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## Conceptualizing Parental Autonomy Support: Adolescent Perceptions of Promotion of Independence versus Promotion of Volitional Functioning

Soenens, B. Vansteenkiste, M., Lens, W., Luyckx, K., Goossens, L., Beyers, W., & Ryan, R. M.

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In current research on parenting, two ways of conceptualizing perceived parental autonomy support can be distinguished. Whereas various developmental researchers define autonomy support as parents' Promotion of Independence (PI), it is viewed as the Promotion of Volitional Functioning (PVF) within self-determination theory. The aim of the present study was to establish the empirical distinctiveness of both conceptualizations and to examine their relative contribution to the prediction of adolescents' adjustment. Based on self-determination theory, it was expected that perceived PVF is more fundamental to adolescents' well-being than perceived PI. Factor analyses pointed to the distinction between perceived PVF and PI. Further, results of three studies, among both middle and late adolescents, indicated that perceived PVF was a stronger predictor of adjustment than perceived PI. Finally, it was demonstrated that adolescents' self-determined functioning mediates the relationship between perceived parental PVF and adjustment. Results are discussed in terms of the type of autonomy that parents might want to facilitate among their adolescents to foster their well-being.



## Introduction

Various developmental and motivational researchers (Hill & Holmbeck, 1986; Ryan & LaGuardia, 2000; Ryan, 1993; Steinberg, 1989) consider the emergence of a more autonomous functioning as a crucial developmental process for adolescents. As a consequence, an important task for parents is to support their offspring's autonomous regulation. However, opinions diverge on how this developmental process should be understood and how the concept of parental autonomy support should be defined and assessed (Goossens, in press; Hmel & Pincus, 2002; Zimmer-Gembeck & Collins, 2003). Whereas some developmental psychologists view parental autonomy support as the promotion of independent functioning (Gray & Steinberg, 1999; Silk, Morris, Kanaya, & Steinberg, 2003), within Self-Determination Theory (SDT; Deci & Ryan, 2000; Grolnick, 2003), parental autonomy support is conceptualized in terms of the encouragement of adolescents' enactment upon their true personal interests and values (i.e., promotion of volitional functioning). Although developmental psychologists argue that promotion of independence is predictive of optimal functioning, we hypothesized, on the basis of SDT, (a) that promoting volitional functioning would be more fundamental to adolescents' well-being than promoting independence and (b) that this effect would occur because adolescents who perceive their parents as promoting volitional functioning would function in a more self-determined fashion. After outlining the conceptualization of autonomy that underlies each type of parental autonomy support, we describe these two types of parental autonomy support in greater detail.

### *Adolescent Autonomy*

#### *Autonomy as Separation-Individuation*

Several developmental researchers view adolescents' development of autonomy as a process of separation-individuation (Blos, 1979; Levy-Warren, 1999). According to this view, autonomy development entails a double movement in which adolescents physically and emotionally distance themselves from their parents (separation) and increasingly take responsibility for themselves without strongly depending or relying on their parents (individuation or independence). In ideal circumstances,

this process would result in higher levels of independent functioning in the behavioral, cognitive and emotional domain (Collins, Gleason, & Sesma, 1997; Steinberg & Silverberg, 1986). The opposite of high independence is conformity to expectations or dependence on parents for making decisions.

In separation-individuation theory, it is claimed that both the process of emotional separation and the subsequent development of independent functioning would result in adaptive developmental outcomes (Blos, 1979). Empirical research, however, has generally failed to provide consistent evidence for this claim. First, research with the Emotional Autonomy Scale (EAS; Steinberg & Silverberg, 1986), a questionnaire that aims to assess core aspects of the emotional separation process, showed consistent relations with negative adolescent functioning (e.g., Beyers & Goossens, 1999), as well as with greater feelings of insecurity towards parents (e.g., Ryan & Lynch, 1989). Thus, it appears that separating oneself from parental influences may have emotional costs and may be at odds with a positive, secure parent-child relationship (Ryan & Lynch, 1989).

Second, research pertaining to the second phase of the separation-individuation process -- the development of independence -- has yielded equivocal evidence as well. Some studies using Hoffman's (1984) Psychological Separation Inventory (which taps functional, attitudinal, emotional, and conflictual independence) found overall positive relations between dimensions of independence and adolescent adjustment (e.g., Beyers & Goossens, 2003). Other studies (e.g., Lopez, Campbell, & Watkins, 1988), however, found that some dimensions of independence are unrelated or even negatively related to adjustment. Notably, if any of these aspects of independence appeared adaptive, it was conflictual independence, that is, being free from feelings of guilt and resentment towards parents (Lapsley & Edgerton, 2002; Rice, Cole, & Lapsley, 1990). However, defined in this way, conflictual independence seems to refer primarily to the quality of the parent-child relationship rather than to the intrapsychic process of becoming independent as such.

On the basis of such findings, it has been argued that the background against which development towards independence takes place ("how") might be more fundamental to adolescents' development

than the occurrence of this developmental process (“what”) as such (Grotevant & Cooper, 1986; Hill & Holmbeck, 1986). For instance, Grotevant and Cooper (1986) argued that optimal development towards autonomy will only take place within a supportive parent-child relationship. Similarly, Hill and Holmbeck (1986) recognize that striving for independence, as such, is not the most optimal or even most common way of attaining a sense of autonomy. According to Hill and Holmbeck (1986), positive autonomy development needs to be defined in terms of a process of self-governance which does not preclude supportive relationships with parents. Similarly, SDT (Deci & Ryan, 2000) has defined autonomy in terms of self-governance.

### *Autonomy as Self-Determination*

Within SDT, autonomy is defined as the degree to which behaviors are enacted with a sense of volition (Deci & Ryan, 2000). Highly autonomous or self-determined adolescents fully endorse the actions in which they engage and stand behind their actions. They are self-governing because they base their actions on awareness of personal interests and abiding values and goals. In SDT, the opposite of autonomy is not dependence but heteronomy, that is, the feeling of being controlled in one’s actions by external forces or by internal compulsions (Chirkov, Ryan, Kim, & Kaplan, 2003).

In contrast to a conceptualization of autonomy as independence, which refers to not relying on others, self-determination is defined as possessing a sense of volition and choicefulness (Ryan, 1993; Ryan, LaGuardia, Solky-Butzel, Chirkov, & Kim, 2005; Vansteenkiste, Zhou, Lens, & Soenens, 2005). Importantly, highly independent individuals do not necessarily function in a volitional way. For instance, one can be independent because one has detached from unreliable or uncaring others, one can be independent “reactively” as in rebellion, or one can be independent because this has been fostered as a value, but lack a sense of volition because one is not in touch with inner feelings, needs, or concerns. Similarly, an adolescent could be, according to SDT, volitionally or autonomously dependent, as when he/she willingly relies on parents for guidance or support. Hence, there are many reasons why independence is not the same as volitional functioning.

According to SDT, experiencing a sense of autonomy and choicefulness in one's actions is critical for people's optimal functioning, and several studies in various life domains have confirmed this claim (for overviews see Deci & Ryan, 2000; Ryan & Deci, 2002; Vallerand, 1997). Moreover, it has been found that self-determined functioning is promoted within a supportive, non-coercive family climate (Grolnick, 2003; Soenens & Vansteenkiste, 2005). These findings confirm the idea that volitional functioning need not necessarily go hand in hand with distancing oneself from parents and with a worsening of the quality of the parent-child relationship.

### *Parental Autonomy Support*

Paralleling the difference between the two approaches to define adolescent autonomy, two different conceptualizations can be found in the literature on perceived parental autonomy support.

