

## CORRELATION ANALYSIS AND HIERARCHICAL CLUSTER ANALYSIS OF PERCEIVED PARENTS' CONTROL AND BIG FIVE PERSONALITY TRAITS OF ADOLESCENTS

\*ROBERT TOMŠÍK

*<sup>a</sup>Constantine the Philosopher University, Faculty of Education, Department of Pedagogy and School Psychology, Dražovská 4, Post code: 949 74, Nitra, Slovakia, email: \*rtomsik@ukf.sk,*

This paper is published within the frame of the project Vega 1/0122/17 Risk behavior and attachment of the adolescents aged from 10 to 15.

**Abstract:** The paper deals with the parental control and their influence on the personality dimensions of the adolescent. The aim of the research is to identify correlations between mother's and father's control and personality dimensions of their children (adolescents), and to found clusters of these variables. Personality dimensions were examined using the Big Five model, specifically the NEO FFI questionnaire. The control was examined using a DZSVR questionnaire. On a sample of 346 adolescents, a strong correlation was found between parents' control and all Big Five personality dimensions of adolescents. The personality dimensions extraversion, openness, agreeableness and conscientiousness were in a positive correlation with parents' control while neuroticism was in negative correlation with the control. A hierarchical cluster analysis extracts three groups of personality profiles based on their parents low, high and a discrepant coercive control.

**Keywords:** adolescence, Big Five, control, NEO-FFI, parenting styles, parents, personality dimensions, personality traits upbringing

### 1 Introduction

The influence of the family environment on personality development is often a topic of discussions in psychological, pedagogical and biological sciences. The most common problem is the identification of the impact of external and internal factors on the personality development. As some researchers have shown (Johnson, A. M. et al., 2008), internal determinants are important factors in the personality development and its characteristics, but the prevalence of internal factors is being questioned due to the fact that children tend to copy the behavior of their parents. The family is one the most important external factor in personality development. A way of reflection between parent-and-child relationships is parenting, and these are complex activities that include many specific attitudes and behavior in every single action that the parent does impact the child's personality in a way or another (Savitha, K. & Venkatachalam, J., 2016). Parents influence their child's behavior through the use of general parenting styles, the larger context in which these parenting practices are expressed creating the emotional climate within which practices can be accepted or rejected by the child (Sleddens, E. F. et al., 2014). As has been shown in various analyses (for example K. Savitha & J. Venkatachalam, 2016; M. E. Maddahi et al., 2012; P. Prinzie et al., 2009), a negative control, strictness, and lack of emotionality in the family form a trait of neuroticism and poorly develops agreeableness and openness to experience. While supportive parenting styles and emotionality rich family environment support development of these personality dimensions, and individuals are more emotionally stable. Nevertheless, some researches challenge these facts and point to the positive influence of control on the development of personality traits (Čáp, J., 1996; Gillernová, I., 2004). Based on these assertions, we will try to confirm the assumptions and identify the association between the parental control and personality dimensions using the Big Five construct.

#### 1.1 Theoretical and empirical background: defining the basic concepts and analyzing empirical evidences

The concept of personality is defined in many ways. However, most often, the personality is defined as a person with all the social, psychological and biological features that include the psychic processes, conditions and properties of a person. Every person is unique in his/her interests, opinions, thoughts or qualities. The notion of a personality includes the needs of person, drives, interests, talents, values, character and temperament. All these elements form the personality. Its component is also the primary and secondary characteristics of

the personality. These primary ones are the qualities that are innate and based on the naturalness of each person, for example temperament. The secondary characteristics of a personality are those that one acquires during life, such as personality traits (Říčan, P., 2010).

Personality development and its improvement over the life is the result of various influences and education, and it is also conditioned by inherited attributes. The process of personality shaping starts before the birth of child, but the most intense is in the period of adolescence. Improvement and personality development continues throughout life, but this progress is considerably smaller compared to childhood and adolescence. There are a lot of factors that determine the personality development and have influence on this process, but the most significant are hereditary one, altogether with the society and family environment, also mentioned as internal and external determinants (Tomšík, R., Čerešník, M., 2017).

According to I. Šnýdrová (2008) the family is one of the most important factors, which influences the formation and maturation of the personality. Parents and other members of the family become the target of observation and unintentional imitation from the lowest age of the child. As stated by I. Šnýdrová (2008), the personality shaping directly reflects the quality of the family. Lack of childcare and educational patterns shapes adverse personality traits. Parentally neglected are mainly the children of uncultivated parents, but also paradoxically children in families with a high socio-economic status, where parents do not have time for their children, where the child is unwelcome or in the background as a number of other parental values. These and other disorders of the family atmosphere misinterpret the development of the personality of the child, because children take and consolidate mainly unfavorable patterns of behavior (Šnýdrová, I., 2008; In: Tomšík, R., & Čerešník, M., 2017).

The individual in the family environment gains first views of life and the world, shaping the basic characters of the personality because a considerable part of lives are spent in a family environment. The roots of raising problems can be found in several aspects of parenting caused by parenting styles (perfectionism, parental indifference, unilateralism, inadequacy of parenting tools, inappropriate parenting practices for the age of the child, inappropriate parenting practices to the child's abilities, overworking neglect and strict monitoring (Šturák, P., 2005)).

