

Disentangling psychological control and autonomy granting; and their
longitudinal associations with adolescents' internalizing problem behavior

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Abstract

This study investigated the longitudinal associations between perceived psychological control and perceived autonomy granting on the one hand, and adolescents' self-reported internalizing problem behavior on the other hand. To shed light on the relationship between psychological control and autonomy granting, these constructs were compared concerning the strength and directions of the associations with internalizing problem behavior. Data were collected at two time points two years apart, from a sample of 407 adolescents, both boys and girls (mean age = 13 years at Time 1). Multiple hierarchical regression analyses showed that more psychological control predicted more internalizing problem behavior while more autonomy granting predicted less internalizing problem behavior two years later. Vice versa, more internalizing problem behavior predicted more psychological control and less autonomy granting two years later. Although the relationships were bidirectional, for psychological control the child effects on parent behavior were stronger than the parent effects on child behavior. For autonomy granting, effects were about the same. Comparing psychological control and autonomy granting to each other showed that child effects were stronger for psychological control than for autonomy granting. Parent effects were about the same for the two constructs. Considering the difference in child effects and the low correlations between psychological control and autonomy granting we found, psychological control and autonomy granting should be seen as distinct constructs instead of as opposite ends of a continuum. This re-conceptualization has implications for future research on these two constructs and their relationship with problem behavior.

Keywords: Psychological control, autonomy granting, internalizing problem behavior

Adolescence is a transitional period in which many changes take place. From past research it has become clear that there are some very important family and parenting factors that contribute to the prediction of adolescent development (Jones, Forehand, & Beach, 2000; Steinberg, 2001). A fundamental presupposition about human development, which is especially important in adolescence, is that developing children require an adequate degree of psychological autonomy (Barber, Olsen, & Shagle, 1994). Parents may frustrate this need for autonomy by trying to regulate or control the adolescents' psychological world in an excessive degree (Barber et al., 1994; Barber & Harmon, 2001). In contrast, they may enhance the development of their adolescent-child by encouraging individual decision making and by granting a reasonable psychological distance between themselves and their child (Silk, Morris, Kanaya, & Steinberg, 2003). These two parenting strategies are called respectively psychological control and autonomy granting (Barber et al., 1994; Silk et al., 2003). These strategies play an important role, especially in the period of adolescence, since high levels of psychological control and low levels of autonomy granting may interfere with the individuation process of adolescents (Barber et al., 1994). This process is especially important during adolescence, because it is part of the identity formation, a central task in adolescence (Cooper, Grotevant, & Condon, 1982; Steinberg & Silverberg, 1986).

Psychological control and problem behavior

Psychological control consists of parental control attempts that intrude into the emotional and psychological development of the child, such as thinking processes, emotions, self-expression and attachment to parents (Barber, 1996). It is an intrusive way to control the child's thoughts and behavior with the use of covert strategies, such as guilt induction, invalidating feelings, or creating an environment in which acceptance is contingent on the child's behavior (Silk et al., 2003). Excessive psychological control can disturb the individuation process and emotional development of adolescents and cause a relative small degree of psychological distance between parents and child (Sabatelli & Mazor, 1985, in Barber et al., 1994). These processes, in turn, may place the adolescents at increased risk for problem behavior.

Existing literature shows that psychological control is related to internalizing as well as externalizing problem behavior. The relationship between psychological control and externalizing problem behavior is somewhat ambiguous. A review of existing literature on this relationship revealed that studies have demonstrated inconsistent findings (Barber & Harmon, 2001). Whereas some studies showed that psychological control and externalizing

problem behavior are not significantly related (Barber et al., 1994; Barber & Harmon, 2001), other studies showed that the use of psychological control at a younger age contributes to higher levels of externalizing problem behavior at a later age (Conger, Conger, & Scaramella, 1997; Rogers, Buchanan, & Winchell, 2003) or that high levels of aggression predict later increases in the use of psychological control (Albrecht, Galambos, & Jansson, 2007). Only one study has found a bidirectional relationship between psychological control and externalizing problem behavior (Barber, 1996).

