

On the Association between Adolescent Autonomy and Psychosocial Functioning:
Examining Decisional Independence from a Self-Determination Theory Perspective

Stijn Van Petegem, Wim Beyers, Maarten Vansteenkiste and Bart Soenens

Ghent University, Belgium

In press, *Developmental Psychology*

Author Note

Stijn Van Petegem is at the Department of Developmental, Personality and Social Psychology (www.vopspsy.ugent.be), Ghent University, Belgium. This research was supported by Grant 3F009009 from the Fund for Scientific Research Flanders. Correspondence concerning this paper can be addressed to the first author, at Ghent University, Henri Dunantlaan 2, B-9000 Ghent, Belgium. E-mail: Stijn.VanPetegem@UGent.be.

Abstract

In the present study, we focus on the concept of adolescent autonomy and its relation with psychosocial functioning. Specifically, we aim to differentiate between two prevailing conceptualizations of autonomy, that is, (a) autonomy defined as independence vs. dependence and (b) autonomy defined as self-endorsed vs. controlled functioning. A second goal is to examine the relative contribution of each autonomy operationalization in the prediction of adolescents' adjustment (i.e., well-being, problem behavior, and intimacy). Data were gathered in a sample of 707 Belgian adolescents. Using a newly developed questionnaire, we assessed both the degree of independent decision making per se as well as the self-endorsed versus controlling motives underlying both independent and dependent decision making. The degree of independent decision making could clearly be differentiated from the underlying motives for doing so. Moreover, independent decision making as such only showed unique associations with more problem behavior. Further, as expected, self-endorsed motives for both independent and dependent decision making generally related to an adaptive pattern of psychosocial functioning, and controlled motives were associated with maladjustment. The discussion focuses on the difference between the two perspectives on autonomy and on the different meaning of the motives underlying independent, relative to dependent, decision making.

KEYWORDS: autonomy, independence, Self-Determination Theory, adolescence, adjustment

On the Association between Adolescent Autonomy and Psychosocial Functioning:
Examining Decisional Independence from a Self-Determination Theory Perspective

In Western societies, the achievement of a sense of autonomy is assumed to be a key developmental task during adolescence. Several theorists (e.g., Blos, 1979; Steinberg, 2002) consider the adolescent years as a period characterized by a normative increase in autonomous functioning. Moreover, the development of autonomy is supposed to be essential for adolescents' adaptive psychosocial functioning. However, findings from previous investigations are mixed at best and in some cases even contradictory, with certain indicators of autonomy being associated with less psychosocial adjustment (for reviews, see Silverberg & Gondoli, 1996; Zimmer-Gembeck & Collins, 2003). In the present contribution, we argue that these mixed findings can, at least partially, be accounted for by the different conceptualizations and operationalizations of autonomy that have been used across studies. Indeed, autonomy is an umbrella term encompassing a wide range of constructs, including independence, detachment, agency, self-governance, and alienation (Beyers, Goossens, Vansant & Moors, 2003; Ryan, Deci, Grolnick & LaGuardia, 2006). We propose that the theoretical differentiation and empirical disentanglement of these autonomy constructs will help gain insight into the question of whether autonomy is beneficial or harmful for adolescents' psychosocial adjustment.

Specifically, in this study we focus on two major conceptualizations of autonomy currently prevailing in the literature. In adolescent developmental psychology, but also in cross-cultural and occupational health psychology, autonomy is frequently defined as *independence* or self-reliance, which refers to the extent to which one behaves or decides without relying on others, such as the parents (e.g., Markus & Kitayama, 1991; Smetana, Campione-Barr & Daddis, 2004; Steinberg, 2002). In Self-Determination Theory (SDT, Ryan & Deci, 2000; Vansteenkiste,

Ryan & Deci, 2008), a broad-band motivation theory on personality development in the social context, autonomy is defined as volitional or *self-endorsed functioning* and is contrasted with pressured or controlled functioning. In the present study, we test the hypothesis that independent vs. dependent decision making is distinct from the motives underlying the type of decision making. On the basis of SDT, we argue that these motives can vary in their level of self-endorsement and coercion. Furthermore, we predict that when either independent or dependent decisions are fully self-endorsed and as a consequence are volitionally enacted, they would relate positively to adolescent psychosocial development. On the contrary, controlled motives for both independent and dependent decision making are hypothesized to yield rather maladaptive correlates.

To tap into adolescents' psychosocial functioning, we included various outcomes. As in previous studies on adolescent autonomy (e.g., Beyers & Goossens, 1999), we measured adolescents' subjective well-being and problem behavior. Additionally, we assessed youngsters' functioning in peer relations. We did so because the formation of close and intimate relations with a best friend or romantic partner is an important developmental task for adolescents (Furman & Wehner, 1994; Sullivan, 1953) and is theorized to be related to one's independent functioning (e.g., Gray & Steinberg, 1999; Levy-Warren, 1999).

Autonomy as Independence

Traditionally, within a developmental perspective autonomy is defined as independent functioning, which is opposed to dependence or reliance on others, and on the parents in particular. This viewpoint is largely rooted in the psycho-analytical portrayal of adolescence as a second phase of separation-individuation (Blos, 1967, 1979). During this process, adolescents are supposed to transcend their childish internal object-representations, thereby reducing

psychological dependence on parental introjects for approval, self-esteem and standards of conduct (Boles, 1999; Levy-Warren, 1999). As a consequence, the development of an increasing capacity for independence would reflect successful separation-individuation. Because this process should take place in a context of ongoing parental support and involvement (Grotevant & Cooper, 1986; Josselson, 1980), independence does not necessitate severing the ties with parental figures. Instead, it rather involves a transformation of the relationship with the parents (Allen, Hauser, Bell & O'Connor, 1994; Zimmer-Gembeck & Collins, 2003).

The development towards an increased independent functioning is said to yield emotional, behavioral and cognitive manifestations (Steinberg, 2002). Herein, we focus on behavioral independence, and more specifically, on independent versus dependent *decision making*, because this is one of the most visible instances of independent functioning during adolescence (Goossens, 2006; Steinberg, 2002). Independent decision making refers to adolescents' increasing tendency to make decisions by themselves without consulting their parents, for instance about how to spend their free time. By contrast, parents' involvement in decision making indicates dependency, with unilateral parental decisions reflecting complete dependence and joint decision making indicating the midpoint between dependent and independent functioning. Adolescent independent vs. dependent decision making has already been intensively studied, thereby often making use of (variations of) the Family Decision Making Scale. This scale taps into the question of who (i.e., parents, adolescents or both) decides about a wide range of issues (Dornbusch et al., 1985) and has typically been related to (1) age and/or (2) psychosocial functioning.

Previous studies found evidence for a normative increase in independent decision making through adolescence (Bosma et al., 1996; Collins, 1990; Hasebe, Nucci & Nucci, 2004; Smetana,

1988), as can be expected on the basis of separation-individuation theory (Blos, 1979). This normative increase seems especially prominent in Western societies, but has also been observed to some extent in Eastern cultures (e.g., Qin, Pomerantz & Wang, 2009) and in samples with a pronounced family orientation, such as African Americans (e.g., Smetana et al., 2004).

Moreover, various studies have investigated the association of independent decision making with adjustment. Although one may expect independence to relate positively to psychosocial functioning during adolescence, the results of previous studies are mixed. For instance, the degree of independent decision making has been found to be generally unrelated to the quality of adolescents' relationships with best friends and romantic partners (e.g., Smetana & Gettman, 2006). As well, using several large and diverse samples of middle adolescents, Dornbusch and colleagues found independent decision making to be related to a maladaptive pattern of psychosocial functioning and to problem behavior in particular (Dornbusch et al., 1985; Dornbusch, Ritter, Mont-Reynaud & Chen, 1990). Finally, joint decision making was consistently associated with more adaptive functioning (Brown, Mounts, Lamborn & Steinberg, 1993; Fuligni & Eccles, 1993).

Given these diverging findings, subsequent research attempted to identify the conditions under which independent decision making may relate positively or negatively to psychosocial functioning. For instance, Lamborn, Dornbusch, and Steinberg (1996) found that the community context moderated the effects of independent decision making for at least some youngsters. Specifically, independent decision making was found to be associated with maladjustment among African American adolescents living in a predominantly white community. Another factor that may qualify the association between independent decision making and outcomes is the social domain involved in the decision making. Independent decision making about private

issues (e.g., which clothes to wear, how to spend free time), which typically fall under adolescents' personal jurisdiction (Nucci, 2001), has been found to be associated positively with youngsters' well-being (Hasebe et al., 2004; Qin et al., 2009; Smetana et al., 2004). On the contrary, high levels of independent decision making about moral and conventional issues (e.g., how to talk to parents, keeping promises to others), which are expected to remain to some extent under the parents' jurisdiction (Smetana, 2000), have been found to relate to maladjustment.

