Nagin, D. S., Zoccolillo, M., et al. (2008). Controlling parenting and physical aggression during elementary school. *Child Development*, *79*, 411–425.
- Kanat-Maymon, M., & Assor, A. (2010). Perceived maternal control and responsiveness to distress as predictors of young adults' empathic responses. *Personality and Social Psychology Bulletin*, *36*, 33–46.
- Kasser, T., & Ryan, R. M. (1996). Further examining the American dream: Differential correlates of intrinsic and extrinsic goals. *Personality and Social Psychology Bulletin*, *22*, 280–287.
- Kauffman, S., & Clayton, P. (2006). On emergence, agency, and organization. *Biology and Philosophy*, *21*, 501–521.
- Kelley, H. H., & Thibaut, J. W. (1978). *Interpersonal relations: A theory of interdependence*. New York: Wiley.
- Kidd, C., Piantadosi, S. T., & Aslin, R. N. (2012). The goldilocks effect: Human infants allocate attention to visual sequences that are neither too simple nor too complex. *PLoS ONE*, *7*, e36399.
- Koestner, R., Ryan, R. M., Bernieri, F., & Holt, K. (1984). Setting limits on children's behavior: The differential effects of controlling versus informational styles on children's intrinsic motivation and creativity. *Journal of Personality*, *54*, 233–248.
- La Guardia, J. G., & Patrick, H. (2008). Self-determination theory as a fundamental theory of close relationships. *Canadian Psychology*, *49*, 201–209.



- La Guardia, J. G., Ryan, R. M., Couchman, C. E., & Deci, E. L. (2000). Within-person variation in security of attachment: A self-determination theory perspective on attachment, need fulfillment, and well-being. *Journal of Personality and Social Psychology*, *79*, 367–384.
- Landry, R., Whipple, N., Mageau, G., Joussemet, M., Koestner, R., DiDio, L., et al. (2008). Trust in organismic development, autonomy support, and adaptation among mothers and their children. *Motivation and Emotion*, *32*, 173–188.
- Levy-Warren, M. H. (1999). I am, you are, and so are we: A current perspective on adolescent separation-individuation theory. In A. Esham, L. T. Flaherty, & H. A. Horowitz (Eds.), *Adolescent psychiatry: Vol. 24. Developmental and clinical studies* (pp. 3–24). Hillsdale, NJ: Analytic Press.
- Loevinger, J. (1976). *Ego development*. San Francisco: Jossey-Bass.
- Lopez, F. G., Campbell, V. L., & Watkins, C. E. (1988). Family structure, psychological separation, and college adjustment: A canonical analysis and cross-validation. *Journal of Counseling Psychology*, *35*, 402–409.
- Luyckx, K., Soenens, B., Vansteenkiste, M., Goossens, L., & Berzonsky, M. D. (2007). Parental psychological control and dimensions of identity formation in emerging adulthood. *Journal of Family Psychology*, *21*, 546–550.
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, *92*, 224–253.
- Markus, H. R., & Kitayama, S. K. (2003). Models of agency: Sociocultural diversity in the construction of action. In V. Murphy-Berman & J. J. Berman (Eds.), *Nebraska symposium on motivation: Cross-cultural differences in perspectives on self* (Vol. 49, pp. 1–57). Lincoln, NE: University of Nebraska Press.
- Maslow, A. H. (1968). *Toward a psychology of being*. New York: Van Nostrand.
- Murray, S. L., Holmes, J. G., Aloni, M., Pinkus, R. T., Derrick, J. L., & Leder, S. (2009). Commitment insurance: Compensating for the autonomy costs of interdependence in close relationships. *Journal of Personality and Social Psychology*, *97*, 256–278.
- Niemiec, C. P., & Deci, E. L. (2012). *The effects of provision and deprivation of autonomy on interaction quality between strangers*. Unpublished manuscript, University of Rochester, Rochester, NY.
- Niemiec, C. P., Lynch, M. F., Vansteenkiste, M., Bernstein, J., Deci, E. L., & Ryan, R. M. (2006). The antecedents and consequences of autonomous self-regulation for college: A self-determination theory perspective on socialization. *Journal of Adolescence*, *29*, 761–775.