#### *Autonomy Support as Promotion of Independence (PI)*

In line with the idea that adolescent autonomy entails a process of becoming independent, a number of authors have defined parental autonomy support as parents' promotion of adolescents' independent expression, thinking, and decision-making (Gray & Steinberg, 1999; Silk et al., 2003; Steinberg & Silk, 2002). Within this view, parents can react to the adolescents' increasing demands for independence and personal responsibility either by granting them freedom and independence or by maintaining the adolescent's dependence (Steinberg & Silk, 2002). Hence, within this view, the opposite of Promotion of Independence is the fostering of a relationship in which the adolescent is (overly) reliant on the parent. Notably, this conceptualization of autonomy support primarily pertains to *what* parents promote (independence versus dependence) rather than to how parents promote autonomy. Silk et al. (2003) recently devised a short measure to tap PI, using items such as "My parents emphasize that it is important to get my ideas across even if others don't like it" or "My parents keep pushing me to think independently" (Silk et al., 2003, p. 122). PI was shown to predict indicators of adolescent adjustment (e.g., self-esteem), suggesting that PI, as such, is positively related to adolescents' well-being.

### *Autonomy Support as Promotion of Volitional Functioning (PVF)*

In contrast to a view on adolescent autonomy as independence, SDT views autonomy as the development of a more volitional functioning, so that experience themselves as enacting behaviors willingly on the basis of well internalized values or true interests (Ryan, Deci, & Grolnick, 1995). Accordingly, parental promotion of volitional functioning (PVF) is defined as a characteristic of parents who are empathic to their children's perspective, who provide choices to their children whenever it is possible, minimize the use of control and power assertion, and help their offspring to explore and enact upon their true personal values and interests (Grolnick, 2003; Ryan et al., 1995). Autonomy support thus entails acknowledgement of the other's perceptions, acceptance of the other's feelings, and facilitation of self-initiated expression and action (Ryan & Solky, 1996). As such, PVF primarily pertains to *how* parents promote autonomy. Parents' PVF has been shown to be a strong predictor of children's well-being and academic functioning (e.g., Grolnick, Ryan, & Deci, 1991; Grolnick, 2003).

### *The Present Study*

Three studies were conducted to examine four issues. First, we explored whether perceived parental PVF and perceived parental PI represent two distinct constructs and can be reliably measured (Study 1 through 3). Second, we examined the relative contribution of perceived PVF and PI in the prediction of adolescent psychosocial adjustment (Studies 1 through 3). Third, we examined mediating processes that underlie the expected relationships between both types of autonomy support and psychosocial adjustment (Study 2 and 3). Fourth, to verify whether our hypotheses would be valid across adolescent age, they were examined in samples of late (Studies 1 and 2) and middle adolescents (Study 3). Each of these four issues is outlined in greater detail below.

### *Distinguishing Between PVF and PI*

PVF and PI pertain to parents' attempts to deal with the same underlying process in their children, namely the development of more autonomous functioning. Specifically, both PVF and PI deal with the issue of having children make personal decisions and choices. In spite of this common defining

feature, it has been argued within SDT that parental PI is distinct from parental PVF for at least two reasons (Grolnick, 2003; Ryan & Solky, 1996).

First, whereas parents high on PI want their children to make decisions and choices independent from them (and may or may not pressure their children to do so), parents high on PVF primarily encourage their children to make choices and decisions that reflect the child's true values and interests. The latter type of choices and decisions are not necessarily made independent from the parent: parents high on PVF would not oblige their children to make decisions on their own, and they may even provide inputs, opinions and guidance. Yet an autonomy supportive parent would not want their child to merely comply, but rather to endorse whatever action followed, and experience a sense of choice. This might include allowing their child to depend on them for decisions or follow the parents' lead if this is what the child really valued or desired. Thus, from the SDT-perspective, parents high on PVF do not necessarily foster independence and, conversely, the promotion of independent decision-making can occur either in a volitional (i.e., reflecting the child's abiding goals and values) or in a controlling fashion (i.e., imposed by the parents).

Second, SDT maintains that a lack of choice, in the mundane sense of "having options", does not necessarily preclude that one can act in a volitional fashion. For instance, when parents teach rules and norms, a child may be given no options but to follow the prescribed rules. A key issue, however, is how the parents lead the child to act in accord with such rules. To foster volitional functioning a parent would, for example, communicate the relevance and meaning of the introduced norms and rules, so that the child can fully grasp their importance, and internalize the rule as his or her own, thereby feeling volitional when following it (see Reeve, Jang, Hardre & Omura, 2002). Contrast this with enforcement of a rule through coercion or authority, which may ensure compliance without fostering volition or internalization. Moreover, when enforcing rules or setting limits parents high on PVF would still be interested in the child's perspective, and empathic with contrary feelings (see Deci, Eghrari, Patrick & Leone, 1994; Koestner, Ryan, Bernieri & Holt, 1984). That is, they would not deny a child's "voice", even



when there is no "choice". Hence, even when parents cannot offer any choice (options), they can still promote volitional functioning by explaining the relevance of a particular behavior and by remaining interested in the child's perspective or internal frame of reference. Importantly then, when a rule is introduced that is not optional, it is definitionally clear that parents are not fostering independence per se, because the child must follow the rule and does not develop or decide on this norm separately or independently from the parent. However, the parents could either promote volitional functioning or coerce the child in this circumstance.

For these reasons, it is expected (a) that PVF and PI will be positively correlated, but (b) that they will nonetheless represent distinct dimensions of parental autonomy support.

### *Unique Predictive Value of PVF and PI for Adolescent Psychosocial Functioning*

We expected that, at the correlational level, PI and PVF would relate positively to adjustment. However, when controlling for the variance shared by PVF and PI, it was hypothesized that PVF would be more strongly predictive of adolescents' adjustment than PI, for two reasons. First, relative to PVF, PI is somewhat more likely to be associated with feelings of detachment from parents (Grolnick et al., 1997). Some children of independence-promoting parents may experience their parents' encouragement of independence as an attempt to loosen ties with the parents. In contrast, parents' PVF is thought to relate negatively to feelings of detachment from parents because it involves a more supportive and secure parent-child relationship (Grolnick et al., 1997). In developing a more autonomous and volitional regulation adolescents do not need to give up their sense of relatedness with their parents, because both processes are seen as fully compatible (Koestner & Losier, 1996). The absence of feelings of detachment from parents or, conversely, the positive sense of relatedness with parents associated with PVF may, in turn, foster adaptive functioning (Grolnick, 2003).

Second, as outlined earlier, the emotional climate or the background against which the development of independence occurs has been shown to be more predictive of adolescent adjustment than the development of independence as such (Beyers & Goossens, 2003; Rice et al., 1990). In line

with this, SDT assumes that PVF is more fundamental to adolescents' well-being than PI (Grolnick et al., 1997; Ryan & Solky, 1996). This argument also follows from the assumption that PVF gives rise to more self-determined functioning, which is thought to be a critical determinant of optimal development.

### *Self-Determination as a Mediator*

A third goal was to explore the psychological mechanisms that could account for the hypothesized positive association between perceived parental PVF and adolescent adjustment. Consistent with SDT, we propose that parents who take an empathic perspective towards their offspring, allow for participation and choice, and provide a meaningful rationale when choice is limited (i.e., parents high on PVF) will nurture adolescents' capacity to become aware of and act upon their personal interests and values. Parental autonomy support, as defined within SDT, should lead to better adjustment, because adolescents are acting in a more willing and volitional fashion (Grolnick et al., 1997). It was hypothesized, therefore, that adolescents' general tendency to act in a volitional manner (as assessed with the Self-Determination Index; Sheldon & Deci, 1996) would mediate the association between perceived parental PVF and adolescent psychosocial functioning.

This hypothesis is in line with previous research which has shown that people's global tendency to act in a self-determined fashion positively predicts daily psychological well-being, whereas it negatively relates to negative affect (Sheldon, Ryan, & Reis, 1996). It is also in line with studies showing that domain-specific self-determined functioning (e.g., in areas such as education, friendships, and job-search) significantly mediates the relationship between parental PVF and adolescent domain-specific adjustment (e.g., Grolnick, et al., 1991; Soenens & Vansteenkiste, 2005).

