

The Effect of Parental Psychological Control on Adolescent Decision Making: Examining  
Gender as a Moderator

Belinda van den Tillaart

Student number: 2022419

Supervisor: J.M.H. Chung

Second supervisor: J.A. Weller

Words: 5706

Tilburg University

November 2018

**Abstract**

Parents, and the parenting style they use, influence their children. The main objective for raising children is to prepare them for a life independent of their parents. For young children to grow into competent adults, they must develop the ability to make informed and intelligent decisions in their lives, since decisions can have a lifelong impact (Arnett, 2000). While research has shown that parental psychological control has a negative effect on decision-making competence in adolescents, with a corresponding decline in decision-making competence (Reuter & Conger, 1998), the present research examines the associations between perceived parental psychological control over children ages 10–12, perceived from the perspective of the child, and decision-making competence at the age of 16 using gender as a moderator. The data used was from a longitudinal research sample ( $N = 775$ ) of participants from previous research from the Center for Education and Drug Abuse Research (CEDAR). The results show that when children ages 10–12 perceive high parental psychological control from their fathers, they show lower decision-making competence at the age of 16. Gender did not have a moderating effect on the relationship between perceived parental psychological control and decision-making competence. However, the outcome of the current research shows that boys tend to develop stronger decision-making competence than girls. In conclusion, the present research supports existing research on the negative effects of psychological control using longitudinal data.

*Keywords: parental psychological control, decision-making competence, adolescence, longitudinal research, gender differences.*

### Samenvatting

Ouders en de ouderschapsstijl die zij hanteren tijdens de opvoeding hebben invloed op kinderen. Het belangrijkste doel van het opvoeden van kinderen is om hen voor te bereiden op een leven onafhankelijk van ouders. Om op te groeien tot competente volwassenen, is het essentieel voor kinderen om weloverwogen en intelligente besluiten te leren maken in hun leven, gezien eenmaal genomen besluiten, een levenslange impact kunnen hebben (Arnett, 2000). Onderzoek heeft aangetoond dat psychologische controle van ouders, een negatief effect heeft op de vaardigheid tot het maken van besluiten voor adolescenten, met daarin een afname aan besluitvormingsvaardigheden (Reuter & Conger, 1998), het huidig onderzoek richt zich op de verbanden tussen ervaren psychologische controle van ouders, van kinderen in de leeftijden 10-12 jaar, gezien vanuit het perspectief van het kind, en besluitvormingsvaardigheden in de leeftijd van 16 jaar met geslacht als moderator. De gebruikte data ( $N=775$ ) is afkomstig van een grote steekproef van eerder verricht longitudinaal onderzoek van het Center for Education and Drug Abuse Research (CEDAR). De resultaten laten zien dat als kinderen in de leeftijden 10-12 een hoge mate van psychologische controle van hun vader ervaren, ze verminderd besluitvormingsvaardigheden laten zien tijdens de leeftijd van 16. Geslacht blijkt geen moderatie effect te hebben op de relatie tussen ervaren psychologische controle en besluitvormingsvaardigheden. Hoewel het blijkt uit het huidig onderzoek dat jongens meer besluitvormingsvaardigheden ontwikkelen in tegenstelling tot meisjes. Als conclusie ondersteunt het huidig onderzoek bestaand onderzoek over de negatieve effecten van psychologische controle met gebruik van longitudinale data.

*Kernwoorden: ouderlijke psychologische controle, besluitvormingsvaardigheden, adolescentie, longitudinaal onderzoek, verschil tussen geslacht.*

**The Effect of Parental Psychological Control on Adolescent Decision Making:  
Examining Gender as a Moderator**

Adolescence is a phase associated with specific developmental tasks, such as meeting societal expectations, setting and achieving goals for education, choosing a career, and choosing a partner in life. The successful completion of these tasks sets the stage for adolescents to become well-rounded individuals who can separate themselves from their parents and make their own decisions throughout life with competence (Arnett, 2000). As such, making these kinds of decisions with autonomy and competence is considered a key life skill that is an important factor in creating a successful life (Scales, Benson, Oesterle, Hill, Hawkins, Travis, Pashak, 2016). Scales et. al (2016) suggest that positive family relationships help form and shape the development of these life skills. It is through these positive relationships that children are able to form an identity, create a positive self-image, and have faith in their capabilities (Ryan & Deci, 2000). The idea that family relationships in general are an important factor in a child's development suggests that the way parents influence their children is significant as well.