In the present study, we address another factor that possibly qualifies the meaning and the correlates of independent decision making, that is, adolescents' motives to decide independently or dependently. To conceptualize these different motives, we draw on Self-Determination Theory (SDT; Deci & Ryan, 2000).

Autonomy as Self-Endorsed Functioning

In SDT, autonomy refers to self-endorsed functioning or the extent to which one behaves upon personally valued interests, preferences and needs (Ryan & Deci, 2000). When functioning autonomously, one experiences a sense of personal choice, volition and psychological freedom. Self-endorsed functioning is contrasted with controlled or pressured functioning, where individuals feel obliged to meet certain internal or external demands. Thus, a continuum ranges from highly controlled to highly self-endorsed.

To achieve a sense of self-endorsement, individuals need to fully internalize a value or regulation, which involves transforming external values and regulations into internal ones (Ryan & Connell, 1989; Ryan & Deci, 2000). Because people's values and regulation for a behavior can be internalized to varying degrees, people will accordingly have different types of *motives* for doing the behavior. An *external motive* refers to an activity in which one engages out of external pressure, such as meeting others' demanding expectations or avoiding a threatening

sanction, so with an external motive no internalization of the regulation has yet occurred. For instance, an adolescent boy may obey his parents because they threaten to remove a privilege if there is noncompliance. Such behaviors reflect highly controlled functioning. An *introjected motive* involves engaging in an activity to meet internal pressures, such as the avoidance of guilt or shame, or the pursuit of self-worth. For example, the adolescent may follow parental rules to avoid feeling guilty for not being loyal to his parents or for not being a model child. The motive for enacting the behavior in this case would result from partial internalization; so, the behavior is still relatively controlled in nature as it is accompanied by feelings of internal pressure and conflict and is not fully accepted as his own (Deci & Ryan, 2000). By contrast, when acting upon *identified motives*, actions are accepted as personally valuable and meaningful. Such regulation is fully internalized and thus reflects self-endorsed functioning. For example, an adolescent girl may obey her parents because she understands the importance and necessity of her parents' rules and has accepted them as her own. This motive for following her parents' rules results from fuller internalization and, as a consequence, following the parental rules feels to her more like a personal choice than an obligation.

Since the pioneering work of Ryan and Connell (1989), a large number of studies have investigated the motives underlying behavior, in different age groups and in different life domains, such as education, physical activity, parenting, and prosocial behavior. The beneficial correlates of a self-endorsed functioning have been extensively demonstrated, with increasing levels of internalization being related to a wide array of indicators of psychosocial functioning, including higher well-being, a better quality of relationships and less externalizing problems (for overviews, see Ryan et al., 2006; Vansteenkiste, Niemiec & Soenens, 2010). Further, it has been demonstrated that higher levels of internalization are beneficial across different cultures (e.g.,

Chirkov, Ryan, Kim & Kaplan, 2003; Vansteenkiste, Zhou, Lens & Soenens, 2005). When examining the association between age and self-endorsed functioning, results are less straightforward. Theoretically, it is expected that under supportive conditions internalization will increase with age (Deci & Ryan, 2000). This tenet has been confirmed in several domains, such as ecological behavior (Renaud-Dubé, Taylor, Lokes, Koestner & Guay, 2010) and social duties (Sheldon, Kasser, Houser-Marko, Jones & Turban, 2005), but not in others, such as the academic domain (Gottfried, Fleming & Gottfried, 2001).

Linking Both Perspectives on Autonomy

Scholars have recently underscored the importance of differentiating between the degree of independence vs. dependence, and the self-endorsed vs. controlled motives underlying dependence and independence (Ryan & Deci, 2006; Vansteenkiste et al., 2005). Because both autonomy conceptualizations are said to be distinct, different combinations are possible. Specifically, an adolescent may choose to decide independently because he personally values taking the decision by himself, which constitutes self-endorsed independence. However, he could also act independently because he feels pressured to do so. To illustrate, when deciding on how to spend leisure time, an adolescent may decide by himself about this issue because he personally values such independent behavior, which would be self-endorsed independence. However, he may also feel obliged to figure out things by himself because his parents believe that he is old enough to take care of his own business, thereby pressuring him to act and decide independently. In this case it would be controlled independence.

Similarly, dependency could be motivated by different motives. A youngster could choose to follow the decision of the parents because he fully endorses their opinion. In other words, he may choose to freely give away the decision to his parents. By contrast, he may also

follow his parents' decisions to avoid feelings of guilt or pressured loyalty. To illustrate, as an adolescent girl progresses through high school, she may consult her parents for certain decisions or choices because she truly values her parents' opinion and input, or because she feels that her parents expect her to consult them about these decisions and she is afraid of disappointing them. When predicting adolescents' adjustment and well-being, it can be expected on the basis of SDT that the degree of self-endorsement of individuals' dependent and independent decision making plays an important role in addition to the contribution of dependence vs. independence per se (Ryan & Deci, 2006; Ryan et al., 2006).

Several studies provide indirect evidence for the distinction between the two conceptualizations of autonomy and for their differential relation with adjustment. For example, Beyers et al. (2003) performed a factor analysis on a large set of autonomy measures and found two slightly correlated factors which strongly resemble independence and self-endorsed functioning. In a recent replication of this study, self-endorsed functioning was clearly associated with better psychosocial adjustment, whereas independence was unrelated and even showed negative associations with adjustment (Lamborn & Groh, 2009). Recent studies in the parenting domain also provide indirect support for the distinction between the two views on autonomy (Soenens et al., 2007; Soenens, Vansteenkiste & Sierens, 2009). Parental promotion of independence and parental promotion of volitional (or self-endorsed) functioning were found to represent two distinct factors. Both measures were moderately positively correlated, but only the promotion of self-endorsed functioning yielded unique associations with psychosocial functioning (Soenens et al., 2007). Subsequent work relied on a person-centered approach to derive different parenting configurations, and confirmed the possibility of different combinations of "autonomy support" (Soenens et al., 2009). Parents can promote either independence or

dependence in a volitional way, thereby fostering the internalization of (in)dependence, but also in a controlling way, thereby pressuring adolescents to act (in)dependently. When predicting psychosocial functioning, the extent to which the parents were supporting volitional functioning was more decisive than the degree of support of dependence vs. independence as such.

The most direct evidence for the distinction between both conceptualizations of autonomy comes from a study on the living situation of emerging adults (Kins, Beyers, Soenens & Vansteenkiste, 2009). Residential status can be considered as a behavioral indicator of dependence (living with the parents) versus independence (residing alone), and the choice of living condition can likewise be undergirded by self-endorsed or controlled motives. Emerging adults indeed may choose to live alone, or may feel forced to do so. Similarly, an emerging adult can choose to reside with his parents, or may feel pressured for this living arrangement. Kins et al. (2009) reported a positive association between living independently and self-endorsed motives, indicating that, on average, an independent residential status reflects a personally valued choice in emerging adulthood. Most importantly, both an independent living situation and self-endorsed motives related positively to emerging adults' well-being at the correlational level, though only the latter uniquely predicted psychological well-being.

Taken together, these studies provide preliminary support for the importance of differentiating between the two conceptualizations of autonomy. However, to our knowledge, no previous study has examined directly the motives for independent and dependent decision making, and the association with psychosocial functioning in middle adolescence. In this study, we investigated *why* adolescents decide independently or dependently about certain issues, thereby examining whether these motives help to understand when independent or dependent

decision making is beneficial and when it is not, in the prediction of adolescents' well-being, problem behavior and relational functioning.

The Present Study

To examine how independence and its motivational underpinnings relate to psychosocial functioning, we first developed an integrated measure. Specifically, in line with the work of Dornbusch et al. (1985) and Smetana and colleagues (2004), we began by assessing the degree of independent vs. dependent decision making. Then, we tapped into the motives for why adolescents decide independently about certain issues and why they remain dependent on their parents for other decisions. For both independent and dependent decision making, we measured adolescents' identified, introjected and external motives.

A first aim of this study was to test whether we can differentiate empirically between the two views on autonomy, and to examine their association. Specifically, we expected only a slight positive relation between both operationalizations of autonomy. To further validate our newly developed measure, we also inspected the pattern of correlations between the motives underlying (in)dependence, thereby expecting to find a simplex-like pattern (Guttman, 1958). Specifically, motivational subtypes next to each other on the internalization continuum (e.g., identified and introjected motives) were hypothesized to be more strongly correlated than motivational subtypes further apart (e.g., identified and external motives). To further validate our measure, we inspected the relation between both operationalizations of autonomy and age. Based on theory and previous research (e.g., Blos, 1979; Qin et al., 2009), we expected higher scores on independent decision making for older adolescents. Moreover, as internalization is supposed to increase with age under supportive conditions (Ryan & Deci, 2000), we also expected a positive association between age and identified motives. Finally, as in the study of Kins et al. (2009), we

also inspected the means of the motives underlying dependence and independence. Given that independent decision making can be expected to be motivated by a greater degree of self-endorsement, we predicted that adolescents would, on average, report more identified motives for independent decision making compared to (a) introjected and external motives for independence and (b) identified motives for dependent decision making.