### *Age as a Moderator*

A final question concerns the role of developmental (age) differences in the relation between autonomy support and adolescent psychosocial functioning, because separation-individuation theory and SDT hold divergent views regarding this issue. Within separation-individuation theory, adolescent age has been proposed and studied as moderator of the relation between adolescent autonomy

(defined as independence) and adolescent psychosocial functioning (e.g., Beyers & Goossens, 1999, 2003). Separation and independence would be more adaptive with increasing age because a striving for independence at an early age (e.g., during early or middle adolescence) may lead to premature detachment. Conversely, during late adolescence (i.e., the age period between about 18-25 years of age) obtaining a certain degree of independence is viewed as a normative developmental task, the resolution of which is a necessary step towards optimal functioning (e.g., Goossens, in press; Levy-Warren, 1999). This reasoning indicates that separation-individuation theory would argue that PI is more adaptive for the adjustment of late adolescents (18-25 years), which were sampled in Studies 1 and 2, compared to the adjustment of middle adolescents (14-18 years), which were sampled in Study 3.

In contrast to this prediction regarding autonomy conceived of as independence, SDT argues that when we are considering autonomy as volition there should be no such age trend. In this view, PVF is beneficial to individuals' well-being across developmental periods and across age (Grolnick, 2003; Ryan, 1993; Vansteenkiste, 2005). Put differently, experiencing oneself as the initiator of one's behavior and experiencing a social environment which fosters such an experience is thought to satisfy a basic human need for autonomy and should facilitate well-being in all age groups (Ryan, Deci & Grolnick, 1995). Thus, SDT argues that both middle and late adolescents who perceive their parents as promoting volitional functioning would invariantly display higher well-being.

## STUDY 1

Through exploratory and confirmatory factor analysis, Study 1 aimed to validate the distinction between perceived parental PVF and PI. Further, to externally validate the distinction between PVF and PI, both dimensions were related to the construct of parental psychological control. Psychological control has been defined as a set of parental behaviors that intrude upon the child's feelings, thoughts, and behavior by using internally controlling tactics such as guilt induction and love withdrawal (Barber, 1996). It is hypothesized that PI will be relatively unrelated to psychological control and that PVF will be strongly negatively related to it. Evidence for the relative independence of PI and psychological control

was obtained by Silk et al. (2003) who found a low but negative correlation between psychological control and PI ( $r = -.18$ ). This suggests that the extent to which parents encourage their children to become independent is largely unrelated to the degree to which parents use psychological control. In contrast, according to SDT, psychological control and PVF are highly incompatible parenting dimensions (Grolnick, 2003; Vansteenkiste, Simons et al., 2005). Whereas psychologically controlling parents are preoccupied with their personal position in the relationship with the child and attempt to elicit the child's compliance through internally controlling means (Barber & Harmon, 2002), parents high on PVF are attuned to the child's needs and encourage the child to develop and behave in accord with self-endorsed values and interests (Grolnick, 2003; Ryan & Solky, 1996). Consistent with this interpretation, strong negative correlations between PVF and psychological control have been reported (ranging from  $-.50$  to  $-.73$ ; Soenens & Vansteenkiste, 2005; Vansteenkiste et al., 2005). A final goal of Study 1 was to examine the relative contribution of PVF and PI in the prediction of adolescent psychosocial functioning, which was defined by high levels of self-worth and social adjustment and low levels of depressive feelings.

## Method

### *Participants*

Participants were 396 first-year psychology students at a Belgian university. Because the present study focused on late adolescents, participants older than 25 years were not included. The final sample ( $N = 390$ ) ranged in age from 17 to 25 with a mean of 18.70 ( $SD = 1.34$ ) and was 79% female. All participants were Dutch-speaking and of Belgian nationality. Of the participants, 80% came from intact, two-parent families, 18% had divorced parents, and 2% of the adolescents came from a family in which one of the parents had deceased. It is important to note that the large majority of university students in Belgium (i.e., > 95%) either still lives with their parents (i.e., commuters) or returns home every weekend (see Luyckx, Soenens, Vansteenkiste, Goossens, & Berzonsky, in press). Hence, with few exceptions, Belgian university students still live with their parents and have frequent contacts with them.

The study took place in the context of collective testing sessions that are organized at our department. Participation in the study was voluntary and participants received course credit for attending the sessions. Students who opted not to participate were allowed to work at their desk. However, none of the students refused participation. Anonymity was guaranteed.

### *Measures*

All questionnaires (with the exception of the Social Well-Being Scale which was originally developed in Dutch – see below) were translated into Dutch, the participants' mother tongue using a committee approach. This approach involved that three authors of this paper translated the scales individually after which the translations were discussed in committee. Differences in translations were discussed and disagreements were resolved through consensus. Specifically with regard to the parental autonomy support items, we also used a translation – back translation procedure (Hambleton, 1994), because these were the items of primary interest. All items were first translated into Dutch within the committee. Next, items were translated into English by another person and another person matched the original items and the items translated into English. Correct matching was achieved for all items in the two scales tapping parental autonomy support. Unless indicated otherwise, items were scored on 5-point Likert scales, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

*Promotion of Independence and Promotion of Volitional Functioning.* As a measure of PI, we administered the eight items that were used in the Silk et al. (2003) study to measure 'autonomy granting' (e.g., "My parents emphasize that every member of the family should have some say in family decisions"). These items were selected by Silk et al. (2003) from a larger inventory. However, in a pilot study we found that one of the items from this scale ("I let my child make his/her own plans for things he/she wants to do") was classified by content coders as PVF rather than PI. Indeed, in our view, this item refers to parents' provision and support of options and volitionally enacted choices rather than to the promotion of independent decision making. Hence, this item was hypothesized to load on the PVF factor. Moreover, we added two items to the PI scale. In a series of pilot studies, these two added items

(“My parents often say that I have to think about my own life” and “My parents encourage me to be independent”) were unanimously classified by three content coders as tapping PI. In addition, exploratory factor analyses in three samples of middle adolescents ( $N = 338$ ), late adolescents ( $N = 336$ ), and parents ( $N = 312$ ) consistently demonstrated that these two items loaded on a separate factor than five PVF-items which were drawn from the Perceptions of Parents Scale (Grolnick et al., 1991; see below). The inclusion of these two items resulted in a 9-item scale for PI (see Table 8.1).

Table 8.1 *Factor Loadings of the PCA Following Oblique Rotation (PROMAX) (Study 1)*

Items	Factor	
	PVF	PI
My mother / father ...		
emphasizes that every family member should have some say in family decisions	-.18	.72
emphasizes that it is important to get my ideas across even if others don't like it	-.31	.46
says that you should always look at both sides of the issue	.22	.58
talks at home about things like politics or religion, taking a different side from others	-.21	.58
pushes me to think independently	.24	.56
<i>gives me more freedom to make my own decisions when I get a good grade</i>	.16	.38
Admits that I know more about some things than adults do	-.06	.55
often says I have to think about life myself	.23	.44
encourages me to be independent from him/her	.10	.69
<i>Listens to my opinion or perspective when I've got a problem</i>	.47	.42
lets me make my own plans for things I want to do	.88	-.16
is usually willing to consider things from my point of view	.45	.24
<i>isn't very sensitive to many of my needs (reverse coded)</i>	.49	.40
whenever possible, allows me to choose what to do	.88	-.13
Allows me to decide things for myself	.95	-.21
Insists upon doing things her/his way (reverse coded)	.59	.01
Allows to choose my own direction in life	.88	-.11

Note: Items in italic were not retained in the final scale scores. PI = Promotion of Independence; PVF = Promotion of Volitional Functioning.

PVF was measured by 7 items drawn from the 'Autonomy Support' scale of the Perceptions of Parents Scale (Grolnick et al., 1991, e.g., "My mother, whenever possible, allows me to choose what to do"). Together with the one item from the Silk et al. (2003) study, this resulted in an eight-item scale for PVF. All parenting items were rated for both mothers and fathers on 5-point Likert scales ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) (see Table 8.1). Further information on the validity of these two autonomy support concepts can be found in the Results section of this first study.

