Observed parental autonomy support and psychological control: how they relate to adolescent attachment

Müller, Barbara

Master Thesis

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BS Müller
2804905

Supervisor: Wilma Wentholt, MSc.

Master Clinical Psychology, Institute of Psychology

Faculty of Social and Behavioral Sciences, Leiden University

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Abstract

This study used hierarchical linear modelling to examine parental behaviors such as autonomy support and psychological control and their relation to adolescent attachment. Another goal was to find whether there were differences between mothers and fathers on their display of the investigated behaviors. The present sample consisted of adolescents (*N*=80) participating with their mothers (*N*=78) and fathers (*N*=65) from the Netherlands. Observational ratings of parental autonomy support and psychological control were obtained in mother/father-adolescent dyads performing a problem-solving task. Adolescent attachment was measured by adolescent report, using the parent scale of the revised inventory of parent and peer attachment (IPPA-R) by Raja et al (1992). Analyses indicated that parental autonomy support positively relates to adolescent attachment, while psychological control was not found to relate to adolescent attachment in this sample. Furthermore, results of parental gender differences were inconlusive. This study emphasizes the need to take into account parental behaviors when working with teenagers and the impact parents might have on their children. Further, this study poses important implications for family therapy or social workers, while raising questions for future research.

Keywords: attachment theory, parenting, psychological control, autonomy support, adolescence

I Introduction

As disrupted adolescent-parent attachment was found to bear increasing risk for negative developmental outcomes such as anxiety, depression (Brumariu & Kerns, 2010), obesity (Anderson et al., 2012), and substance abuse (Schindler & Bröning, 2015), it is critical for family therapies and social workers to consider which parental behaviors lead to a healthy attachment and which are to avoid. The present study therefore investigates how certain parental behaviors, such as autonomy support and psychological control, are related to adolescent attachment and if mothers and fathers differ on the display of these behaviors.

1.1 Parental Autonomy Support & Psychological Control

When children enter adolescence, they increasingly strive for autonomy and want to emphasize their individuality to their parents. The behaviors of the parents play a crucial role in this process and autonomy support that involves empathy, supporting the child's choice and providing explanations to decisions are linked to well-being and academic functioning of the child (Soenens et al., 2007).

The view on autonomy, however, has shifted in recent years. While it used to be defined as independent functioning, where adolescents take decisions or act without relying on or needing parents, recent literature suggests that adolescents still need a secure attachment to their parents (Xiang & Liu, 2018). According to self-determination theory (SDT), autonomy is not only considered desirable but is actually a basic psychological need and is considered critical for optimal functioning and social development (Ryan & Deci, 2000). Parents should therefore encourage their children to act upon their personal interests and values, while demonstrating an understanding for the child's point of view and being sensitive and respectful toward the child (Fousiani et al., 2014). Nevertheless, there is a distinction to make between autonomy support and a laissez-faire parenting style; whereas autonomy supportive parents do make decisions for their children but do this in a manner that is sensitive to the child's needs and gives sufficient explanation, so that the child can understand the parent's choice and gain a sense of personal choice (Fousiani et al., 2014).

On the other hand, parental behaviors, such as psychological control, that attempt to manipulate the thoughts and feelings of the child result in negative outcomes in psychosocial development (Hauser Kunz & Grych, 2013; Soenens & Vansteenkiste, 2010). Parents that are high in psychological control are described as pressuring the child into parental demands and

using anxieties of the child, displaying guilt induction, criticism, love withdrawal, invalidating and restricting the child's expressions, and being non-responsive to the child (Soenens & Vansteenkiste, 2010). These behaviors have been found to relate to detrimental outcomes for the adolescent, such as internalizing problems, low self-esteem and depression (Soenens & Vansteenkiste, 2010).

Although these two constructs were considered to lie on a continuum in the past, recent research suggests that they are related constructs but have to be treated separately (Hauser Kunz & Grych, 2013). To demonstrate this more clearly, parents high in autonomy supportive behaviors are unlikely to also be high in psychological control, however being low on autonomy support does not automatically result in being high on psychological control and vice versa (Hauser Kunz & Grych, 2013).

1.1.1 Parental Gender Differences

In the past, most studies have focused mainly on the mother-child relationship, as the mother was believed to be the primary caregiver and play a crucial role in the development of the child, contrary to the father (Ravindran et al., 2020). However, with the changing view on gender roles, literature has focused more closely on the role of the father and has stressed that fathers play a distinct but important role in parenting (Ravindran et al., 2020). Subsequent research has found that fathers are more likely to activate children and support their autonomous functioning than mothers, and as a result that adolescents view their fathers as more autonomy supportive than their mothers (Ravindran et al., 2020). More recent study results however, suggest that mothers are more autonomy supportive than fathers and that both mothers and fathers are similar on levels of psychological control (Duineveld et al., 2017; Ravindran et al., 2020). Altogether, previous research did not find consensus on whether mothers or fathers are more autonomy supportive toward their children and literature indicates that parents are no different on their display of psychologically controlling behavior.

