

Parental influence on students' stress

A Master's thesis about the influence of parental psychological control, autonomy support and parental support on the stress level of university students

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June 2020

Word count: 4747

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Abstract

More and more attention is being paid to the stress that students experience, because the pressure on students seems to be increasing. However, not much is known about the influence of parenting on students' stress level. To investigate this, online questionnaires were filled in by students at Utrecht University ($N = 125$). Using a multiple regression analysis, the relationships between parental psychological control, autonomy support and parental support and the stress level of students were examined. Age, gender, financial worries and living situation were taken into account. It is also examined whether these relationships are different for boys and girls. The results show that less psychological control is associated with less stress among students. Parental support and autonomy support were not associated with stress. The findings are independent of gender. From this it can be concluded that parental psychological control plays an important role in the stress level of students. Research into the long-term effects of the three parenting practices is needed. Also, to be able to generalize the results, more research needs to be done on students outside Utrecht University.

Keywords: stress, students, parenting, psychological control, parental support, autonomy support, financial worries

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Samenvatting

Er wordt steeds meer aandacht besteed aan de stress die studenten ervaren, omdat de druk op studenten lijkt toe te nemen. Er is echter niet veel bekend over de invloed van opvoeding op het stressniveau van studenten. Om dit te onderzoeken werden online vragenlijsten ingevuld door studenten van de Universiteit Utrecht (N = 125). Door middel van een multiple regressieanalyse worden de relaties tussen ouderlijke psychologische controle, autonomie aanmoediging en ouderlijke steun en het stressniveau van studenten onderzocht. Er werd rekening gehouden met leeftijd, geslacht, financiële zorgen en woonsituatie. Ook werd onderzocht of deze relaties verschillend zijn voor jongens en meisjes. De resultaten laten zien dat minder psychologische controle geassocieerd wordt met minder stress bij studenten. Ouderlijke steun en autonomie aanmoediging waren niet geassocieerd met stress. De relaties zijn onafhankelijk van geslacht. Hieruit kan geconcludeerd worden dat ouderlijke psychologische controle een belangrijke rol speelt in het stressniveau van studenten. Onderzoek naar de langetermijneffecten van de drie opvoedingspraktijken is nodig. Om de resultaten te kunnen generaliseren, is er ook onderzoek nodig naar studenten buiten de Universiteit Utrecht.

Sleutelwoorden: stress, studenten, opvoeding, psychologische controle, ouderlijke steun, autonomie aanmoediging, financiële zorgen

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Parental Influence on Students' Stress

Going to university can be experienced as a stressful period for emerging adults (Cress & Lampman, 2007). Students must maintain a high level of academic achievement and adjust to a new social environment (Ross, Niebling, & Heckert, 1999). Next to that, students may experience a lack of adequate financial support to subsist, and a lack of information to assist in decision-making and adjustment to the new environment of their universities (Bojuwoye, 2002). Together this may contribute to an increase in stress among students. Stress can lead to adverse outcomes, such as poor physical and psychological health (Sladek, Doane, Luecken, & Eisenberg, 2016) and sleeping disorders (Waqas, Khan, Sharif, Kahlid, & Ali, 2015). However, it is yet unclear why some students experience more stress than others. One factor that may influence the level of stress among students could be how they are raised by their parents. Miczo, Miczo, and Johnson (2006) concluded in their study that, in order to enhance student well-being, the important role that parents play should not be overlooked. Therefore, it is interesting to examine which specific parenting practices influence students' stress level. In research investigating the role of parents, often a distinction is made between controlling and supporting parenting behaviors (Barnes & Farrell, 1992; Rollins & Thomas, 1979). Based on this distinction, three parenting practices are chosen to investigate their impact on students' stress level.

Psychological Control

Parental control can be divided into psychological and behavioral control. In this study, only psychological control will be looked at, as this type of control is more strongly related to internalizing problems (Barber, Olsen, & Shagle, 1994). Psychological control refers to control attempts that intrude into the psychological and emotional development of the child (Barber, 1996). It consists of three main components: guilt induction, shaming, and love withdrawal (Roth, Assor, Niemiec, Ryan, & Deci, 2009). Abaied and Emond (2013) looked at the relationship between parental psychological control and responses to interpersonal stress in emerging adulthood. Their research showed that when psychological control was higher, emerging adults were more likely to avoid interpersonal stress instead of approaching it. Avoiding stress is considered an ineffective way of dealing with stress (Dijkstra & Homan, 2016). The same maladaptive patterns were found in the relationship between parental psychological control and learning (Vansteenkiste, Simons, Lens, Soenens, & Matos, 2005). Emerging adults who perceived their parents to be psychological

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controlling, have more avoidance in response to academic challenges. This avoidance will lead to more stress. Based on this, it can be expected that parental psychological control has a negative impact on the level of stress in students.