Although psychological control is related to externalizing problem behavior, this parenting strategy is in particular related to internalizing problem behavior. In their review of numerous cross-sectional studies on this topic, Barber and Harmon (2001) found across studies an overall positive association between psychological control and adolescents' internalizing problem behavior. Moreover, other empirical evidence is robust in establishing that psychological control is positively related to adolescents' internalizing problem behavior in general (Albrecht et al., 2007; Barber et al., 1994; Barber & Harmon, 2001; Conger et al., 1997; Rogers et al., 2003) and to depressive symptoms in particular (Barber, 1996; Soenens, Luyckx, Vansteenkiste, Duriez, & Goossens, 2008).

Several recent studies examined the longitudinal associations between psychological control and internalizing problem behavior. In their longitudinal study on the influence of psychological control on adolescent adjustment, Conger et al. (1997) found that the use of psychological control on a younger age elicits later internalizing problem behavior. Excessive psychological control interferes with the development of the self, and therefore may lead to internalizing problems (Barber & Harmon, 2001). However, it is also possible that the reverse is true, or that this reflects a more bidirectional process in which psychological control and internalizing problem behavior mutually reinforce each other. Internalizing problems may predict later increases in the use of psychological control because they are a source of stress for parents and may frustrate parental expectations; processes which lead parents to use more intrusive parenting strategies (Soenens et al., 2008). Two recent longitudinal studies on bidirectional effects indeed showed that adolescents' internalizing problem behavior predicts increases in the use of psychological control from parents, and not vice versa. These studies provided more evidence of child-effects on parent behavior than of parent-effects on adolescents' behavior, that is, internalizing problem behavior elicits the use of psychological control in parents (Albrecht et al., 2007; Rogers et al., 2003). In these studies, there was not controlled for stability in both psychological control and internalizing problem behavior and for within-time associations between psychological control and internalizing problem

behavior. That they have not controlled for such potential confounds makes their results less reliable and may account for the inconsistent findings. One of the only studies which have controlled for stability and within-time associations is the study of Soenens et al. (2008). They investigated the associations between the use of psychological control and adolescents' depression and found a bidirectional relationship in which depressive symptoms and psychological control mutually influence each other (Soenens et al., 2008). Taken together, only one of these studies found bidirectional associations between psychological control and internalizing problem behavior (Soenens et al., 2008), whereas the other studies provided more evidence of unidirectional associations (Albrecht et al., 2007; Conger et al., 1997; Rogers et al., 2003).

The results on the relationship of externalizing problem behavior with psychological control are less consistent compared to the results on the relationship of internalizing problem behavior with psychological control. This might suggest that externalizing problems, compared to internalizing problems, are more contingent on other aspects of parenting (Barber & Harmon, 2001). Therefore, in this study, the focus is on the relationship between internalizing problem behavior and psychological control.

Autonomy granting and problem behavior

Another important parenting factor for the development of adolescents is autonomy granting. Autonomy granting consists of parental encouragement of adolescents' individual expression and decision making, and of tolerance for their opinions (Silk et al., 2003). Low levels of autonomy granting may frustrate the adolescents' need for individuation and therefore cause problem behavior (Steinberg & Silverberg, 1986). Barber & Olsen (1997) investigated the relationship between autonomy granting on the one hand, and feelings of depression and antisocial behavior on the other hand. They concluded that low levels of autonomy granting are related to high levels of depression and antisocial behavior. These results were replicated in another cross-sectional study on the relationship of autonomy granting with depression and problem behavior (Eccles, Early, Fraser, Belansky, & McCarthy, 1997). Furthermore, Gray & Steinberg (1999) found autonomy granting to be positively related to adolescents' psychosocial adjustment. Only a very few longitudinal studies have been done on the associations between autonomy granting and problem behavior. For example, Herman, Dornbusch, Herron, and Herting (1997) showed that low levels of autonomy granting on a younger age predict higher levels of deviance and psychological and somatic symptoms one year later. However, another study has found contradictory results.

Silk et al. (2003), who used another measure for autonomy granting than the aforementioned researchers, did not find a significant relation between autonomy granting and internalizing problem behavior. Finally, there are some studies which focused on autonomy in general, however, they assessed autonomy as a characteristic of the adolescent rather than as a parenting strategy (Chou, 2003; Noom, Deković, & Meeus, 1999).

