

ECCE 2018
VII International Conference Early Childhood Care and
Education

**GENDER CHARACTERISTICS OF JUNIOR ADOLESCENTS’
PERSONAL TRAITS**

Elena Slavutskaya (a), Evgeni Nikolaev (b)*, Gulnara Ivanova (a), Il'dar M. Yusupov (c)
*Corresponding author

- (a) Chuvash State Pedagogical University named after I.Ya. Yakovlev, Cheboksary, Russia
(b) Ulianov Chuvash State University, Cheboksary, Russia, pzdorovie@bk.ru, +78352452031
(c) Kazan Innovative University named after V.G. Timiryasov, Kazan, Russia

Abstract

The aim of the present research is to reveal gender characteristics of junior adolescents’ mental development and adjustment. In this study we use longitudinal study method, realized as psychological diagnostics of the students’ personal traits, the method of expert evaluation by teachers and parents and observation method. Factor analysis allows evaluating the mental state of 9-12-year-old school students concerning the formation of interrelations among their personal traits with regard to their gender characteristics. Based on the experimental data, this paper reveals dynamics of the development of emotional-volitional characteristics, communicative and intellectual skills in boys and girls of the 3rd–5th grades of elementary school. Within the age range under study there is a development of interrelations among their psychological indicators, which make up the groups of qualities that have gender differences and affect student’s adjustment to middle school. We have found out the main factors that determine gender differences in emotional-volitional characteristics, communicative and intellectual skills of junior adolescents. They can enable us to develop new effective programs that prevent the maladjustment of students when passing from elementary to middle school. Combined with other psychological characteristics, personality’s communicative skills may act as one of the major developmental factors already in junior adolescent age. Stable groups of personal traits interconnected throughout the period under study can be regarded as stabilizing combinations that characterize the specificity of transition period. This research has a practical value as it can help meet the challenge of psychological, pedagogical, organizational, and methodological support to 9-12-year-old students.

© 2018 Published by Future Academy www.FutureAcademy.org.UK

Keywords: Gender differences, junior adolescents, personal traits.



1. Introduction

Modern education reforms result in higher demands on student's intellectual and personal development. A great attention should be paid to awkward ages when there are difficulties concerning a student's cognitive activity (Baranova et. al., 2017), when child-parent relationships become more significant (Sobkin et al., 2016), and when children's nervous and mental vulnerability increases (Nikolaev et al., 2016). Junior adolescent age also refers to an awkward age. This research covers the age range between 9 and 12 years old, which refers to prepubertal childhood and has its own psychogenesis specificity. Most 6-12-year-old US students go to elementary school; this age is called by many scientists as middle childhood, or preadolescent age (Collins, 1984; Lipsitz, 1977). The following age range refers to an adolescent age group (13-19 years old). In Russian psychology, this age is regarded as junior adolescent age.

2. Problem Statement

Despite the abundant scientific data, it is worth noting that 'transitions from one period to another... are not sufficiently investigated psychologically' (Elkonin, 1995), and that developmental psychologists call this age as 'no one's land' (Zukerman, 1998). The approaching age crisis, transition from elementary to middle school, as well as the beginning prepubertal changes make a negative effect on a student's emotional-volitional state and bring down their cognitive abilities. Multiple studies of gender differences in perceiving and memorizing information, especially, thinking, state and personal traits determine the difference in psyche manifestation and behaviour not only in men and women (Costa et al., 2001), but also in boys and girls (Bendas, 2005), at their adolescent age, particularly (De Bolle et al., 2015; Petrova et al., 2017). This implies the consideration of the nature of gender differences, their evaluation and dynamics (Cross, 1997). Notwithstanding the actuality of the issue under study, gender differences in developing junior adolescents' personal traits are insufficiently investigated.

3. Research Questions

- 3.1.** Studying personal traits of 9-12-year-old school students.
- 3.2.** Analysing the dynamics of the development of junior adolescents' personal traits in the context of gender.

4. Purpose of the Study

Studying gender characteristics of the dynamics of the formation of personal traits interrelations of junior adolescents.