Autonomy Support

When parents have a high level of control, the child will be restricted in their freedom of choice, i.e. autonomy. Supporting children to be autonomous, will increase their confidence in making their own choices when they face challenges, e.g. challenges that will arise when going to university. Autonomy support is related to psychological control, but different (Shi & Tan, 2020; Soenens, Vansteenkiste, & Sierens, 2009). For example, when a parent is not psychological control, this does not necessarily mean that this parent encourages the autonomy of the child. Parents can increase autonomous behaviors among their offspring by emphasizing independence over obedience, using reasoning as opposed to punishment and by including children in decision making (Grolnick & Ryan, 1989). The Self-Determination Theory (SDT; Deci & Ryan, 1985) states that there are three universal psychological needs that must be satisfied for effective functioning and psychological health, namely autonomy, competence, and relatedness (Ryan and Deci 2000). These needs are essential for people's survival, growth, and integrity. Satisfaction of the basic psychological need for autonomy, largely explains the relation of autonomy support with well-being (Costa, Cuzzocrea, Gugliandolo, & Larcan, 2016). In addition, Grolnick and Ryan (1989) showed that parental autonomy support is associated with more autonomous self-regulation among youth, and that a positive relationship between parental autonomy support and school grades exists. This suggests that by fostering autonomy in children, children will be better prepared for an educational environment that requires independent mastery and self-regulation and therefore experience less stress.

Parental Support

The third parenting practice that may relate to the level of perceived stress among students is the amount of parental support. Based on the stress theory, parental support can act as a so-called buffer (Stroebe, Stroebe, Abakoumkin, & Schut, 1996). This suggests that high levels of support protect the individual against the impact of stress on health. Cohen and Wills (1985) conclude in their review that research provides evidence for this buffering process, which may work in two different ways. First, support can weaken a response to a stressful event. The perception that others can and will provide the necessary resources

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ensures that the expected chance on potential harm is redefined. The perceived ability to meet imposed requirements will be increased and therefore situations will be experienced as less stressful. Second, adequate support after a stressful event can reduce the chance of problematic consequences. In addition, other studies are in support of the 'buffering model'. A study by Miczo and colleagues (2006) demonstrated a negative relationship between received parental support and stress among first-year college students, meaning that more parental support will lead to less stress and vice versa. Research by Sy, Fong, Carter, Boehme, and Alpert (2011) among first-generation students also showed that students who perceived higher levels of parent emotional support reported less stress than those who did not. Based on these studies and the stress theory, it can be expected that more parental support relates to a lower level of perceived stress among university students.

Gender Differences

Not all individuals respond to parenting behaviors in the same way. Although research on the parental influence on other behaviors have found differences between boys and girls, no existing research has looked at such a difference in the influence of parenting on students' stress level. A study by Kapungu, Holmbeck, and Paikoff (2006) showed that a high degree of parental control was related to a greater likelihood to be involved in sexual risk behaviors among girls, and not among boys. This suggests that a high level of parental control could be a risk factor only for girls. Another study showed that a higher degree of parental autonomy stimulation was related to less fear of crime in boys, and not in girls, i.e. only a protective factor for boys (De Groof, 2007). A difference is found for parental support as well. Gecas and Schwalbe (1986) showed that girls' self-esteem was more strongly affected by parental support than boy's self-esteem. This finding is explained by the fact that girls are more sensitive and dependent on others (Block, 1983). Based on these studies, it can be expected that there will also be a difference between boys and girls for the association between parenting practices and students' stress.

Present Study

The main research question of this study is: What is the influence of parental psychological control, autonomy support and parental support on the level of university students' stress? Additionally, the sub question of this study is: To what extent is this influence different for boys and girls? The hypothesis is that less psychological control, more autonomy supportive parenting and more parental support predicts lower levels of perceived

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stress among Dutch university students (see Figure 1). The hypothesis regarding the sub question is that the effect of psychological control and parental support will be stronger for girls and the effect of autonomy support will be stronger for boys.

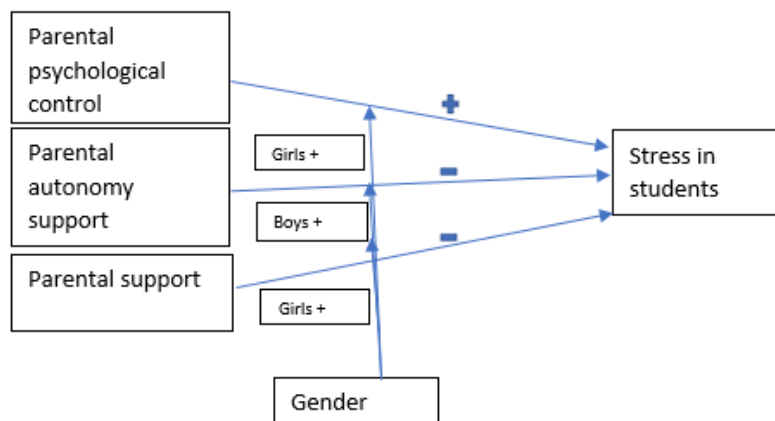


Figure 1. Hypothesis of the research question

Method

Procedure and Participants

To answer the research question a cross-sectional study was conducted. An online questionnaire was provided to students of Utrecht University in three ways. First, teachers of ongoing courses at Utrecht University were asked to recruit students in their course. Second, announcements of the study were shared on social media (Facebook and LinkedIn). Third, students were recruited through a so-called snowball effect; from mouth to mouth.

Participation in this study is entirely anonymous and voluntary by clicking on the online link. At first, students gave explicit permission for participation. Filling out the questionnaire took about 20 minutes on average per participant. A total of 197 students filled in the questionnaire, of which 124 participants filled in all questions. One male participant entered an invalid date of birth, so age could not be calculated. In order to include this participant in the analysis, the average age of the male participants in this study was entered as the age for this participant. Including this participant, 125 participants are included in this study.