Although the items were rated separately for mothers and fathers by the participants, we decided to average across maternal and paternal ratings for each item because we did not have differential hypotheses regarding gender of parents in relations between PI, PVF, and adolescent psychosocial functioning. This approach was also deemed justified by the finding that maternal and paternal ratings of PI-items and PVF-items were significantly correlated (average  $r = .31$ , all  $ps < .001$ ) and by preliminary analyses demonstrating that parental gender did not moderate the pattern of factor-analytical results obtained or any of the structural relations between PI, PVF, and adolescent psychosocial functioning.

*Psychological control.* Participants completed the 8-item Psychological Control Scale-Youth Self Report (PCS-YSR) (Barber, 1996). A sample item reads: "My mother/father is always trying to change how I feel or think about things". As with the PVF and PI items, we averaged across the maternal and paternal ratings of the psychological control items to obtain a general index of parental psychological control. Cronbach's alpha was .85.

*Psychosocial Functioning.* Three scales were administered to assess dimensions of adolescent psychosocial functioning (i.e., depression, self-esteem, and social well-being): (a) The 20-item Center for Epidemiological Studies-Depression (CES-D) scale (Radloff, 1977), which assesses the frequency of depressive mood during the past week. Ratings were made on a scale ranging from (0) *rarely or none of the time (less than one day)*, over (1) *a couple of times (1-2 days)*, and (2) *sometimes or regularly (3-4 days)*, to (3) *most or all of the time (5-7 days)*. An example item reads: "During the past week, I felt sad". Cronbach's alpha was .91.

Table 8.2 *Descriptive Statistics of Key Variables in all Three Studies*

Measure	STUDY 1				STUDY 2				STUDY 3			
	<i>M</i>	<i>SD</i>	Observed Range	Possible Range	<i>M</i>	<i>SD</i>	Observed Range	Possible Range	<i>M</i>	<i>SD</i>	Observed Range	Possible Range
Promoting Independence	3.11	0.62	1.0-5.0	1.0-5.0	3.31	0.53	1.3-4.6	1.0-5.0	2.94	0.50	1.4-4.1	1.0-5.0
Promoting Volitional Functioning	3.97	0.63	1.5-5.0	1.0-5.0	3.99	0.62	1.3-5.0	1.0-5.0	3.65	0.61	1.5-4.8	1.0-5.0
Psychological Control	2.03	0.65	1.0-4.2	1.0-5.0	--	--	--	--	--	--	--	--
Self-Determination	--	--	--	--	3.97	0.56	1.7-5.0	1.0-5.0	3.78	0.55	1.9-4.9	1.0-5.0
Depression	0.75	0.50	0.0-2.7	0.0-3.0	0.78	0.49	0.0-2.6	0.0-3.0	0.88	0.54	0.0-2.7	0.0-3.0
Self-Esteem	3.04	0.54	1.3-4.0	1.0-4.0	3.10	0.51	1.1-4.0	1.0-4.0	3.60	0.84	1.4-5.0	1.0-5.0
Social Well-Being	5.37	0.66	3.2-7.0	1.0-7.0	3.64	0.70	1.1-5.0	1.0-5.0	3.63	0.70	1.8-5.0	1.0-5.0



(b) Rosenberg's (1965) 10 item self-esteem scale (e.g., "In general I am happy with myself"), which measures global feelings of self-worth and self-acceptance. Items are rated on a 5-point scale ranging from 1 (*totally disagree*) to 5 (*totally agree*). Cronbach's alpha was .91.

(c) The Social Well-Being scale of the Louvain Well-Being Scale (Marcoen, Van Cotthem, Billiet, & Beyers, 2002), which taps subjective well-being in six life domains, that is, psychological, physical, social, material, cultural, and existential well-being. Marcoen et al. (2002) report factorial invariance and high internal consistencies for each of the scales in this instrument. Cronbach's alpha of the social well-being scale (9 items; e.g., "I am satisfied with my current social contacts") was .82.

## Results

### *Descriptive Statistics*

Descriptive statistics for Study 1 can be found in Table 8.2. Preliminary analyses were conducted to examine gender differences in the study variables. A multivariate ANOVA revealed a significant multivariate effect of gender on the study variables (Wilk's lambda = 0.94;  $F(6, 366) = 4.35$ ;  $p < .01$ ;  $\eta^2 = .06$ ). Univariate ANOVA's indicated that girls reported lower self-esteem ( $M = 3.01$ ;  $SD = 0.55$ ) than did boys ( $M = 3.18$ ;  $SD = 0.46$ ;  $F(1, 370) = 5.79$ ;  $p < .05$ ;  $\eta^2 = .02$ ). Given this significant gender difference, we controlled for the effect of gender in the primary analyses.

### *Validation of the Distinction between PVF and PI*

To assess whether the items tapping autonomy support could be reliably classified into two categories (PVF and PI), we first performed a formal content analysis (Neuendorf, 2002), followed by an exploratory factor analysis and a confirmatory factor analysis. The 17 items intended to tap PI (9 items) and PVF (8 items) were presented to three Ph.D. students who were blind to the study hypotheses. All three judges received a booklet, containing a clear definition of the two aspects of autonomy support, together with the 17 items and the instruction to categorize each one of the 17 items in one of the two coding categories. Thus, all items had to be categorized into one and only one category (i.e., mutually exclusive). Agreement among raters (kappa) was .80, indicating that the items could be reliably

classified into two categories. Seven out of eight items that were intended to measure PVF were unanimously coded as PVF. One PVF-item was coded as PVF by two judges and as PI by one judge, but after discussion there was a consensus that this item taps PVF. Eight out of nine items intended to measure PI were unanimously coded as PI. Again, this disagreement was resolved through consensus.

Next, a Principal Components Analysis (PCA) was performed on the 17 items tapping PI and PVF. Inspection of the scree-plot yielded evidence for a PCA-solution with two components. Following oblique rotation (PROMAX), the first component had an eigenvalue of 5.47 (corresponding to 32% of explained variance) and the second component had an eigenvalue of 4.51 (corresponding to 27% of explained variance). Table 8.1 displays the pattern of factor loadings obtained. Each of the eight PVF-items loaded significantly ( $>.40$ ) on the first component. However, two items had substantial cross-loadings on the second component ( $> .35$ ). All but one of the nine PI-items loaded significantly on the second component and none of them had cross-loadings (see Table 8.1). Items that showed a significant cross-loading or that did not have any significant loading were discarded from further analyses. This procedure yielded six items tapping PVF and eight items tapping PI (see Table 8.1).

Next, we performed a Confirmatory Factor Analysis (CFA) on the remaining 14 items to further validate the distinction between PVF and PI. CFA was conducted using Lisrel 8.50 with Maximum Likelihood Estimation (Jöreskog & Sörbom, 1993). To evaluate the goodness of fit of the factor structure, the Standardized Root Mean Square Residual (SRMR) and the Root Mean Squared Error of Approximation (RMSEA) were selected. According to Hu and Bentler (1999), the combined cut-off values of .09 for SRMR and .06 for RMSEA indicate a good model fit. In addition, we also inspected the Comparative Fit Index (CFI) with values of .95 or above indicating good fit (Bentler, 1990). In order to compare models,  $\chi^2$  difference tests were used. A comparison was made between two models, that is, a one-factor model, assuming that the associations among the items are explained by a single underlying 'parental autonomy' factor and a two-factor model assuming a distinction between PVF and PI. The two-factor solution ( $\chi^2 (76) = 207.40$ ; RMSEA = .07; SRMR = .06; CFI = .97) was clearly

favored over the one-factor solution ( $\chi^2(77) = 685.52$ ; RMSEA = .14; SRMR = .10; CFI = .84), as also indicated by a significantly different chi-square statistic ( $\Delta\chi^2 = 478.12$ ;  $df = 1$ ;  $p < .001$ ).