Parenting styles can be defined as a combination of parental control and parental responsiveness (Baumrind, D., 1991; Maccoby, E. E., & Martin, J. A., 1983). A combination of a range of these two components can be identified by four classic parenting styles or clusters of child rearing practices (Čáp, J., 1996; Čáp, J., & Boschek, P. 1994; Maccoby, E. E., & Martin, J. A., 1983): The authoritarian parenting style is characterized by a high level of control and demands of the child, but coupled with a low level of nurturing and emotional connections. These parents often use severe disciplinary tactics whenever children deviate from their standards; an authoritative parent is highly supportive and closely monitors and sets rules. The authoritative parenting style is represented by a high level of control and demands, yet providing nurturing and open communication. The discipline usually involves the use of reason and power, but not to the extent that the child's independence is severely restricted; a permissive-indulgent parenting style is characterized by a high level of nurturing and warmth, but with a low level of control and demands. This parenting style involves high levels of acceptance, with parents rarely exerting control over their children's behavior and not closely monitoring their activities; an uninvolved parent sets few rules, does not monitor, and offers little active support. The permissive-neglectful parenting style is identified by a low control and low responsiveness. Parents

fulfill the child's basic needs, but they are emotionally and physically withdrawn from their child's life.

However, the parental control can be differentiated with a behavioral control and coercive control (Sleddens, E. F., et al., 2014; see Figure 1). The behavioral control could be regarded as parents supervising and managing their child's activities, providing clear expectations for their behavior, and using disciplinary approaches in a non-intrusive manner. Parents scoring high on a behavioral control provide adequate levels of control, they are not too strict or over-controlling, but rather allow their child to have enough space to develop independence and autonomy. When the coercive control as parents, it is characterized by pressure, intrusion, domination, and discouragement of child's independence and individuality. The sub-constructs of this parenting construct are "authoritarian control" (parents who tend to enforce rules harshly, expect their child to accept their judgments, values, and goals without questioning, and attempt to control their child's emotions at all times; Baumrind, D., 1991), "physical punishment" (using corporal punishment as a way of disciplining the child), and "a psychological control" (parental behaviors are intrusive and manipulative of children's thoughts, feelings, attachments to their parents (Barber, B. K., 2002). The psychological control intrudes into the psychological and emotional development of the child through the use of parenting practices such as guilt and anxiety induction, love withdrawal, constraining verbal expressions, and personal attacks on a child (Barber, B. K., 1996).

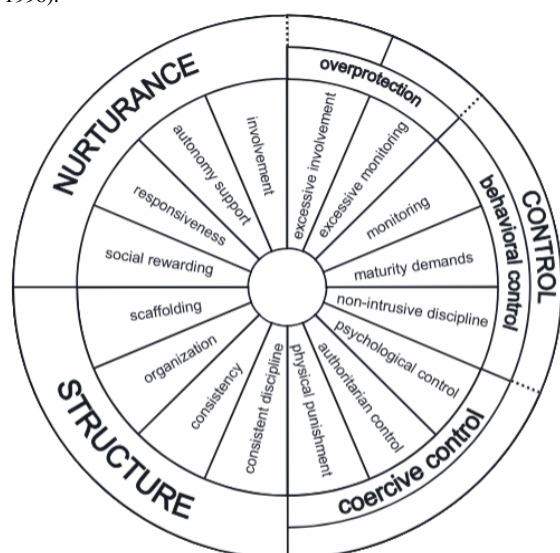


Figure 1: Comprehensive general parenting model (Sleddens, E. F., et al., 2014).

However, both the coercive control and behavioral control are very important components of parenting and they influence the development of the personality of a child. The correlation between the parenting styles and the personality dimensions of the individual has been addressed in the research field by, for example, K. Savitha & J. Venkatachalam (2016), M. E. Maddahi et al. (2012), P. Prinzie et al. (2009) and I. Loudová and J. Lašek (2015). Researches have revealed some patterns and evidence that there are significant relationships between these variables. However, this is only handful research that deals with the relationships between parenting styles and child's personality. Most studies focus on the relationship between the parents' personality and their parenting style (e.g. S. H. Lasoya et al. (1997), R. M. Huver et al. (2010), E. F. Sleddens et al. (2014), G. Kochanska, N. Aksan, K. E. Nichols (2003), C. L. Smith et al. (2007). Also, the inconsistency of the results may be due to research sample setting or due to socio-cultural background or gender (Gillernová, I., 2004). In early childhood, parents' gender stereotypes may be associated with gendered parenting (Friedman, C. K., Leaper, C., & Bigler, R. S., 2007). J. J.

Endendijk et al. (2017) found out that fathers with more stereotypical gender attitudes used more physical control (typically seen as appropriate for boys) over sons rather than daughters, and this pattern predicted stereotypically greater aggression in sons than in daughters. However, I. Gillernová (2004) claims, based on the research on adolescents (age 11 – 18, n = 2178), that girls perceive parental practices more strict and controlled.

Furthermore, the following problem arises when comparing the results of the research, since the same research methods for mapping parenting styles were not used. Nevertheless, we have tried to compare the findings of the studies. The most common model of parenting methods was detected when using the Support, Behavioral control and Coercive control (often referred to as Positive control and Negative control), and Negative affect variables – support and control as elements of the integrative parenting style and negative, a strict control and lack of emotionality as elements of authoritative parenting style (Tomšik, R., Čerešnik, M., 2017). The study of P. Prinzie et al. (2004) on a research sample of N = 599 elementary school children found out that all of Big Five personality traits correlate with the control. Specifically, extraversion, openness, agreeableness and conscientiousness correlated negatively, while personality dimension neuroticism correlated with the control positively. However, the correlation coefficients do not exceed the level of  $r = .14$ . Some researchers did not find a statistically significant correlation with all of Big Five personality traits. For example, K. Savitha & J. Venkatachalam (2016) found out, on a research sample of N = 185 students, that personality traits such as neuroticism and openness to experience correlate with mother's ( $r = .218$ , respectively  $r = .248$ ) and only the personality trait neuroticism correlates with father's control ( $r = .156$ ). While M. E. Maddahi & M. Samadzadeh (2010; In Savitha, K., & Venkatachalam, J., 2016) showed that three personality traits, namely agreeableness, extraversion and openness have a positive relationship with authoritarian and permissive parenting styles and have a negative relationship with the authoritative parenting style, and the conscientiousness personality trait has a positive relationship with authoritative and authoritarian parenting styles and a negative relationship with the permissiveness parenting style. This brings us to the conclusion that the correlation between the specific practices of parents, respectively their control, may vary depending on other factors. However, based on previous empirical evidences (e.g.: Friedman, C. K., Leaper, C., & Bigler, R. S., 2007; Endendijk, J. J. et al., 2017; Tomšik, R., Čerešnik, M., 2017), we predict negative correlation between parental control and personality trait neuroticism, and positive correlation between the parental control and personality traits extraversion, conscientiousness, openness and agreeableness. As has been pointed out in few studies (e.g.: Gillernová, I., 2004), it can also be expected that there will be gender differences in the personality dimensions of adolescents based on perceived control of their parents.