Measuring Instruments

Perceived stress. In order to measure students' perceived stress, the subscale Stress from the Depression, Anxiety, Stress Scale 21 (DASS-21) was used (Osman et al., 2012). This is a shortened version of the DASS by Lovibond and Lovibond (1995). The subscale includes seven items that together assess the negative emotional lability for stressors and

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general tension in the last twelve months, e.g. "I found it hard to wind down" (Norton, 2007). These items were scored on a four-point Likert scale (0 = did not apply to me at all, 3 = applied to me very much or most of the time). The average of the scores on these items was calculated to compute the variable perceived stress. Higher scores indicate a higher level of stress. The internal reliability of the scale was measured: Cronbach's alpha is 0.85.

Psychological control. Psychological control reflects the guilt induction, love withdrawal, and excessive pressure for change from the parents. This concept was measured by using the psychological control subscale from the revised Children's Report of Parental Behavior Inventory (CRPBI) (Schaefer, 1965; Schludermann & Schludermann, 1988). This subscale contains six items (e.g. my parents are always trying to change me). The items were answered by means of a three-point scale (1 = not like my parents, 3 = a lot like my parents). The psychological control was computed by averaging the scores on the items. A higher score represents greater perceived levels of psychological control. The Cronbach's alpha is 0.82.

Autonomy Support. Autonomy support reflects the extent to which parents encourage their children to make their own choices. The Perceptions of Parents Scale (POPS) (Robbins, 1994) was used to measure the degree of autonomy support from the parents as perceived by students. This scale consists of seven items that were answered by means of a 5-point scale (1 = not at all true, 5 = very true), e.g. my parents allow me to decide things for myself. Three items were reverse scored before being averaged. A higher score represents greater perceived levels of autonomy support. The Cronbach's alpha is 0.86.

Parental support. Parental support reflects the perceived social support from the parents. To measure this, the four items from The Multidimensional Scale of Perceived Social Support (MSPSS) that are related to family support were used (Zimet, Dahlem, Zimet, & Farley, 1988). The questions are adjusted so that they are specified for parental support rather than support from the entire family (e.g., I can talk about my problems with my parents). These items were answered on a seven-point scale (1 = very strongly disagree, 7 = very strongly agree). The scores were averaged to compute the parental support. A higher score represents greater perceived levels of parental support. The Cronbach's alpha is 0.94.

Data Analysis

To analyze the data, the program IBM SPSS Statistics 25 was used. Firstly, the descriptive statistics of the participants were examined. Next, a correlation matrix was made with all relevant variables. This was done by using the Pearson's correlation. The correlation

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matrix shows that the independent variables psychological control, parental support and autonomy support are correlated with each other. However, the VIF-value is less than 5 (psychological control = 2.11, parental support = 2.15, autonomy support = 3.27), meaning that the variables are moderately correlated. Therefore, these variables can be added to the regression analysis without problems in the form of multicollinearity (Daoud, 2007). Then, all assumptions that have to be met were checked. It was checked whether the dependent variable is normally distributed. For this the Shapiro Wilk test was used. To examine the main question, a multiple regression analysis was performed with stress as a dependent variable and psychological control, parental support and autonomy support as independent variables. Age, financial worries, living situation and gender were added in the model as covariates. Dummy variables have been computed for gender (0 = woman, 1 = man) and living situation (0 = living with one or both parent(s), 1 = living on their own). Missing data were removed listwise. To investigate the effect of gender as a moderator, interaction terms have been created. For this, the variables psychological control, parental support and autonomy support were first centered. Then, each centered independent variable was multiplied by the dummy variable for gender. The interaction terms were added in turn to the model to measure the moderation effect.

Results

Descriptives Participants

Tables 1 and 2 give an overview of the participants. In total there were 125 participants who fully completed the questionnaire (87.2% female). The mean age of the participants is 21.24 ($SD = 2.02$). Most participants have Dutch, high educated parents and are living on their own. The majority of the participants reported to be in a relationship. To determine whether the continuous variables are different for boys and girls, an independent sample T test was performed. The levels of financial worries ($t = -1.15, p = .252$), stress ($t = -0.75, p = .458$) and the parenting practices psychological control ($t = 0.33, p = 0.743$) and parental support ($t = -1.20, p = .247$) are not significantly different for boys and girls. However, there is a significant difference between the level of autonomy support ($t = -1.99, p = .049$) between boys and girls.

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Table 1.

Descriptive Statistics of Education Level of Mother/Father, Living Situation and Relationship Status, Disaggregated by Gender

	Men (N=16)		Women (N=109)		Total (N=125)	
	Number	%	Number	%	Number	%
High educated* mother	9	56.3	60	55.0	69	55.2
High educated* father	8	50.0	62	56.9	70	56.0
Living on their own	11	68.8	69	63.3	80	64.0
Single	10	62.5	41	37.6	51	40.8

Note. *At least a couple of years HBO or WO; N=sample size

Table 2.