Interaction patterns in parent-child relationships typically differ for boys and girls. Research shows that, from a developmental standpoint, puberty can have negative consequences for girls such as depressive feelings, low self-worth, suicidal feelings, and eating disorders (Graber, Brooks-Gunn & Warren, 2006; Collins & Steinberg, 2006). It has also been shown that boys show more externalized problems during adolescence than girls: while girls are more prone to negative social behavior such as gossiping or bullying (Schreck, Burek, Stewart & Miller, 2007), boys are more prone to deviant behavior such as shoplifting, vandalism, aggression, and fighting (Susman, Dockray, Schiefelbein, Herwehe, Heaton & Dorn, 2007). One longitudinal twin study (Larsson, Viding, Rijdsdijk, Plomin, 2008) demonstrated that the internalizing and externalizing behavior of children has an effect on the

way parents react to their children: Parents react negatively to children displaying disruptive behavior, and are more likely to react positively to children displaying cooperative and/or prosocial behavior. Therefore, both internalizing and externalizing disruptive behavior in children may result in a more controlling parental style.

As a result of this interrelation between child behavior and parent action and reaction, parental psychological control may be a factor in the development of decision-making skills in adolescence. Although much research has focused on cognitive or brain development during adolescence, little research has been conducted that specifically links development of adolescent decision-making skills to parental behavior.

Therefore, to gain more insight into this interrelation, the present research uses longitudinal data to determine what, if any, effect parental psychological control has on the development of decision-making skills on adolescents.

### **Adolescent decision-making competence**

Decision-making is an inherent part of adolescent life: Every day, adolescents consider a variety of possibilities (Baumeister, Vohs, & Tice, 2007) such as which career to choose, which school to attend, whether to indulge in cigarettes and alcohol, when to become sexually active, and what qualities would make a good romantic partner. Strong decision-making skills are linked to success in life and a low risk for damaging behaviors such as substance abuse, while weak decision-making skills are linked to a reduced social support network, a higher risk for substance abuse, and a poorer quality of long-term health (Albert & Steinberg, 2011).

Decision-making competence is determined based on classic normative principles, i.e., that people should make decisions based on rationality (by logic and reasoning).

Therefore, decision-making competence is defined as the ability to choose the outcome or

option with the highest benefit or possibilities for oneself. In practice, this means employing certain skill in decision-making such as resisting framing and sunk costs (i.e., being able to ignore previous costs in making decisions), recognizing social norms, applying decision rules, being confident in decision-making, and being consistent in risk perception (Parker & Fischhoff, 2005). Besides rationality, other specific cognitive abilities such as executive functioning and general cognitive abilities (e.g., fluid intelligence) have been the focus of research examining decision-making competence (Missier, Manyla, Bruine de Bruine, 2012). Although executive functioning and fluid intelligence are positively related to performance on various decision-making tasks, it is also clear that decision-making competence depends on a various set of abilities and skills beyond executive functioning and general cognitive abilities. Social skills and time-approach are two of the life skills needed to be able to become a competent decision-maker (Slicker, Picklesimer, Guzak, Fuller, 2005); Geisler and Allwood (2015) found that decision-related social skills, such as self-awareness and emotional intelligence, and time-approach, in the forms of self-regulation and perspective of time, should also be considered as integral factors in determining decision-making competence. The development of these life skills are related to individual factors, such as cognitive ability, and the influence of the social environment, such as parenting styles.

However, regarding the development of rational and critical thinking skills in order to make decisions with competence, decision-making research has focused primarily on how decisions are made and what qualities are necessary to make decisions with competence, such as general cognitive ability and rational thinking as mentioned above, while neglecting to focus on the influence of the social environment (e.g., parental influence). Therefore, to expand our understanding of decision-making competence, it is essential to gain further insight into the link between parental influence and the development of decision-making skills in adolescence.