## 2 Research sample

The research sample consists of university students from Slovak universities in the following regions: Nitra, Bratislava, Banská Bystrica, Prešov, Trenčín, Trnava, and Žilina. In total, 347 students of the first year of bachelor studies were involved in the research. According to the approximation of D. W. Morgan and R. V. Krejcie (1970; In: Tomšik, R., 2016, 2017), at least 346 respondents must be included in the set, with a percentage distribution corresponding to the size of the basic set in each region. This criterion is fulfilled. A research sample consists of 115 male and 216 female respondents (16 uncategorized), with an average age of  $M = 21.5$  years. During the research 500 questionnaires were distributed, which means that the return of the questionnaires was 69.39%. All cases with missing data were excluded.

The whole research tool consists of two full questionnaires for the measurement of research variables and one questionnaire for the detection of demographic information of participants. Participants submitted questionnaires with their consent for data

processing. All the questionnaires were anonymous. The data were collected by the psychologists at the Slovak universities. The participants were given 45 minutes to complete the questionnaires. The data were collected during September and November 2017. In May 2017, the data were processed and analyzed.

## 2.2 Methods

Standardized research tools were chosen for the valid results of the study, in which internal consistency and reliability are not disrupted. The standardized questionnaire DZSVR (Questionnaire for Detecting Parenting Styles in Family, originally in Slovak: Dotazník na zisťovanie štýlov výchovy v rodine hereinafter DZSVR) for measurement parents' control and for measurement personality traits the standardized NEO FFI Personality Inventory were chosen.

J. Čáp and P. Boschek (1994) are the authors of the DZSVR questionnaire. In this questionnaire, adolescents denounce the behavior of their parents, mother and father in particular, in the most common situations. From the beginning of the seventies, the questionnaire was gradually modified on the basis of the results in various studies. In its current form, the questionnaires consist of 40 items, ten for each of the four parenting components. The questionnaire contains a positive and negative component of the relationship between parents and adolescent, a component of requirements and freedom that corresponds to parental attitudes (based on Schludermann's and Schaefer's CRPBI questionnaire): positive, hostile, directive and autonomous. The items are administered separately for the mother and father and the answers are recorded on the three-point scale (yes, partially, no). By combining the individual components of education, it is possible to identify the emotional relationship of parents with the adolescent, educational styles in the family and then the overall parenting styles. For the purpose of this research, only a component of control was analyzed, which is defined as a degree of supervision of the fulfillment in the requirements (Gillernová, I. et al., 2011).

NEO Five Factor (NEO-FFI) is a personality inventory that examines a person's Big Five personality traits (openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism). The authors of the NEO-FFI questionnaire are R. R. McCrae and P. T. Costa (Slovak version by I. Ruisel and P. Halama, 2007). Cronbach's alpha of questionnaire is  $\alpha = 0.87$  (Hřebíčková, M., 2004). The questionnaire consists of 60 items (Likert type), twelve for each personality dimension:

- Openness to experience: (inventive/curious vs. consistent/cautious). Openness reflects the degree of intellectual curiosity ( $\alpha = .81$ );
- Conscientiousness: (efficient/organized vs. easy-going/careless). A tendency to be organized and dependable, show self-discipline, act dutifully, aim for achievement, and prefer the planned rather than spontaneous behavior ( $\alpha = .78$ );

- Extraversion: (outgoing/energetic vs. solitary/reserved). Energy, positive emotions, surgency, assertiveness, sociability and the tendency to seek stimulation in the company of others, and talkativeness ( $\alpha = .68$ );
- Agreeableness: (friendly/compassionate vs. challenging/detached). A tendency to be compassionate and cooperative rather than suspicious and antagonistic towards others ( $\alpha = .74$ );
- Neuroticism: (sensitive/nervous vs. secure/confident). The tendency to experience unpleasant emotions easily, such as anger, anxiety, depression, and vulnerability ( $\alpha = .84$ ).

## 2.3 Statistical analyses

The statistical analyses were conducted in the following order: descriptive statistics, correlations between the variables, internal consistencies of each subscale and normality of data distribution using Skewness, Kurtosis, Kolmogorov-Smirnov KS test with Lilliefors correction. Skewness and kurtosis of the majority of variables were given within -1 to 1 and the Kolmogorov-Smirnov test indicates that the variables do fulfill the criteria of normality. Based on these results, parametric tests for further statistical analyses were chosen. An exploratory Hierarchical cluster analysis using Ward's method was conducted, and based on reading the dendrogram, agglomeration schedule and the logical results obtained, a solution was selected. To perform exploratory hierarchical cluster analysis and crating graph for individual clusters, data was transformed into Z score. All analyses were performed using SPSS v.21.0.