Descriptive Statistics of Age, Financial Worries, Parenting Practices and Stress, Disaggregated by Gender

	Men (N=16)		Women (N=109)		Total (N=125)	
	M	SD	M	SD	M	SD
Age	22.13	2.55	21.11	1.91	21.24	2.02
Financial worries (scale 1-5)	2.61	.59	2.823	.70	2.80	.69
Parental support (scale 1-7)	4.92	2.04	5.56	1.48	5.47	1.57
Psychological control (scale 1-3)	1.27	.39	1.24	.38	1.24	.38
Autonomy support (scale 1-5)	3.49	.86	3.86*	.67	3.82	.70
Stress (scale 1-4)	1.96	.46	2.09	.62	2.07	.61

Note. *Significantly different from men; N=sample size; M=mean; SD=standard deviation.

Correlations

In Table 3 the correlations between the variables can be seen. It is shown that stress is significantly correlated with psychological control, autonomy support, and parental support.

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In addition to the parenting practices, financial worries is also significantly correlated with stress. Financial worries is also significantly correlated with the three variables regarding parenting practices. Moreover, it can be seen that the parental factors are also correlated with each other.

Table 3.

Correlation matrix (Pearson correlation coefficient [r])

	Age	Living situation	Financial worries	Gender	Parental support	Psychological control	Autonomy support
Age	1.00						
Living situation ^a	.45**	1.00					
Financial worries	-.01	.08	1.00				
Gender ^b	.17	.04	-.10	1.00			
Parental support	-.11	-.02	-.18*	-.14	1.00		
Psychological control	-.09	-.08	.26**	.03	-.53**	1.00	
Autonomy support	.01	.09	-.27**	-.18*	.73**	-.73**	1.00
Stress	-.09	-.04	.29**	-.07	-.23**	.39**	-.29**

Note. ^aReference category = living with one or both parent(s); ^bReference category = women; * $p < 0.05$; ** $p < 0.01$.

Main effect

The outcomes of the multiple regression analysis can be seen in Table 4. The regression model is significant, $F(7, 117) = 4.01, p < .001$. The regression model is therefore useful for predicting students' stress level, but the prediction is moderate in strength: 19% of the differences can be predicted based on the three parenting practices, gender, financial worries, living situation, and age ($R^2 = .19$). Psychological control is a significant predictor for students' stress level. This means that as students perceived their parents as more psychologically controlling, they were more likely to experience more stress. Parental

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support and autonomy support are not significant predictors of students' stress. Besides psychological control, financial worries is also a significant predictor.

Table 4.

Regression Analysis Summary for Multiple Variables Predicting Students' Stress Level

Variable	B (SE)	<i>p</i>	β	95%CI for B
Age	-.02 (0.03)	.551	-.06	-.07 – .04
Financial worries	.17 (0.08)	.030	.19	.02 – .32
Living on their own	-.01 (0.12)	.953	-.01	-.24 – .23
Gender	-.09 (0.16)	.571	-.05	-.40 – .22
Parental support	-.03 (0.05)	.598	-.07	-.12 – .07
Psychological control	.50 (0.19)	.011	.32	.12 – .89
Autonomy support	.03 (0.13)	.838	.03	-.24 – .29

Note. SE = standard error; CI = confidence interval.

Moderation Effect

No significant interaction effects between the three parenting practices and gender were found. When the interaction term for gender and psychological control ($\beta = .01, p = .891$) was added to the model the model explained 19% of the variance. This means that adding the interaction term had no added value. The same accounts for the interaction between gender and parental support ($\beta = -.18, p = .858$) and for the interaction between gender and autonomy support ($\beta = -.01, p = .921$). This indicates that gender isn't a moderator for the correlations between the three parental practices and stress. In other words, the relation between stress and parental support, autonomy support and psychological control is not different for boys and girls.

Discussion

The current study aimed to examine the correlations between three parenting practices and students' stress level. This study shows that psychological control is significantly associated with the level of stress among students. Autonomy support and parental support are not. Against our hypothesis, these findings do not differ for males and females. Per hypothesis it will be discussed how this can be explained.

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Hypothesis 1: less psychological control, more autonomy supportive parenting and more parental support predicts lower levels of perceived stress.

In line with the hypothesis, more psychological controlling parents relate to more stress among students. This is in line with previous research conducted among a younger sample (Abaied & Emond, 2013). An explanation for this could be that psychological control in parenting may cause maladaptive patterns in coping among students, such as avoidance (Abaied & Emond, 2013; Roth et al., 2009; Vansteenkiste et al., 2005). Parents who psychologically control their children undermine their attempts at independent regulation (Moilanen, 2007). Going to university will be a new and stressful experience for adolescents (Bojuwoye, 2010), especially when they are going to live on their own. When people enter a new environment, they often experience some level of anxiety (Bojuwoye, 2010). Students who experienced more psychologically controlling parents seem to be less able to cope with this stressful situation. Not only will it be harder for them to cope with this new situation, students who perceived their parents as more psychological controlling are also more likely to have less engagement in learning activities and more avoidance in response to academic challenges (Roth et al., 2009; Vansteenkiste et al., 2005). A lower engagement in their study will most likely negatively affect their academic achievement, which will lead to more stress. Moreover, when academic challenges are avoided it will likely lead to more problems as well, such as study delay, which may subsequently contribute to perceiving more stress. Thus, it seems that a psychological controlling parenting may have a long-lasting influence on youth, even in student years.