5. Research Methods

This experiment was conducted at schools in Cheboksary and the Chuvash Republic. We studied 120 students (64 girls, 56 boys) in the 3rd and 4th grade and 107 students (56 girls and 51 boys) in the 5th grade. The Culture Fair Intelligence Test by R.B. Cattell (1990) was used for psychological diagnostics of an intelligence quotient (IQ). The dynamics of the students' personal traits revealed itself through a standard

ESPQ (Early School Personality Questionnaire) questionnaire for 3rd-grade students. The 4th- and 5th- graders were examined by means of 12-factor CPQ (Children’s Personality Questionnaire) questionnaire for 12-year-old children. The both forms are designated for studying children’s emotional, volitional, communicative and intellectual characteristics, which R.B. Cattell had considered as personal traits (Cattell, 1990). For factor analysis, we used the primary data, which we sampled twice: at the beginning and at the end of the school year. As software, we used Statistica package applying the method principal components with the rotation of the factor loading normalized matrix resultant by Varimax rotation, which was the most widespread in factor analysis.

6. Findings

According to the results of factor analysis in correspondence with Kaiser criterion (eigenvalues $E \geq 1$), we distinguished four main factors. Their consolidated input to the total variance made up from 55 to 85% ($S = E/N \times 100\%$; N - the general number of the factors) in different cases. The example of factor analysis results is shown in Table 1.

Table 01. Factor analysis results of the psychological diagnostics of the 3rd-graders (ESPQ)

Scales	Girls				Boys			
	F1	F2	F3	F4	F1	F2	F3	F4
IQ	0.34	-0.14	-0.61	0.10	0.20	0.07	0.58	-0.22
A	-0.10	0.12	-0.71	-0.05	0.12	0.82	-0.03	-0.16
C	-0.25	0.41	0.47	0.52	0.62	-0.08	0.42	0.41
D	-0.45	-0.54	0.11	-0.06	0.41	0.02	0.18	-0.59
E	-0.73	0.16	0.03	-0.01	0.08	-0.07	-0.77	-0.02
F	0.18	0.65	0.07	-0.24	0.06	-0.11	0.39	0.67
G	0.59	0.18	0.11	-0.12	0.05	0.29	-0.26	0.72
H	0.15	-0.32	0.03	0.64	0.22	0.78	0.11	0.02
I	-0.24	0.18	-0.52	0.15	0.08	0.65	-0.01	0.30
J	0.31	0.26	-0.41	0.41	0.72	0.17	0.24	0.07
N	0.08	0.11	0.16	-0.66	0.11	-0.04	0.41	0.03
O	-0.62	-0.28	0.03	-0.42	0.54	-0.15	-0.20	0.00
Q4	0.10	-0.80	0.23	0.07	0.61	0.20	-0.01	-0.24
S, %	15	15	13	12	14	15	13	13

Note. Interpretation of personal traits in 12-factor questionnaire (ESPQ): A – communicability-reticence; C – emotional stability-instability; D – excitability-steadiness; E – independence-submissiveness; F – unconcern-concern; G – high-low conscientiousness; H – courage-timidity; I – mildness-toughness; J – vivacity-restraint; N – naivety-slyness; O – anxiety-tranquility; Q4 – tension-relaxation; S, % - the input of each factor in the total variance; IQ – intelligence quotient.

We discovered significant changes in the structure of personal traits interrelations. One may see these changes within a school year (Table 2.). The structure of the interrelations has different dynamics for the students of different genders, which we can clearly see when comparing factor analysis results (Tables 2 and 3).

A comparative analysis of the factor analysis results of psychological diagnostics of junior adolescents (3rd-5th-graders) allows distinguishing the following interrelations:

At the beginning of the period under study, the students of the both genders showed that their intelligence quotient (IQ) related directly to their communicative characteristics. The girls' IQ related to communicability. The boys' IQ was in inverse relationship with low dominance, which proved that low dominance is connected with learning performance in all the age groups (Slavutskaya, 2011).

Table 02. Factor analysis results of the psychological diagnostics of the 5th-grade girls (ESPQ)

Scales	The beginning of the school year				The end of the school year			
	F1	F2	F3	F4	F1	F2	F3	F4
A	-0.39	0.64	0.15	0.10	-0.49	0.74	-0.02	0.08
B	0.06	0.83	-0.02	-0.12	0.07	0.77	-0.16	0.15
C	0.01	0.82	-0.02	-0.07	-0.12	0.81	0.13	0.10
D	0.32	-0.24	0.01	0.69	0.79	0.06	0.32	0.13
E	0.34	-0.03	-0.03	0.72	0.79	0.20	-0.15	-0.20
F	-0.07	0.09	0.04	0.82	0.29	0.56	0.00	-0.45
G	-0.70	0.01	0.13	-0.31	-0.68	0.17	0.02	0.10
H	-0.10	0.24	0.78	-0.13	-0.02	0.03	-0.95	-0.04
I	-0.09	0.19	-0.80	-0.15	-0.09	0.24	0.06	0.84
O	0.76	-0.40	-0.15	0.06	0.51	-0.45	-0.31	0.37
Q3	-0.79	-0.20	-0.21	-0.11	-0.65	0.19	0.02	0.10
Q4	0.60	-0.20	0.10	0.54	0.76	-0.03	-0.04	0.01
S,%	20	18	0.11	0,18	28	21	10	10