Given that the EFA and the CFA-analyses pointed to a two-dimensional solution, scale scores were computed for the two parental autonomy support constructs separately. Cronbach's alpha was .85 for the PVF scale and .76 for the PI scale. PI and PVF were positively correlated ( $r = .47$ ,  $p < .001$ ). Further, negative correlations were obtained between PVF and psychological control ( $r = -.68$ ,  $p < .001$ ) and between PI and psychological control ( $r = -.25$ ,  $p < .001$ ). In line with expectations, however, a test for within-sample differences between correlations showed that the (negative) correlation between PVF and psychological control was more pronounced than the correlation between PI and psychological control ( $t(385) = -11.19$ ,  $p < .001$ ). Moreover, semi-partial correlations between PI, PVF, and psychological control were calculated to control for the variance shared by PI and PVF. Whereas the correlation between PVF and psychological control remained significant and negative ( $r = -.65$ ,  $p < .001$ ), the correlation between PI and psychological control became slightly positive ( $r = .11$ ,  $p < .05$ ).

#### *Unique Predictive Value of PVF and PI for Adolescent Psychosocial Functioning*

To examine the role of the autonomy support constructs in the prediction of adolescent psychosocial functioning, structural models were tested postulating links between two latent parenting constructs (PVF and PI) and a psychosocial functioning construct. Whereas PVF and PI were defined by the individual items tapping each construct, adolescent psychosocial functioning was defined by three scale scores, namely global self-worth, depressive feelings, and social well-being. First, a measurement model including the parenting constructs and the adjustment construct was tested. The measurement model showed an acceptable fit to the data ( $\chi^2(116) = 279.40$ ; RMSEA = .07; SRMR = .06; CFI = .96) and all factor loadings were highly significant (all  $ps < .001$ ). PI and PVF were both positively correlated with psychosocial functioning ( $r = .17$ ;  $p < .01$  and  $r = .24$ ;  $p < .001$ , respectively). Next, a structural model was estimated including PVF and PI as simultaneous predictors of the adjustment construct. Gender was entered as a control variable by allowing correlations between

gender and each of the parenting dimensions and by allowing a path from gender to adolescent psychosocial functioning. Inspection of this model ( $\chi^2 (130) = 337.98$ ; RMSEA = .07; SRMR = .07; CFI = .95) showed that, whereas PI did not significantly predict adolescent psychosocial functioning ( $\beta = .05$ ;  $p > .05$ ), PVF was significantly predictive of adolescent psychosocial functioning ( $\beta = .21$ ;  $p < .01$ ). Gender (coded as 1 = male; 2 = female) was negatively associated with adolescent psychosocial functioning ( $\beta = -.20$ ;  $p < .01$ ). This means that girls were, on average, less adjusted than boys. Together, the predictors in the model explained 9% of the variance in adolescent psychosocial functioning. In sum, in line with expectations, only PVF explained unique variance in the prediction of adolescent psychosocial functioning.

## STUDY 2

Study 2 aimed (a) to replicate the finding that PI and PVF can be reliably distinguished and that only PVF explains unique variance in the prediction of adolescent well-being, and (b) to examine the mediating role of adolescent self-determination in the relationship between PVF and adjustment.

### Method

#### *Participants*

Participants were 495 undergraduate students in educational sciences (31%) and law (69%). Their age ranged from 17 to 25 with a mean age of 19.30 ( $SD = 0.95$ ). The sample was 74% female. Participation was voluntary and questionnaires were administered in the context of an introductory course on psychology. Less than 2% of the students who were invited to participate refused to do so. All participants were Dutch-speaking and of Belgian nationality. Anonymity was guaranteed. Of the participants, 83% came from intact, two-parent families, 13% had divorced parents, and 4% of the adolescents came from a family in which one of the parents had deceased.

#### *Measures*

*Promotion of Volitional Functioning and Promotion of Independence.* Participants completed the 8-item PI scale and the 6-item PVF scale that were constructed in Study 1. In contrast to Study 1,

participants were asked to rate the items with respect to their parents in general instead of with respect to their mother and father separately. Cronbach's alpha was .64 for PI and .79 for PVF.

*Self-Determination.* The Self-Determination Scale (SDS; Sheldon & Deci, 1996) is a 10-item scale tapping individuals' awareness of their feelings and their sense of self, as well as individuals' feelings of a sense of choice or self-determination with respect to their behavior. A sample item reads "I do what I do because it interests me." Items were rated on a scale ranging from 1 (*completely disagree*) to 5 (*completely agree*). Cronbach's alpha of the scale was .80.

*Psychosocial Functioning.* As in Study 1, three scales were administered to tap three dimensions of psychosocial functioning (i.e., depression, self-esteem, and social well-being). These instruments were: (a) A 12-item version of the Center for Epidemiological Studies-Depression (CES-D) scale (Radloff, 1977), the full version of which was used and described in Study 1. Cronbach's alpha was .79. (b) Rosenberg's (1965) self-esteem scale (see Study 1 for a description). Cronbach's alpha was .90. (c) A brief 10-item version of the Social Adjustment subscale of the Student Adaptation to College Questionnaire (SACQ; Baker & Siryk, 1989), which taps how well students deal with the interpersonal experiences at college. Items were answered on a 5-point Likert-type rating scale (ranging from *strongly disagree* to *strongly agree*). Cronbach's alpha was .85.

## Results

### *Descriptive Statistics*

Table 8.2 displays the descriptive statistics for the variables in the study. A significant multivariate effect of gender on the study variables was found (Wilk's lambda = 0.96;  $F(6, 480) = 3.37$ ;  $p < .01$ ;  $\eta^2 = .04$ ). Univariate ANOVA's indicated that girls reported lower self-esteem ( $M = 3.07$ ;  $SD = 0.49$ ) than did boys ( $M = 3.20$ ;  $SD = 0.55$ ;  $F(1, 485) = 5.78$ ;  $p < .05$ ;  $\eta^2 = .01$ ). Girls also reported higher levels of PVF ( $M = 4.02$ ;  $SD = 0.62$ ) than did boys ( $M = 3.89$ ;  $SD = 0.65$ ;  $F(1, 485) = 4.19$ ;  $p < .05$ ;  $\eta^2 = .01$ ). Hence, we controlled for the effect of gender in the primary analyses.

*Confirmatory Factor Analysis*

We aimed to further replicate the factorial distinctiveness of parental PI and PVF by means of CFA. As in Study 1, a two-factor model ( $\chi^2 (76) = 210.73$ ; RMSEA = .06; SRMR = .07; CFI = .96) demonstrated a superior fit in comparison with a one-factor model ( $\chi^2 (77) = 455.93$ ; RMSEA = .10; SRMR = .10; CFI = .89), as evidenced by the significant difference in chi-square value ( $\Delta\chi^2 = 254.20$ ;  $df = 1$ ;  $p < .001$ ). PVF and PI were positively correlated ( $r = .39$ ;  $p < .001$ ).

*Unique Predictive Value of PVF and PI for Adolescent Psychosocial Functioning*

As in Study 1, a measurement model was estimated including latent constructs for PVF and PI (as indexed by their corresponding items) and for adolescent psychosocial functioning (as indexed by self-esteem, depressive feelings, and social well-being). Estimation of the measurement model yielded an acceptable fit ( $\chi^2 (116) = 300.22$ ; RMSEA = .06; SRMR = .06; CFI = .94) and all factor loadings were highly significant ( $p < .001$ ). Correlations among the latent constructs showed that both PI and PVF were positively related to adolescent psychosocial functioning ( $r = .22$ ;  $p < .01$  and  $r = .35$ ;  $p < .001$ , respectively). Next, a measurement model was estimated modeling PVF and PI as simultaneous predictors of adolescent psychosocial functioning and including gender as a control variable (as in Study 1). Results of this model ( $\chi^2 (130) = 358.70$ ; RMSEA = .06; SRMR = .07; CFI = .93) showed that whereas PVF significantly predicted adolescent psychosocial functioning ( $\beta = .34$ ;  $p < .001$ ), PI did not significantly predict adolescent psychosocial functioning ( $\beta = .05$ ;  $p > .05$ ). Gender was significantly and negatively related to adolescent psychosocial functioning ( $\beta = -.13$ ;  $p < .05$ ), again indicating that girls were less adjusted than were boys. Together, the predictors accounted for 14% of explained variance in adolescent psychosocial functioning. In line with Study 1, it appears that PVF (but not PI) explains unique variance in adolescent psychosocial functioning.