The hypothesis that autonomy support and parental support would be associated with less stress was not supported. It is striking that the parenting practice that is mostly considered as a risk factor (psychological control) has a significant influence, whereas both protective parenting practices (parental support and autonomy support) have no significant influence on the level of stress that students report. Though previous research has pointed at the relevance of these protective parenting practices for the wellbeing among adolescents (Grolnick & Ryan, 1989; Miczo et al., 2006; Sy et al., 2011), it seems that at the time adolescents are older and become students, this may be different. Often, students live more independent of their parents; students see their parents less. Most students in this current study live on their own (64.0%). The fact that students have less contact with their parents, and parental upbringing is no longer commonplace, may explain the differences in the effects of the parental support and autonomy support among adolescents and students. Based on the

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results in this study, it is likely that on the longer term, out of the three parenting practices, only the one that may do harm (psychological control) is still relevant. Psychological control might have a more long-term effect due to a maladaptive coping pattern that builds up over the years. A longitudinal study by Aquilino & Supple (2001) examines the long-term influence of parenting during adolescence on well-being in young adulthood. This research shows that parental control had more long-lasting influence on sons' and daughters' risk-taking behavior than parental support. Next to that, Meeus, Iedema, Maassen, and Engels (2005) stated in their research that the importance of parental support in predicting emotional adjustment declines as adolescents become older. This supports the suspicion that the effect of parental support is most likely more relevant on the short-term. Some researches do find long-term effects for autonomy support (Joussemet, Koestner, Lokes, & Landry; Van der Giessen, Branje, & Meeus, 2014). However, these researches did not take into account all three parenting practices simultaneously. It is possible that influence is wrongly attributed to autonomy support if it is not controlled for other relevant variables, such as psychological control and parental support. Therefore, future research to the long-term effect of all three parenting practices is needed.

Hypothesis 2: gender is a moderator in these associations

Next to the associations between parenting practices and stress, it is examined whether gender works as a moderator in these associations. Against our hypothesis, the three parenting practices have no different effect on boys' or girls' stress level. Although previous research demonstrated differential effects of parenting practices on certain risk behaviors (Kapungu et al., 2006), the results in this study show that this does not apply to the experienced level of stress in students. Again, this may have to do with the fact that students are less dependent on their parents than adolescents. A difference in the effects of parenting between boys and girls was expected, because girls are more sensitive and dependent on others (Block, 1983). The influence of parents may have become much lower overall, also among girls once they are a student, because parents are no longer a direct important part of their social life. Therefore, the difference between boys and girls may become smaller. However, it is also possible that gender was not a significant moderator because of the small sample size. In particular, the number of male students was very small ($n=16$), which could lead to insufficient power for the statistical test. This increases the chance on non-rejection of a false null hypothesis (type II error).

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Financial worries

The results demonstrated another interesting effect that will be elaborated on. Not only psychological control was a significant predictor for students' stress level. The level of financial worries students reported was a significant predictor as well. This means that more financial worries are associated with more stress among students. As can be seen in Table 3, parental support, autonomy support and psychological control are also significantly correlated with financial worries. Based on this finding, it can be suggested that parenting has an influence on how their child handles financial issues and, subsequently, how much stress this person experiences. According to the results from the correlation analysis this means that less parental support and autonomy support, and more psychological control would lead to more financial worries in students. As Tang, Baker and Peter's research (2015) shows, there is a significant parental influence on financial behavior. Their explanation is, that children who have a warm and loving relationship with their parents, are more likely to talk with their parents about financial matters (Kim, LaTaillade, & Kim, 2011). However, to the best of our knowledge there is no research that has looked at the influence of parental support, autonomy support and psychological control on financial worries.

Another plausible explanation for the correlations between financial worries and the parenting practices, is that parents who are more psychological controlling and less supportive and supporting autonomy also share other characteristics. These characteristics could lead to financial worries, instead of parenting practices leading to financial worries. For example, having a low socioeconomic status (SES) and therefore having financial worries as a parent. It is possible that parent's SES is associated with both parenting practices and the financial worries their children have. Parents with less financial resources are often not able to financially support their children, leading to more financial worries in students. In addition, the knowledge young adults have about finances are influenced by parents, and determines how resources are used (Hancock, Jorgensen, & Swanson, 2013). When parents have insufficient knowledge of finances, and hence more financial issues and worries, their children will also have insufficient knowledge of finances and consequently more worries. According to Serido and colleagues (2015) this parental influence on financial matters will continue into college years. In conclusion, students with parents who have a low SES and more financial issues, are more likely to have financial issues themselves. Next to this, it is possible that parent's SES is associated with more psychological control and less parental support and autonomy support. A research by Tynkkynen, Vuori, and Salmela-Aro (2012)

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shows that psychological control was used more among parents with a lower SES. This may be due to the fact that lower SES is often related to stressful life events or economic hardship, which may increase hostility in parents (Aunola, Nurmi, Onatsu-Arviolommi, & Pulkkinen, 1999). Another explanation could be that there are differences in child rearing values between socioeconomic classes. Regarding parental support, it is shown that children from a low SES family are more likely to be in family relationships lacking in warmth and support (Repetti, Taylor, & Seeman, 2002). These findings are in line with the finding of the correlation analysis. The correlation between psychological control and student financial worries and the correlation between parental support and student financial worries can thus be explained by the parental SES. However, this reasoning does not hold for autonomy support. Based on the found correlation, it is expected that less autonomy support will lead to more financial worries. But, a study by Shi and Tan (2020) concluded that parents with a lower SES are more autonomy supportive than parents with a higher SES. Therefore, it is unlikely that the correlation between autonomy support and financial worries can be explained by parental SES. More research is necessary to investigate the association between students' financial worries and parental support, autonomy support and psychological control, as well as the role SES plays in this association.