Note. Interpretation of personal traits in 12-factor questionnaire (ESPQ): A – communicability-reticence; C – emotional stability-instability; D – excitability-steadiness; E – independence-submissiveness; F – unconcern-concern; G – high-low conscientiousness; H – courage-timidity; I – mildness-toughness; J – vivacity-restraint; N – naivety-slyness; O – anxiety-tranquility; Q4 – tension- relaxation; S, % - the input of each factor in the total variance.

Table 03. Factor analysis results of the psychological diagnostics of the 5th-grade boys (ESPQ)

Scales	The beginning of the school year				The end of the school year			
	F1	F2	F3	F4	F1	F2	F3	F4
A	0.78	-0.10	0.07	0.17	0.83	0.03	-0.26	0.20
B	-0.08	0.36	0.02	0.18	0.23	-0.20	0.09	0.86
C	0.27	0.15	0.82	-0.06	0.31	0.08	-0.68	0.11
D	-0.38	-0.11	-0.17	-0.65	0.05	0.64	0.50	-0.03
E	-0.11	-0.83	-0.09	0.04	-0.62	0.35	0.36	0.02
F	0.05	-0.75	0.12	-0.12	0.01	0.86	-0.09	-0.14
G	0.54	0.62	0.02	-0.24	0.54	-0.54	-0.22	0.24
H	0.71	-0.01	0.00	0.16	0.85	0.06	-0.12	0.09
I	0.41	0.17	-0.78	0.10	0.53	-0.43	0.34	-0.51
O	-0.19	0.05	-0.65	-0.55	-0.14	0.12	0.83	0.11

Q3	0.09	0.15	-0.16	0.82	0.61	-0.60	-0.05	-0.18
Q4	0.37	-0.54	0.03	-0.43	-0.49	0.43	0.47	0.27
S,%	16	18	15	15	26	20	17	10

The intelligence quotient (IQ) of the 3rd-5th graders of the both genders related always to their communicative and emotional personal traits. The volitional characteristics related always to emotional and communicative personal traits. We did not find any direct relationship between the junior adolescents' intelligence and volitional characteristics (self-control, compliance with behaviour standards and rules). Concerning the dynamics of the beginning-end of the studied period, the students of the both genders revealed an inverse relationship of dominance with volitional characteristics (Slavutskaya & Slavutskii, 2014).

The 3rd-5th-grade boys showed that their communicability and courage were grouped as one factor, the girls of the same age revealed the grouping of dominance and anxiety as one factor. An increased anxiety in the 5th-grade schoolgirls was connected with their low conscientiousness and hyperreactivity, dominance and frustration, which we call as 'aggressive anxiety' (Slavutskaya, 2011). The boys' anxiety was directly interrelated with mild family education and emotional instability.

We found an invariable relationship among emotional and communicative characteristics of the students (anxiety, emotional stability and communicability) in the dynamics of the period under study. The analysis revealed that there were gender differences in the development of junior adolescents' personal traits (intellectual, emotional and communicative). We succeeded in tracing the gender dynamics of psychological characteristics of the studied age range (Slavutskaya, 2011; Slavutskaya & Slavutskii, 2013). The factor analysis results made it possible to distinguish a 'risk group' among the students, which would be significant for the prevention of school maladjustment.

7. Conclusion

Girls' intelligence, developing during prepubertal age, relates to their communicability (the quantity and frequency of communication acts), whereas boys' intelligence – to their low dominance. The 5th-grade girls' intelligence quotient (IQ) relates to their emotional stability. Junior adolescents of the both genders do not show any evidence of direct relationship between their volitional and intellectual characteristics. The interrelation is determined by their communicative skills or emotional characteristics in the 3rd-5th-grade dynamics. Judging by the grouping of personal traits into one factor, we can surmise that 5th-grade girls experience a higher maladjustment than boys do, which is accompanied by breaking conventional stereotypes.