1.2 Attachment Theory

The observations and research of Bowlby brought crucial insights into the development and formation of the attachment theory. Through his early work with problematic children, he realized that the bond between mother and child is characterized by much more than simply drive satisfaction – which was the main view on the mother-child relationship at that time -, but

is rather something unique, and that infants would not simply turn to any stranger that provided food (Cassidy & Shaver, 2016). In the subsequently developed attachment theory, it was proposed that children display certain attachment behaviors in order to receive care and comfort from the caregiver, and that the quality of the attachment bond depends on the response of the caregiver (Koehn & Kerns, 2018). To measure and categorize the quality of this special relationship between caregiver and child, the *Strange Situation Task* was developed by Ainsworth, which makes it possible to observe the behavior of the infant and parent while playing together, getting separated and finally reunited (Cassidy & Shaver, 2016). Explicitly, the parents of securely attached infants are characterized by quick and adequate responses to the needs of the child, while being warm and affectionate (Koehn & Kerns, 2018). While the parents of insecurely attached infants are more inconsistent and harsh with the child and do not respond adequately to the distress of the child (Koehn & Kerns, 2018). The focus of this task is to observe exploration and attachment behavior of the child, which indicates whether the parent can be used as a secure base and safe haven (Cassidy & Shaver, 2016).

1.2.1 Adolescent Attachment

Autonomy is one of the basic needs in SDT and becomes increasingly important in adolescence. Through the fulfillment of this need, the attachment relationship to the parents also changes in adolescence and a new balance between closeness and exploration has to be negotiated in the family (Guarnieri et al., 2010). Even though attachment styles are believed to stay stable across age and relationships, in teenage years it is often a challenge both for parents and their child to re-evaluate their relationship and to find a new balance between attachment and exploration (Cassidy & Shaver, 2016). While in childhood the parent fulfills almost all attachment needs of the child, because of the heavy dependency of the child, in adolescence the main focus shifts to the teen learning how to meet their attachment needs autonomously and becoming independent from the caregiver (Cassidy & Shaver, 2016).

This does not mean however, that attachment behavior decreases in these years, but the attachment hierarchy rather shifts towards peers and romantic partners, which makes it more flexible (Guarnieri et al., 2010). The role of adolescents therefore shifts from being at the receiving end of care to also providing care for their friends and significant others (Guarnieri et al., 2010). Therefore, it is important for parents to provide autonomy support and change from a more protective role into one that teaches and encourages the child (Koehn & Kerns, 2018).

Especially in times of distress, adolescents need attachment figures that are available and can satisfy their attachment needs, in order to promote a secure internal working model of the self and others (Guarnieri et al., 2010). To foster a healthy development of adolescent attachment, parental behaviors such as responsiveness, autonomy support and behavioral control are theorized to be particularly important, while psychological control, rejection and harsh parenting promote insecure attachment (Koehn & Kerns, 2018).

1.3 Parental Autonomy Support, Psychological Control & Adolescent Attachment

As mentioned earlier, the attachment needs of children change when they transition into adolescence, and parents need to adjust their behaviors to meet these needs and facilitate healthy development. Teens that have a good attachment to their parents are believed to have parents that not only allow autonomous exploration but that actively support this process, encourage the teen to take independent decisions, while also being available when the child is in need (Leondari & Kiosseoglou, 2002), and therefore being available as a secure base to them (Karavasilis et al., 2003). This association between parental autonomy support and adolescent attachment has indeed been found by some studies (Karavasilis et al., 2003; Koehn & Kerns, 2018). On the contrary, parents low in autonomy supportive behaviors are more likely to have insecurely attached children, who describe their parents as rejecting and absent (Karavasilis et al., 2003).

Another parental behavior that is linked to low attachment in adolescence is psychological control (Leondari & Kiosseoglou, 2002; Soenens & Vansteenkiste, 2010). Due to the manipulation and intrusion in psychologically controlling behavior, the parent-child relationship may become increasingly distant, children will feel pressured to conform with the view of the parents and as a result do not learn to be confident about themselves, not only in the family setting but also in other social relationships (Soenens & Vansteenkiste, 2010). The disrupted parent-child relationship and active prevention of psychological autonomy of the child, might be expressed by a low attachment to the parents (Leondari & Kiosseoglou, 2002). However, empirical studies only found a weak association between parental psychological control and insecure attachment (Doyle & Markiewicz, 2005). Furthermore, adolescents that are highly attached to their parents would report them as being low on psychological control, while it is the opposite case for low attachment teens (Karavasilis et al., 2003; Koehn & Kerns, 2018). All in all, not a lot of studies have examined the relation between parental psychological

control and adolescent attachment, and the few that did, found only weak correlations, which is why further research is needed.

Most studies in this context have measured parental psychological control and adolescent attachment via self-reports (Doyle & Markiewicz, 2005; Karavasilis et al., 2003; Leondari & Kiosseoglou, 2002; Xiang & Liu, 2018), while in the case of parental autonomy support and adolescent attachment interaction tasks and observational measures were more common in the past studies (Boykin McElhaney & Allen, 2001; Whipple et al., 2011).

1.4 The Current Study

A multi-method, cross-sectional design will be used to test for relations between parental support and control with adolescent attachment. This research is a sub-project of a larger research project, the RE-PAIR study, which examines the bi-directional interplay between parent-child interactions and adolescent depression.

The current research explores the question, how parental autonomy support relates to adolescent attachment, how parental psychological control relates to adolescent attachment and if mothers and fathers differ on their display of autonomy support and psychological control.

It is hypothesized that there will be a significant positive relation between parental autonomy support and attachment (H1), in other words, it is expected that the parents of adolescents who report high scores on the attachment scale, will display a high level of autonomy supportive behavior. This hypothesis is based on the findings that parents who displayed high autonomy support had children with a secure attachment (Karavasilis et al., 2003; Koehn & Kerns, 2018).

Furthermore, for psychological control it is hypothesized that there will be a significant negative relation between parental psychological control and adolescent attachment (H2). Specifically, it is hypothesized that the parents of adolescents who report low scores on the attachment scale, will display a high level of psychologically controlling behavior, which is based on literature that suggest that psychological control has a negative outcome on attachment (Doyle & Markiewicz, 2005; Leondari & Kiosseoglou, 2002).