*Self-Determination as a Mediator*

A number of models were tested to examine the mediating role of self-determination in the link between parental autonomy support and adjustment. In each model, gender was entered as a control

variable. First, a model was tested which included PI and PVF as predictors of self-determination (which was indexed by three randomly created parcels). Estimation of this model ( $\chi^2(130) = 320.67$ ; RMSEA = .06; SRMR = .052; CFI = .94) revealed that whereas PVF was significantly related to self-determination ( $\beta = .58$ ;  $p < .001$ ), PI was unrelated to self-determination ( $\beta = .08$ ;  $p > .05$ ). Gender was unrelated to self-determination ( $\beta = -.05$ ;  $p > .05$ ). Together, the predictors accounted for 38% of explained variance in self-determination. As only PVF was related to the mediator (i.e., self-determination), mediation analyses were only performed with PVF as independent variable (Holmbeck, 1997).

In line with recommendations by Holmbeck (1997), two models were compared to test for mediation: (a) a full mediation model in which PVF was only indirectly related to adolescent psychosocial functioning through self-determination and (b) a partial mediation model in which PVF additionally predicts adolescent psychosocial functioning over and above the indirect path through self-determination. According to Holmbeck, mediation is shown when the partial mediation model does not provide a significantly better fit to the data than the (more parsimonious) full mediation model. In line with the hypothesis of mediation, no significant difference was obtained between both models ( $\Delta\chi^2 = 2.71$ ;  $df = 1$ ;  $p > .05$ ), indicating that the direct effect of PVF on adolescent psychosocial functioning can be accounted for by the effect of self-determination. The final ('full mediation') model ( $\chi^2(61) = 146.14$ ; RMSEA = .05; SRMR = .05; CFI = .98) is depicted in Figure 8.1 and shows that PVF predicts higher levels of self-determination, which, in turn, strongly relates to adolescent psychosocial functioning. Inspection of the indirect effect of PVF on psychosocial functioning indicated that this indirect path was highly significant ( $z = 10.12$ ,  $p < .001$ ).<sup>1 / 2</sup>

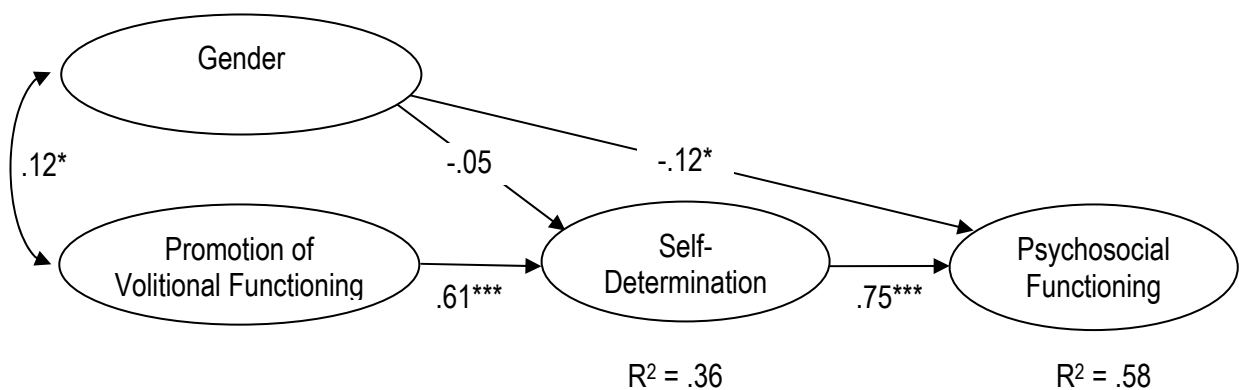
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<sup>1</sup> Although not perfectly balanced with respect to gender, the sample of Study 2 was composed of a sufficient number of males and females to assess the moderating role of adolescent gender in the hypothesized relations. Hence, multi-group analysis was performed comparing a constrained model, that is, a model in which the structural coefficients are set equal across gender, and an unconstrained model, that is, a model in which these coefficients are allowed to vary across gender. Models are compared in terms of the chi-square difference corresponding to the number of degrees of freedom. A significant difference implies that the model differs significantly across gender. In contrast, a non-significant difference implies that the model is invariant across gender. Multi-group analyses were performed on the three models estimated in the primary analyses: The

## STUDY 3

Study 3 aimed to investigate whether the relations between perceived PVF, PI, self-determination, and adolescent psychosocial functioning could be generalized to a sample of middle adolescents. On the basis of SDT, it is hypothesized that in a sample of middle adolescents PVF (but not PI) will also predict unique variance in adolescent psychosocial functioning, because PVF would foster a more self-determined functioning (i.e., the mediator), which is critical for people's adjustment at all ages. On the basis of separation-individuation theory, however, it is expected that, although PI was positively correlated with late adolescent psychosocial functioning in Studies 1 and 2, PI might be less adaptive for middle adolescents' adjustment, because promoting independence at such an early age might be experienced as detachment from parents.

Figure 8.1 Structural model of relations between Promotion of Volitional Functioning, adolescent self-determination, and adolescent psychosocial functioning (Study 2). Coefficients shown are standardized path coefficients. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .



model including the autonomy support dimensions as predictors of adolescent psychosocial functioning, the model including the autonomy support dimensions as predictors of self-determination and the final mediation model. No significant differences were found between the constrained and unconstrained models ( $\Delta\chi^2(2) = 1.13$ ; *ns*,  $\Delta\chi^2(2) = 0.01$ ; *ns*, and  $\Delta\chi^2(2) = 2.20$ ; *ns*, for the three models respectively). Hence, adolescent gender did not moderate the structural paths in the hypothesized models.

- <sup>2</sup> In Study 2, a number of additional multi-group analyses were performed in order to assess whether family structure (intact versus divorced) moderated the hypothesized relationships. No significant differences were found between the constrained and unconstrained models ( $\Delta\chi^2(2) = 0.40$ ; *ns*,  $\Delta\chi^2(2) = 3.36$ ; *ns*, and  $\Delta\chi^2(2) = 3.34$ ; *ns*, for the three models respectively), indicating that family structure did not moderate the structural paths in the hypothesized models.



## Method

### *Participants*

Participants were 153 8<sup>th</sup> to 10<sup>th</sup> grade students from a small secondary school in Flanders (Belgium). The sample was 70% female and participants' age ranged from 14 to 16 ( $M = 15.12$ ;  $SD = 0.76$ ). Of the participants, 79% came from intact, two-parent families, 18% had divorced parents, and 3% of the adolescents came from a family in which one of the parents had deceased. Participation in the study was voluntary and anonymity was guaranteed. None of the students who were invited to participate refused to do so. Questionnaires were administered during a class period and students had approximately 45 minutes to complete the survey.

### *Measures*

*Promotion of Volitional Functioning and Promotion of Independence.* Participants rated the same 8-item PI scale and the 6-item PVF scale that were used in Study 1 and 2 for both parents separately. As in Study 1, we averaged the items across maternal and paternal ratings. Cronbach's alpha of the PI scale was .70 and Cronbach's alpha of the PVF scale was .80.

*Self-Determination.* As in Study 2, participants completed the 10-item Self-Determination Scale (SDS; Sheldon & Deci, 1996) that taps individuals' awareness of their feelings and their sense of self, as well as individuals' feelings of a sense of choice or self-determination with respect to their behavior. Cronbach's alpha was .72.