The second and primary aim of the present study was to examine the relation between both operationalizations of autonomy and adolescents' psychosocial functioning, as indexed by subjective well-being, problem behavior, and the quality of relational functioning with peers. In line with previous research (e.g., Lamborn & Groh, 2009), we predicted that the two types of autonomy would be differentially related to psychosocial functioning. We expected autonomy as self-endorsement to be most strongly related to psychosocial adjustment, whereas, for autonomy as decisional independence, we expected mixed results in its relation to adjustment. In fact, as in previous research (e.g., Dornbusch et al., 1985), decisional independence was hypothesized to be associated with more problem behavior. Concerning self-endorsement, we investigated whether the underlying motives for independence and dependence add to the prediction of psychosocial adjustment in addition to independent (versus dependent) decision making per se, as could be hypothesized on the basis of SDT. Predictions about the correlates of this type of autonomy were more straightforward. Specifically, we hypothesized that identified motives for both independent and dependent decision making would be associated with an adaptive pattern of psychosocial functioning, whereas introjected and external motives would yield an opposite pattern of correlations.

Finally, we also tested whether the associations between both autonomy operationalizations and the outcomes were moderated by age, as high levels of independent

decision making too early in adolescence are supposed to be maladaptive (Smetana et al., 2004). On the basis of SDT, the underlying motives for both dependent and independent decision making are however not hypothesized to be moderated by age, as self-endorsed, relative to controlled, functioning is supposed to yield beneficial correlates, regardless of age.

Method

Participants and Procedure

The sample comprised 707 Belgian high school students from 9th through 12th grade. The participants ranged in age from 14 to 20, with a mean of 16.5 years ($SD = 1.2$). The sample was equally distributed in terms of gender (49% boys, 51% girls), and was heterogeneous regarding educational tracks (60% academic, 23% technical, 17% vocational). Most of the participants came from intact two-parent (76%) or divorced (19%) families. About a third (30.5%) of the adolescents reported being involved in a romantic relationship, with an average length of 9.5 months ($SD = 8.5$). These descriptives match closely with population statistics of adolescents at this age in Belgium (Goossens & Luyckx, 2007). Data were gathered at school during a regular class period. Participation in the study was voluntary and anonymity was guaranteed. Of all participants, 597 youngsters (84.4%) provided complete data on all the variables of interest, resulting in 4.7% missing data points. Little's (1988) MCAR-test produced a normed χ^2 (χ^2/df) of 1.61. According to Bollen (1989), this indicates that the data were likely missing at random, and as a consequence, missing values could be estimated. To do so, we used the Full Information Maximum Likelihood (FIML) procedure available in Mplus 5.1 (Muthén & Muthén, 2007).

Measures

Autonomy. As noted earlier, an integrated measure was developed to assess both aspects of adolescent autonomy. We first administered a variation of the *Family Decision Making Scale*

(FDMS; Dornbusch et al., 1985), where participants answered the question “*Who decides*” on a 5-point scale: “*My parents alone*” (coded as 1), “*My parents, after talking to me*” (coded as 2), “*My parents and I together*” (coded as 3), “*I, after talking to my parents*” (coded as 4), and “*I alone*” (coded as 5). The scale consisted of 20 issues, that typically came from five social domains (Smetana et al., 2004; Smetana & Daddis, 2002), that is, the personal domain (e.g., what clothes to wear), the friendship domain (e.g., whether you can hang out with friends your parents don’t like), the prudential domain (e.g., whether you smoke cigarettes or not), the conventional domain (e.g., how you talk to your parents), and the moral domain (e.g., whether you can hit others). Previous studies have typically used the mean score across these items as an indicator of decisional independence (e.g., Hasebe et al., 2004; Smetana et al., 2004). These studies have demonstrated both the reliability and the validity of such a score for independent decision making. In the present sample, the scale had a good reliability (Cronbach’s $\alpha = .85$)¹.

In a next step, we measured the motives for independent decision making. Participants were first instructed to select the three items with the highest scores on the FDMS and they were explicitly instructed to write them down. By doing so, we aimed to prime their independent functioning, as these are issues about which the adolescent decides relatively independently. Then they were asked to consider the three highest-scoring issues together and to indicate why they decide relatively independently about these issues, thereby tapping into the motives for independent decision making. The questionnaire comprised 18 items, derived from the *Self Regulation Questionnaire* (SRQ; Ryan & Connell, 1989). The SRQ is a group of scales that is frequently used to measure the regulation of a certain behavior (e.g., health behavior, learning, etc.). Formulation of the items was based upon versions from related domains (e.g., independent living; Kins et al., 2009) and reflected identified motives (e.g., “because this is personally

important to me”), introjected motives (e.g., “because I would feel bad if I didn’t”), and external motives (e.g., “because I am forced by others”). Respondents indicated their agreement on a 5-point Likert scale, ranging from 1 (“*Completely untrue*”) to 5 (“*Completely true*”).

A similar procedure was used to assess the motives for dependent decision making. Each respondent first selected the three items with the lowest scores on the FDMS, representing issues about which the adolescent relatively depends on his parents when making decisions. Participants were then instructed to write these issues down to prime their dependent decision making. Consequently, we tapped into motives for dependent decision making, thereby administering a similar version of the SRQ. Identical items were used, except that the external motives referred explicitly to the parents (e.g., “because I am forced by my parents”). Validity information of this measure is provided in the results section.

Subjective well-being. We administered two scales tapping into adolescents’ subjective well-being. The global self-worth subscale of the *Self-Perception Profile for Adolescents* (SPPA; Harter, 1988) consists of 5 items (e.g., “I like the person I am”) and was used as an indicator of self-esteem. Participants answered on a 5-point Likert scale, ranging from 1 (“*Completely untrue*”) to 5 (“*Completely true*”). Previous research has demonstrated adequate psychometric properties of the SPPA in adolescent samples (e.g., Wichstrom, 1995). In the present sample, the scale also had a good reliability (Cronbach’s $\alpha = .82$). Next, we measured depressive symptoms, using a 6-item version of the Center for Epidemiologic Studies – Depression Scale (CES-D; Radloff, 1977). Adolescents indicated how often they experienced symptoms of depression during the past week (e.g., feeling lonely), on a scale from 0 (“*Rarely or none of the times (less than one day)*”) to 3 (“*Most or all of the time (5 to 7 days)*”). This shortened version has been

successfully used before (e.g., Van Hiel & Vansteenkiste, 2009), and had a good reliability in the present study ($\alpha = .80$).

Problem behavior. A shortened version of the *Alcohol Use Disorders Identification Test* (AUDIT; Saunders, Aasland, Babor, Delafuente & Grant, 1993) was administered to measure alcohol abuse. Respondents answered on a 5-point Likert scale. Prior research has shown that the AUDIT is a reliable and valid measure of problematic alcohol use in adult as well as adolescent samples (e.g., Santis, Garmendia, Acuna, Alvarado & Arteaga, 2009). In the present study, we used an abbreviated version of 5 items (e.g., “I sometimes gulp drinks to speed the effect”), which had a good reliability ($\alpha = .81$). The *Deviant Behavior Scale* (DBS; Weinmann, 1992) was used to assess rule-breaking behavior. The participants had to indicate the frequency on 10 deviant behaviors during the past six months (e.g., being involved in fights), on a scale from 0 (“Never”) to 3 (“Frequently”). Previous studies indicated adequate psychometric properties of the DBS (e.g., Beyers & Goossens, 1999), which also had an acceptable reliability in our investigation ($\alpha = .71$).

Relational functioning. We tapped into the quality of intimate functioning in the relationship with one’s best friend or romantic partner, using a shortened version of the *Intimate Friendship Scale* (IFS; Sharabany, 1994). Although the complete IFS (consisting of 32 items) is supposed to have several subscales, previous studies (e.g., Eshel, Sharabany & Friedman, 1998) often used the total scale as a unidimensional measure of intimacy. The shortened version was derived by performing an exploratory factor analysis on two unpublished data samples, one comprising 232 adolescents (ranging in age from 14 to 19 years) and one consisting of emerging adults ($N = 224$; 21-25 years). Factor analyses in both samples indicated the presence of a single factor accounting for most of the variance in the IFS items. To derive a shortened scale, items

were gradually dropped, on the basis of psychometric and theoretical arguments. The final version comprised 10 items (e.g., “I feel free to talk to him/her about almost everything”), and correlated strongly with the original version ($r = .89$ and $.88$, respectively, in the adolescent and the emerging adult sample). Furthermore, the shortened version was internally consistent ($\alpha = .83$ in both samples) and related to relevant variables (e.g., gender, romantic involvement, or well-being) in ways similar to the original scale. The questionnaire had a good reliability in the present sample as well ($\alpha = .87$). Respondents answered on a scale ranging from 1 (“*Completely disagree*”) to 7 (“*Completely agree*”).