## 3 Results

Table 1 presents the descriptive statistics of each research variable and correlation between research variables. Observing only the average score, we find that the adolescents have reached the highest average score in the personality dimension conscientiousness ( $M = 31.59$ ). Approximately one-and-a-half points below were scaled personality dimensions extraversion ( $M = 29.74$ ) and agreeableness ( $M = 29.72$ ). The lowest average scores were achieved in personality dimension openness ( $M = 27.75$ ) and neuroticism ( $M = 22.81$ ). Compared to the standards presented by I. Ruisel and P. Halama (2007) in the handbook, we do not notice significant differences compared to the scores that were measured on our sample. For the age group of individuals aged 15-24, the authors report the following average scores for individual personality dimensions: neuroticism  $M = 21.87$ ; extraversion  $M = 30.05$ ; openness  $M = 29.45$ ; agreeableness  $M = 29.69$  and conscientiousness  $M = 29.45$ . Control of both parents observed similar average score (father  $M = 19.88$ , mother  $M = 19.53$ ; MIN = 10, MAX = 30). Significant correlations have been found among all personality dimensions and control of both parents. The personality dimensions such as extraversion, openness, agreeableness and conscientiousness were in negative correlation with parental control while neuroticism was in positive correlation with parental control.

Tab. 1: Correlation between Big Five personality traits and parental control and descriptive statistics.

	1	2	3	4	5	6	7
Control (father)	1						
Control (mother)	.718**	1					
Neuroticism	-.101*	-.188**	1				
Extraversion	.231**	.296**	-.428**	1			
Openness to experience	.148**	.191**	-.101*	.188**	1		
Agreeableness	.432**	.495**	-.173**	.394**	.166**	1	
Conscientiousness	.200**	.304**	-.215**	.336**	.212**	.395**	1
N	347	347	347	347	347	347	347
M	19.88	19.53	22.81	29.74	27.75	29.72	31.59
SD	7.12	7.85	7.891	6.623	5.917	6.395	6.740

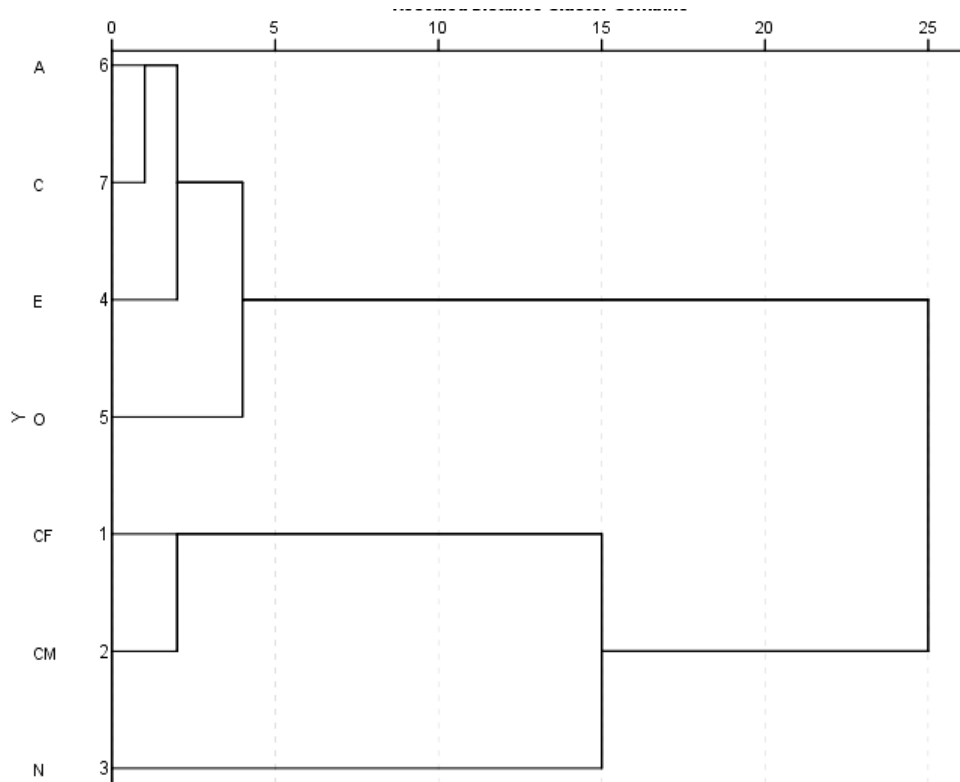
Note.: N – Number; M – Mean; SD – Standard deviation; \*\*. Correlation is significant at the 0.01 level (2-tailed); \*. Correlation is significant at the 0.05 level (2-tailed).

In an exploratory analysis the Ward's method was used since it is a hierarchical procedure that minimizes the distance between

subjects within the cluster (it reduces the variance within the group) and avoids forming "long chaining" (Aldenderfer, M. S.

et al., 1984). The Euclidean distance was used as a similarity measure. The dendrogram and agglomeration schedule suggested

four clusters as the most convenient.



Graph 1: Dendrogram using Ward Linkage (Rescaled Distance Cluster Combine). Variables are on the vertical axis and appear with the following abbreviations: A = Agreeableness; C = Conscientiousness; E = Extraversion; O = Openness to experience; CF = Control (father); CM = Control (mother); N = Neuroticism.

Cluster 1: The first profile was called the “High control profile” (n = 127, 37%) and include students that were raised up by both parents with high degree of control. These students generally achieved high Z scores in all personality dimensions, significantly below the level 0. Only a personality dimension neuroticism achieved a low Z score (Z = -.32).

Cluster 3: The third profile was called the “Discrepant control profile: low mother's control” (n = 48, 14%) and included students that were raised up by a different degree of control: fathers Z = .27; mothers Z = -.87. These students generally achieved moderate Z scores in personality dimensions. Only personality dimension neuroticism was scored high (Z = 0.32).