- Niemiec, C. P., & Ryan, R. M. (2009). Autonomy, competence, and relatedness in the classroom: Applying self-determination theory to educational practice. *Theory and Research in Education*, *7*, 133–144.
- Niemiec, C. P., & Ryan, R. M. (2013). What makes for a life well lived? Autonomy and its relation to full functioning and organismic wellness. In S. A. David, I. Boniwell, & A. C. Ayers (Eds.), *The oxford handbook of happiness* (pp. 214–226). Oxford, UK: Oxford University Press.
- Niemiec, C. P., Ryan, R. M., & Deci, E. L. (2009). The path taken: Consequences of attaining intrinsic and extrinsic aspirations in post-college life. *Journal of Research in Personality*, *43*, 291–306.
- Niemiec, C. P., Ryan, R. M., & Deci, E. L. (2010). Self-determination theory and the relation of autonomy to self-regulatory processes and personality development. In R. H. Hoyle (Ed.), *Handbook of personality and self-regulation* (pp. 169–191). Malden, MA: Blackwell Publishing.
- Niemiec, C. P., Ryan, R. M., Deci, E. L., & Williams, G. C. (2009). Aspiring to physical health: The role of aspirations for physical health in facilitating long-term tobacco abstinence. *Patient Education and Counseling*, *74*, 250–257.
- Niemiec, C. P., Ryan, R. M., Patrick, H., Deci, E. L., & Williams, G. C. (2010). The energization of health-behavior change: Examining the associations among autonomous self-regulation, subjective vitality, depressive symptoms, and tobacco abstinence. *The Journal of Positive Psychology*, *5*, 122–138.

- Patall, E. A., Cooper, H., & Robinson, C. (2008). The effects of choice on intrinsic motivation and related outcomes: A meta-analysis of research findings. *Psychological Bulletin*, *134*, 270–300.
- Patrick, H., Knee, C. R., Canevello, A., & Lonsbary, C. (2007). The role of need fulfillment in relationship functioning and well-being: A self-determination theory perspective. *Journal of Personality and Social Psychology*, *92*, 434–457.
- Peterson, A. C., & Taylor, B. (1980). The biological approach to adolescence: Biological change and psychological adaptation. In J. Adelson (Ed.), *Handbook of adolescent psychology* (pp. 117–155). New York: Wiley.
- Piaget, J. (1971). *Biology and knowledge*. Chicago: University of Chicago Press.
- Plant, R. W., & Ryan, R. M. (1985). Intrinsic motivation and the effects of self-consciousness, self-awareness, and ego-involvement: An investigation of internally controlling styles. *Journal of Personality*, *53*, 435–449.
- Reeve, J. (2002). Self-determination theory applied to educational settings. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of self-determination research* (pp. 183–203). Rochester, NY: University of Rochester Press.
- Rogers, C. R. (1957). The necessary and sufficient conditions of therapeutic personality change. *Journal of Consulting Psychology*, *21*, 95–103.
- Rogers, C. R. (1963). The actualizing tendency in relation to “motives” and to consciousness. In M. R. Jones (Ed.), *Nebraska symposium on motivation* (Vol. 11, pp. 1–24). Lincoln, NE: University of Nebraska Press.
- Roth, G., Assor, A., Niemiec, C. P., Ryan, R. M., & Deci, E. L. (2009). The emotional and academic consequences of parental conditional regard: Comparing conditional positive regard, conditional negative regard, and autonomy support as parenting practices. *Developmental Psychology*, *45*, 1119–1142.
- Ryan, R. M. (1982). Control and information in the intrapersonal sphere: An extension of cognitive evaluation theory. *Journal of Personality and Social Psychology*, *43*, 450–461.
- Ryan, R. M. (1991). The nature of the self in autonomy and relatedness. In J. Strauss & G. R. Goethals (Eds.), *The self: Interdisciplinary approaches* (pp. 208–238). New York: Springer.
- Ryan, R. M. (1995). Psychological needs and the facilitation of integrative processes. *Journal of Personality*, *63*, 397–427.
- Ryan, R. M., Chirkov, V. I., Little, T. D., Sheldon, K. M., Timoshina, E., & Deci, E. L. (1999). The American dream in Russia: Extrinsic aspirations and well-being in two cultures. *Personality and Social Psychology Bulletin*, *25*, 1509–1524.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, *55*, 68–78.
- Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. In S. T. Fiske, D. L. Schacter, & C. Zahn-Waxler (Eds.), *Annual review of psychology* (Vol. 52, pp. 141–166). Palo Alto, CA: Annual Reviews, Inc.
- Ryan, R. M., & Deci, E. L. (2002). Overview of self-determination theory: An organismic dialectical perspective. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of self-determination research* (pp. 3–33). Rochester, NY: University of Rochester Press.
- Ryan, R. M., & Deci, E. L. (2006). Self-regulation and the problem of human autonomy: Does psychology need choice, self-determination, and will? *Journal of Personality*, *74*, 1557–1585.
- Ryan, R. M., Huta, V., & Deci, E. L. (2008). Living well: A self-determination theory perspective on eudaimonia. *Journal of Happiness Studies*, *9*, 139–170.
- Ryan, R. M., La Guardia, J. G., Solky-Butzel, J., Chirkov, V., & Kim, Y. (2005). On the interpersonal regulation of emotions: Emotional reliance across gender, relationships, and cultures. *Personal Relationships*, *12*, 145–163.
- Ryan, R. M., & Lynch, J. H. (1989). Emotional autonomy versus detachment: Revisiting the vicissitudes of adolescence and young adulthood. *Child Development*, *60*, 340–356.
- Ryan, R. M., Mims, V., & Koestner, R. (1983). Relation of reward contingency and interpersonal context to intrinsic motivation: A review and test using cognitive evaluation theory. *Journal of Personality and Social Psychology*, *45*, 736–750.

- Ryan, R. M., & Powelson, C. L. (1991). Autonomy and relatedness as fundamental to motivation and education. *The Journal of Experimental Education*, *60*, 49–66.
- Ryan, R. M., Stiller, J., & Lynch, J. H. (1994). Representations of relationships to teachers, parents, and friends as predictors of academic motivation and self-esteem. *Journal of Early Adolescence*, *14*, 226–249.
- Schwartz, B. (2000). Self-determination: The tyranny of freedom. *American Psychologist*, *55*, 79–88.
- Shapira, Z. (1976). Expectancy determinants of intrinsically motivated behavior. *Journal of Personality and Social Psychology*, *34*, 1235–1244.
- Sheldon, K. M., & Niemiec, C. P. (2006). It's not just the amount that counts: Balanced need satisfaction also affects well-being. *Journal of Personality and Social Psychology*, *91*, 331–341.
- Sierens, E., Vansteenkiste, M., Goossens, L., Soenens, B., & Dochy, F. (2009). The synergistic relationship of perceived autonomy support and structure in the prediction of self-regulated learning. *British Journal of Educational Psychology*, *79*, 57–68.
- Soenens, B., Neyrinck, B., Vansteenkiste, M., Dezutter, J., Hutsebaut, D., & Duriez, B. (2012). How do perceptions of God as autonomy supportive or controlling relate to individuals' social-cognitive processing of religious contents? The role of motives for religious behavior. *The International Journal for the Psychology of Religion*, *22*, 10–30.
- Soenens, B., & Vansteenkiste, M. (2010). A theoretical upgrade on the concept of parental psychological control: Proposing new insights on the basis of self-determination theory. *Developmental Review*, *30*, 74–99.
- Soenens, B., Vansteenkiste, M., Goossens, L., Duriez, B., & Niemiec, C. P. (2008). The intervening role of relational aggression between psychological control and friendship quality. *Social Development*, *17*, 661–681.
- Soenens, B., Vansteenkiste, M., Lens, W., Luyckx, K., Goossens, L., Beyers, W., et al. (2007). Conceptualizing parental autonomy support: Adolescent perceptions of promotion of independence versus promotion of volitional functioning. *Developmental Psychology*, *43*, 633–646.
- Soenens, B., Vansteenkiste, M., Luyten, P., Duriez, B., & Goossens, L. (2005). Maladaptive perfectionistic self-representations: The mediational link between psychological control and adjustment. *Personality and Individual Differences*, *38*, 487–498.
- Soenens, B., Vansteenkiste, M., & Niemiec, C. P. (2009). Should parental prohibition of adolescents' peer relationships be prohibited? *Personal Relationships*, *16*, 507–530.