*Psychosocial Functioning.* Again, three scales were administered to tap three dimensions of psychosocial functioning (i.e., depression, self-esteem, and social well-being). These instruments were: (a) A 12-item version of the Center for Epidemiological Studies-Depression (CES-D) scale. Cronbach's alpha was .85. (b) The Global Self-Worth subscale of Harter's (1988) Self-Perception Profile for Adolescents (SPPA), as modified by Wichstrom (1995). A sample item (reverse scored) reads "I am often disappointed with myself." Cronbach's alpha was .82. (c) The Social Acceptance subscale of the SPPA. A sample item reads "I am popular with others my age." Cronbach's alpha was .74.

## Results

### *Descriptive Statistics*

Table 8.2 displays the descriptive statistics for the variables in the study. A significant multivariate effect of gender on the study variables was found (Wilk's lambda = 0.90;  $F(6, 116) = 2.14$ ;  $p = .05$ ;  $\eta^2 = .10$ ). Univariate ANOVAs indicated that girls reported higher levels of PVF ( $M = 3.76$ ;  $SD = 0.61$ ) than did boys ( $M = 3.41$ ;  $SD = 0.59$ ;  $F(1, 121) = 9.17$ ;  $p < .01$ ;  $\eta^2 = .07$ ).

### *Confirmatory Factor Analysis*

As in Study 1 and Study 2, clear evidence for the distinctiveness of PVF and PI was obtained through CFA. A two-factor model ( $\chi^2(76) = 115.01$ ; RMSEA = .07; SRMR = .09; CFI = .94) demonstrated a superior fit compared to a one-factor model ( $\chi^2(77) = 212.82$ ; RMSEA = .12; SRMR = .12; CFI = .79), as evidenced by the significant difference in chi-square value between both models ( $\Delta\chi^2 = 97.81$ ;  $df = 1$ ;  $p < .001$ ). PVF and PI were positively correlated ( $r = .32$ ;  $p < .001$ ).

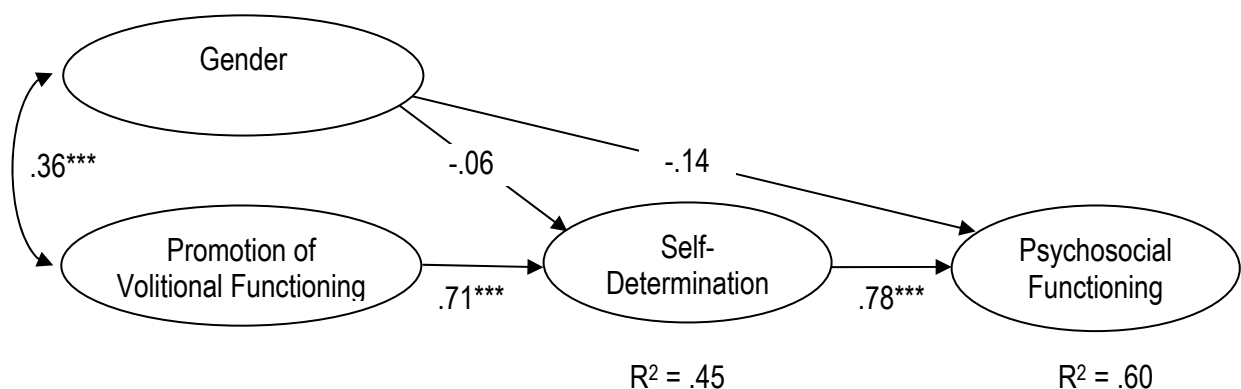
### *Unique Predictive Value of PVF and PI for Adolescent Psychosocial Functioning*

First, a measurement model was estimated including latent constructs for PVF and PI (as indexed by their corresponding items) and for adolescent psychosocial functioning (as indexed by depression, self-esteem, and social well-being). Estimation of the measurement model yielded an acceptable fit ( $\chi^2(116) = 159.53$ ; RMSEA = .06; SRMR = .09; CFI = .94) and revealed that whereas PVF was positively correlated with adolescent psychosocial functioning ( $r = .36$ ;  $p < .001$ ), PI was not ( $r = .04$ ;  $p > .05$ ). Next, a structural model was estimated including PI and PVF as simultaneous predictors of adolescent psychosocial functioning. Results of this model ( $\chi^2(130) = 170.72$ ; RMSEA = .05; SRMR = .09; CFI = .95) showed that whereas PVF significantly predicted adolescent psychosocial functioning ( $\beta = .46$ ;  $p < .001$ ), PI did not significantly predict adolescent psychosocial functioning ( $\beta = -.15$ ;  $p > .05$ ). Gender was not significantly related to adolescent psychosocial functioning ( $\beta = -.17$ ;  $p > .05$ ) and together the predictors explained 16% of the variance in adolescent psychosocial functioning.

*Self-Determination as a Mediator*

We began by determining whether PVF and PI would independently predict self-determination (which was again indexed by three randomly created parcels). Estimation of this model ( $\chi^2(130) = 174.20$ ; RMSEA = .05; SRMR = .08; CFI = .96) revealed that whereas PVF was significantly related to self-determination ( $\beta = .73$ ;  $p < .001$ ), PI was unrelated to self-determination ( $\beta = .05$ ;  $p > .05$ ). Gender was also unrelated to self-determination ( $\beta = -.15$ ;  $p > .05$ ). In total, 50% of the variance in self-determination was explained in this model. As in Study 2, mediation analyses could only be performed with PVF as independent variable because PI was not significantly related to the mediator (i.e., self-determination). Again, a partial mediation model did not fit the data better than a full mediation model, ( $\Delta\chi^2 = 2.79$ ;  $df = 1$ ;  $p > .05$ ), indicating that the direct effect of PVF on adolescent psychosocial functioning can be accounted for by the effect of self-determination. The final ('full mediation') model ( $\chi^2(61) = 86.87$ ; RMSEA = .06; SRMR = .07; CFI = .98) is depicted in Figure 8.2 and shows that PVF predicts higher levels of self-determination, which, in turn, strongly relate to adolescent psychosocial functioning. Inspection of the indirect effect of PVF on psychosocial functioning indicated that this indirect path was highly significant ( $z = 4.51$ ;  $p < .001$ ).

Figure 8.2 Structural model of relations between Promotion of Volitional Functioning, adolescent self-determination, and adolescent psychosocial functioning (Study 3). Coefficients shown are standardized path coefficients. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .



## Discussion

The present set of studies yielded four primary findings. First, in accordance with our theorizing, exploratory and confirmatory factor analyses indicated that two different operationalizations of perceived parental autonomy support can be empirically distinguished, that is, the promotion of independence (Steinberg, 1989) and the promotion of volitional functioning (Grolnick et al., 1997). Second, although both constructs of autonomy support were correlated with positive adolescent adjustment, only PVF was found to predict unique variance in adolescent psychosocial functioning. Third, adolescents' general tendency to act in a self-determined fashion fully mediated the positive effects of PVF on adolescent psychosocial functioning. Fourth, similar findings were obtained across two different age groups, that is, middle and late adolescents. These findings are discussed in greater detail below.

The concept of autonomy has a rich, but also somewhat troubled history in adolescent and motivation psychology. Different adolescent researchers (e.g., Blos, 1979; Levy-Warren, 1999; Steinberg, 1989) have emphasized that a normative task for adolescents is to detach themselves from their parental bonds, and to become more self-reliant and independent from their pubertal years on. Adolescents should develop their own opinion and try to get their ideas across even when others, in particular their parents, disagree with them. Within separation-individuation theory, such a development is considered a sign of psychological maturity and, hence, should be associated with positive adjustment. As a consequence, parents who encourage their offspring to stand on their own feet and to act independently are expected to promote well-being. At the correlational level, the present study provided some evidence for this hypothesis. Associations between promotion of independence (PI) and adolescent psychosocial functioning were positive, especially among late adolescents.