Although the relationship between autonomy granting and problem behavior seems fairly clear, there is a problem with the aforementioned research on autonomy granting. This research has suffered from a lack of differentiation between autonomy granting and psychological control. Researchers tended to define autonomy granting as the opposite of psychological control. Typically, the two constructs have been combined into one scale, or only psychological control items have been used to measure both constructs (Barber & Olsen, 1997; Eccles et al., 1997; Gray & Steinberg, 1999; Herman et al., 1997). This has led to the conclusion that autonomy granting is negatively related to internalizing and externalizing problem behavior (Barber & Olsen, 1997; Eccles et al., 1997; Gray & Steinberg, 1999; Herman et al., 1997). Underlying this research is the implicit assumption that autonomy granting and psychological control are opposite ends of a continuum; an assumption that derives from the work of Schaefer (1965), who labeled this dimension of parenting 'Psychological autonomy versus Psychological control' on the Children's Reports of Parental Behavior Inventory (CRPBI).

However, it may not be appropriate to equate the absence of psychological control with the presence of autonomy granting. The 'Psychological autonomy versus Psychological control scale' on the CRPBI consists of the dimensions intrusiveness, parental direction and control through guilt (Schaefer, 1965). The items of the Psychological Control Scale, an adaptation of the CRPBI, construed by Barber (1996), also refer to forms of intrusive parental control. Therefore, the question is whether it is true that parents who do not apply intrusive discipline strategies, automatically grant autonomy. Silk et al. (2003) argue, in line with Barber, Bean and Erickson (2001), that the absence of psychological control not necessarily implies the presence of autonomy granting and vice versa. They call for a re-conceptualization of the concept autonomy granting. Parents high in autonomy granting allow adolescents to make choices about behavior and activities and encourage the development of independence (Morris et al., 2001, in Silk et al., 2003). Thus, parents may be psychologically controlling and still granting autonomy, or low on autonomy granting without being psychologically controlling. For instance, parents may discourage independent thinking but not use intrusive discipline strategies (Silk et al., 2003).

There is some empirical evidence that autonomy granting and psychological control are distinct constructs, instead of the opposite ends of a continuum. Barber et al. (2001) have created an explicit psychological autonomy measure. In their study on psychological control, behavioral control, and autonomy granting in adolescence, psychological control was not highly enough correlated with autonomy granting to imply that they are opposite ends of a continuum (Barber et al., 2001). Furthermore, Silk et al. (2003) have explored this relationship between psychological control and autonomy granting in a large sample of adolescents. Factor analyses on scale items have revealed two distinct factors (Silk et al., 2003). Moreover, when the concepts are measured with different scales, there is little correlation between autonomy granting and psychological control (Silk et al., 2003). It is also important to realize that the study of Silk et al. (2003), the only study who used another scale to measure autonomy granting, has led to the conclusion that autonomy granting is not related to internalizing problem behavior, while studies who assessed autonomy granting as the opposite of psychological control consistently found a negative relationship between autonomy granting and internalizing problem behavior. Taken together, these results are supportive for the conceptualization of psychological control and autonomy granting as distinct constructs. This re-conceptualization of autonomy granting means that the studies mentioned before have not investigated the presence of autonomy granting but the absence of psychological control.

In sum, it appears that there are still several ambiguities about the longitudinal associations between psychological control and autonomy granting on the one hand, and internalizing problem behavior on the other hand.

The present study

The first aim of the present study is to examine the longitudinal associations between perceived psychological control and perceived autonomy granting on the one hand, and internalizing problem behavior on the other hand. The second aim is to compare perceived psychological control and perceived autonomy granting concerning the strength and directions of the associations with internalizing problem behavior. This might shed light on the ongoing debate about the distinction between the constructs psychological control and autonomy granting.