- Soenens, B., Vansteenkiste, M., & Sierens, E. (2009). How are parental psychological control and autonomy-support related? A cluster-analytic approach. *Journal of Marriage and Family*, *71*, 187–202.
- Soenens, B., Vansteenkiste, M., Vandereycken, W., Luyten, P., Sierens, E., & Goossens, L. (2008). Perceived parental psychological control and eating-disordered symptoms: Maladaptive perfectionism as a possible intervening variable. *Journal of Nervous and Mental Disease*, *196*, 144–152.
- Stephens, N. M., Markus, H. R., & Townsend, S. S. M. (2007). Choice as an act of meaning: The case of social class. *Journal of Personality and Social Psychology*, *93*, 814–830.
- Taylor, I. M., & Ntoumanis, N. (2007). Teacher motivational strategies and student self-determination in physical education. *Journal of Education and Psychology*, *99*, 747–760.
- Thøgersen-Ntoumani, C., Ntoumanis, N., & Nikitaras, N. (2010). Unhealthy weight control behaviours in adolescent girls: A process model based on self-determination theory. *Psychology and Health*, *25*, 535–550.
- Vallerand, R. J., & Reid, G. (1984). On the causal effects of perceived competence on intrinsic motivation: A test of cognitive evaluation theory. *Journal of Sport Psychology*, *6*, 94–102.
- Van den Broeck, A., Vansteenkiste, M., De Witte, H., Soenens, B., & Lens, W. (2010). Capturing autonomy, competence, and relatedness at work: Construction and initial validation of the Work-related Basic Need Satisfaction scale. *Journal of Occupational and Organizational Psychology*, *83*, 981–1002.
- van IJzendoorn, M. (1995). Adult attachment representations, parental responsiveness, and infant attachment: A meta-analysis on the predictive validity of the Adult Attachment Interview. *Psychological Bulletin*, *117*, 387–403.

- Vansteenkiste, M., Lens, W., Soenens, B., & Luyckx, K. (2006). Autonomy and relatedness among Chinese sojourners and applicants: Conflictual or independent predictors of well-being and adjustment? *Motivation and Emotion, 30*, 273–282.
- Vansteenkiste, M., Neyrinck, B., Niemiec, C. P., Soenens, B., de Witte, H., & Van den Broeck, A. (2007). On the relations among work value orientations, psychological need satisfaction and job outcomes: A self-determination theory approach. *Journal of Occupational and Organizational Psychology, 80*, 251–277.
- Vansteenkiste, M., Niemiec, C. P., & Soenens, B. (2010). The development of the five mini-theories of self-determination theory: An historical overview, emerging trends, and future directions. In T. C. Urdan & S. A. Karabenick (Eds.), *Advances in motivation and achievement, v. 16A—The decade ahead: Theoretical perspectives on motivation and achievement* (pp. 105–165). London: Emerald Group Publishing Limited.
- Vansteenkiste, M., Simons, J., Lens, W., Sheldon, K. M., & Deci, E. L. (2004). Motivating learning, performance, and persistence: The synergistic effects of intrinsic goal contents and autonomy-supportive contexts. *Journal of Personality and Social Psychology, 87*, 246–260.
- Vohs, K. D., Mead, N. L., & Goode, M. R. (2006). The psychological consequences of money. *Science, 314*, 1154–1156.
- Weinstein, N., Hodgins, H. S., & Ryan, R. M. (2010). Autonomy and control in dyads: Effects on interaction quality and joint creative performance. *Personality and Social Psychology Bulletin, 36*, 1603–1617.
- White, R. W. (1959). Motivation reconsidered: The concept of competence. *Psychological Review, 66*, 297–333.
- Williams, G. C., Niemiec, C. P., Patrick, H., Ryan, R. M., & Deci, E. L. (2009). The importance of supporting autonomy and perceived competence in facilitating long-term tobacco abstinence. *Annals of Behavioral Medicine, 37*, 315–324.
- Wong, M. M. (2008). Perceptions of parental involvement and autonomy support: Their relations with self-regulation, substance use and resilience among adolescents. *North American Journal of Psychology, 10*, 497–518.
- Zuckerman, M., Porac, J. F., Lathin, D., Smith, R., & Deci, E. L. (1978). On the importance of self-determination for intrinsically motivated behavior. *Personality and Social Psychology Bulletin, 4*, 443–446.