It is also expected that there will be gender differences on the levels of autonomy support and psychological control displayed by the mother and the father (H3). As past literature is contradictory on this (Duineveld et al., 2017; Ravindran et al., 2020), research will be exploratory.

The outcome of the research may add insight into existing literature about parent-adolescent interactions and how parental behavior may influence adolescents. Furthermore, results of this research could have clinical implications in the context of family therapy or for social workers. Knowing what relations certain parental behaviors have with adolescent attachment could help therapists to target these behaviors and address them in therapy, which would benefit the development of the child. It is also important for social workers or teachers to have knowledge of the influence of parental behaviors on the child in order to understand their behaviors better and work with them accordingly. Taken together, the outcome of this research would have theoretical, clinical and social benefits for future therapy and research.

II Method

2.1 Participants

The research involved 80 healthy adolescents and their parent(s), which were recruited voluntarily via school and media. Inclusion criteria were, that (1) the adolescent is aged between 11 and 17, (2) currently attending high school, secondary or higher education, (3) is currently living with at least one primary caregiver, (4) the adolescent and parent(s) speak and understand a basic level of the Dutch language. Exclusion criteria included current psychopathology or history of psychopathology in adolescents (within the last two years), which was assessed using the validated and reliable (Kaufman et al., 1997) Dutch Language version of the Kiddie-Schedule for Affective Disorders and Schizophrenia – Present and Lifetime (Reichart, Wals, & Hillegers, 2000).

The final sample consisted of 80 adolescents aged between 12.36 and 17.98 years (M_{age} = 15.90, SD_{age} = 1.35), of which 51 were females and 29 males. The adolescents were mainly Caucasian (91.3%), followed by Asian (2.5%), African (1.3%), Antillean / Surinamese (1.3%), and 3.8% other ethnicities. They completed either pre-university education (48.8%), vocational education (lower/higher), (37.5%), secondary (higher) vocational education (8.8%), or other (5%).

Initially, there was a total of 148 parents in the study, however, due to lost data the final sample consisted of 143 parents. The parents were aged between 33.06 and 70.17 years (M_{age} = 49, SD_{age} = 5.96), of which 78 were females and 65 males. Most of the parents were Caucasian (97.9%), and had completed higher education (74.1%), followed by vocational training (25.2%) and high school (0.7%).

2.2 Procedure

After obtaining ethical approval from the Medical Ethics Committee of Leiden University Medical Hospital in Leiden, the Netherlands (NL62502.058.17), participants were recruited on a voluntary basis through school and media, and if they fulfilled the inclusion criteria, they received detailed information about the study and were asked to give written consent for their participation. The participating adolescents and parents filled out various online questionnaires, visited the lab for a research day, participated in an ecological momentary assessment (14 consecutive days of online diary), and some in an fMRI session. The participants received a monetary compensation for travel expenses, 15-35 € per adolescent,

and 70-100 € per parent, as well as a gift voucher raffled based on compliance of the online diary.

On the research day at LUBEC the families took part in several individual tasks and the interaction tasks, three interaction tasks were performed in dyads separately with the mother and father, and one interaction task was performed in a triad with both parents (or dyad if only one parent is participating in the research day). The interaction tasks lasted between six to ten minutes and were videotaped. The adolescent was placed at a table in a 90° angle with his/her parent and there was one camera pointed at the parent and one at the adolescent.

For this sub-project, the 10-minute problem-solving task was used. In this task once the mother and once the father discuss a problem with their adolescent child, which they aim to resolve. The topics of conflict are reported individually by each parent and the child prior to the task using the Issues Checklist (Robin & Weiss, 1980), and researchers chose the three most frequent and intense to the dyad.

2.3 Materials

2.3.1 Adolescent Attachment

To measure adolescent attachment, the short 12-item Inventory of Parent and Peer Attachment (IPPA) was used (Raja et al., 1992), which was reported by adolescents once for the mother and once for the father. The inventory is a reliable and valid measure (Gullone & Robinson, 2005), that consists of three subscales: communication, trust, and the reverse-scored alienation subscale. Items are rated on a 4-point Likert-scale ranging from 'Almost never or never' to 'Almost always or always'. Attachment scores are obtained by summing all items of each scale, whereas a higher score indicates a higher level of secure attachment. Examples for communication items are, 'My mother/father helps me understand myself better', for trust, 'My father/mother respects my feelings', and for alienation, 'I get upset easily at home'. Internal reliabilities for the parent scale in this study were good ($\alpha = .85$), similarly to the original study (Raja et al., 1992).

2.3.2 Parental Autonomy Support & Psychological Control

The mother/father – adolescent dyads were observed in different interaction tasks and parental supportive and controlling behavior were coded using the coding manual developed as part of the RE-PAIR study (Wentholt et al., 2020). Behaviors are rated separately for autonomy-

support and psychological control, where each scale has three subscales and is coded on a 9-point scale. Subscales for autonomy-support are: 'encouraging input of adolescent', 'explaining motivations', and 'receptiveness to expressions made by adolescent', where a higher score corresponds to a higher level of desirable behavior. Subscales for psychological control are: 'constraining expressions of the adolescent', 'guilt induction', and 'invalidating emotions', where a higher score corresponds to a higher level of undesirable behavior.