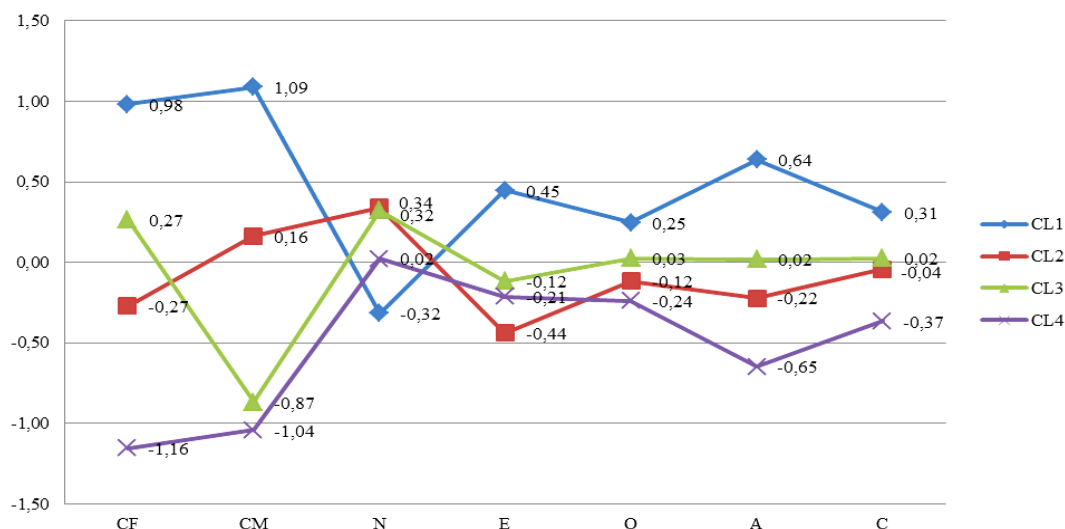
Cluster 2: The second profile was called the “Discrepant control profile: low father's control” (n = 67, 19%) and included students that were raised up by a different degree of control: fathers Z = -.27; mothers Z = .16. These students generally achieved low/moderate Z scores in personality dimensions, while the personality dimension neuroticism achieved high score (Z = .32).

Cluster 4: The last profile was called the “Low control profile” (n = 104, 30%) and it included students that were raised up by both parents with low degree of control (father Z = -1.16; mother Z = -1.04). These students achieve low Z scores in all personality dimensions, except neuroticism (Z = .02), which was scored moderate.

Tab. 3: Mean (M), standard deviation (SD) of the Z scores for the extracted clusters.

	Cluster 1 (n = 127, 37%)		Cluster 2 (n = 67, 19%)		Cluster 3 (n = 48, 14%)		Cluster 4 (n = 104, 30%)	
	High control		Discrepant profile: low father's control		Discrepant control: low mother's control		Low control	
	M	SD	M	SD	M	SD	M	SD
Control (father)	.98	.398	-.27	.739	.27	.520	-1.16	.242
Control (mother)	1.09	.255	.16	.610	-.87	.363	-1.04	.211
Neuroticism	-.32	1.133	.34	1.003	.32	.715	.02	.807
Extraversion	.45	1.000	-.44	1.090	-.12	.877	-.21	.764
Openness	.25	1.086	-.12	1.179	.03	.808	-.24	.757
Agreeableness	.64	.858	-.22	.908	.02	1.022	-.65	.698
Conscientiousness	.31	1.117	-.04	1.234	.02	.783	-.37	.555

Note.: N – Number; SD – Standard deviation.



Graph 2: Personality dimensions profiles of adolescents based on their parents' control during their upbringing. Z scores are on the vertical axis, on the horizontal axis subscales with the following abbreviations appear: CF = Control (father); CM = Control (mother); N = Neuroticism; E = Extraversion; O = Openness to experience; A = Agreeableness; C = Conscientiousness; CL1 = Cluster 1: High control profile; CL2 = Cluster 2: Discrepant profile: low father's control; CL3 = Discrepant profile: low mother's control; CL4 = Low control profile.

### 3.1 Gender differences

Table 3 shows the outcomes of the comparative analysis. The results of t-test test show the statistical significance level among research groups in all research variables. Male students reach a higher average score in the variable and neuroticism ( $t = 2.504$ ;  $p < .013$ ). While female students reach a higher average score in

fathers control ( $t = 11.570$ ;  $p < .001$ ), mothers control ( $t = 17.443$ ;  $p < .001$ ) and personality dimensions extraversion ( $t = 4.113$ ;  $p < .001$ ), openness ( $t = 3.019$ ;  $p < .013$ ), agreeableness ( $t = 9.042$ ;  $p < .013$ ) and conscientiousness ( $t = 5.429$ ;  $p < .013$ ).

Tab. 3: Gender comparison of control and the Big Five personality dimensions among adolescents.

Variables	Gender	N	M	SD	SEM	df	t	p
Control (father)	Female	216	22.88	6.265	.426	329	11.570	<.001
	Male	115	14.83	5.528	.516			
Control (mother)	Female	216	23.81	6.444	.438	329	17.443	<.001
	Male	115	12.35	3.900	.364			
Neuroticism	Female	216	22.00	8.772	.597	329	2.504	<.013
	Male	115	24.30	6.010	.560			
Extraversion	Female	216	30.94	7.303	.497	329	4.113	<.001
	Male	115	27.84	4.744	.442			
Openness	Female	216	28.59	6.649	.452	329	3.019	<.001
	Male	115	26.53	4.206	.392			
Agreeableness	Female	216	31.97	6.385	.434	329	9.042	<.001
	Male	115	25.96	4.358	.406			
Conscientiousness	Female	216	33.13	7.521	.512	329	5.429	<.001
	Male	115	29.00	4.316	.403			

Note.: N – Number; M – Mean; SD – Standard deviation; SEM – Standard error of mean.