**Parental control and adolescent decision-making**

Parental control can be categorized in one of in two ways: positive, or authoritative control, and negative, or authoritarian control (Maccoby, 2000). Authoritative control is characterized by parents explaining the “do’s and don’ts” of proper behavior and giving information and guidance that stimulates the autonomy of the child. This combination of behavioral control and guidance leads to better self-regulation and more well-adjusted behavior in adolescents (Hart, Newell & Olsen, 2003). Autonomy granting, a component of authoritative control, refers to encouragement from parents towards their child in the decision-making process (Kunz & Grych, 2013). By contrast, authoritarian control is associated with restrictive rules, unilateral parental power, and the use of punishment and reward to influence adolescent behavior. Psychological control is a component of authoritarian control; the term encompasses controlling parental behavior such as discouraging independent decision-making in adolescents using manipulative methods (Kunz & Grych, 2013). Reuter & Conger (1998) found that parental behavior has a great influence on developing decision-making skills of adolescents: When parents used more psychological control in child-rearing, it had a negative effect on children’s decision-making skills, and was associated with a decline in decision-making ability in their adolescent children. Non-controlling parenting was found to have a more positive effect and was associated with an increase in the development of decision-making skills in adolescents.

Therefore, authoritative parenting, specifically the practice of granting autonomy, is seen as a responsive and supportive parental style that encourages independence and competence (Slot & van Aken, 2007). On the other hand, psychological control is seen as a guilt- and shame-inducing style that manipulates the child’s thinking and increases the child’s dependence on the parents (Aunola & Nurmi, 2005). High psychological control does not grant children room for exploration in order to form their own opinions as a base for their

own decisions. Additionally, research shows that fathers and mothers each have different parenting styles, and it is unlikely for both father and mother to have a parental style high in psychological control (McKinney & Renk, 2008). One explanation for this difference—role theory—suggests that women are more socialized to give more care and warmth for their children, while men are expected to provide for the family and have the disciplinarian role in childrearing (Hosley & Montemayor, 1997). McKinney and Renk (2008) found that mothers have a more authoritative style of parenting and therefore grant their children more autonomy, while fathers practice a more authoritarian, less permissive style and therefore grant less autonomy. However, fathers tend to exercise a more permissive, autonomy-granting parenting style with their sons than with their daughters.

Thus, the goal of the present research was to further explore the relationship between parental behavior such as psychological control, and the differences between the styles of mothers and fathers, on the decision-making skills in adolescents. I expect that a psychologically controlling parenting style is associated with lower decision-making skills.

### **Gender as a moderating effect on the influence of parental psychological control**

The effects of parental control on adolescent decision-making may differ for girls and boys. Research that focuses on the physical development in puberty indicates that during this phase, girls are more at risk for developing internalizing and externalizing problems while boys are more at risk for developing externalizing problems alone. Additionally, it has been shown that girls use more adaptive strategies, display greater social competence, and show fewer externalizing problems, but suffer more depressive symptoms in comparison to boys (Kullik & Petermann, 2013). Children become more aware of their gender roles with age, and this growing awareness may account for the evolving differences between boys and girls in adolescence (Reuth, Otterpohl & Wild, 2017). Furthermore, the physical development in



puberty and this new awareness of gender roles may extend to the relationship between parental influence and decision-making competence in adolescents, such that the relationship is different for girls than it is for boys. Therefore, it is important to explore gender as a moderator in the relationship between parental influence and the decision-making process in adolescents.

### **The aim of this research**

While much research has focused on the influence of parenting dimensions on internal and external behavior in young children and adolescents, little research has examined the influence of parenting dimensions on specific developmental tasks in the adolescent phase of a child's life. The specific developmental task examined in this research is the decision-making process which, as has been established, is an essential skill in order to plan life goals and grow into a self-sufficient adult. The degree to which adolescents develop decision-making skills depends upon several factors, and this paper will focus on the relationship between the influence of perceived parental psychological control on decision-making and the moderating effect of gender on that relationship by drawing from a data sample of 775 children tracked into adulthood.

To this end I have formulated two hypotheses. Hypothesis 1: Perceived parental psychological control negatively affects decision-making competence in adolescents, such that adolescents who report higher perceived parental psychological control are more likely to show lower decision-making competence than those who report lower perceived parental psychological control. Hypothesis 2: The effect of parental psychological control on decision-making competence differs between boys and girls.

## **Method**

### **Sample and participant selection**

The data used in the present research were previously collected at the Center for Education and Drug Abuse Research (CEDAR). The CEDAR sample has 775 children and their parents participating in a longitudinal study on the etiology of substance use (Parker & Fischhoff, 2005). The present data come from 775 participants of 10–12 years of age at the beginning of the study, who were then measured once again at 16 years of age, (70.2% male), (74.6% Caucasian, 21.6% African-American, 2.7% Asian-American).