The coding was done by six independent coders (female master students in psychology and child studies), who were trained in a total of five sessions. In the first introductory session, the coders received a presentation about the system and examples of the behaviors to be coded. In the remaining four sessions, the students coded and discussed three to six practice videos in each session and at the end of the training thirty videos were coded to test for reliability. Intraclass correlation coefficients (ICC) were computed to assess intercoder reliability per subscale. ICC for the 'encouraging input' subscale was .92, .94 for 'explaining motivations', and .89 for 'receptiveness'. ICCs for the psychological control subscales were .90 for 'constraining expressions', .88 for 'guilt induction', and .83 for 'invalidating emotions'.

As this instrument was newly developed for this study, the validity is yet unknown. The autonomy support scale showed a good internal reliability in this study with a Cronbach's alpha of .82, while the psychological control scale had an acceptable level of internal reliability (α = .64).

2.4 Statistical Analyses

A multilevel approach will be used to analyze relationships between observed parental autonomy support and psychological control with adolescent attachment. Multilevel modeling is chosen for this analysis in order to account for the hierarchical structure of the data in this study, where individuals are nested within families. Furthermore, gender differences of parental autonomy support and psychological control mean scores will be tested. For this purpose, the jamovi software version 1.6 with the GAMLj (General Analyses for the Linear Model in Jamovi) extension by Marcello Gallucci will be used (The jamovi project, 2021).

Model 1

The research investigates child-mother and child-father dyads (Level 1), that are nested within families (Level 2). We have one outcome variable 'attachment' on the individual-level,

and we have two individual-level predictor variables ‘parental autonomy support’ and ‘parental psychological control’.

In the first step, a null model without including predictors and letting intercepts/group means to randomly vary will be calculated with ‘adolescent attachment’ as the dependent variable to determine intraclass correlations and to check whether further multilevel analyses are appropriate. If there is significant clustering, there is a violation of the assumption of independent observations and multilevel analysis should be performed.

In the second step, level 1 predictors ‘parental autonomy support’ and ‘parental psychological control’ will be entered at the family level with a random intercept, fixed slope, and it will be checked whether variances will be significantly reduced compared to the unconditional model. If we find a significant positive coefficient for the level 1 predictor ‘parental autonomy support’, the first hypothesis can be supported, and if there is a significant negative coefficient for ‘parental psychological control’, the second hypothesis can be supported.

In the last step, both intercepts and slopes are set to random to check whether this contributes to the fit of the model.

Model 2

In a second model gender differences in parents (Level 1), nested within families (Level 2) will be investigated. We have two outcome variables ‘parental autonomy support’ and ‘parental psychological control’ on the individual -level, and one individual level predictor variable ‘gender’.

In a first step, a null model without including predictors and letting intercepts/group means to randomly vary will be calculated with ‘parental autonomy support’ and ‘parental psychological control’ as the dependent variables to determine intraclass correlations and to check whether further multilevel analyses are appropriate. If there is significant clustering, there is a violation of the assumption of independent observations and multilevel analysis should be performed.

In the second step, the individual-level variable ‘gender’ will be introduced as a predictor into the model with a random intercept and fixed slope, and it will be checked whether variances will be significantly reduced compared to the unconditional model.

In the last step, both intercepts and slopes are set to random. The differences in the slope coefficient for gender could indicate that the relationship between the gender of the parents and their predicted behavior is not the same in all families. If families have a high value for the slope coefficient of gender, the difference between fathers and mothers is relatively large, which would mean that there is a gender difference on the display of autonomy support and psychological control. However, if families have a low value for the slope coefficient of gender, gender has a small effect on display of those behaviors, and the third hypothesis could not be supported.

III Results

The total sample included 143 parents and 80 adolescents. For each study variable, the mean, standard deviation, minimum and maximum scores are presented in Table 1.

Table 1

Descriptive statistics for each construct (N = 143) by parental gender

Variable		M	SD	Min	Max
Attachment	Mothers	42.4	4.62	27	48
	Fathers	39.0	5.83	22	48
Autonomy support	Mothers	5.93	1.53	1.67	8.33
	Fathers	5.62	1.60	2.00	8.33
Psychological	Mothers	3.03	1.35	1.00	7.33
control	Fathers	2.87	1.15	1.00	6.67

3.1 Preliminary Analyses

Multilevel modelling assumes normal distribution of the investigated variables. The study variables were assessed with Shapiro-Wilk's test of normality. Beside from parent age, all other variables did not meet the assumption of normal distribution (Parent gender $W(143) = .63$, $p < .001$; Psychological control $W(143) = .94$, $p < .001$; Autonomy support $W(143) = .97$, $p = .014$; Adolescent age $W(80) = .93$, $p < .001$; Adolescent gender $W(80) = .60$, $p < .001$; Adolescent attachment $W(143) = .92$, $p < .001$).

Further preliminary analysis revealed issues with skewed distribution, negatively on the adolescent attachment scale and positively on the parental psychological control measure, however, when log transformation was applied, there was no difference in the normality test, so the original model was used for further analyses.

Assumption of equal variance was tested using Levene's homogeneity test, which showed that variances for autonomy support, psychological control and attachment were equal.

When investigating for outliers, box plots showed outliers on both the attachment scale and the psychological control scale, however, both the model with and without outliers yielded similar results, which is why for the purpose of keeping the sample size up, further analyses were run including the outliers.

3.2 Multilevel Analyses

The outcome of multilevel models analyzing the relation between parental autonomy support, parental psychological control, and adolescent attachment, as well as the influence of gender on parental behavior are presented in this section. The intraclass correlation coefficients and the likelihood-ratio tests are presented to compare the models and for the goodness of fit. Each model was estimated using the restricted maximum likelihood method and grand-mean centering was used for the predictor variables.