Limitations and future research

Though this study is the first to examine the relations between parental support, autonomy support, and psychological control and stress, there are some limitations that should be mentioned. First, self-reported data were used to enable a large number of participants to participate. However, self-report is more susceptible to social desirable answers. An important limitation that should be taken into account is the selective, small and non-representative sample of students that may have contributed to biased results. That is, especially diligent students are more willing to take the time to fill in the questionnaire. In addition, the number of participating men is rather low compared to women, which may have led to insufficient statistical power to detect moderation effects. Last, the students are all recruited at Utrecht University, so findings only apply to these students. It is important to replicate this study among a larger and more representative sample of students from different Universities. However, next to some limitations, this study also has strengths. The scales that have been used in this study are reliable and well-researched. In addition, little research has investigated the influence of parenting practices on students' stress level and has looked at differences between boys and girls in these associations. This study is a good basis for future

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research to (long-terms) effects of parenting practices on students' stress level. It also shows that it may be interesting to do more research into the relationship between parenting practices and students' financial worries. It might also be interesting to look at the influence of parenting on students of other universities, cities or countries, to examine whether these findings are generalizable to other populations. Next to that, other parenting practices could be taken into account to examine which parenting practices are the best predictors for students' stress level.

Conclusion

From this research we can conclude that psychological control is an important parenting practice that it is associated with more perceived stress among students aged 17 to 29 years old ($M = 21.24$). Psychological control is likely to contribute to adolescents dealing with stress in a dysfunctional way, which leads to long-term consequences, i.e. more stress and financial worries. Parental support and autonomy support, on the other hand, are not associated with students' stress level. Based on this current research, it can be expected that parental support and autonomy support might be important in the short term, and that psychological control also has an impact on adolescents in the longer term. This study has given the insight that psychological control is an important parenting practice. This knowledge can be used in parenting training programs. It is important to make parents aware of the harmful effects that psychological control has. This can reduce the prevalence of psychological controlling parenting and therefore the chance on maladaptive coping patterns in children. Also, the finding that stress can be caused by maladaptive stress coping as a result of psychological control in parenting may be useful for stress-related therapy. If the cause is known, the problem can be addressed. It is important to focus on the maladaptive coping patterns. Next to parental practices, also financial worries predicts students' level of stress. It might be interesting to investigate the relationship between parenting practices, financial worries and SES.

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Literature

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Appendix A: Substantiation of interdisciplinarity of the research topic

Stress in students is not only determined by parenting. If we look at Bronfenbrenner's Ecological Model we can look at different levels which all have their own factors that can have an influence on the experienced stress. On the individual level gender can have a direct influence on the stress level of students. Research has shown that female students assessed their stress level as worse compared to males (Backović, Živojinović, Maksimović, & Maksimović, 2012). Females marked the exams as a stressor more frequently than males. Therefore, there will be a difference between males and females regardless of the parenting. In this thesis, gender will only be looked at as an influence on the relation between parenting factors and stress (i.e. as a moderator).

On the microsystem level the parents can have influence, as will be explained in this thesis, but also the university can play a role in the experience of stress. The workload will differ per university. A larger course load will cause more stress in students (Suber, Caldwell, & Brazell, 2019).

Next to that, there can be an influence from the macrosystem. Berry and Annis' research (1974) showed that the psychological response to social change would vary as a function of the traditional cultural and behavioral features that characterize the community. This means that student's reaction to a new situation depends on the community in which they live.

This thesis looks at the influence of the parents - at the microsystem level - on students' stress level - at the individual level. Although there are factors at the level of the macrosystem that can influence the stress, these factors are not included, since there is only limited time available for this research. However, it must be kept in mind that such a simple relationship as is assumed in this thesis is unrealistic and that many more factors on different levels can influence the level of stress in students.

Literature

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Workload on Stress in College Students. *Southeastern Psychological Association (SEPA) Annual Meeting.*

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Appendix B: Research project contract**Contract data use (TED)**

Utrecht, 2019

This letter constitutes formal confirmation of the fact that the data from the Utrecht University Youth Studies 2019/2020 have been made available to Esti Driessen of Utrecht University. These data will not be made available to others, and the data may be used only for analysis and reporting on topics for the thesis, about which agreement has been reached with Ina Koning

Esti Driessen will receive access to the data from the dataset in order to answer the following research questions within the framework of the thesis:

Research question: What is the relative influence of parental psychological control, autonomy support and parental support on the level of university students' stress? And, to what extent is this influence different for boys and girls?

The following variables will be used:**Dependent variable:**

Stress, question number 33

Independent variables:

Parental psychological control

Parental autonomy support

Parental support, question number 29

Other variables:

Gender, question number 2

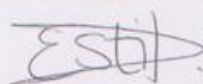
No report based on the data from the project entitled StuWel may be made public, unless permission has been obtained in advance from the Project Coordinator for the StuWel.