### **Procedures**

For a family to qualify for participation in CEDAR, the family unit must include the biological father, the biological mother, and a son or daughter between 10 and 12 years of age. The families were recruited through random-digit dialing conducted by a market research firm, advertising in print media, and public service announcements in electronic media. Children and parents were also informed that their privacy was protected by a Certificate of Confidentiality issued by the National Institute on Drug Abuse. Total time required for the baseline evaluation was approximately 26 hours spread across 2 days. The follow-up evaluations at the age of 16 required approximately 4 to 8 hours and were completed in one day. Upon completion of the baseline assessment, the child was paid \$100 in the form of a gift certificate. The biological parents were assessed at the same time as the child's baseline. They were each paid \$100 for participation. Upon completion of the third assessment at age 16, the child was paid \$100. Their biological parents were paid \$100.

**Measures**

In the present research the data was used from two self-report questionnaires: Child Report of Parent Behavior Inventory (CRPBI) and the Youth Decision-Making Competence (YDMC). The CRPBI is a child's self-report of parental behavior that consists of 18 subscales, each measuring perceived parental behavior. Perceived parental psychological control and perceived psychological autonomy was measured through the subscales guilt-inducing (e.g., "my father/mother thinks I don't appreciate him/her when I don't obey"), and anxiety-inducing (e.g., "my father/mother thinks and talks about my bad behavior long after it is over") with a high internal reliability ( $\alpha = .87$ ) for perceived guilt and anxiety from fathers and a high internal reliability ( $\alpha = .85$ ) for perceived guilt and anxiety from mothers. The questionnaire has a 3-point scale ranging from 1 (very true) to 3 (not at all true). The coding was reversed in the sample; a high score on perceived guilt and anxiety means high perceived psychological control.

Youth Decision-Making Competence (YDMC) is a self-report to assess decision-making competence. The questionnaire consists of 6 sub-scales: 1. Resistance to framing, wherein the participant was asked to make a choice between two options A or B (e.g., "choose between two flavors of ice cream in a shop: one flavor tastes good, the other flavor tastes great, but is really bad for you. Which flavor do you choose?"). 2. Resistance to Sunk Costs, wherein participants were given the choice to continue an action in which an investment has been made or to switch to an action with better consequences (e.g., "paid \$100 deposit on a weekend at a resort but you and your friend both feel sick and both feel you would have a better weekend at home. You cannot afford to waste \$100. Do you drive on or turn back home?"). 3) Recognizing Social Norms, wherein participants judge whether "it is sometimes OK" to engage in undesirable behavior (e.g., "do you think it is sometimes OK to smoke cigarettes?") They can choose between a Yes or No answer, and participants make

a choice in how many “out of 100 people your age” would choose each behavior (e.g., “out of 100 people your age, how many would say it is sometimes OK to steal under certain circumstances?”) with a scale ranging from “0% no one” to “100% everyone.” 4. Applying Decision Rules, which asks participants to indicate which of five DVD players hypothetical consumers would choose, using different decision rules, and were asked to choose between two or three options (e.g., “Tom wants a Walkman that is special in at least one way. For him, that means at least medium in either battery life of comfort of headphones. Which Walkman will Tom choose?”). 5. Under/Overconfidence, wherein participants are asked to decide whether a statement is true and express their confidence in their judgment, and were asked to rate their certainty between 50-100%, where 50% means “just guessing” and 100% means “absolutely sure” (e.g., “water will begin to freeze at 32 degrees Fahrenheit”). 6. Consistency in Risk Perception, wherein participants were asked to judge the chance of something happening to them on a scale of 0–100%. (e.g., “what is the percent chance you will become pregnant or get someone pregnant within the next year?”).

### **Data analysis**

Descriptive statistics were carried out and the data has been prepared for multiple regression analyses in SPSS 24.0. Given that the data came from an existing, large-scale, longitudinal database, there were some participant duplicates with missing values, which were deleted. Data regarding gender of participants were merged. Psychological Autonomy versus Psychological Control is measured through two subscales: control through guilt scale and instilling persistent anxiety scale. I conducted a reliability check for both scales for fathers and mothers separately. All correlations were examined to determine significance of influence on the youth decision making competence construct. Univariate and Multiple regression analyses were conducted to investigate both hypotheses.