Based on results of earlier research (Albrecht et al., 2007; Barber et al., 1994; Barber, 1996; Conger et al., 1997; Rogers et al., 2003, Soenens et al., 2008), we expect a bidirectional process between the use of psychological control on the one hand and internalizing problem

behavior on the other hand. In this process, the use of psychological control leads to increases in internalizing problem behavior, while a high level of adolescents' internalizing problem behavior leads to increases in the use of parental psychological control. There is relatively less literature to guide expectations regarding autonomy granting and internalizing problem behavior. However, we hypothesize, in line with the transactional view, that this is also a bidirectional process in which low autonomy granting is related to increases in internalizing problem behavior, while a high level of adolescents' internalizing problem behavior elicits later decreases in parental autonomy granting.

Method

Participants and procedure

The sample was part of a larger community sample of adolescents living in The Netherlands. The data were collected in the context of a longitudinal research project on adolescents and relationships (RADAR). Participants of this study were 407 adolescents (56% boys, 44% girls) with a mean age of 13 years ($SD = 0.48$, range 10.9-15.6 years) at Time 1. Eight percent of the participants lived in low-SES families, while ninety-two percent lived in medium- or high-SES families. Mean age of the fathers was 46.7 years ($SD = 5.09$, range 33.3-68 years) and mean age of the mothers was 44.6 years ($SD = 4.38$, range 33.8-64.2 years) at Time 1. There was an oversampling of high risk adolescents, as indicated by the Teacher's Report Form (TRF) that was used as a screening instrument. After the first screening, a group of full families that met the selection criteria was selected (Eichelsheim et al., 2009). The first wave of this study was conducted in 2006. To collect the data, a questionnaire battery was administered to the adolescents and their parents during a home visit. Data for the present study are taken from Time 1 and Time 3, so the two measurement moments were two years apart. This two-year timeframe increased the chance that there would be change in adolescents' behavior that may be predicted by parenting behavior, or vice versa.

Measures

Perceived autonomy granting. The Balanced Relatedness Questionnaire (BRQ) was used to measure autonomy granting by parents. This scale was originally constructed to measure tolerance for adolescents' individual decisions and opinions (Shulman, Laursen, Kalman, & Karpovsky (1997). The questionnaire consisted of 7 items (e.g., 'My mother

respects my own decisions’). Adolescents were asked to rate how much they agreed with the statements on a 4-point scale ranging from 1 = I don’t agree at all to 4 = I totally agree. The adolescents rated this scale separately for father and mother. Correlations between the father- and mother-scale were .64 and .59 for Time 1 and Time 3, respectively. The mean of the father- and mother scale was taken to construct a parent scale of autonomy granting. The reliability of this scale was high; Cronbach’s *alpha* was .88 at Time 1 and .90 at Time 3.

Perceived psychological control. Psychological control by parents was measured by the Psychological Control Scale – Youth Self-Report (PCS-YSR), the adaptation by Barber (2001) of the Schaefer (1965) original Child’s Report of Parental Behavior Inventory (CRPBI). This scale was constructed to measure parental controlling behavior that intrudes into the emotional and psychological development of the child (Barber, 2001). The questionnaire consisted of 8 items (e.g., ‘My father always tries to change my feelings and thoughts’, ‘My mother often interrupts me’). Adolescents responded on a 5-point Likert scale ranging from 1 = not at all true to 5 = very true. The adolescents rated this scale separately for father and mother. Correlations between the father- and mother-scale were .68 and .64 for Time 1 and Time 3, respectively. The mean of the father- and mother scale was taken to construct a parent scale of perceived psychological control. This scale was reliable; Cronbach’s *alphas* were .87 and .91 at Time 1 and Time 3, respectively.

Internalizing problem behavior. Both anxiety and depression were measured to indicate adolescents’ internalizing problem behavior. To measure anxiety, participants completed 18 items (e.g., ‘I’m scared to go to school’, ‘I am nervous’) derived from the Screen for Child Anxiety Related Emotional Disorders (SCARED). The SCARED was originally developed to screen anxiety disorders in children and has proven to be a valid and reliable self-report instrument to measure anxiety (Birmaher et al., 1997). The SCARED contains items about panic disorder, general anxiety, separation anxiety, social phobia and school phobia. Adolescents indicated how often they experienced symptoms on a 3-point answering scale (1 = almost never, 2 = sometimes, 3 = very often). Adolescents’ depressive symptoms were measured by a 23-item version of the original 30-item Reynolds Adolescent Depression Scale-2nd edition (RADS-2) (Reynolds, 2000). The RADS-2 has proven to be a reliable and valid assessment method of depressive moods in adolescence (Weber, 2009). Adolescents responded to the items (e.g., ‘I feel lonely’, ‘I want to hurt myself’) on a 4-point answering scale ranging from 1 = almost never to 4 = almost always, by endorsing the response category that best indicated how they usually feel. Maximum likelihood confirmatory factor analysis was conducted to construct a factor score of internalizing