After the expiration of this contract, dated 31-08-2020, Esti Driessen shall delete the StuWel data.

Dates and signature: 23-01-2020

Name of student: Esti Driessen

Name of Project Coordinator: Ina Koning



PARENTAL INFLUENCE ON STUDENTS' STRESS

Appendix C: Igitur Form

Information about your thesis

Student nummer:	6321933
Initials & prefixes:	E.A.M.
Family name:	Driessen
Master:	Youth Studies

Begeleider

Name supervisor/assesor: *	Ina Koning
Name 2th assesor:	Tom ter Bogt

Scriptie

Title thesis: *	Parental influence on students' stress
Language thesis: *	English
Abstract:	More and more attention is being paid to the stress that students experience, because the pressure on students seems to be increasing. However, not much is known about the influence of parenting on students' stress level. To investigate this, online questionnaires were filled in by students at Utrecht University ($N = 125$). Using a multiple regression analysis, the relationships between parental psychological control, autonomy support and parental support and the stress level of students were examined. Age, gender, financial worries and living situation were taken into account. It is also examined whether these relationships are different for boys and girls. The results show that less psychological control is associated with less stress among students. Parental support and autonomy support were not associated with stress. The findings are independent of gender. From this it can be concluded that parental psychological control plays an important role in the stress level of students. Research into

PARENTAL INFLUENCE ON STUDENTS' STRESS

	the long-term effects of the three parenting practices is needed. Also, to be able to generalize the results, more research needs to be done on students outside Utrecht University.
Key words: (seperated by:)	Stress; students; parenting; psychological control; parental support; autonomy support; financial worries
Make public: *	Yes/ Nø
Make public after date:	

Ingevuld op: * 14-06-2020

Door: * Esti Driessen

* = Obliged to fill in

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Appendix D: Syntax

*Independent variables: een variabele maken van de items.

COMPUTE Parental_support=(V35_1 + V35_2 + V35_3 + V35_4) / 4.

EXECUTE.

COMPUTE V63_2_reversed=6 - (V63_2).

EXECUTE.

COMPUTE V63_5_reversed=6 - (V63_5).

EXECUTE.

COMPUTE V63_8_reversed=6 - (V63_8).

EXECUTE.

COMPUTE Autonomy_support=(V63_1 + V63_2_reversed + V63_3 + V63_4 +
V63_5_reversed + V63_6 + V63_7 +
V63_8_reversed) / 8.

EXECUTE.

COMPUTE Psychological_control=(V64_1 + V64_2 + V64_3 + V64_4 + V64_5 + V64_6) /
6.

EXECUTE.

COMPUTE Stress=(V39_8+V39_9+V39_10+V39_11+V39_12+V39_13+V39_14)/7.

EXECUTE.

COMPUTE V17_4_reversed=6 - (V17_4).

EXECUTE.

COMPUTE Financial_worries=(V17_1+V17_2+V17_3+V17_4reversed+V17_5)/5.

EXECUTE.

*Leeftijd berekenen.

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```
COMPUTE Current_date=DATE.DMY(18,05,2020).
```

```
EXECUTE.
```

```
* Date and Time Wizard: Age.
```

```
COMPUTE Age=DATEDIF(Current_date, V6, "years").
```

```
VARIABLE LABELS Age "Age".
```

```
VARIABLE LEVEL Age (SCALE).
```

```
FORMATS Age (F5.0).
```

```
VARIABLE WIDTH Age(5).
```

```
EXECUTE.
```

```
*Cronbachs alfa berekenen.
```

```
RELIABILITY
```

```
/VARIABLES=V63_2_reversed V63_5_reversed V63_8_reversed V63_1 V63_3 V63_4  
V63_6 V63_7
```

```
/SCALE('ALL VARIABLES') ALL
```

```
/MODEL=ALPHA.
```

```
RELIABILITY
```

```
/VARIABLES=V35_1 V35_2 V35_3 V35_4
```

```
/SCALE('ALL VARIABLES') ALL
```

```
/MODEL=ALPHA.
```

```
RELIABILITY
```

```
/VARIABLES=V64_1 V64_2 V64_3 V64_4 V64_5 V64_6
```

```
/SCALE('ALL VARIABLES') ALL
```

```
/MODEL=ALPHA.
```

```
RELIABILITY
```

PARENTAL INFLUENCE ON STUDENTS' STRESS

```
/VARIABLES=V39_8 V39_9 V39_10 V39_11 V39_12 V39_13 V39_14
```

```
/SCALE('ALL VARIABLES') ALL
```

```
/MODEL=ALPHA.
```

*Independent variables centrereren.

AGGREGATE

```
/OUTFILE=* MODE=ADDVARIABLES
```

```
/BREAK=
```

```
/Parental_support_mean=MEAN(Parental_support).
```

```
COMPUTE Parental_support_centered=Parental_support - Parental_support_mean.
```

```
EXECUTE.
```

AGGREGATE

```
/OUTFILE=* MODE=ADDVARIABLES
```

```
/BREAK=
```

```
/Autonomy_support_mean=MEAN(Autonomy_support).
```

```
COMPUTE Autonomy_support_centered=Autonomy_support - Autonomy_support_mean.
```