3.2.1 Multilevel Analysis for Adolescent Attachment (H1 & H2)

The predictors 'parental autonomy support' and 'parental psychological control' are considered at the individual level (level 1) and the outcome variable 'adolescent attachment' at the individual level (level 1). The estimated results of the multilevel analysis for adolescent attachment are presented in Table 2.

Table 2

Estimated coefficients for adolescent attachment

	Model 1 (Null model)	Model 2	Model 3
Fixed effects	*β* (*SE*)	*β* (*SE*)	*β* (*SE*)
Intercept	40.90***	40.83***	40.79***
	(0.51)	(0.51)	(0.51)
Family level variables			
Parental autonomy support		0.91**	0.94**
		(0.37)	(0.38)
Parental psychological control		0.32	0.42
		(0.45)	(0.45)
Random effects			
Variance Intercept	8.15**	9.12***	9.57***
	(2.85)	(3.02)	(3.09)
Variance Residual	21.61**	19.92***	16.48 ***
	(4.65)	(4.46)	(4.06)
ICC	0.27	0.31	0.37
LRT	5.23	6.89	7.08

Note. Predictor variables were all grand-mean centered. Standard errors for fixed effects, and standard deviations for random effects in brackets, *** p<.01, ** p<.05, * p<.1

Step 1: Null Model

In the first step of the multilevel analyses, a fully unconditional model was run without including predictors and with 'adolescent attachment' as the dependent variable. The null model showed that the intraclass correlation coefficient for adolescent attachment was .27, and further likelihood ratio testing showed that clustering was significant (p = .02), indicating substantial clustering of groups. Therefore, further steps of multilevel regression could be proceeded with.

Step 2-3: explained variances

In the next step, level 1 predictors 'parental autonomy support' and 'parental psychological control' were introduced to the model and entered at the individual level with a random intercept, fixed slope, and it was checked whether variances were significantly reduced compared to the unconditional model. In this model, variances in attachment scores, as compared to variances in the fully unconditional model, were reduced by 11%, and the variance was still significant (p = .01).

The fixed effect of parental autonomy support on adolescent attachment was positive and significant (b = .90, t(118) = 2.46, p = .02), which supports the first hypothesis. However, the fixed effect of parental psychological control on adolescent attachment was not significant (b =.32, t(115) = .70, p = .48), which fails to support the second hypothesis.

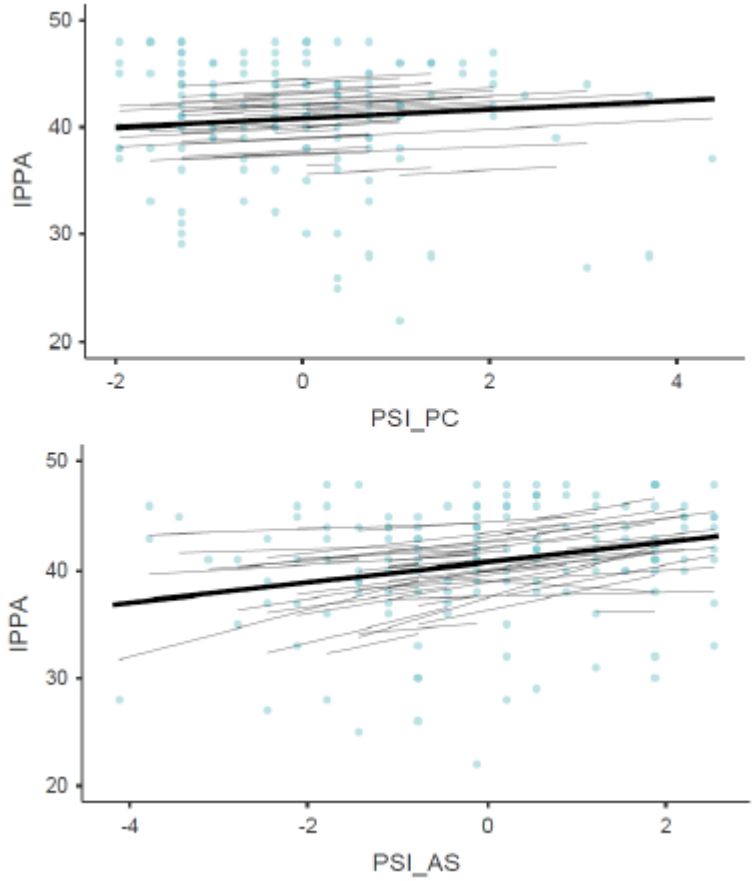
The fixed effect of parental autonomy support on adolescent attachment was positive and significant (b = .90, t(118) = 2.46, p = .015), which supports the first hypothesis. This means, that parental autonomy supportive behavior can be associated with secure adolescent attachment. However, the fixed effect of parental psychological control on adolescent attachment was not significant (b =.32, t(115) = .70, p = .48), which fails to support the second hypothesis. In other words, the psychologically controlling behavior of parents does not relate to the attachment of their adolescent children.

In step 3 both intercepts and slopes were set to randomly vary both for autonomy support and psychological control to check whether it contributed to the fit of the model. In this model, variances, compared to the previous model, were reduced by 17.3% and were significant for attachment (p = .01) but not for autonomy support (p = .29) and psychological control (p = .96). This indicates that autonomy support and psychological control were good predictors for this model.

A visual representation of the random intercept, random slope model for the variables is represented in Figure 1. The plots show that letting both intercepts and slopes to randomly vary indeed fits the data.