Results

Aim 1: Internal Structure and Validity of the Integrated Measure

We first assessed the psychometric properties of the integrated measure by performing a confirmatory factor analysis (CFA) on the SRQ-Independence scale and on the SRQ-Dependence scale. Analyses were conducted using the Mplus 5.1 software with robust maximum likelihood estimation (Muthén & Muthén, 2007) to correct for the observed non-normality in some of the variables. Evaluation of the factor structure was based on the standardized root-mean-square residual (SRMR) and the root-mean-square error of approximation (RMSEA). According to Hu and Bentler (1999), a combined cutoff of .08 for SRMR and .06 for RMSEA indicates a good fit. Furthermore, we also inspected the Comparative Fit Index (CFI), with values close to .95 indicating good fit (Marsh, Hau & Wen, 2004). Analyses supported the factorial structure of the integrated measure. After dropping one item with a low factor loading (from the external motivation subscale), a CFA on the SRQ-Independence with three latent factors fitted the data relatively well, $\chi^2(113) = 323.72$; $p < .001$, SRMR = .06, RMSEA = .05, CFI = .92. After removing the same external motivation item, the three-factor solution for the

SRQ-Dependence yielded good fit indices, $\chi^2(113) = 292.55$; $p < .001$, SRMR = .05, RMSEA = .05, CFI = .95. Standardized factor loadings for both the SRQ-Independence and SRQ-Dependence ranged between .54 and .95. These results underscore that participants differentiate between identified, introjected and external motives for making independent as well as dependent decisions. Scale scores were then calculated for each subscale separately. Cronbach's α s for the identified, introjected and external motivation subscales were respectively .74, .74, and .79 for the SRQ-Independence, and .87, .81, and .84 for the SRQ-Dependence.

Correlations among the subscales of the measure can be found in Table 1. The degree of independent vs. dependent decision making was, as expected, only slightly related to the underlying motives for independent and dependent decision making. Further, correlations among the motives for independence showed the hypothesized simplex-like pattern, with positive correlations between identified and introjected motives and between introjected and external motives. In contrast, identified and external motives, which are situated further apart on the internalization continuum, interrelated slightly negatively. Correlations among the motives for dependence showed a similar pattern. This ordered pattern of correlations adds to the construct validity of our measure.

A closer inspection of the pattern of correlations suggests that introjected motivation occupies a somewhat different position on the internalization continuum in the case of dependent vs. independent decision making. Specifically, follow-up analyses indicated that the correlation between identified and introjected motives was significantly stronger in the case of dependent, when compared to independent, decision making ($z = -5.57$, $p < .001$). Conversely, the correlation between introjected and external motives was stronger in the case of independent,

when compared to dependent, decision making ($z = 5.55, p < .001$). Correlations between identified and external motives did not differ significantly ($z = 0.59, ns$).

Next, we investigated age-bounded differences in both independent decision making per se and its underlying motives. Age related positively to independent decision making ($r = .26, p < .001$), identified ($r = .13, p < .001$) and introjected ($r = .10, p < .01$) motives for independent decision making and identified motives for dependent decision making ($r = .13, p < .001$).

Finally, we examined mean differences between the different motives for independent and dependent decision making. Descriptive statistics can be found in Table 1. As predicted, the mean of identified motives for independence was (a) significantly higher than the mean of introjected [$t(706) = 41.33, p < .001$, Cohen's $d = 1.56$] and external [$t(706) = 52.30, p < .001, d = 1.97$] motives for independence, and (b) significantly higher than the mean of identified motives for dependence [$t(706) = 25.16, p < .001, d = .94$]. In other words, independent decisions are on average undergirded by identified motives. The mean score of introjected motives for independence was also significantly higher than the mean of introjected motives for dependence [$t(706) = 7.18, p < .001, d = .27$]. In contrast, the mean score of external motives was higher for dependence than for independence [$t(706) = -8.93, p < .001, d = .33$].

We also explored the effects of some relevant background variables (i.e., gender, family structure, education, and romantic involvement), using a MANOVA. Multivariate analyses based on Wilk's Lambda indicated significant main effects of gender [$F(7,690) = 2.94, p < .01, \eta^2 = .03$] and education [$F(14,1380) = 5.34, p < .001, \eta^2 = .05$]. Next, univariate analyses were performed (see Table 2). Boys reported higher levels of decisional independence, whereas girls reported more introjected motives for dependence. Further, participants following the academic track reported more identified motives for independence compared to participants following

other educational tracks. Adolescents in the vocational track reported more independent decision making and more external motives for independence relative to adolescents in the other tracks.

We also examined associations between the background variables and the measures of psychosocial functioning. Correlational analyses indicated that age was related positively to self-esteem ($r = .12, p < .01$), alcohol abuse ($r = .17, p < .001$), deviant behavior ($r = .11, p < .01$), and intimacy ($r = .14, p < .001$). Then we performed a MANOVA to test for the effects of the other background variables. Multivariate analyses indicated significant main effects of gender [$F(5,692) = 23.80, p < .001, \eta^2 = .15$], education [$F(10,1384) = 4.74, p < .001, \eta^2 = .03$] and romantic involvement [$F(5,6892) = 22.35, p < .001, \eta^2 = .14$]. Subsequent univariate analyses (see Table 2) indicated significantly higher scores for boys on self-esteem, deviant behavior and alcohol abuse, whereas girls reported more depressive symptoms and intimacy. Further, adolescents following the academic track reported more deviant behavior and alcohol abuse, adolescents in the vocational track reported less depressive symptoms and intimacy. Finally, youngsters involved in a romantic relationship reported more deviant behavior and intimacy compared to youngsters not involved in a romantic relationship. Given that various background characteristics were related to the outcomes, we controlled for them in the main analyses.

Aim 2: Relation with Psychosocial Functioning

Correlations between the measures of autonomy and the outcomes are presented in Table 1. To identify the unique contribution of independent decision making and the underlying motives in the prediction of psychosocial functioning, we used structural equation modeling. Latent variables were constructed for each study variable, with the latent variables for independent decision making and the underlying motives being represented by three parcels. Parcels were created by randomly selecting items from the scale corresponding to each variable.

An advantage of parceling is that this procedure minimizes the effects of bias factors at the item level and helps to avoid overall model complexity (Little, Cunningham, Shahar & Widaman, 2002). Two indicators were used to model subjective well-being (i.e., depressive symptoms and self-esteem) and problem behavior (i.e., deviant behavior and alcohol abuse) as latent variables. A latent factor for intimacy was indicated by three parcels.

We first tested the fit of the measurement model. The estimated model had a good fit, $\chi^2(545) = 1067.79$; $p < .001$, RMSEA = .04, SRMR = .04, CFI = .94. Factor loadings of the indicators on their respective latent variable were high, ranging from .57 to .89. A structural model was then estimated with decision making and the underlying motives for both independent and dependent decision making being modeled as simultaneous predictors of subjective well-being, problem behavior, and intimacy. This structural model contained 21 estimated paths. We controlled for age, gender, and education by including these variables as additional predictors. The estimated model had an acceptable fit [$\chi^2(646) = 1200.13$; $p < .001$, RMSEA = .04, SRMR = .04, CFI = .94], and improved slightly after leaving out non-significant paths [$\chi^2(675) = 1156.03$; $p < .001$, RMSEA = .03, SRMR = .05, CFI = .95]. The final model is presented in Figure 1.

Independent decision making was related positively to problem behavior and was unrelated to the other outcome variables¹. As for the motives for independent decision making, identified motives related positively to intimacy. By contrast, external motives were associated with lower well-being and lower intimacy, and introjected motives were unrelated to any of the outcomes. None of the motives for independent decision making were related to problem behavior. In other words, deciding independently because one personally values doing so, relates to a better quality of relational functioning, whereas being externally pressured into independent decision making is associated with less adjustment.

As for the motives for dependent decision making, identified motives were related to higher subjective well-being and to lower problem behavior. Introjected motives related negatively to subjective well-being, and external motives were associated with more problem behavior. None of the motives for dependent decision making were related to intimate functioning. In other words, identified motives for dependent decisions generally relate to a better pattern of adjusted functioning though not to intimacy, whereas controlled motives are associated with less adjustment. In the final model, the predictor variables explained 24% of the variance in well-being, 43% of the variance in problem behavior, and 23% of the variance in intimacy.

Finally, our last research question concerned the possible moderating role of age. To answer this question, we tested additional models, thereby examining the interaction between each of the seven predictors and age, in the prediction of each outcome variable. None of the 21 interaction terms (seven models by three outcomes) were significant (t -values ranging between -1.63 and 1.71; $p > .05$), suggesting that age did not moderate any of the relations with independent decision making and the underlying motives.