As well as in the previous Hierarchical cluster analysis, the Ward's method and Euclidean distance were used. To perform an exploratory Hierarchical cluster analysis and crating graph for individual clusters, data were transformed into the Z score. The dendrogram and agglomeration schedule suggested four clusters as the most convenient ones for female adolescents, and three clusters for male adolescents. A hierarchical cluster analysis in the examined research groups extracted different profiles based on control and neuroticism (Graph 2 and 3):

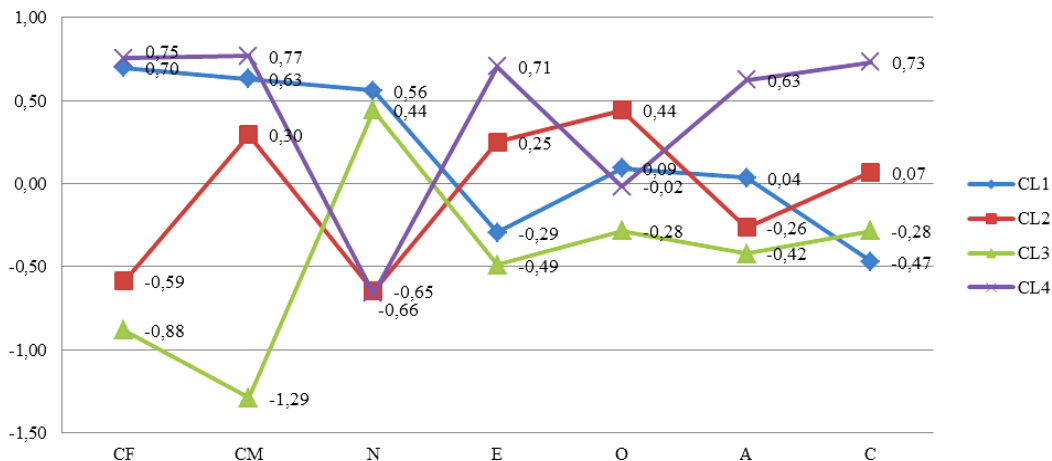
Cluster 1 (Females): The first profile was called the "High control profile: high neuroticism" ( $n = 54$ , 25%) and it includes students that were raised up by both parents with a high degree of control. These students achieved a low Z score in personality dimension conscientiousness ( $Z = -.47$ ) and high average Z score in personality dimension neuroticism ( $Z = 0.56$ ). Remaining personality dimensions achieved moderate average Z scores.

Cluster 2 (Females): The second profile was called the "Discrepant control profile" ( $n = 35$ , 16%) and included students that were raised up by parents with a different degree of control:

fathers  $Z = -.59$ ; mothers  $Z = .30$ . These students achieved low Z score in personality dimension neuroticism ( $Z = -.65$ ) and high Z score in personality dimension openness ( $Z = 0.44$ ). Remaining personality dimensions achieved moderate Z scores.

Cluster 3 (Females): Third profile was called the "Low control profile" ( $n = 69$ , 32%) and included students that were raised up by both parents with a low degree of control (father  $Z = -.88$ ; mother  $Z = -1.29$ ). These students achieve low Z scores in all personality dimensions, while the personality dimension neuroticism achieved was scored high ( $Z = .44$ ).

Cluster 4 (Females): The fourth profile was called the "High control profile: low neuroticism" ( $n = 58$ , 27%) and it included students that were raised up by both parents with a high degree of control (father  $Z = -.70$ ; mother  $Z = -.63$ ). These students generally achieved high/moderate Z scores in all personality dimensions, except the personality dimension neuroticism which was scored low ( $Z = -.66$ ).



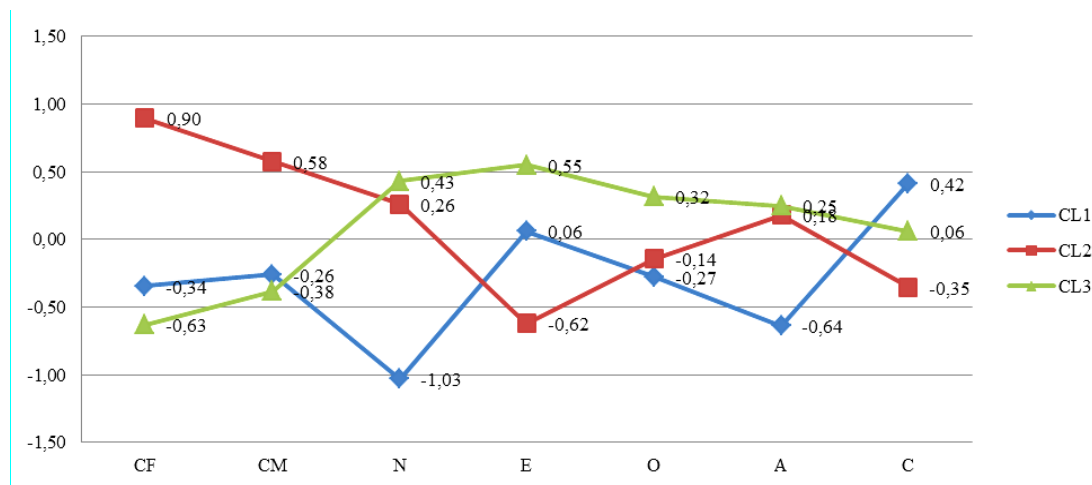
Graph 3: Personality dimensions profiles of adolescents (females) based on their parents' control during upbringing. Z scores are on the vertical axis on the horizontal axis appear subscales with the following abbreviations: CF = Control (father); CM = Control (mother); N = Neuroticism; E = Extraversion; O = Openness to experience; A = Agreeableness; C = Conscientiousness; CL1 = Cluster 1: High control profile: high neuroticism; CL2 = Cluster: Discrepant profile; CL3 = Cluster 3: Low control profile; CL4 = Cluster 4: High control profile: low neuroticism.