## Results

Descriptive analyses and correlations of perceived parental psychological control for father and mother, youth decision making competence, and gender as the moderator are reported in Table 1. As shown in Table 1, relationships between perceived parental psychological control, decision-making competence, and gender are all significantly correlated, with the exception of decision-making and gender. Also, it should be noted that the means for perceived psychological control for father and mother do not have a large difference, meaning that the perceived psychological control for both parents are almost even. Based on the outcome of the correlation analyses, I used a multiple regression analysis to analyze my data, as shown in Table 3.

Table 1 Correlations between parental control, decision-making and gender

		1	2	3	4
1. PsyCtrl Father	Pearson Correlation	—	,704**	-,318**	-,141**
	Sig. (2-tailed)		,000	,000	,000
	N	700	700	469	699
2. PsyCtrl Mother	Pearson Correlation	,704**	—	-,235**	-,130**
	Sig. (2-tailed)	,000		,000	,001
	N	700	700	469	699
3. Decision-Making	Pearson Correlation	-,318**	-,235**	—	-,037
	Sig. (2-tailed)	,000	,000		,407
	N	469	469	524	516
4. Gender	Pearson Correlation	-,141**	-,130**	-,037	—
	Sig. (2-tailed)	,000	,001	,407	
	N	699	699	516	775
Means		5.889	6.089	.001	.290
SD		3.890	3.713	.525	.454

Note: \*\*Correlation is significant at the 0.01 level (2-tailed).

**Hypothesis 1:** Perceived parental psychological control negatively affects decision-making competence in adolescents, such that adolescents who report higher perceived parental psychological control are more likely to show a decrease on decision-making competence than those who report lower perceived parental psychological control. First, I conducted a

univariate linear regression analyses in order to predict decision-making based on the perceived psychological control from mother and father, as shown in Table 2. A significant regression equation was found for perceived psychological control from mothers,  $F(1, 467) = 27.23, p < .001$ , with an  $R^2$  of .055. The univariate linear regression that uses decision-making as the dependent variable and perceived psychological control from fathers as a predictor variable for decision-making is also significant,  $F(1, 467) = 52.50, p < .001$ , with an  $R^2$  of .101. Therefore, perceived parental psychological control is a significant predictor of decision-making competence.

Next, I conducted a multiple regression analysis in order to investigate the effect of perceived parental psychological control on decision-making competence, as shown in Table 3. The results show that perceived parental psychological control from fathers has a negative effect on decision-making competence in adolescents ( $\beta = -.311; t(465) = -5.01; p < .001$ ) and therefore children ages 10–12 who perceive psychological control from fathers show lower decision-making competence at the age of 16. Perceived psychological control from mothers on decision-making is not significant ( $\beta = -.031; t(465) = -.49; p = .62$ ), indicating that perceived psychological control from mothers towards children ages 10–12 seems to only explain a very small proportion of the variation in decision-making competence by the time the children reach age 16.

**Hypothesis 2:** The interaction effect between perceived psychological control from fathers and gender on decision-making competence is not significant ( $\beta = -.016; t(463) = -1.02; p = .309$ ). Moreover, the interaction effect between perceived psychological control from mothers and gender on decision-making competence is not significant ( $\beta = .035; t(463) = 1.96; p = .05$ ). Therefore, the gender of the child does not play a role in the effects of perceived psychological control on decision-making competence. However, as a main effect, gender is significant; there is a difference between boys and girls in decision-making competence.

Table 2 Linear model of predictors decision-making

	<i>b</i>	<i>SE</i>	$\beta$	<i>P</i>	<i>R</i> <sup>2</sup>
Constant	.212 [-122.314]	.044		.000	
PsyCtrlMother	-.033 [-.048,.020]	.006	-.235	.000	.055
Constant	.258 [.183, .341]	.040		.000	
PsyCtrlFather	-.041 [-.054,.029]	.006	-.318	.000	.101

Note. 95% confidence intervals are in brackets.