We have revealed interrelations among the students' emotional-volitional characteristics and their intellectual abilities and communicative skills. In the dynamics of junior adolescents' personality development, we have discovered steady groups of personal traits interrelated during the whole period under study. That can be regarded as stabilizing combinations which characterize the specificity of transition stage. This testifies to the dominant role of communication in modern children's mental development already at the age of 9 years old. The age range of 9-12 years old is the period significant for understanding the dynamics and phenomenology of a student's personality development.

The results of studying gender characteristics of interrelations among junior adolescents' personal traits show characteristic differences in the development of children's emotional-volitional characteristics, intellectual abilities and communicative skills. This can serve as a criterion for the evaluation of their mental development and become the basis for working out programs of efficient psychological and pedagogical support to students in their adjustment to middle school with regard to gender component and changes in the social situation of development.

References

- Baranova, E.A., Nikolaev, E.L. (2017). Question-asking behaviour as a form of cognitive activity in primary school children. *Psychology in Russia: State of the Art*, 10(1):4-17. doi: 10.11621/pir.2017.0101.
- Bendas, T. (2005). *Gender Psychology*. St. Petersburg: Peter. [In Russian].
- Cattell, R. B. (1990). *Advanced in Cattellian Personality Theory*. Handbook of Personality. Theory and Research. N.Y.: The Guilford Press.
- Collins, W. A. (1984). *Development during middle childhood: The years from six to twelve*. Washington, DC: Natl. Acad.
- Costa, P. T., Terracciano, A., McCrae, R.R. (2001). Gender differences in personality traits across cultures: robust and surprising findings. *J. Pers. Soc. Psychol.* 81(2):322-331. doi: 10.1037/0022-3514.81.2.322.
- Cross, S. E. (1997). Models of the self: self-construals and gender. *Psychological bulletin.* (2):5-37.
- De Bolle, M., De Fruyt, F., McCrae, R.R., Löckenhoff, C.E., Costa, P. T. Jr. et al. (2015). The emergence of sex differences in personality traits in early adolescence: A cross-sectional, cross-cultural study. *J. Pers. Soc. Psychol.* 108(1):171-85. doi: 10.1037/a0038497.
- Elkonin, D.B. (1995). *Mental development in childhood. Selected psychological works*. Moscow-Voronezh: NPO MODEK. [In Russian].
- Lipsitz, J.S. (1977). *Growing up forgotten: A review of research and programs concerning early adolescence*. Toronto: Lexington Books.
- Nikolaev, E.L., Baranova, E.A., Petunova, S.A. (2016). Mental Health Problems in Young Children: The Role of Mothers' Coping and Parenting Styles and Characteristics of Family Functioning. *Procedia - Social and Behavioral Sciences. Fifth Annual International Conference "Early Childhood Care and Education"*, Moscow, Russia. 233:94-99. doi: 10.1016/j.sbspro.2016.10.152.
- Petrova, L., Lazareva, E., Nikolaev, E., Svekolava, O. (2017). Gender-specific anxiety in schoolchildren aged 10-11 years. *Proceedings of the III International Scientific and Practical Conference "Psychological health of the person: Life Resource and Life Potential"*. Krasnoyarsk: 267-275. doi: 10.20333/2541-9315-2017-267-275.
- Slavutskaya, E. V. (2011). Gender differences in personal qualities that define the maladjustment of younger teenagers. *Psychological Science and Education*, 3. Retrieved from: http://psyedu.ru/files/articles/psyedu_ru_2011_3_2460.pdf [In Russian].
- Slavutskaya, E. V., Slavutskii, L. A. (2013). Factor analysis of the relationship of individual psychological and personality characteristics of younger teenagers with the level of school exclusion. *Experimental Psychology.* 6(4):40-51. [In Russian].
- Slavutskaya, E. V., Slavutskii, L. A. (2014). Neural network analysis of the relationship of verbal and non-verbal intelligence in younger adolescents. *Psychological Journal.* 35(5):28-36. [In Russian].
- Sobkin, V. S., Veraksa, A. N., Bukhalenkova, D. A., Fedotova, A. V., Khalutina, U. A., Yakupova, V. A. (2016). The connection of socio-demographic factors and child-parent relationships to the psychological aspects of children's development. *Psychology in Russia: State of the Art*, 9(4), 106-122.
- Zukerman, G.A. (1998). Ten-twelve-year students: "no man's land" in psychology. *Voprosy Psichologii.* 3:17-31. [In Russian].