Discussion

The present study contributes to the debate on the conceptualization and operationalization of autonomy in adolescence, by theoretically contrasting two prevailing views on autonomy, that is, autonomy as independence and autonomy as self-endorsed functioning. The present investigation also adds to the discussion regarding the functional role of autonomy in understanding adolescents' functioning, as the two operationalizations were associated differentially with adolescents' adjustment.

Defining and Measuring Adolescent Autonomy

Although the development of autonomy represents a crucial developmental task for adolescents, the conceptualization of the construct has been fuzzy and inconsistent for quite some time. Recently, a growing body of literature has attempted to bring conceptual and methodological clarity to this issue (Beyers et al., 2003; Hmel & Pincus, 2002; Kins et al., 2009; Ryan & Deci, 2006; Soenens et al., 2007). In line with this work, we could empirically distinguish between two definitions of autonomy, that is, autonomy as independence or self-reliance and autonomy as self-endorsed functioning.

The conceptual and empirical distinction between both views on autonomy is important as both perspectives refer to different processes. Autonomy as independence is mainly defined in *interpersonal* terms as one can fully rely on others (e.g., leave a decision completely to the parents) or one may act completely independent from others, without any input or interference from others. In between these extremes, youngsters may vary in the degree to which they do (or do not) depend on others. When defined from the SDT perspective, autonomy as self-endorsed functioning relates more to the *phenomenological* experience accompanying this dependent or independent behavior. Depending on the degree of internalization of the motives underlying one's independent and dependent behavior, the decision making will be enacted with a sense of freedom, choice and volition, or instead with a sense of pressure, control and coercion.

Albeit distinct, both types of autonomy are related to some extent. The descriptive statistics indicate that, on average, independent decisions are undergirded by identified motives. During adolescence, independent decisions are thus more likely to be made because one believes it is personally valuable to do so (see also Kins et al., 2009), which may be indicative of successful separation-individuation (Levy-Warren, 1999). Further, in line with tenets of Separation-Individuation Theory, older adolescents displayed a greater degree of independent

decision making. Interestingly, age was also significantly related to more self-endorsed functioning, not only with respect to adolescent independent but also with respect to their dependent decision making. These results suggest that older adolescent not only attach more personal value to independent decisions on a variety of issues, but they are also more open and willing to accept advice and support when consulting the parents for certain decisions. Such a renewed concern about the parents' opinion and support is in the separation-individuation literature sometimes referred to as a phase of "rapprochement" (Josselson, 1988; Quintana & Kerr, 1993), which underscores the importance of a context of ongoing relational commitments (see also Grotevant & Cooper, 1986).

Is Autonomy Beneficial for Adolescents?

The distinction between the degree of independence and self-endorsement is not just a terminological issue, as the two instantiations of autonomy were found to relate differentially to measures of psychosocial functioning. Independent functioning per se did not contribute to personal or social well-being. Further, youngsters deciding independently reported significantly more behavioral problems, or stated differently, an absence of parental involvement in adolescent decision making seems to be indicative of problem behavior. The correlates between the underlying motives and adjustment differed quite substantially for the different motives. Identified motives for both independent and dependent decision making were related to a pattern of adaptive psychosocial functioning, whereas introjected and especially external motives were related to maladjustment. Thus, the undergirding motives do matter in understanding when dependent or independent decision making is beneficial or harmful, as these motives explain additional variance in adolescent adjustment above and beyond the degree of dependent vs. independent decision making as such.

The above findings are generally in line with previous research where the pattern of correlates associated with independent decision making (e.g., Lamborn et al., 1996) or complete freedom of choice (e.g., Bao & Lam, 2008; Schwartz, 2000) have been found to be equivocal and to be dependent upon other factors. In contrast, the correlations of the underlying motives are much more straightforward and unambiguous. Irrespective of whether actions are independent or dependent, when they are fully endorsed by the self and are, as a consequence, accompanied by a phenomenological experience of volition rather than coercion, they were found to relate positively to adjustment.

In the case of dependency, such self-endorsed functioning implies that an adolescent may “choose not to choose”: he freely gives away the decision to his parents, as he personally values the opinion of his parents and fully trusts them (see also Bao & Lam, 2008). In contrast, a youngster may also feel pressured to remain dependent on his parents, for instance because his parents want to have a say in all his decisions. Such a controlled type of dependency may be rooted in an enmeshed family climate, where parents are overprotective, restricting the expression of independent thought and behavior (Barber & Buehler, 1996; Soenens et al., 2009). Similarly, independence could be driven by controlled motives. For instance, an adolescent girl may perceive her parents as unavailable, uninterested or as derogatory, because her parents believe dependent behavior is immature at her age. As a result, the girl will likely feel left to her own device.

Deepening the Insight in the Dynamics of Independent vs. Dependent Functioning

Given the present observation that the relative internalization of adolescents’ dependent or independent decision making is especially crucial for adolescents’ psychosocial functioning, one may decide to no longer take the perspective on autonomy as independence into account.

Such a decision seems premature as the motives for independent decision making and for dependent decision making were characterized by a somewhat different patterns of correlates, both among each other and in terms of their relations to the outcomes. These findings suggest that motives underlying dependence and independence are characterized by a different dynamic and might serve different functions.

First, a somewhat different simplex pattern emerged for the motives underlying independence vs. dependence. With respect to independent decision making, introjected motives were found to relate closely to external motives, suggesting that both types of pressure often co-occur when acting independently. In the case of dependence, introjected motives were more strongly associated with identified than with external motives. As the parent-child relationship is more salient when behaving dependently, it seems as if feelings of guilt, shame and loyalty are more closely intertwined with identification and personal relevance. Stated otherwise, when one personally values the relationship with one's parents, it is likely that one simultaneously feels an internal obligation to take one's parents' input into account. Not respecting the parents and not being loyal to them would engender feelings of guilt, and may therefore affect the relationship negatively. Alternatively, these findings can also be explained in light of the normative development towards independent decision making through adolescence (Steinberg, 2002). As for independence, adolescents may be more likely to identify with its importance and move beyond an introjected mode of functioning, explaining why the correlation between both is lower. By contrast, as depending on the parents becomes less normative with age, youngsters may find it more difficult to identify with dependence and to give up the less-mature introjected motives for being dependent, which would account for the higher correlation.²

Further, the motives underlying independent and dependent decision making seemed to relate differentially with problem behavior and intimacy. As for problem behavior, only the motives for dependency contributed uniquely. Specifically, depending on the parents out of personal conviction may possibly have a protective function against problem behavior, thereby playing a similar role as voluntary self-disclosure (cf. Kerr & Stattin, 2000). In contrast, when youngsters feel externally pressured to depend on the parents, they might engage in more problem behavior as a way to rebel against the unwanted interference of their parents. According to reactance theory (Brehm, 1966), when adolescents feel threatened in their desire to act independently and instead feel pressured to remain dependent, they tend to engage in the opposite behavior as a way of restoring their freedom. Thus, the pressure to remain dependent on the parents may lead youngsters to maximize the distance with the parents and to reject parental authority, thereby engaging in oppositional and norm-breaking behavior.

When predicting intimate functioning, only the motives for independent decision making contributed uniquely. Identified motives for independence related to more intimacy, whereas external motives for independence were associated with a lower quality of relational functioning. An inclination to function independently out of personal conviction seems to create the freedom and necessary conditions to actively engage in relationships outside the family. This is also in line with the claims made by some scholars in Separation-Individuation Theory (e.g., Levy-Warren, 1999), stating that successful separation-individuation is an important determinant of later intimate functioning.

The present findings may have some important implications for clinical practice, for instance with respect to parenting advice. Based on the correlates of independent decision making, one may consider the maintenance of dependence to serve a protective role against

problem behavior. However, the undergirding motivational dynamics for such dependent behavior seem as crucial. If parents use pressure to foster dependent behavior, they may instead elicit rebellious reactions and oppositional behavior, such that their children distance themselves from them rather than staying dependent on them. Likewise, even though an increase in independent functioning is normative through adolescence, youngsters should not be pressured to decide or behave more independently, as controlled motives for independence also relate to maladjustment. By contrast, fostering adolescents' self-endorsed functioning (e.g., through empathy, giving choice whenever possible, and encouraging them to act upon their personal values and interests; see Grolnick, 2003; Soenens et al., 2007) seems to be especially crucial for parents, in order to deal successfully with the challenges of raising an adolescent.

Limitations and Suggestions for Future Research

Although the present investigation reveals several interesting findings, some limitations need to be considered. A major limitation is the cross-sectional study design. A thorough longitudinal study would allow investigating (a) age-related changes in both operationalizations of autonomy, (b) how both operationalizations of autonomy are interrelated over time, and (c) whether both operationalizations in autonomy predict change in psychosocial functioning over time. For instance, the structural analyses now implicitly assume causality, with independence and the underlying motives influencing adolescents' psychosocial functioning. However, the opposite may be the case as well, with the psychosocial outcomes affecting both types of autonomy.