Figure 1

Random intercept, random slope model for autonomy support with attachment and psychological control with attachment



Note. IPPA = adolescent attachment, AS = autonomy support, PC = psychological control

3.2.2 Gender Differences in Autonomy Support and Psychological Control (H3)

For this analysis, gender differences in parents (Level 1) as nested within families (Level 2) were investigated.

Autonomy support

For this model 'autonomy support' was the outcome variable (Level 1) and there was one (Level 1) predictor 'gender'.

Step 1: Null Model

In the first step of the multilevel analyses, a fully unconditional model was run without including predictors and with parental autonomy support as the dependent variable. The null model showed that the intraclass correlation coefficient was .17, indicating substantial clustering of groups. Even though the result did not reach significance (p = .15), literature suggests that any value >0 for the ICC justifies the use of multilevel analysis (Nezlek, 2012). Therefore, further steps of multilevel regression could be proceeded with.

Step 2: explained variances

In the second step, the individual-level variable 'gender' was introduced as a predictor into the model with a random intercept and fixed slope, and it was checked whether variances were significantly reduced compared to the unconditional model.

In this model, variances in parental autonomy support, as compared to variances in the fully unconditional model, were not significantly reduced (p = .16), which made further steps redundant. The fixed effect of parental gender on parental psychological control was not significant (b = .29, t(75.1) = 1.22, p = .23), which fails to support the third hypothesis. This indicates that there is no difference between mothers and fathers on the level of autonomy supportive behavior.

Psychological control

In this model 'parental psychological control' was the outcome variable (Level 1) and there was one individual level predictor 'gender'.

Step 1: Null Model

In the first step of the multilevel analyses, a fully unconditional model was run without including predictors and with parental psychological control as the dependent variable. The null model showed that the intraclass correlation coefficient was .14, indicating substantial clustering of groups. Here the result did not reach significance (p = .22) either, but as mentioned before, literature suggests that any value >0 for the ICC justifies the use of multilevel analysis (Nezlek, 2012) and therefore, further steps of multilevel regression could be proceeded with.

Step 2: explained variances

In the second step, the individual-level variable 'gender' was introduced as a predictor into the model with a random intercept and fixed slope, and it was checked whether variances were significantly reduced compared to the unconditional model.

In this model, variances in parental psychological control, as compared to variances in the fully unconditional model, were not significantly reduced (p = .21), which made further steps redundant. The fixed effect of parental gender on parental psychological control was not significant (b = .17, t(75.8) = .90, p = .367), which fails to support the third hypothesis. This result suggests that there is no significant difference between mothers and fathers on psychologically controlling behavior.

IV Discussion

To gain a deeper understanding of the influences parental behavior has on adolescent attachment, research should consider a multitude of behaviors. Both support of autonomy and psychological control have been identified as important factors in connection with adolescent attachment in previous studies, although autonomy support was mostly in the focus of researchers. The purpose of the current study was to gain a better understanding of parental interaction behaviors toward their adolescent children, and how those behaviors relate to the attachment of the children with their parents. A multilevel approach was used to examine parental determinants of adolescent attachment while taking the hierarchical structure of the data into consideration. Parental autonomy support and psychological control were observed in interactions tasks, while adolescent attachment was based on self-reported measures. Furthermore, parental gender differences in levels of autonomy supportive and psychologically controlling behavior were investigated. The results of this study suggest that parental autonomy support has a positive relation with adolescent attachment, equally for mothers and fathers, while psychological control seems not to be related.

4.1 Parental Autonomy Support & Adolescent Attachment

The results of this research provide supporting evidence that parents who are autonomy supportive have children with a secure attachment to them, as it was hypothesized (H1). This finding is consistent with previous research, such as by Karavasilis et al. (2003), which found that parents who were rated as autonomy supportive by their adolescent children, had children with a secure attachment. Other studies that applied interaction tasks and observational measures for both autonomy support and attachment, came to similar conclusions (Boykin McElhaney & Allen, 2001; Whipple et al., 2011).

This finding may be explained by the idea that parental behaviors that are autonomy supportive and those that foster a secure attachment are highly similar. The dimensions of autonomy support in this study were receptiveness to expressions made by the adolescent, explaining motivations and encouraging input of the adolescent, while behaviors such as being open to the problems and troubles of the teenager, understanding of the child and knowing the feelings of the child were items included in the attachment measure. Behaviors that promote a secure attachment are responsiveness and sensitivity to the needs of the child, being warm, loving and accepting toward the child, and displaying warmth and support toward the emotions

of the child (Koehn & Kerns, 2018). A recent meta-analysis also found that balancing comfort and exploration in infancy can be translated into parental autonomy support and relatedness in adolescence, which are crucial components of secure attachment (Koehn & Kerns, 2018). Therefore, parents that display autonomy supportive behavior might also be more likely to show behaviors that are needed for a secure attachment, as in adolescence these behaviors highly overlap.

These results can bear important implications for family interventions with adolescent children. As mentioned previously, a secure attachment is very important for a healthy development of the child and working on parental behaviors that foster this attachment can prevent disorders such as anxiety, depression, obesity or substance abuse (Anderson et al., 2012; Brumariu & Kerns, 2010; Schindler & Bröning, 2015). Only if therapists and social workers have knowledge of which parental behaviors underly a secure attachment, can they develop treatment plans that target these certain behaviors, such as parental support of autonomy.