```
EXECUTE.
```

AGGREGATE

```
/OUTFILE=* MODE=ADDVARIABLES
```

```
/BREAK=
```

```
/Psychological_control_mean=MEAN(Psychological_control).
```

```
COMPUTE Psychological_control_centered=Psychological_control -  
Psychological_control_mean.
```

```
EXECUTE.
```

AGGREGATE

PARENTAL INFLUENCE ON STUDENTS' STRESS

```
/OUTFILE=* MODE=ADDVARIABLES
```

```
/BREAK=
```

```
/Financial_worries_mean=MEAN(Financial_worries).
```

```
COMPUTE Financial_worries_centered=Financial_worries - Financial_worries_mean.
```

```
EXECUTE.
```

*Dummy variabelen maken.

```
RECODE V13 (5=1) (ELSE=0) INTO Living_alone.
```

```
EXECUTE.
```

```
RECODE V5 (1=1) (ELSE=0) INTO Gender.
```

```
EXECUTE.
```

*Interactie termen maken.

```
COMPUTE Parentalsupport_gender=Parental_support_centered * Gender.
```

```
EXECUTE.
```

```
COMPUTE Autonomysupport_gender=Autonomy_support_centered * Gender.
```

```
EXECUTE.
```

```
COMPUTE Psychologicalcontrol_gender=Psychological_control_centered * Gender.
```

```
EXECUTE.
```

```
COMPUTE Parentalsupport_Livingalone=Parental_support_centered * Living_alone.
```

```
EXECUTE.
```

```
COMPUTE Autonomysupport_Livingalone=Autonomy_support_centered * Living_alone.
```

```
EXECUTE.
```

PARENTAL INFLUENCE ON STUDENTS' STRESS

COMPUTE Psychologicalcontrol_Livingalone=Psychological_control_centered *
Living_alone.

EXECUTE.

*Beschrijvende analyses.

FREQUENCIES VARIABLES=Stress Parental_support Autonomy_support
Psychological_control

Financial_worries Age

/STATISTICS=STDDEV MINIMUM MAXIMUM MEAN

/ORDER=ANALYSIS.

FREQUENCIES VARIABLES=V10 V11 V13 V16

/STATISTICS=STDDEV MINIMUM MAXIMUM MEAN

/ORDER=ANALYSIS.

*Nogmaals voor man en vrouw apart.

SORT CASES BY V5.

SPLIT FILE LAYERED BY V5.

FREQUENCIES VARIABLES=Stress Parental_support Autonomy_support
Psychological_control

Financial_worries Age

/STATISTICS=STDDEV MINIMUM MAXIMUM MEAN

/ORDER=ANALYSIS.

FREQUENCIES VARIABLES=V10 V11 V13 V16

/STATISTICS=STDDEV MINIMUM MAXIMUM MEAN

/ORDER=ANALYSIS.

SPLIT FILE OFF.

PARENTAL INFLUENCE ON STUDENTS' STRESS

*Bepalen of er verschillen zijn tussen mannen en vrouwen. .

T-TEST GROUPS=Gender(1 0)

/MISSING=ANALYSIS

/VARIABLES=Parental_support Autonomy_support Psychological_control Stress
Financial_worries

/CRITERIA=CI(.95).

*Correlation matrix maken.

CORRELATIONS

/VARIABLES=Parental_support Autonomy_support Psychological_control Stress Age
Financial_worries

Living_alone Gender

/PRINT=TWOTAIL NOSIG

/MISSING=PAIRWISE.

*Multiple regressie analyse.

REGRESSION

/MISSING LISTWISE

/STATISTICS COEFF OUTS R ANOVA

/CRITERIA=PIN(.05) POUT(.10)

/NOORIGIN

/DEPENDENT Stress

/METHOD=ENTER Parental_support Autonomy_support Psychological_control
Financial_worries

PARENTAL INFLUENCE ON STUDENTS' STRESS

Living_alone Gender Age.

*Moderator: interactietermen omstebeurt toevoegen in de analyse.

REGRESSION

/MISSING LISTWISE

/STATISTICS COEFF OUTS R ANOVA

/CRITERIA=PIN(.05) POUT(.10)

/NOORIGIN

/DEPENDENT Stress

/METHOD=ENTER Parental_support Autonomy_support Psychological_control
Financial_worries

Living_alone Gender Age Autonomysupport_gender.

REGRESSION

/MISSING LISTWISE

/STATISTICS COEFF OUTS R ANOVA

/CRITERIA=PIN(.05) POUT(.10)

/NOORIGIN

/DEPENDENT Stress

/METHOD=ENTER Parental_support Autonomy_support Psychological_control
Financial_worries

Living_alone Gender Age Psychologicalcontrol_gender.

REGRESSION

/MISSING LISTWISE

PARENTAL INFLUENCE ON STUDENTS' STRESS

```
/STATISTICS COEFF OUTS R ANOVA
```

```
/CRITERIA=PIN(.05) POUT(.10)
```

```
/NOORIGIN
```

```
/DEPENDENT Stress
```

```
/METHOD=ENTER Parental_support Autonomy_support Psychological_control  
Financial_worries
```

```
Living_alone Gender Age Parentalsupport_gender.
```