Table 3 Multiple regression model

	<i>b</i>	<i>SE</i>	$\beta$	<i>p</i>	CI
1 (Constant)	.311	.050		.000	[.213 .409]
Psych. Ctrl. Father	-.040	.008	-.311	.000	[-.056 -.025]
Psych. Ctrl. Mother	-.004	.009	-.031	.618	[-.022 .013]
Gender	-.099	.048	-.091	.041	[-.193 -.004]
2 (Constant)	.346	.057		.000	[.234 .457]
Psych. Ctrl. Father	-.031	.011	-.239	.006	[-.053 -.009]
Psych. Ctrl. Mother	-.019	.012	-.134	.109	[-.042 .004]
Gender	-.084	.049	-.078	.086	[-.181 .012]
PsyCtrlFather *	-.016	.016	-.076	.309	[-.048 .015]
Gender					
PsyCtrlMother *	.035	.018	.141	.050	[.000 .071]
Gender					

Note.  $R^2 = .11$  for Step 1;  $\Delta R^2 = .01$  for Step 2 ( $ps > .05$ ). The predictors for hypothesis 3 have been grand mean centered. 95% confidence intervals are in brackets.

## Discussion

The present research explored the influence of perceived parental psychological control on decision-making competence in adolescents. Although adolescents are considered young adults who conduct their lives with more independence from their parents compared to

younger children, the influence of their parents remains important for developing life skills. Previous research has found that these life skills, such as decision-making skills, are developed and strengthened through positive family relationships where the child develops an identity and self-confidence (Scales et. al, 2016). Family relationships perceived as smothering and instilling anxiety and guilt produce fewer positive effects on developing life skills (Reuter & Conger,1998). Research has found that a parenting style characterized by psychological control increases adolescent children's dependence on their parents (Aunola & Nurmi, 2005).

With regard to the first hypothesis, the results showed that high levels of parental psychological control significantly predict lower decision-making competence, which supports previous research findings (Kunz & Grych, 2013). The findings in the present research suggest that children who perceive their parents as psychologically controlling at the age of 10–12 show lower decision-making competence at the age of 16. The effect of perceived psychological control from fathers is higher than from mothers, suggesting that fathers have a greater influence on the development of decision-making competence of their children by using a psychological controlling parenting style. It had been previously found that fathers take on a more authoritarian role in child-rearing than mothers due to expectations from society (McKinney & Renk, 2008); given that society expects fathers to play the role of provider for their families, it may also heighten the expectations for fathers to use a psychologically controlling style in order to make their children act and behave in a socially acceptable manner. This is a significant finding, since an important task in parenting is preparing children for life and setting them up with the right skills to become competent and happy adults (Delle Fave, Brdar, Freire, Vella-Brodrick & Wissing, 2011). Competence in decision-making is one of these important life skills, and a psychological controlling parenting style fails to support the development of that competence.



The effect of perceived psychological control from mothers, measured together with fathers, is not significant. An explanation for this non-significant effect could be the high correlation between psychological control from mothers and fathers; both parents together may be responsible for the same variance in decision-making competence. However, considering the effects from each parent separately, there is a small difference between psychological control from mothers and fathers wherein mothers do have a smaller effect than fathers. This difference is supported by previous research where women have been shown to be socialized to a more caring and warm parenting style than are fathers (Hosley & Montemayor, 1997) and therefore have a more authoritative, as opposed to authoritarian, parenting style.

Furthermore, this result confirms previous research that when one parent possesses an authoritarian parenting style, the other parent most likely employs a non-authoritarian parenting style (McKinney & Renk, 2008). The non-authoritarian parenting style of mothers could act as a buffer for the authoritarian style of fathers, meaning that the negative effects from the perceived psychological control from fathers are lessened in combination with the parenting style from mother.

Regarding the differences in gender, the results show no significant differences between boys and girls in perceived psychological control and the effect on decision-making competence. It was found that there are differences between boys and girls in decision-making competence; boys report higher decision-making competence than girls. It is likely that development during puberty, which naturally differs between boys and girls, (Kullik & Petermann, 2013) has an effect on the development of decision-making competence. Another possible explanation could be that parents are more lenient towards their young adolescent sons and give them more room to explore and encourage them to make decisions (McKinney & Renk, 2008). Moreover, parental expectations for adolescent boys may be higher and

therefore could translate into more pressure for boys to make own decisions in comparison to girls. Furthermore, girls tend to have more internalized problems (Graber, Brooks-Gunn & Warren, 2006; Collins & Steinberg, 2006), often related to low self-esteem, which likely negatively affects the development of decision-making competence.