A second limitation concerns the reliance on a single informant and the well-known disadvantages of such an approach (e.g., artificial inflation of observed relations). Nevertheless, given the intrapsychic nature of the central constructs in the present research, we believe it is

justified to primarily rely on adolescent perceptions. Nevertheless, future research might focus more on the active contribution of parents in the development of adolescent autonomy, using a multi-informant design. One possibility would be to investigate whether different types of autonomy support (i.e., as promotion of independence vs. promotion of volitional functioning; cf. Soenens et al., 2007) relate differentially to independence and the underlying motives. Furthermore, as a psychologically controlling parenting style is supposed to undermine adolescents' development of autonomy (Barber & Harmon, 2002), future research may also investigate what specific aspects of adolescents' autonomous functioning are affected by parental psychological control. Based on recent research and theorizing from the SDT framework (Soenens & Vansteenkiste, 2010; Soenens et al., 2009), we expect psychological control to be especially related to more controlled functioning, regardless whether these actions are dependent or independent.

Third, another direction for future research would be to investigate how both operationalizations of autonomy relate to adolescents' functioning in other cultures. Eastern cultures, which are more collectivistic, are more oriented towards dependence and relatedness (Markus & Kitayama, 1991). In such cultures, people may score higher on dependent decision making and on the motives for dependent decision making. Ecological and history-relevant factors, such as globalization and economic recession, may result in similar differences. In spite of such mean-level differences, based on SDT, the structural relations of the motives underlying independent as well as dependent functioning are expected to be fairly culture-invariant, with self-endorsed motives for both independence and dependence relating to better adjustment, and controlled motives being associated with maladjustment.

A final interesting direction for future research would be to focus explicitly on differences between the social domains (cf. Smetana, 2000; Turiel, 1998). Now the motives for independent and dependent decision making were assessed regardless of the specific domain to which a certain issue belonged, primarily due to low reliability of the domain specific measurement. However, it may be interesting to focus specifically on differences between domains (e.g. the personal versus moral domain), and to assess why youngsters decide independently or dependently about these domain-specific issues.

Conclusions

The present study empirically underscores the conceptual difference between two prevailing definitions of autonomy: independence and self-endorsed functioning. Adolescents may function independently because they personally endorse doing so, or because they feel externally or internally obliged to do so. Likewise, youngsters may depend on their parents because they value their input, or because they feel pressured to do so. Whereas independent functioning is related to more problem behavior, self-endorsed motives for both independent and dependent decision making were found to relate to better adjustment and controlled motives were found to relate to maladjustment. Together these results have important theoretical as well as practical implications.

References

- Allen, J. P., Hauser, S. T., Bell, K. L., & O'Connor, T. G. (1994). Longitudinal assessment of autonomy and relatedness in adolescent family interactions as predictors of adolescent ego development and self-esteem. *Child Development, 65*, 179-194. doi: 10.1111/1467-8624.ep9406130688
- Bao, X. H., & Lam, S. F. (2008). Who makes the choice? Rethinking the role of autonomy and relatedness in Chinese children's motivation. *Child Development, 79*, 269-283. doi: 10.1111/j.1467-8624.2007.01125.x
- Barber, B. K., & Buehler, C. (1996). Family cohesion and enmeshment: Different constructs, different effects. *Journal of Marriage and the Family, 58*, 433-441. doi: 10.1111/j.1741-3737.2006.00282.x
- 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: American Psychological Association.
- Beyers, W., & Goossens, L. (1999). Emotional autonomy, psychosocial adjustment and parenting: Interactions, moderating and mediating effects. *Journal of Adolescence, 22*, 753-769. doi: 10.1006/jado.1999.0268
- Beyers, W., Goossens, L., Vansant, I., & Moors, E. (2003). A structural model of autonomy in middle and late adolescence: Connectedness, separation, detachment, and agency. *Journal of Youth and Adolescence, 32*, 351-365. doi: 0047-2891/03/1000-0351/0
- Blos, P. (1967). The second individuation process of adolescence. *Psychoanalytic Study of the Child, 29*, 107-157. doi: <http://yalepress.yale.edu/yupbooks/SeriesPage.asp?series=75>

- Blos, P. (1979). *The adolescent passage*. Madison, CT: International Universities Press.
- Boles, S. A. (1999). A model of parental representations, second individuation, and psychological adjustment in late adolescence. *Journal of Clinical Psychology*, 55, 497-512. doi: 10.1002/(SICI)1097-4679(199904)55:4<497::AID-JCLP12>3.0.CO;2-I
- Bollen, K. (1989). *Structural equation modeling with latent variables*. New York: Wiley.
- Bosma, H. A., Jackson, S. E., Zijlsling, D. H., Zani, B., Cicognani, E., Xerri, M. L., Honess, T. M., & Charman, L. (1996). Who has the final say? Decisions on adolescent behaviour within the family. *Journal of Adolescence*, 19, 277-291. doi: 10.1006/jado.1996.0025
- Brehm, J. W. (1966). *A theory of psychological reactance*. San Diego, CA: Academic Press.
- Brown, B. B., Mounts, N., Lamborn, S. D., & Steinberg, L. (1993). Parenting practices and peer group affiliation in adolescence. *Child Development*, 64, 467-482. doi: 10.1111/1467-8624.ep9306035474
- Chirkov, V., Ryan, R. M., Kim, Y., & Kaplan, U. (2003). Differentiating autonomy from individualism and independence: A self-determination theory perspective on internalization of cultural orientations and well-being. *Journal of Personality and Social Psychology*, 84, 97-110. doi: 10.1037/0022-3514.84.1.97
- Collins, W. A. (1990). Parent–child relationships in the transition to adolescence: Continuity and change in interaction, affect and cognition. In R. Montemayor, G. R. Adams & T. P. Gullotta (Eds.), *From childhood to adolescence: a transitional period?* (pp. 85-106). Newbury Park: Sage.
- 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. doi: 10.1207/S15327965PLI1104_01

- Dornbusch, S. M., Carlsmith, J. M., Bushwall, S. J., Ritter, P. L., Leiderman, H., Hastorf, A. H., & Gross, R. T. (1985). Single parents, extended households, and the control of adolescents. *Child Development*, 56, 326-341. doi: 10.1111/1467-8624.ep7251601
- Dornbusch, S. M., Ritter, P. L., Mont-Reynaud, R., & Chen, Z. (1990). Family decision-making and academic performance in a diverse high school population. *Journal of Adolescent Research*, 5, 143-160. doi: 10.1177/074355489052003
- Eshel, Y., Sharabany, R., & Friedman, U. (1998). Friends, lovers and spouses: Intimacy in young adults. *British Journal of Social Psychology*, 37, 41-57. doi: <http://proquest.umi.com/pqdlink?Ver=1&Exp=03-20-2016&FMT=7&DID=30099965&RQT=309&cfc=1>
- Fuligni, A. J., & Eccles, J. S. (1993). Perceived parent-child relationships and early adolescents orientation toward peers. *Developmental Psychology*, 29, 622-632. doi: 00063061-199307000-00002
- Furman, W., & Wehner, E. (1994). Romantic views: Toward a theory of adolescent romantic relationships. In R. Montemayor, G. J. Adams & G. Gullotta (Eds.), *Relationships during adolescence* (pp. 168-195). Thousand Oaks, CA: Sage.
- Goossens, L. (2006). The many faces of adolescent autonomy: Parent-adolescent conflict, behavioral decision-making, and emotional autonomy. In S. Jackson & L. Goossens (Eds.), *Handbook of adolescent development* (pp. 135-153). Hove, England: Psychology Press.
- Goossens, L., & Luyckx, K. (2007). Belgium. In J. J. Arnett (Ed.), *International encyclopedia of adolescence* (pp. 64-76). New York: Routledge.