problem behavior. First, *z*-scores from the items of the depression- and anxiety scales were computed to deal with the scaling differences in these measures. Higher *z*-scores represented higher levels of depression and anxiety. The results of the factor analysis supported the idea that one factor can account for both depression and anxiety. The factor explained 31% of the variance at Time 1 and 39% of the variance at Time 3. The item factor loadings should exceed .32 (Worthington & Whittaker, 2006). Three items had a factor loading lower than .32 at Time 1 (lowest = .25), but none of these items had also a factor loading significantly lower than .32 at Time 3 (Time 1: $M = .54$, $SD = .13$; Time 3: $M = .61$, $SD = .12$). Therefore, these items were not removed from the scale. The Cronbach's *alphas* of the scale internalizing problem behavior showed that depression and anxiety can be seen as one construct; Cronbach's *alpha* was .94 at Time 1 and .96 at Time 3.

Gender. It is known from existing literature that female adolescents experience higher levels of internalizing problem behavior, compared to male adolescents (Hankin et al., 1998; Silverman, La Greca, & Wasserstein, 1995). Furthermore, a review of fifteen studies on child-sex differences in psychological control showed that the results slightly favored female children experiencing less psychological control (Barber et al., 2001). Therefore, we controlled for gender effects in all analyses. Male participants were coded 0; female participants were coded 1.

Results

Dealing with missing data

In cases where <10% of the scale items were missing, Expected Maximization (EM) imputation method in SPSS was used to deal with missing values. EM is an iterative procedure in which a stable set of estimated missing values is reached by repeating a cycle of calculating means and covariance's, followed by data imputation (Schafer & Graham, 2002).

Descriptive Statistics

The means and standard deviations of all assessed variables are presented in Table 1. To assess gender differences in all variables, *t*-tests were conducted for Time 1. Significant gender differences were found for internalizing problems ($t(407) = -3.86$, $p < .001$). Female participants reported higher levels of internalizing problem behavior, compared to male participants. No significant gender differences were found for perceived autonomy granting ($t(407) = -0.03$, $p = .74$) and perceived psychological control ($t(407) = 0.40$, $p = .88$).

Table 1. Means, standard deviations and inter-correlations among all variables ($N=407$)

Scale	1.	2.	3.	4.	5.	6.
1. Psychological control T1	-					
2. Psychological control T3	.45**	-				
3. Autonomy Granting T1	-.36**	-.31**	-			
4. Autonomy Granting T3	-.29**	-.47**	.44**	-		
5. Internalizing problems T1	.35**	.32**	-.28**	-.19**	-	
6. Internalizing problems T3	.22**	.48**	-.22**	-.25**	.60**	-
Mean	1.81	1.82	3.26	3.20	0.00	0.00
Standard Deviation	0.58	0.65	0.36	0.40	1.00	1.00

Note. T1 = Time 1, T3 = Time 3.

* $p < .05$. ** $p < .01$

The inter-correlations among all assessed variables are presented in Table 1. All correlations were significant. Perceived psychological control was, both across and within measurement waves, positively correlated with internalizing problem behavior. In contrast, perceived autonomy granting was negatively correlated with internalizing problem behavior both across and within measurement waves. Correlations between psychological control and autonomy granting were $-.36$ and $-.47$ at Time 1 and Time 3, respectively.

Parent effects on child behavior

Hierarchical multiple regression analyses were performed to analyze the longitudinal associations between psychological control, autonomy granting and internalizing problems. To measure the parent effects on child behavior, psychological control and autonomy granting were regressed on internalizing problem behavior, after controlling for gender effects. The results of this analysis are presented in Table 2.