The concept of autonomy also received a great deal of attention within the field of motivation psychology, and, in particular, within Self-Determination Theory (SDT; Deci & Ryan, 1985, 2000; Ryan & Deci, 2000). Within SDT, autonomy pertains to the willing and volitional engagement in one's

behavior which is most likely to take place when people either base their actions upon their personal interests or their integrated values. SDT holds that people have a basic inclination to act in a self-determined fashion, and parents who nurture this adaptive quality should promote their offspring's well-being. Again at the correlational level, promoting volitional functioning (PVF) was positively correlated with adolescent psychosocial adjustment at both middle and late adolescence.

Hence, the results for both types of autonomy support results confirmed theoretical predictions derived from both research traditions on autonomy. However, the truly innovative aspect of the present study consisted in exploring (a) whether both types of autonomy support are empirically distinct, and (b) whether one of both types of autonomy support would be more critical for adolescents' well-being and adjustment than the other. In line with the idea that PI and PVF are distinct constructs (Grolnick, 2003; Ryan & Solky, 1996), both exploratory and confirmatory factor analyses pointed to the need of distinguishing among both types of autonomy support. Our findings indicate that whether or not parents attach importance to their children's independence is different from whether parents are empathic, non-controlling, and encouraging towards their children, so that a more volitional functioning is promoted. Despite their distinctiveness, a positive correlation between PI and PVF was found across all three studies. This positive correlation is most likely due to the fact that PVF and PI both deal with parental attempts to promote an autonomous regulation in their children and also indicates that, on average, parents tend to promote independence in a volitional and empathic fashion. Given that adolescents increasingly want to be independent and to take personal decisions (Goossens, in press; Steinberg & Silk, 2002), one would indeed expect that PVF - which involves parental support and understanding of the child's needs - goes hand in hand with PI.

Having established that PI and PVF are distinct but positively correlated types of autonomy support, our next aim was to determine their relative contribution to the prediction of well-being outcomes. The results indicated that only PVF explained unique variance in the prediction of adolescent psychosocial functioning. These results confirm our hypothesis that the promotion of

independence is less fundamental to adolescents' optimal functioning compared to the extent to which parents allow their offspring to act upon their true interests and values. Whether or not parents promote independence seems less important for adolescents' psychosocial functioning than whether parents do so in a volitional fashion. As growth towards independence represents a normative and naturally unfolding developmental process (Steinberg & Silverberg, 1986), it may not be necessary or even helpful to teach adolescents to become independent from their parents through active socialization. Our findings suggest that allowing adolescents to develop in a non-controlling environment in which they can act upon personally endorsed motives (rather than on the basis of external or internal pressures) is more fundamental to their psychosocial development. In our view, these results have important implications for counselors and psychologists dealing with parents and families. Rather than advising and teaching parents to foster independence, a more effective way to increase adolescents' well-being may be to teach parents to take an empathic perspective towards their children, to provide choices whenever possible and desired, and to explain the personal relevance of norms and rules when choices are limited, so that children are more likely to behave on the basis of self-endorsed motives.

The idea that PVF is a stronger predictor of well-being than PI is rooted within SDT's assumption that PVF promotes self-determined functioning in children, which, in turn, is considered to be a crucial determinant of individuals' adjustment and mental health (Deci & Ryan, 2000; Ryan, 1993; Ryan & Deci, 2000). This intervening role of adolescents' self-determined functioning in the relation between parental PVF and adjustment outcomes was evidenced in Study 2 and 3. It is important to note that parental PI was not significantly associated with self-determination after taking into account the variance shared with PVF. This finding substantiates the claim made within SDT that parental promotion of independence is unrelated to whether or not adolescents function in a volitional fashion.

Research within the framework of separation-individuation theory has considered age as a moderating variable in the relation between autonomy (defined as separation or independence) and adolescent adjustment (e.g., Beyers & Goossens, 2003). As issues of separation and the formation of

an independent identity are particularly salient during late adolescence, the promotion of independence would be most optimal at that time. Becoming independent at an earlier age may be an indication of premature detachment and, accordingly, parents' promotion of independence may be less adaptive during middle adolescence. The present study provides some evidence for this hypothesis. Whereas the zero-order correlations between PI and adolescent psychosocial functioning were positive and significant in the two late adolescent samples, the association was not significant in middle adolescence. Future research with even younger samples is needed to replicate and more fully examine these issues.

In contrast to separation-individuation theory, SDT claims that parental autonomy support (defined as PVF) is conducive to optimal functioning at any given age, because PVF contributes to the satisfaction of the innate need for autonomy which is essential to optimal functioning across the lifespan. In line with this claim and in line with previous research which has demonstrated positive relations between parental PVF and optimal adjustment as early as toddler age (Grolnick, 2003), our findings show that perceived PVF is related to positive adolescent psychosocial functioning across samples of middle and late adolescents, suggesting that the positive effects of perceived PVF are not age-bound.

### *Limitations and Future Research*

Some limitations of the present study warrant consideration. First, all measures were self-reported. We focused on adolescents' perceptions of parenting because it was deemed important to tap into adolescents' *felt* or *experienced* autonomy within the parent-child relationship. Within SDT, it is claimed that it is the degree to which adolescents *feel* a sense of choice and volition -- rather than parents' intention to be autonomy supportive or the degree of autonomy support observed by a third party -- which ultimately determines adolescents' feelings of self-determination and well-being. The sole reliance on self-report instruments, however, may have led to an overestimation of some of the

relations. Hence, future research would do well to rely on observations or on a multi-informant approach to assess at least some of the constructs in the models proposed in this study.

Second, all studies were cross-sectional which prevents one from drawing causal conclusions. For instance, it is possible that better adjustment in adolescents elicits the promotion of volitional functioning rather than being an outcome of it. Recent longitudinal evidence indicates that autonomy support predicts increases in children's adjustment (e.g., Joussemet, Koestner, Lekes, & Landry, 2005) and experimental research (e.g., Vansteenkiste, Simons, et al., 2004) indicates that situationally induced autonomy support promotes learning and performance. Although these findings corroborate the directional path from perceived autonomy support to adolescent psychosocial functioning assumed in the present study, additional longitudinal research is clearly needed.

Third, future research may also want to explore the effects of PI and PVF in non-Western samples. As Eastern societies place greater emphasis on social relationships and harmony rather than independence, some cross-cultural writings suggest that the effects of PI might be culture-dependent (Markus & Kitayama, 2003). Contrary to this claim, SDT maintains that the well-being effects of PVF should be invariantly positive, because autonomy represents a universally critical need. A recent study (Vansteenkiste, Zhou, et al. 2005) found PVF to positively predict Chinese adolescents' well-being.

A fourth and final issue concerns the question whether autonomy support and psychological control represent distinct constructs rather than opposite poles on a single continuum (Barber & Harmon, 2002). In line with Silk et al.'s (2003) findings that psychological control and autonomy support are largely orthogonal, we found that the correlation between psychological control and PI is low. This suggests that whether or not parents promote independence is distinct from whether they will do so in a controlling fashion. By contrast, and in line with expectations derived from SDT, PVF and psychological control are highly incompatible parenting dimensions. In our view, PVF and psychological control can be situated at a similar underlying continuum, which ranges from supporting volitional functioning to inducing a coerced and controlled functioning. However, PVF and psychological control are likely to



represent distinct constructs, because psychological control represents only a specific type of autonomy-inhibiting parenting. Other controlling means include power assertion and other more overt types of controlling parenting (Vansteenkiste, Simons et al., 2005). Further research might examine the distinctiveness of PVF and psychological control and, more importantly, examine whether both dimensions are differentially related to adolescent outcomes. One possibility is that PVF is more strongly predictive of positive mental health and that psychological control is a specific risk factor for psychopathology and psychological problems (Steinberg, 2005).

### *Conclusion*

The present research shows that different types of autonomy support can be empirically distinguished. Whereas promotion of independence reflects the type of goals that are promoted, promotion of volitional functioning pertains to the way these goals are promoted. Both types of autonomy support are moderately correlated, but it appears that the promotion of volitional functioning is most critical for adolescents' well-being, presumably because it encourages them to become more fully aware of and enact upon their interests and personal values.

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