- Gottfried, A. E., Fleming, J. S., & Gottfried, A. W. (2001). Continuity of academic intrinsic motivation from childhood through late adolescence: A longitudinal study. *Journal of Educational Psychology, 93*, 3-13. doi: 10.1037/0022-0663.93.1.3
- Gray, M. R., & Steinberg, L. (1999). Adolescent romance and parent-child relationship: A contextual perspective. In W. Furman, B. B. Brown & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 235-265). Cambridge: Cambridge University Press.
- Grotevant, H. D., & Cooper, C. R. (1986). Individuation in family relationships: A perspective on individual differences in the development of identity and role-taking skills in adolescence. *Human Development, 29*, 82-100. doi: 10.1159/000273025
- Guttman, L. (1958). A new approach to factor analysis: The radex. In P. Lazerfeld (Ed.), *Mathematical thinking in the social sciences* (pp. 258-348). Glencoe, IL: Free Press.
- Harter, S. (1988). *Manual for the Self-Perception Profile for Adolescents*. Denver, CO: University of Denver.
- Hasebe, Y., Nucci, L., & Nucci, M. S. (2004). Parental control of the personal domain and adolescent symptoms of psychopathology: A cross-national study in the United States and Japan. *Child Development, 75*, 815-828. doi: 10.1111/j.1467-8624.2004.00708.x
- Hmel, B. A., & Pincus, A. L. (2002). The meaning of autonomy: On and beyond the interpersonal circumplex. *Journal of Personality, 70*, 277-310. doi: 10.1111/1467-6494.05006
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*, 1-55. doi: 10.1080/1070490991200000003

- Josselson, R. (1980). Ego development in adolescence. In J. Adelson (Ed.), *Handbook of adolescent psychology* (pp. 188-210). New York: Wiley.
- Josselson, R. (1988). The embedded self: I am thou revisited. In D. K. Lapsley & F. C. Power (Eds.), *Self, ego and identity: Integrative approaches* (pp. 91-108). New York: Springer.
- Kerr, M., & Stattin, H. (2000). What parents know, how they know it, and several forms of adolescent adjustment: Further support for a reinterpretation of monitoring. *Developmental Psychology, 36*, 366-380. doi: 00063061-200005000-00007
- Kerr, M., Stattin, H., & Burk, W. J. (2010). A reinterpretation of parental monitoring in longitudinal perspective. *Journal of Research on Adolescence, 20*, 39-64. doi: 10.1111/j.1532-7795.2009.00623.x
- Kins, E., Beyers, W., Soenens, B., & Vansteenkiste, M. (2009). Patterns of home leaving and subjective well-being in emerging adulthood: The role of motivational processes and parental autonomy support. *Developmental Psychology, 45*, 1416-1429. doi: 10.1037/a0015580
- Lamborn, S. D., Dornbusch, S. M., & Steinberg, L. (1996). Ethnicity and community context as moderators of the relations between family decision making and adolescent adjustment. *Child Development, 67*, 283-301. doi: 10.1111/1467-8624.ep9605280309
- Lamborn, S. D., & Groh, K. (2009). A four-part model of autonomy during emerging adulthood: Associations with adjustment. *International Journal of Behavioral Development, 33*, 393-401. doi: 10.1177/0165025409338440
- Levy-Warren, M. H. (1999). I am, you are, and so we are: A current perspective on adolescent separation-individuation theory. In A. H. Esman, L. T. Flaherty & H. A. Horowitz (Eds.),

- Adolescent psychiatry: Developmental and clinical studies* (Vol. 24, pp. 3-24). Hillsdale, NJ: Analytic Press.
- Little, R. (1988). A test of missing completely at random for multivariate data with missing values. *Journal of the American Statistical Association*, 83, 1198-1202. doi: <http://www.jstor.org/stable/2290157>
- Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural Equation Modeling*, 9, 151-173. doi: 10.1207/S15328007SEM0902_1
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, 98, 224-253. doi: 00006832-199104000-00006
- Marsh, H. W., Hau, K., & Wen, Z. (2004). In search of golden rules: Comment on hypothesis-testing approaches to setting cutoff values for fit indexes and dangers in overgeneralizing Hu and Bentler's (1999) findings. *Structural Equation Modeling*, 11, 320-341. doi: 10.1207/s15328007sem1103_2
- Muthén, L. K., & Muthén, B. O. (2007). *Mplus user's guide* (5th ed.). Los Angeles, CA: Muthén & Muthén.
- Nucci, L. P. (2001). *Education in the moral domain*. Cambridge, England: Cambridge University Press.
- Qin, L. L., Pomerantz, E. M., & Wang, Q. (2009). Are gains in decision-making autonomy during early adolescence beneficial for emotional functioning? The case of the United States and China. *Child Development*, 80, 1705-1721. doi: 10.1111/j.1467-8624.2009.01363.x

Quintana, S. M., & Kerr, J. (1993). Relational needs in late adolescent separation-individuation.

Journal of Counseling and Development, 71, 349-354. doi: 9308125692

Radloff, S. L. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, 1, 385-401. doi:

10.1177/014662167700100306

Renaud-Dubé, A., Taylor, G., Lokes, N., Koestner, R., & Guay, F. (2010). Adolescents'

motivation toward the environment: Age-related trends and correlates. *Canadian Journal of Behavioural Science*, 42, 194-199. doi: 10.1037/a0018596

Ryan, R. M., & Connell, J. P. (1989). Perceived locus of causality and internalization:

Examining reasons for acting in two domains. *Journal of Personality and Social Psychology*, 57, 749-761. doi: 00005205-198911000-00001

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. doi: 10.1037/110003-066X.55.1.68

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. doi: 10.1111/j.1467-6494.2006.00420.x

Ryan, R. M., Deci, E. L., Grolnick, W. S., & LaGuardia, J. G. (2006). The significance of

autonomy and autonomy support in psychological development and psychopathology. In D. Cicchetti & D. Cohen (Eds.), *Developmental psychopathology: Vol. 1: Theory and methods* (2nd ed., pp. 795-849). New York: Wiley.

- Santis, R., Garmendia, M. L., Acuna, G., Alvarado, M. E., & Arteaga, O. (2009). The Alcohol Use Disorders Identification Test (AUDIT) as a screening instrument for adolescents. *Drug and Alcohol Dependence, 103*, 155-158. doi: 10.1016/j.drugalcdep.2009.01.017
- Saunders, J. B., Aasland, O. G., Babor, T. F., Delafuente, J. R., & Grant, M. (1993). Development of the Alcohol Use Disorders Identification Test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption-II. *Addiction, 88*, 791-804. doi: 10.1111/j.1360-0443.1993.tb02093.x
- Schwartz, B. (2000). Self-determination: The tyranny of freedom. *American Psychologist, 55*, 79-88. doi: 10.1037//0003-066X.55.1.79
- Sharabany, R. (1994). Intimate Friendship Scale: Conceptual underpinnings, psychometric properties and construct validity. *Journal of Social and Personal Relationships, 11*, 449-469. doi: 10.1177/0265407594113010
- Sheldon, K. M., Kasser, T., Houser-Marko, L., Jones, T., & Turban, D. (2005). Doing one's duty: Chronological age, felt autonomy, and subjective well-being. *European Journal of Personality, 19*, 97-115. doi: 10.1002/per.535
- Silverberg, S. B., & Gondoli, D. M. (1996). Autonomy in adolescence: A contextualized perspective. In G. R. Adams, R. Montemayor & T. P. Gullotta (Eds.), *Psychosocial development during adolescence* (pp. 12-61). Thousand Oaks, CA: Sage.
- Smetana, J. G. (1988). Adolescents and parents conceptions of parental authority. *Child Development, 59*, 321-335. doi: 10.1111/1467-8624.ep8588566
- Smetana, J. G. (2000). Middle-class African American adolescents' and parents' conceptions of parental authority and parenting practices: A longitudinal investigation. *Child Development, 71*, 1672-1686. doi: 10.1111/1467-8624.00257

- Smetana, J. G., Campione-Barr, N., & Daddis, C. (2004). Longitudinal development of family decision making: Defining healthy behavioral autonomy for middle-class African American adolescents. *Child Development, 75*, 1418-1434. doi: 10.1111/j.1467-8624.2004.00749.x
- Smetana, J. G., & Daddis, C. (2002). Domain-specific antecedents of parental psychological control and monitoring: The role of parenting beliefs and practices. *Child Development, 73*, 563-580. doi: 10.1111/1467-8624.00424
- Smetana, J. G., & Gettman, D. C. (2006). Autonomy and relatedness with parents and romantic development in African American adolescents. *Developmental Psychology, 42*, 1347-1351. doi: 10.1037/0012-1649.42.6.1347
- Soenens, B., & Vansteenkiste, M. (2010). A theoretical upgrade of the concept of parental psychological control: Proposing new insights on the basis of self-determination theory. *Developmental Review, 30*, 74-99. doi: 10.1016/j.dr.2009.11.001
- Soenens, B., Vansteenkiste, M., Lens, W., Luyckx, K., Goossens, L., Beyers, W., & Ryan, R. M. (2007). Conceptualizing parental autonomy support: Adolescent perceptions of promotion of independence versus promotion of volitional functioning. *Developmental Psychology, 43*, 633-646. doi: 10.1037/0012-1649.43.3.633
- Soenens, B., Vansteenkiste, M., & Sierens, E. (2009). How are parental psychological control and autonomy-support related? A cluster-analytic approach. *Journal of Marriage and the Family, 71*, 187-202. doi: 10.1111/j.1741-3737.2008.00589.x
- Steinberg, L. (2002). *Adolescence* (6th ed.). Boston, MA: McGraw-Hill.
- Sullivan, H. S. (1953). *The interpersonal theory of psychiatry*. New York: Norton.