Cluster 1 (Males): The first profile was called the “Moderate control profile” (n = 42, 37%) and it included students that were raised up by both parents with a moderate degree of control (father Z = -.34; mother Z = -.26). These groups of students achieved low Z scores in personality dimensions neuroticism (Z = -1.03) and agreeableness (Z = -.64), and high Z score in personality dimension conscientiousness (Z = .42). Remaining personality dimensions achieved moderate Z scores.

Cluster 2 (Males): The second profile was called the “High control profile” (n = 29, 25%) and that were raised up by both

parents with a high degree of control (father Z = .90; mother Z = .88). These groups of students achieved low Z score in personality dimension extraversion (Z = -.62), while remaining personality dimensions were scored moderate.

Cluster 3 (Males): The third profile was called the “Low control profile” (n = 44, 38%) and it included students that were raised up by both parents with a low degree of control (father Z = -.63; mother Z = -.38). These students have generally achieved high/moderate Z scores in all personality dimensions, including neuroticism.



Graph 4: Personality dimension profiles of adolescents (males) based on their parents' control during upbringing. Z scores are on the vertical axis on the horizontal axis the subscales with the following abbreviations appear: CF = Control (father); CM = Control (mother); N = Neuroticism; E = Extraversion; O = Openness to experience; A = Agreeableness; C = Conscientiousness; CL1 = Cluster 1: Moderate control profile; CL2 = Cluster 2: High control profile; CL3 = Cluster 3: Low control profile.

**4 Discussion and conclusion**

The present study was guided by two general propositions. First of all, and at the same time, consistent with P. Prinzie et al. (2009) we proposed that parent control can have a “negative” impact on a personality of adolescent – higher neuroticism and lower openness, extraversion, agreeableness and conscientiousness. Secondly, based on empirical evidences of Čáp, J., & Boschek (1994), we expected that parent control can have opposite impact on adolescent personality – lower neuroticism and higher openness, extraversion, agreeableness and conscientiousness. On the basis of the research findings, the argument of the Čáp, J., & Boschek (1994) is more adequate.

Control and supervision increase personality dimensions such as openness, extraversion, agreeableness and conscientiousness and decrease neuroticism.

As Čáp, J., & Boschek (1994) claim that not knowing the rules and commandments of the family environment increase neuroticism. These children do not know what the effect of their actions will be, so they often live in a stressful environment. While a parenting style with precise rules and control creates an environment that allows a more progressive development of extraversion, agreeableness or conscientiousness. Looking at the results globally, a cluster analysis confirms these assumptions: students who have been raised up with a high degree of control

achieved low neuroticism and an average or a high degree of extraversion, agreeableness, openness and conscientiousness; while students who have been raised up with a low degree of control, or their parents used significantly different degree of control, achieved high neuroticism and mostly a low degree of extraversion, agreeableness, openness and conscientiousness. However, between these two groups we may also find differences: the students who have been raised up with a low degree of control archived, in majority of variables, lower average scores compared to the students that have been raised up with discrepant control. This leads us to the conclusion that even a small degree of control may affect the positive development of personality dimensions. It is also important to note that all research groups were represented similarly in the research sample: High control profile  $n = 127$ , Low control profile  $n = 104$ , Discrepant profile  $n = 115$ . However, this can be caused by the Ward's method.

In the assessment of differences between female and male adolescents the following differences were identified: as I. Gillernová (2004) claims, based on research on adolescents, women perceive parental practices more strict and controlling. But also, they reach higher extraversion, agreeableness, openness and conscientiousness, and lower neuroticism. It should be noted that this fact is not only caused by parenting styles or control. Personality dimension development also depends on perception, cognitive or non-cognitive characteristics, genotype, environment, etc. However, the women profiles are different compared to the profiles of the whole research sample: as mentioned above, the low control is characterized by high neuroticism and generally low extraversion, agreeableness, openness and conscientiousness; in this situation women raised up with discrepant control archived low neuroticism and generally moderate or a high level of remaining personality dimension, however mothers' control in this case is significantly higher compared to the whole research sample, which brings us to generally positive results for this case. Interesting differences can be seen in two high-control profiles: a profile with low neuroticism is characterized with high extraversion, agreeableness and conscientiousness, while the profile with high neuroticism is characterized with average or low extraversion, agreeableness, openness and

conscientiousness. This confirms the impact of other factors on the development of personality, but also the fact that the personality dimensions can work as a construct. High neuroticism could be caused by other components of upbringing (emotional relationship, siblings), inheritance, or the environment, which also influence the development of other personality dimensions. Different situation appeared when assessing men, which partially confirms the claims of P. Prinzie et al. (2009) and can be perceived as an opposite to the previously mentioned results. The men who were raised up with a high and low control received a high score of neuroticism, however, the high control profile is characterized with generally low level of remaining personality traits, while a low control profile is characterized with generally high/moderate level of remaining personality traits, which is inconsistent with the results of the females and of the whole research sample. This may be in relation with the emotional maturity of men, non-cognitive characteristics, and the generally stronger need to be self-sufficient, where strong control can cause neuroticism and may limit the development of other personality dimensions. It is also important to note that most of the women were raised up with a high control, and most of the men were raised up with a low and moderate control.

Few limitations of this study must be taken into account along with the interpretation of findings. First, defining the construct of control is general, the current literature sources distinguish many types and categories of parental control (behavioral, corrective, psychological etc.), which the selected research tool in this study does not allow to measure. Secondly, the analysis does not capture the entire complex of parenting components (requirements, freedom, emotional relationship, etc.). Therefore, there is the lack of important links with other variables that complete components of control and family environment in general. There is a need to further investigate how the structure of certain parenting style influences the child development. Limitations notwithstanding, the results of this investigation underscore the importance of control in parenting and point to significant gender differences in the impact of control on personality development.