4.2 Parental Psychological Control & Adolescent Attachment

When investigating parental psychological control, no significant association was found to adolescent attachment, and therefore the proposed hypothesis could not be supported (H2). It is surprising that no effect was found in this study, as parental psychological control and parenting that results in insecure attachment are theoretically also very similar. Parental psychological control is defined as a lack of warmth and parental involvement in the emotional well-being of the child, which might be associated with low self-esteem of the child (Doyle & Markiewicz, 2005). In past research parental behavior that results in insecure attachment of the child is described as coercive, harsh and frightening behavior, and that fails to provide a secure base or safe haven to the child (Koehn & Kerns, 2018). Interestingly, low self-esteem that is apparent in insecure attachment representations of the child, is also present with children who have psychologically controlling parents (Doyle & Markiewicz, 2005; Karavasilis et al., 2003), and therefore theoretically these two parental behaviors can both be linked to insecure attachment.

On the other hand past studies (Doyle & Markiewicz, 2005) that found an association between these two constructs, found only weak correlations. What is also important to mention, is that the study of Doyle & Markiewicz (2005) measured parental psychological control by

adolescent-report and attachment by a categorical approach, while the current study used a continuous measure of secure attachment. These methodological differences could also explain the different findings compared to previous results. Also, the reliability of the psychological control measure was mediocre in this study, which makes it difficult to draw conclusions based on this result.

4.3 Parental Gender Differences in Autonomy Support and Psychological Control

In the case of gender differences, data in this study were inconclusive concerning the difference between mothers and fathers on autonomy support as well as on psychological control. Despite past research finding mothers to be more autonomy supportive than fathers (Duineveld et al., 2017; Ravindran et al., 2020), this could not be supported in the current study (H3). This is surprising, as both observational studies (Ravindran et al., 2020), as well as studies measuring autonomy support by self-report (Duineveld et al., 2017) came to the same conclusion. Even though western society is changing, and a more equal role of mothers and fathers is established, recent literature still suggests that mothers and fathers have different roles in parenting and display distinct behaviors toward their children (Garcia Roman & Cortina, 2016), therefore it was also expected that paternal and maternal behavior will differ. However, the current finding highlights that the support of autonomy in adolescence is equally important from the mother and father. Implications for parenting interventions in e.g., family therapy, are that both parents should be involved in the process and that adolescents appear to need the support of their mothers and fathers equally for healthy functioning. Nevertheless, this is only one possible conclusion, and factors such as participant characteristics (e.g., age, ethnicity, culture, country) could explain why in this sample no difference was found. It is possible that more factors have to be included in this context in order to find differences.

Considering parental psychological control, the findings are consistent with past research (Duineveld et al., 2017; Ravindran et al., 2020), which found mothers and fathers to be no different. What could also explain the finding in this study, is the fact that bother mothers and fathers were generally low on controlling behavior, as discussed before.

4.4 Strengths, Limitations, and Future Directions

The current study presents with certain strengths that are worth mentioning. First, this study is one of the few that investigated the relation between parental psychological control and

adolescent attachment, and it is also one of the few in this context that applied observational tasks instead of self-report measures for parental behavior. As the coders were independent and never coded the same parent for multiple videos, the evaluation of the behaviors can be considered reliable. Another strength is that this study is one of the few in family research that included both mothers and fathers in the observation tasks. The strength of the observational tasks is also that an objective perspective is possible, instead of a subjective one in the case of self-reports. This approach also gives a more in-depth understanding on the observed behavior as it takes the context of the behavior into account, while self-reports can be very context dependent.

Although the outcomes of this study support the idea that parental support of autonomy and adolescent attachment are positively related, another important contribution of the results may be that they raise a variety of intriguing questions for future studies, such as for psychological control and parental gender differences. Future research could focus on questions such as what factors might influence insecure adolescent attachment, including more diverse cultural, ethnic groups, or measuring both parental behaviors and adolescent attachment by observation.

Nevertheless, there are some limitations of the current research. Considering the sample characteristics, there was a lack of diversity, as most participants were Caucasian and had a good educational background. Also, only healthy (i.e., no psychopathology) children participated in this research, which impacts the generalizability of the study. As the ultimate goal is to provide input for family interventions and it is expected that mostly dysfunctional families or families with disordered children would seek help, it would therefore be important to include these sample characteristics in future research.

Furthermore, the interaction tasks were filmed in a laboratory setting, so participants were aware that they were being watched and therefore could be hesitant to show undesired behaviors such as psychological control. It is also possible that parents were more autonomy supportive than usual because those behaviors are socially desirable, and therefore future research might consider applying additional self-report measures to the observational tasks.

4.5 Conclusion

As addressed in the discussion of the research findings, parental autonomy support seems to be important for a secure adolescent attachment and is equally important from the

mother and father. If parents are encouraged to engage in certain behaviors, such as autonomy support of their child, the development of adolescents could certainly benefit from it. The present research, therefore, contributes to a growing body of evidence suggesting that parental behaviors, and how those influence teenagers, should be investigated more thoroughly. Even though parental psychological control was not found to be related to adolescent attachment in this study, the importance of this behavior should not be neglected in the context of adolescent development and should be further researched as it might hold important implications. Other parental behaviors might be of equal importance to adolescent attachment and therefore, future research should focus on a wider range of parental behaviors.

References

Anderson, S. E., Gooze, R. A., Lemeshow, S., & Whitaker, R. C. (2012). Quality of Early Maternal—Child Relationship and Risk of Adolescent Obesity [Article]. *Pediatrics (Evanston), 129*(1), 132–140. https://doi.org/10.1542/peds.2011-0972

Boykin McElhaney, K., & Allen, J. P. (2001). Autonomy and adolescent social functioning: The moderating effect of risk. *Child Development, 72*(1), 220–235. https://doi.org/10.1111/1467-8624.00275

Brumariu, L. E., & Kerns, K. A. (2010). Parent–child attachment and internalizing symptoms in childhood and adolescence: A review of empirical findings and future directions [Article]. *Development and Psychopathology, 22*(1), 177–203. https://doi.org/10.1017/S0954579409990344

Cassidy, J., & Shaver, P. R. (2016). *Handbook of attachment: theory, research, and clinical applications.* (3rd ed.). Guilford Press.