- Turiel, E. (1998). Moral development. In N. Eisenberg & W. Damon (Eds.), *Handbook of child psychology, Vol. 3: Social, emotional and personality development* (5th ed., pp. 863-932). New York: Wiley.
- Van Hiel, A., & Vansteenkiste, M. (2009). Ambitions fulfilled? The effects of intrinsic and extrinsic goal attainment on older adults' ego-integrity and death attitudes. *International Journal of Aging & Human Development*, 68, 27-51. doi: 10.2190/AG.68.1.b
- 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. doi: 10.1007/s11031-006-9041-x
- Vansteenkiste, M., Niemiec, C. P., & Soenens, B. (2010). The development of the five mini-theories of self-determination theory: A historical overview, emerging trends and future directions. In T. Urdan & S. Karabenick (Eds.), *Advances in Motivation and Achievement, vol. 16: The decade ahead* (pp. 105-166). UK: Emerald Publishing.
- Vansteenkiste, M., Ryan, R. M., & Deci, E. L. (2008). Self-determination theory and the explanatory role of psychological needs in human well-being. In L. Bruni, F. Comim & M. Pugno (Eds.), *Capabilities and happiness* (pp. 187-223). Oxford, UK: Oxford University Press.
- Vansteenkiste, M., Zhou, M. M., Lens, W., & Soenens, B. (2005). Experiences of autonomy and control among Chinese learners: Vitalizing or immobilizing? *Journal of Educational Psychology*, 97, 468-483. doi: 10.1037/0022-0663.97.3.468

- Weinmann, L. L. (1992). Patterns of change in middle adolescent adjustment: The role of relationships with parents and peers. *Dissertation Abstracts International*, 53, 2565B-2566B. doi: University Microfilms No. DA92-18128
- Wichstrom, L. (1995). Harter's Self-Perception Profile for Adolescents: Reliability, validity, and evaluation of the question format. *Journal of Personality Assessment*, 65, 100-116. doi: 6381096
- Zimmer-Gembeck, M. J., & Collins, W. A. (2003). Autonomy development during adolescence. In G. R. Adams & M. D. Berzonsky (Eds.), *Blackwell handbook of adolescence* (pp. 175-204). Oxford: Blackwell.

Footnotes

¹ As our measure of decisional independence comprised 20 issues, coming from five social domains, one may wonder why no differentiation was made in independent decision making in these different domains. However, reliability analyses produced low alphas for several domains, and factor analyses could not differentiate between the five domains. Moreover, correlational analyses between independent decision making in these specific domains and the outcome variables yielded a very similar pattern across domains, with almost no associations with well-being or intimacy, and positive correlations with the indicators of problem behavior.

² We would like to thank an anonymous reviewer for this interesting alternative explanation.

Tables

Table 1

Means, Standard Deviations and Correlations among Independent Decision Making, the Underlying Motives, and Psychosocial Outcomes

	Range	Mean	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Independent DM	1-5	3.94	.59											
2. Identified Independence	1-5	4.05	.62	.09*										
3. Introjected Independence	1-5	2.74	.78	-.01	.29***									
4. External Independence	1-5	2.12	.70	.00	-.12**	.51***								
5. Identified Dependence	1-5	3.23	.79	-.11**	.23***	.10**	-.02							
6. Introjected Dependence	1-5	2.52	.75	-.19***	.09*	.41***	.30***	.52***						
7. External Dependence	1-5	2.43	.84	-.16***	.08*	.23***	.29***	-.18***	.26***					
8. Self-Esteem	1-5	3.59	.79	.10*	.07	-.12**	-.27***	.13***	-.14***	-.23***				
9. Depressive symptoms	0-3	0.59	.54	-.09*	.05	.13**	.24***	-.09*	.10**	.20***	-.58***			
10. Deviant Behavior	0-3	0.50	.37	.16***	.00	-.06	-.03	-.17***	-.13***	.13***	.02	.03		
11. Alcohol Abuse	1-5	1.73	.74	.17***	.01	.03	.05	-.15***	-.01	.16***	-.01	-.01	.42***	
12. Intimacy	1-7	5.65	.86	.04	.28***	-.01	-.16***	.12**	-.02	-.01	.06	.06	.04	-.02

Note. DM = Decision Making. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 2

Mean Differences on Study Variables, as a Function of Gender, Education and Romantic Involvement

	Gender			Education				Romantic Involvement		
	Male	Female	<i>F</i> (1,696)	Academic	Technical	Vocational	<i>F</i> (2,696)	Yes	No	<i>F</i> (1,696)
Autonomy measures										
Independent DM	4.08	3.94	9.77***	3.90	3.98	4.14	8.38***	4.00	4.01	0.10
Identified Independence	4.00	4.01	0.08	4.17	3.98	3.85	14.74***	4.05	3.96	3.31
Introjected Independence	2.72	2.75	0.31	2.71	2.67	2.82	1.38	2.73	2.73	0.00
External Independence	2.14	2.15	0.05	2.04	2.09	2.31	7.07***	2.09	2.20	3.57
Identified Dependence	3.18	3.19	0.05	3.26	3.16	3.14	1.39	3.23	3.15	1.56
Introjected Dependence	2.44	2.56	4.46*	2.53	2.41	2.55	1.72	2.50	2.49	0.05
External Dependence	2.37	2.33	0.54	2.45	2.36	2.23	3.12	2.33	2.36	0.21
Psychosocial outcomes										
Self-Esteem	3.70	3.47	16.06***	3.61	3.52	3.61	0.81	3.63	3.53	2.65
Depressive Symptoms	0.53	0.68	13.97***	0.65	0.66	0.51	3.24*	0.63	0.58	1.64
Deviant Behavior	0.64	0.48	35.11***	0.48	0.58	0.61	9.01***	0.61	0.50	16.33***
Alcohol Abuse	1.98	1.65	38.48***	1.66	1.88	1.91	9.11***	1.85	1.78	1.53
Intimacy	5.54	5.88	33.67***	5.80	5.79	5.54	5.05**	6.03	5.39	96.20***

Note. DM = Decision Making. * $p < .05$. ** $p < .01$. *** $p < .001$.

Figures

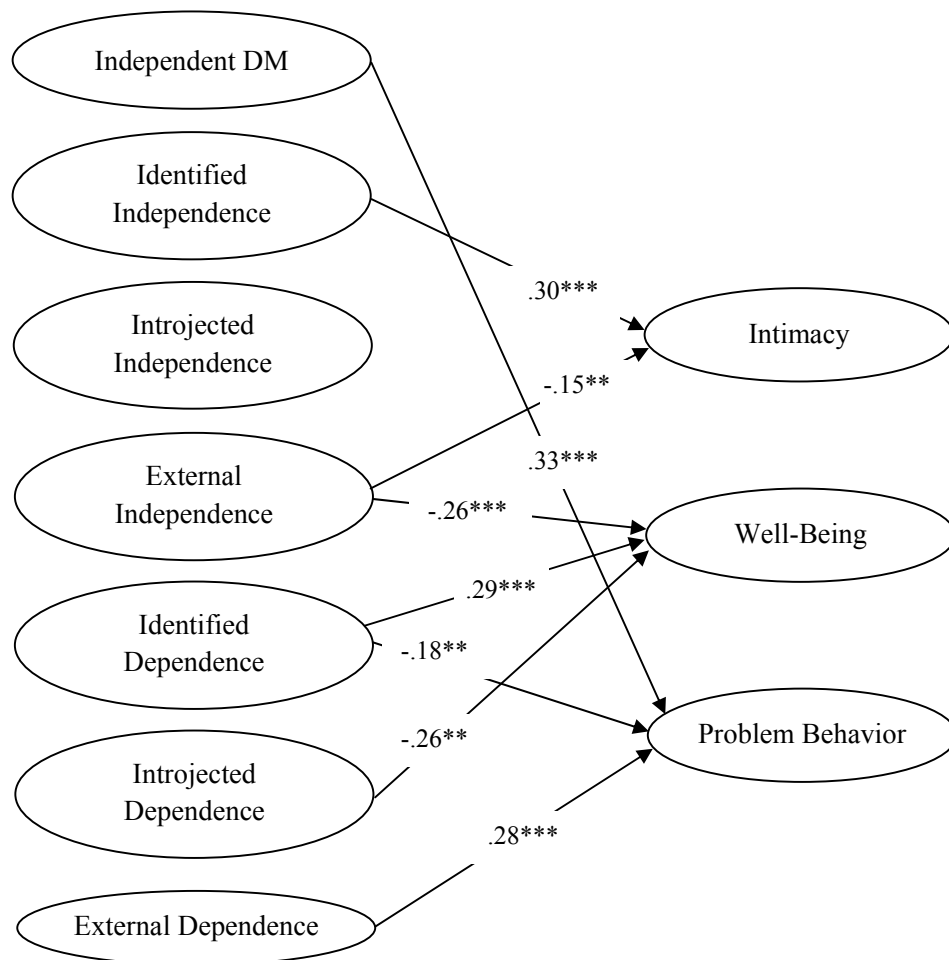


Figure 1. Structural model of the relationship between independent decision making and the underlying motives, and psychosocial functioning. Correlations between endogenous variables are not printed, neither are the effects of the control variables.