#### Literature:

1. Aldenderfer, M. S., et al.: *Cluster analysis*. Thousand Oaks: SAGE Publications, 1984. 88 p.
2. Barber, B. K., & Harmon, E. L.: *Violating the self: Parental psychological control of children and adolescents. In Intrusive parenting: How psychological control affects children and adolescents*. Washington, D. C.: American Psychological Association, 2002.
3. Barber, B. K.: Parental psychological control: Revisiting a neglectful construct. *Child Development*, 1996, 67, p. 3296–3319.
4. Baumrind, D.: Effective parenting during the early adolescent transition. In: P. A. Cowan & E. M. Hetherington (Eds.), *Advances in family research*. Hillsdale, NJ: Erlbaum, 1991.
5. Čáp, J., & Boschek, P.: *Dotazník pro zjišťování způsobu výchovy v rodině. Příručka*. Bratislava: Psychodiagnostika, s. r. o., 1994. 100 p.
6. Čáp, J.: *Rozvíjení osobnosti a způsob výchovy*. Praha: ISV nakladatelství, 1996. 302 p.
7. Endendijk, J. J. et al.: Gender differences in child aggression: Relations with gender-differentiated parenting and parents' gender-role stereotypes. *Child Development*, 2017, 88, p. 299–316.
8. Friedman, C. K., Leaper, C., & Bigler, R. S.: Do mothers' gender-related attitudes or comments predict young children's gender beliefs? *Parenting: Science and Practice*, 2007, 7, p. 357–366.
9. Gillernová, I. Způsob výchovy v současné české rodině z pohledu dospívajících chlapců a dívek. In: *Psychologické dny 2004 : Svět žen a svět mužů. Polarita a vzájemné obohacování*, Olomouc, 2004.

10. Gillernová, I.: *Psychologické aspekty změn v české společnosti*. Praha: Grada, 2011.
11. Hřebíčková, M.: *NEO osobnostní inventář. Příručka*. Praha: Testcentrum, 2004.
12. Huver, R. M. E., et al.: Personality and parenting style in parents of adolescents. *Journal of Adolescence*, 33, p. 395–402.
13. Johnson, A. M., Vernon, P. A., & Feiler, A. R. Behavioral genetic studies of personality: An introduction and review of the results of 50+ years of research. In: G. J. Boyle, G. Matthews, & D. H. Saklofske (Eds.), *The SAGE handbook of personality theory and assessment, Vol. 1. Personality theories and models*. Thousand Oaks, CA, US: Sage Publications, Inc., 2008.
14. Kochanska, G., Aksan, N., & Nichols, K. E.: Maternal power assertion in discipline and moral discourse contexts: Commonalities, differences, and implications for children's rule-compatible conduct and cognition. *Developmental Psychology*, 2003, 39, p. 949–963.
15. Lasoya, S. H., et al.: Origins of familial similarity in parenting: a study of twins and adoptive siblings. *Developmental Psychology*, 1997, 33, p. 1012–1023.
16. Loudová, I., & Lašek, J.: Parenting style and its influence on the personal and moral development of the child. *Procedia - Social and Behavioral Sciences*, 2015, 174, 1247–1254.
17. Maccoby E. E., & Martin J. A. Socialization in the context of the family: parent-child interaction. In: E. M. Hetherington (Ed.), *Handbook of child psychology*. New York: Wiley, 1983.
18. Maddahi, M. E., et al.: The study of relationship between parenting styles and personality dimensions in sample of college students. *Indian Journal of Science and Technology*, 2012, 5(9), p. 3332–3336.
19. Prinzie, P., et al.: Parent and child personality characteristics as predictors of negative discipline and externalizing problem behaviour in children. *European Journal of Personality*, 2004, 18, p. 73–102.

20. Ruisel, I., & Halama, P.: *NEO Päťfaktorový osobnostný inventár*. Praha: Testcentrum, 2007, 43 p.
21. Řičan, P.: *Psychologie osobnosti: obor v pohybu*. Praha: Grada. 2010, 208 p.
22. Savitha, K., & Venkatachalam, J.: Perceived Parenting Styles and Personality Factors – A Study. *International Journal of Indian Psychology*, 2016, 3(4), p. 21–33.
23. Sleddens, E. F. C., et al.: Development of the comprehensive general parenting questionnaire for caregivers of 5–13 year olds. *The International Journal of Behavioral Nutrition and Physical Activity*, 2014, 14, p. 1–14.
24. Smith, C. L., et al.: Maternal personality: Longitudinal relations to parenting behavior and maternal emotional expressions toward toddlers. *Parenting: Science and Practice*, 2007, 7, p. 305–329.
25. Šturák, P.: Výchovné činitele rozvoja osobnosti. *Theologos*, 2005, 6(1), p. 187–199.
26. Tomšík, R., & Čerešník, M.: Adolescent's Personality Through Big Five Model: The Relation With Parenting Styles. *AD ALTA: Journal of Interdisciplinary Research*, 2017, 7(2), p. 225–231.
27. Tomšík, R.: *Kvantitatívny výskum v pedagogických vedách. Úvod do metodológie a štatistického spracovania*. Nitra: PF UKF, 2017. 505 p.
28. Tomšík, R.: *Štatistika v pedagogickom výskume. Aplikácia komparačných a korelačných metód pomocou programu Microsoft Excel*. Nitra: PF, UKF, 2016. 304 p.

**Primary Paper Section: A**

**Secondary Paper Section: AN, AM, AO**