Doyle, A. B., & Markiewicz, D. (2005). Parenting, marital conflict and adjustment from early- to mid-adolescence: Mediated by adolescent attachment style? *Journal of Youth and Adolescence, 34*(2), 97–110. https://doi.org/10.1007/s10964-005-3209-7

Duineveld, J. J., Parker, P. D., Ryan, R. M., Ciarrochi, J., & Salmela-Aro, K. (2017). The Link Between Perceived Maternal and Paternal Autonomy Support and Adolescent Well-Being Across Three Major Educational Transitions. *Developmental Psychology, 53*(10), 1978–1994. https://doi.org/10.1037/dev0000364.supp

Fousiani, K., Van Petegem, S., Soenens, B., Vansteenkiste, M., & Chen, B. (2014). Does Parental Autonomy Support Relate to Adolescent Autonomy? An In-Depth Examination of a Seemingly Simple Question. In *Journal of Adolescent Research* (Vol. 29, Issue 3). https://doi.org/10.1177/0743558413502536

Garcia Roman, J., & Cortina, C. (2016). Family time of couples with children: shortening gender differences in parenting? *Review of Economics of the Household, 14*, 921–940. https://doi.org/10.1007/s11150-015-9315-8

Guarnieri, S., Ponti, L., & Tani, F. (2010). The inventory of parent and peer attachment (IPPA): A study on the validity of styles of adolescent attachment to parents and peers in an Italian sample. *TPM-Testing, Psychometrics, Methodology in Applied Psychology*, *17*(3), 103–130. https://doi.org/10.1449/30135

Gullone, E., & Robinson, K. (2005). The Inventory of Parent and Peer Attachment - Revised

(IPPA-R) for children: a psychometric investigation. *Clinical Psychology & Psychotherapy*, *12*(1), 67–79. https://doi.org/10.1002/cpp.433

Hauser Kunz, J., & Grych, J. H. (2013). Parental Psychological Control and Autonomy Granting: Distinctions and Associations with Child and Family Functioning. *Parenting*, *13*(2), 77–94. https://doi.org/10.1080/15295192.2012.709147

Karavasilis, L., Doyle, A. B., & Markiewicz, D. (2003). Associations between parenting style and attachment to mother in middle childhood and adolescence. *International Journal of Behavioral Development*, *27*(2), 153–164. https://doi.org/10.1080/0165025024400015

Koehn, A. J., & Kerns, K. A. (2018). Parent–child attachment: meta-analysis of associations with parenting behaviors in middle childhood and adolescence. *Attachment and Human Development*, *20*(4), 378–405. https://doi.org/10.1080/14616734.2017.1408131

Leondari, A., & Kiosseoglou, G. (2002). Parental Psychological Control and Attachment in Late Adolescents and Young Adults. *Psychological Reports*, *90*(3), 1015–1030. https://doi.org/10.2466/pr0.90.3.1015-1030

Nezlek, J. B. (2012). Multilevel modeling for psychologists. In H. Cooper, P. M. Camic, D. L. Long, A. T. Panter, D. Rindskopf, & K. J. Sher (Eds.), *APA handbook of research methods in psychology, Vol 3: Data analysis and research publication.* (pp. 219–241). American Psychological Association. https://doi.org/10.1037/13621-011

Raja, S. N., McGee, R., & Stanton, W. R. (1992). Perceived attachments to parents and peers and psychological well-being in adolescence. *Journal of Youth and Adolescence*, *21*(4), 471–485. https://doi.org/10.1007/BF01537898

Ravindran, N., Hu, Y., McElwain, N. L., & Telzer, E. H. (2020). Dynamics of mother-adolescent and father-Adolescent autonomy and control during a conflict discussion task. *Journal of Family Psychology*, *34*(3), 312–321. https://doi.org/10.1037/fam0000588

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, *55*(1). https://doi.org/10.1037//0003-066x.55.1.68

Schindler, A., & Bröning, S. (2015). A Review on Attachment and Adolescent Substance Abuse: Empirical Evidence and Implications for Prevention and Treatment [Article]. *Substance Abuse*, *36*(3), 304–313. https://doi.org/10.1080/08897077.2014.983586

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*(1), 74–99. https://doi.org/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*(3), 633–646. https://doi.org/10.1037/0012-1649.43.3.633

The jamovi project (2021). *jamovi* (Version 1.6) [Computer Software]. Retrieved from https://www.jamovi.org

Wentholt, W. G. M., Meurs, A., Janssen, L. H. C., Van Houtum, L. A. E. M., Wever, M. C. M., & Elzinga, B. M. (2020). *Coding manual: Parental autonomy-support and psychological control* [Unpublished Coding Manual]. Leiden University.

Whipple, N., Bernier, A., & Mageau, G. A. (2011). A Dimensional Approach to Maternal Attachment State of Mind: Relations to Maternal Sensitivity and Maternal Autonomy Support. *Developmental Psychology*, *47*(2), 396–403. https://doi.org/10.1037/a0021310

Xiang, S., & Liu, Y. (2018). Understanding the joint effects of perceived parental psychological control and insecure attachment styles: A differentiated approach to adolescent autonomy. *Personality and Individual Differences*, *126*(December 2017), 12–18. https://doi.org/10.1016/j.paid.2018.01.009