With respect to gender, female participants reported higher levels of internalizing problems, compared to male participants. In the prediction of internalizing problem behavior, gender explained 14% of variance. Perceived psychological control at Time 1 predicted significant increases ($\beta = .17, p < .001$) in internalizing problem behavior two years later and perceived autonomy granting at Time 1 predicted significant decreases ($\beta = -.16, p < .01$) in internalizing problem behavior two years later. Psychological control and autonomy granting explained an additional 7% of the variance in internalizing problems. The *beta*'s showed that

the effects of psychological control and autonomy granting on internalizing problem behavior were in the opposite direction, but of similar strength.

Table 2. *Regression analysis predicting internalizing problem behavior at Time 3 from gender, psychological control and autonomy granting at Time 1 (N=407)*

<i>Step/predictor</i>	<i>B</i>	<i>SE B</i>	<i>β</i>	<i>ΔR²</i>
1. Gender	.76	.09	.38***	.14***
2. Psychological control T1	.29	.08	.17***	.07***
Autonomy Granting T1	-.43	.13	-.16**	

Note. T1 = Time 1, T3 = Time 3.

* $p < .05$. ** $p < .01$. *** $p < .001$

Child effects on parent behavior

To test the child effects on parent behavior, internalizing problem behavior was regressed on psychological control and autonomy granting, after controlling for gender effects, in two separate hierarchical regression analyses. The results are presented in Table 3.

Table 3. *Regression analyses predicting psychological control and autonomy granting at Time 3 from gender and internalizing problem behavior at Time 1 (N = 407)*

<i>Step/predictor</i>	<i>B</i>	<i>SE B</i>	<i>β</i>	<i>ΔR²</i>
Psychological control T3				
1. Gender	.03	.06	.03	.01
2. Internalizing problem behavior T1	.21	.03	.32***	.10***
Autonomy granting T3				
1. Gender	.07	.04	.09	.00
2. Internalizing problem behavior T1	-.08	.02	-.21***	.04***

Note. T1 = Time 1, T3 = Time 3.

* $p < .05$. ** $p < .01$. *** $p < .001$

Both perceived psychological control and perceived autonomy granting were not significantly predicted by gender. The prediction of perceived psychological control by internalizing problem behavior was significant, ($\beta = .32, p < .001$), which indicated that adolescents who perceived higher levels of internalizing problem behavior at Time 1, reported higher levels of psychological control two years later. The *beta* of internalizing problem behavior for

perceived autonomy granting ($\beta = -.21, p < .001$) indicated that adolescents who perceived higher levels of internalizing problems at Time 1 reported significantly lower levels of autonomy granting two years later. Internalizing problem behavior explained 10% of variance in psychological control and 4% of variance in autonomy granting. The effects of internalizing problem behavior on these two parenting constructs were in the opposite direction. The *beta*'s showed that internalizing problem behavior was a somewhat stronger predictor of psychological control than of autonomy granting.

When comparing the results of the analyses, it appeared that the parent effects as well as the child effects were significant. For psychological control, child effects on parent behavior were almost twice as large as parent effects on child behavior. For autonomy granting, the effects were about the same. For parent effects, there was no difference in strength between psychological control and autonomy granting. For child effects, the prediction of psychological control by internalizing problem behavior was stronger than the prediction of autonomy granting by internalizing problem behavior.

Conclusion and discussion

In the present study the longitudinal associations between perceived psychological control and perceived autonomy granting on the one hand, and adolescents' internalizing problem behavior on the other hand, were examined. This study provides convincing evidence of a bidirectional relationship between the parenting constructs on the one hand and internalizing problem behavior on the other hand. As expected, parents who use psychologically controlling strategies are likely to increase the internalizing problem behavior of their children. In turn, adolescents' internalizing problem behavior leads to an increase in the use of psychological control by parents. These results are in accordance with several other studies on the relationship between psychological control and internalizing problems (Albrecht et al., 2007; Barber et al., 1994; Barber, 1996; Conger et al., 1997; Rogers et al., 2003, Soenens et al., 2008). Whereas excessive psychological control may interfere with the development of the self, and therefore lead to internalizing problems (Barber & Harmon, 2001); internalizing problems may be a source of stress for parents and frustrate parental expectations, leading parents to use more intrusive discipline strategies (Soenens et al., 2008).