The present study has several limitations and the results should be interpreted with caution. The first limitation is the difference in the number of boys (70.2%) and girls (28.7%) participating in the study. It would be worthwhile for future research to further explore the development of decision-making competence in girls, including factors beyond perceived parental psychological control, such as internalized problems.

The second limitation is the homogeneity of the sample: Most of the participants were Caucasian (74.6%), with many fewer identified as African-American (21.6%) or Asian-American (2.7%). Future research could explore the effects of perceived parental psychological control on adolescent decision-making competence in a broader sampling across ethnic communities where cultural differences in parenting styles may produce different effects.

The third limitation of the present research is the missing baseline. Although in the present research it was found that perceived parental psychological control at the ages of 10–12 is correlated with lower decision-making competence at the age of 16, decision-making competence and psychological control were not assessed at both visits. Therefore, other factors may be responsible for the effects on decision-making competence. To determine more accurate findings, future research could include baseline measurements.

Additional limitations include the self-report questionnaires, which are based on self-reported information; the perceptions of the child/adolescent are the only source of data, a method that is sensitive to perceptual biases of the child/adolescent. To increase validity in future research, it is recommended to use multiple respondents within one family.

Although perceived psychological control from fathers and mothers in childhood is associated with decision-making competence in adolescence, the effects represented a small portion of the variance in decision-making competence. Future research could further explore other factors that are of influence on the development of decision-making competence like the influence of peers, school, and the bidirectional influence between parents and children. Additionally, non-heterosexual parents could be studied, as the present research focuses mostly on the traditional family unit (Shenkman, 2015).

It is for the benefit of society that families bring forth strong and healthy young adults who can make independent competent decisions in life. The present study provides evidence that parents influence their child's development during the transition into adulthood. Although it is commonly thought that young adolescents are under relatively minimal influence of their parents (Lam, McHale & Crouter, 2014), parenting styles and their influence on children begins early in childhood and has a determinizing effect (Darling & Steinberg, 1993). Despite the use of a large sample in the present research, the conclusions should be interpreted cautiously with regard to generalizing the results to the population at large. Nevertheless, the present findings contribute to the understanding that parental influence continues to be an important factor in development as children transition into adulthood.

### References

- Albert, D., Steinberg, L., 2011. Judgment and Decision Making in Adolescence. *Journal of Research on Adolescence*. DOI: 10.1111/j.1532-7795.2010.00724. x.
- Arnett, J. J., 2000. Emerging adulthood. A theory of development from the late teens Through the twenties. *American Psychologist*, 55, 469-480.

- Aunola, k., & Nurmi, J. E. (2005). The role of parenting styles in children's problem Behavior. *Child Development*, 76, 114-1159.
- Baumeister, F., Vohs, K. D., Tice, D. M. (2007) The Strength Model of Self-Control. *Current Directions in Psychological Science* 2007 16: 351. Doi: 10.1111/j.1467-8721.000534. x.
- Collins, W. A., & Steinberg, L., 2006. Adolescent Development in Interpersonal Context. *Handbook of Child Psychology: Social, emotional, and personality development*. (pp. 1003-1067) Hoboken, NJ, US: John Wiley & Sons Inc.
- Geisler, M., & Allwood, C. M., 2015. Competence and Quality in Real-Life Decision Making. *Plos one*. <https://doi.org/10.1371/journal.pone.0142178>.
- Graber, J. A., Brooks-Gunn, J., Warren, M. P., 2006. Pubertal Effects on Adjustment in Girls: Moving from Demonstrating Effects to Identifying Pathways. *Journal of Youth and Adolescence*. June 2006, Volume 35, Issue 3, pp 391-401.
- Hart, G. H., Newell, L. D., & Olsen, S. F. (2003). Parenting skills and social-communicative competence in childhood. In J. O. Greene & B. R. Burleson (Eds.), *Handbook of communication and social interaction skills* (pp. 753–797).
- Hosley, C. A., & Montemayor, R. (1997). Fathers and adolescents. In M. E. Lamb (Ed.), *The role of the father in child development* (pp. 162-178). New York: John Wiley.
- Kullik, A., & Petermann, F. (2013). Attachment to parents and peers as a risk factor for Adolescent depressive disorder: The mediating role of emotion regulation. *Child Psychiatry & Human Development*, 44, 537-548. Doi:10.1007/s10578-012-03475-5.
- Kunz, J. H., Grych, J. H., 2013. Parental Psychological Control and Autonomy Granting: Distinctions and Associations with Child and Family Functioning. *Parent Sci. Pract.* 2013 Apr 1; 13(2): 77-94. DOI: 10.1080/15295192.2012.709147.