Concerning autonomy granting, there was also found a bidirectional relationship with internalizing problems. Parents who grant their children high levels of autonomy are likely to decrease the internalizing problem behavior of their adolescents' children, while low levels of

internalizing problems in adolescents lead parents to grant their children higher levels of autonomy. This is also in accordance with our hypotheses. High levels of autonomy granting may positively influence the individuation process of the adolescents, decreasing the chance of internalizing problems. Vice versa, low levels of internalizing problems may lead parents to trust their adolescent children in their individuation process, leading them to grant their children more autonomy (Barber & Harmon, 2001).

Whereas no gender differences were found in the prediction of psychological control and autonomy granting, internalizing problem behavior was significantly predicted by gender. Female participants reported higher levels of internalizing problems than male participants. This is in accordance with existing literature which shows that female adolescents in general report higher levels of internalizing problems, compared to male adolescents (Hankin et al., 1998; Silverman et al., 1995). Controlling for these gender effects made clear that internalizing problem behavior is predicted by psychological control and autonomy granting even when we controlled for gender.

Although the relationships turned out to be bidirectional, for psychological control there was a difference in strength between the parent effects and the child effects. Child effects on parent behavior were almost twice as large as parent effects on child behavior. This may account for the fact that Albrecht et al. (2007) and Rogers et al. (2003) were not able to find parent effects of psychological control but only found child effects. Thus, adolescents' internalizing problem behavior is more likely to increase parental psychological control than psychological control is likely to increase internalizing problem behavior in adolescents. This may reflect a cognitive bias effect: the internalizing problems of adolescents are accompanied by a negative view of their parents' behavior. Therefore, these adolescents perceive their parents as very psychologically controlling (Albrecht et al., 2007). Moreover, the items of the Psychological Control Scale are very negative formulated (e.g., 'My father always tries to change my feelings and thoughts'), which magnifies the effect of cognitive bias. This results in higher scores on psychological control for adolescents with internalizing problems and can explain the strength of child effects for psychological control. For autonomy granting and internalizing problem behavior, parent and child effects were about the same. The scale which was used to measure autonomy granting is more neutral formulated (e.g., 'My mother respects my own decisions'). Therefore, the effect of cognitive bias on child effects is less strong for autonomy granting.

The second aim of the present study was to compare psychological control and autonomy granting concerning the strength and directions of the associations with

internalizing problem behavior. The results showed that there is only a difference for child effects on perceived parenting and not for parenting effects on child behavior. Concerning the parent effects, this means that autonomy granting and psychological control in the same degree influence adolescents' internalizing problem behavior. Thus, restricting the autonomy of their adolescent child and using psychological control elicits internalizing problem behavior in the same degree. Concerning the child effects, internalizing problem behavior was a stronger predictor of psychological control by parents than of autonomy granting by parents. This shows that internalizing problem behavior in particular elicits psychological control from parents and in a fewer degree elicits autonomy restrictions from parents. A possible explanation is that parents see psychological controlling strategies as a way to diminish the internalizing problem behavior of their child. By using psychological control, parents try to regulate how their child thinks and to control the emotional development of their child (Barber, 1996). So parents may use psychological control as a response to the internalizing problem behavior of their child, because they think it will stop their child from thinking depressive or anxious. Granting more autonomy may seem a less appropriate strategy to diminish internalizing problem behavior in children. Therefore, adolescents' internalizing problem behavior elicits parental autonomy granting in a fewer degree. Possibly autonomy granting is stronger predicted by externalizing problem behavior. Future research may explore this relationship between autonomy granting and externalizing problem behavior.

This study was also meant to shed light on the ongoing debate about the distinction between psychological control and autonomy granting. The results of the present study suggest that these two constructs are not the opposite ends of a continuum. First, psychological control and autonomy granting are differently predicted by internalizing problem behavior. Second, the correlations between psychological control and autonomy granting are high ($-.36$ at Time 1, $-.47$ at Time 3), but not high enough to establish that they are opposite ends of a continuum. These results are in line with the studies of Barber et al. (2001) and Silk et al. (2003). Taken the results of these three studies together, we suggest that psychological control and autonomy granting should be seen as distinct constructs. The presence of autonomy granting does not necessarily imply the absence of psychological control and vice versa. Thus, parents may grant autonomy while at the same time using intrusive discipline strategies. For instance, parents may encourage independent thinking and at the same time use guilt induction as a strategy to control their child's behavior. The implication for future research is that autonomy granting should be measured as a distinct construct instead of as the absence of psychological control.

This re-conceptualization means that only one study, besides the present study, really investigated the relationship between parental autonomy granting and internalizing problem behavior (Silk et al., 2003), while the other studies investigated the relationship between the absence of psychological control and internalizing problem behavior (Barber & Olsen, 1997; Eccles et al., 1997; Gray & Steinberg, 1999; Herman et al., 1997). It is surprising that this study of Silk et al. (2003) found contradictory results compared to the present study. Whereas Silk et al. (2003) found no relationship between autonomy granting and internalizing problem behavior, we found a bidirectional relationship between these two constructs. A possible explanation is the difference in the scale which was used to measure autonomy granting. Silk et al. (2003) used a scale consisting of items from the work of Barber et al. (1994) and Schaefer (1965), while the present study used the BRQ (Shulman et al., 1997). When comparing the items of these different scales with each other, it appears that the BRQ measures a more passive type of autonomy granting (e.g., 'My mother respects my own decisions') while the scale used by Silk et al. (2003) measures a more active type of autonomy granting (e.g., 'My parents keep pushing me to think independently' (Silk et al., 2003). Future researchers should clearly define autonomy granting and label the measurement scale carefully. If possible, a new scale to measure autonomy granting should be constructed which measures both passive and active forms of autonomy granting.

This study has some limitations which need to be mentioned. First, adolescent reports were used to measure psychological control and autonomy granting. Therefore, it is not sure to what extent parents really used psychological control and granted autonomy. It is possible that the results do not reflect actual changes in the parenting constructs. Moreover, it is possible that adolescents who have internalizing problems perceive their parents as more psychologically controlling and as granting lesser autonomy, while in reality there is no actual increase or decrease in these two parenting constructs. However, some researchers believe that, in understanding the processes in the family, the adolescents' own perception of parenting strategies is of primary importance (Boyce et al., 1998). Nevertheless, future research should replicate the present findings, while using observational measures or parent reports of psychological control and autonomy granting. The second limitation of the present study is that there was not controlled for influences of other important parenting dimensions (Soenens et al., 2008).

Nevertheless, a strong point of the present study is the clear definition of autonomy granting versus psychological control and the use of separate scales to measure these constructs. This study emphasizes the importance of theory building about the different

aspects of parenting which may influence adolescents' behavior. It is a challenge for researchers to measure the different aspects of parenting in a theoretically justified way instead of blindly perceiving autonomy granting as the absence of psychological control. Both constructs are at least differently predicted by adolescents' internalizing problems and differentiating between these constructs may be helpful in understanding the processes in the family and the development of adolescents.

Furthermore, research is needed to identify the mediating processes between the parenting constructs and internalizing problem behavior. Because psychological control interferes with the individuation process and autonomy granting stimulates this process, mediating factors should be sought in the self-system of the child (Barber & Harmon, 2001). Maladaptive perfectionistic self-representations (Soenens, Vansteenkiste, Luyten, Duriez, & Goossens, 2005) and self-derogation (Barber & et al., 1994) already have been mentioned in earlier research. Future research may explore other possible mediating processes between psychological control and autonomy granting on the one hand and internalizing problem behavior on the other hand. Furthermore, our study indicates that adolescents' internalizing problem behavior is an antecedent of psychological control and autonomy granting. However, so far, little is known about other antecedents of psychological control and autonomy granting (Barber et al., 2001). Characteristics of the parents, family and environment which foster the use of psychological control and the granting of autonomy may be investigated. When these antecedents are known, possible ways to stimulate parents to decrease their use of psychological control and to increase their granting of autonomy can be identified.

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