- Lam, C. B., McHale, S. M., & Crouter, A. C., 2014. Time with peers from middle childhood To late adolescence: Developmental course and adjustment correlates. *Child Development, 85*, 1677-1693. <http://dx.doi.org/10.1111/cdev.12235>.
- Larsson, H., Viding, E., Rijdsdijk, F., Plomin, R., 2008. Relationships Between Parental Negativity and Childhood Antisocial Behavior over Time: A Bidirectional Effects Model in a Longitudinal Genetically Informative Design. *Journal of Abnormal Child Psychology 35*(5):633-45. DOI: 10.1007/s10802-007-9151-2.
- Maccoby, E. E. (2000). Parenting and its effects on children: On reading and misreading Behavior genetics. *Annual Review of Psychology, 51*, 1-27.
- McKinney, C., Renk, K. (2008). Differential Parenting Between Mothers and Fathers. *Journal of Family Issues*, volume 29 number 6, 806-827.  
DOI: 10.1177/0192513X07311222.
- Missier, Del, F., Mantyla, T., & Bruine de Bruine, W., 2012. Decision-making Competence Executive Functioning, and General Cognitive Abilities. *Journal of Behavioral Decision Making, J. Behav. Dec. Making, 25*: 331-351. DOI: 10.1002/bdm.731.
- Parker, A. M., & Fischhoff, B. (2005). Decision-making Competence: External Validation Through an Individual-differences Approach. *Journal of Behavioral Decision Making J. Behav. Dec. Making, 18*: 1-27. Doi: 10.1002/bdm.481.
- Reuter, M., and Conger, R. D. (1998). 'Reciprocal influences between Parenting and Adolescent Problem-Solving Behavior'. *Development Psychology 34*(6): 1470-82.
- Reuth, J. E., Otterpohl, N., & Wild, E. (2017). Influence of Parenting Behavior on Psychosocial Adjustment in Early Adolescence: Mediated by Anger Regulation And Moderated by Gender. *Social Development Vol 26 No. 1* 40-58 February 2017  
Doi: 10.1111/sode.12180.

- Ryan, R. M., & Deci, E. L., 2000. Self-determination theory and the facilitation of intrinsic Motivation, social development, and well-being. *American Psychologist*, 55, 68-78.
- Scales, P. C., Benson, P. L., Oesterle, S., Hill, K. G., Hawkins, J. D., Pashak, T. J., 2016. The dimensions of successful young adult development: A conceptual and Measurement framework. *Applied Development Science*, 20(3): 150-174. DOI: 10.1080/10888691.2012.1082429.
- Schreck, C. J., Burek, M. W., Stewart, E. A., 2007. Distress and Violent Victimization among Young Adolescents: Early Puberty and the Social Interactionist Explanation. *Journal of Research in Crime and Delinquency* 44(4):381-405. DOI: 10.1177/0022427807305851.
- Shenkman, G., 2015. Classic psychoanalysis and male same-sex parents: A reexamination of Basic Concepts. *Psychoanalytic Psychology*, Vol. 33, No. 4, 585-598. American Psychological Association. <http://dx.doi.org/10.1037/a0038486>.
- Slicker, E. K., Picklesimer, B. K., Guzak, A., Fuller, D. K., 2005. The relationship of Parenting style to older adolescent life-skills development in the United States. *Nordic Journal of Youth Research*. Vol 13(3): 227-245 DOI: 10.1177/1103308805054211.
- Slot, W., Aken, M. (2017). *Psychologie van de adolescentie*. ThiemeMeulenhoff, Amersfoort, ISBN 9789006951424.
- Susman, E. J., Dockray, S., Schiefelbein, V. L., Herwehe, S., Heaton, J. A., Dorn, L. D. 2007. Morningness/eveningness, morning-to-afternoon cortisol ratio, and antisocial Behavior problems during puberty. *Development Psychology*, 43(4), 811-822. DOI: 10.1037/0012-1649.43.4.81