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**CONJUGACY OF MORAL'S DEVELOPMENT FEATURES AND  
INTELLECTUAL COMPETENCE AND IT'S COMPONENTS**

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*Abstract*

The article studies the differences between older adolescents in terms of intellectual competence, conceptual, metacognitive and intentional abilities, depending on the severity of the characteristics of the moral development of the individual. The study involved 90 schoolchildren of older adolescents (15 years old). The methodological base of the study was: "Interpretation of the moral dilemma" (methodological method for assessing the characteristics of moral choices and the level of intellectual competence; indicators of the complexity of the interpretation text were evaluated), "Conceptual synthesis", "Mood", "Method for diagnosing the level of reflexivity", Modification of the methodology "Comparison of Similar Drawings" by J. Kagan. The results of the study show the lack of conjugation of indicators of conceptual (conceptual), metacognitive (voluntary and involuntary), intentional (mentality and beliefs) abilities and characteristics of the moral and moral development of a person in older teens. Such facts probably speak in favor of the insufficient degree of formation of the construct of moral and moral experience of man. The established facts improve our ideas about the moral development of the individual, inspiring us to study the dynamics of this important construct.

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## **1. Introduction**

The relevance of the study is emphasized by a number of factors, among which one can single out the especially important as a key task in adolescent development — the transition to building our own system of moral-value attitudes of the worldview (Erikson, 1993). Indeed, it is precisely this age period that is characterized by sensitivity and qualitative changes in a number of areas of human life, including moral and intellectual. For example, in adolescence, conceptual thinking begins to form (Vecker, 1976; Dudnikova, 2017; Kholodnaya & Gelfman, 2016), which determines the maximum intellectual abilities of a person. Along with this, adolescence is also characterized by the process of forming a worldview and a holistic picture of the world, in which moral and value orientations determine the nature of personality development and its self-determination. This kind of self-determination and the implementation of elections in the sphere of their daily life is based on the orientation of the older teenager in a system of values that reflect individual priorities (Erikson, 1993; Sabadosh, 2015, 2017; Ozhiganova, 2015, 2016).

Meanwhile, there is reason to combine both areas of research - the study of intellectual competence and the moral and value development of a person - based on an analysis of the textual activity of older adolescents. After all, it was proved that the features of a self-generated text (for example, the interpretation of a moral dilemma) can be considered as a rather subtle indicator of an individual's intellectual competence. That is, the text is such a mental product in which multilevel mental resources of a person are presented (Sipovskaya, 2016; Voronin & Goryunova, 2016).

## **2. Problem Statement**

The subject of the study is the correlation of manifestations of intellectual competence, conceptual, metacognitive and intentional abilities depending on the severity of the characteristics of the moral development of the personality of the participants in the study. The object of study is schoolchildren of older adolescents.

## **3. Research Questions**

- 3.1.** The theoretical hypothesis of the study: the specifics of the moral sphere of the personality of older adolescents is associated with manifestations of a high level of formation of intellectual competence, conceptual, metacognitive and intentional abilities.
- 3.2.** The research hypothesis of the study: there are significant differences between older adolescents (indicators of intellectual competence, conceptual, metacognitive and intentional abilities) in the level of severity of the characteristics of the moral development of the individual.

#### **4. Purpose of the Study**

The purpose of the study: disclosure of the specificity of the correlation of the factor of the features of moral development of the personality and indicators of intellectual competence, conceptual, metacognitive and intentional abilities.

#### **5. Research Methods**

Study participants: 90 schoolchildren aged 15 years.

I. The methodology “Interpretation of the moral dilemma” was used as a methodological base (a methodical method for assessing the characteristics of moral choices and the level of intellectual competence; indicators of the complexity of the interpretation text were evaluated)

Interpretation (essay) on the theme of one of the A.I. Podolsky’s and O.A. Karabanova’s moral dilemmas of attitude to the situation (Yadrovskaya, 2012). Qualitative characteristics of the text were considered as a manifestation of the intellectual competence of the student.

To write an essay, students were provided with one A4 white sheet on which they were asked to write as much text as they saw fit to interpret the following moral dilemma (the moral dilemma was presented orally to the study participants):

“In the summer, Kolya and Petya worked in the garden - picking strawberries. Kolya wanted to buy sports watches with the money he had earned, which he had been eyeing for a long time. Kolya is from a low-income family, so parents cannot buy him such a watch. Petya wants to improve his computer with the money he earned.

Kolya is significantly inferior to Petya in strength and dexterity, and he rests more often, so Petya collected much more strawberries. In the evening, the foreman came to pay the guys for the work done. Counted the strawberry crates collected by both guys. He counted out the amount they earned and asked, turning to Petya: “Well, guys, pay evenly, or did someone collect more, is he supposed to get more?”

A measure of the complexity of the generated text was evaluated according to the following criteria: 0 points - the absence of a written essay; 1 point - a formally written essay that describes descriptive judgments and does not express its own point of view; 2 points - an essay with the establishment of causal relationships; 3 points - expressing one’s own attitude to the problem and / or applying an analogy from another context in the presence of causal relationships.

Indicators: overall score as an indicator of the level of intellectual competence

The characteristics of the moral development of the study participants were determined according to the criteria that older adolescents used to make their judgment about the possibility of resolving a problematic situation of moral choice: empathy criterion (all study participants thought out friendly relations between boys), equality of opportunity and justice criteria, or criterion of respect for each other’s personality. In the first case, the choice was made in favor of an equal distribution of encouragement, in the second - inequality, and in the third - the equal sharing of money before the foreman and the subsequent “fairer” - before each other (or solving the dilemma by donating a watch or an improved computer - that is, indirect justice and “conscience”, as adolescents put it).

II. Methods for the diagnosis of conceptual abilities. Methodology “Conceptual synthesis” (Khohlodnaya, 2019).

The material of the “Conceptual Synthesis” methodology, which allows one to assess the level of formation of conceptual abilities, is aimed at identifying the ability to independently construct a semantic context based on three unrelated words, while offering the maximum possible number of combinations in the form of meaningful sentences. On A4 forms, one triad of words is printed in each form:

shell - paper clip - thermometer;

computer - tornado - pin;

planet - electrical outlet - hourglass.

The study participants were verbally read the instruction, according to which the students were asked to establish different variants of semantic links between these three words, to write down each variant in the form of one or two sentences so that all three words were used simultaneously. In total, 3 triads of words were presented, the working time with each of the triads was 3 minutes.

Using the “Conceptual Synthesis” methodology, a variable is evaluated - “conceptual abilities”. Criteria for assessing the answer: 0 points - the absence of written sentences; only two words used; 1 point - a simple listing of words in a sentence; 2 points - creating context in the description of a specific situation or specific circumstances; 3 points - a proposal using comparisons, metaphors, generalizing categories or detailed causal relationships.

Points for all triads are added up. Indicator: the sum of points characterizing the level of formation of conceptual abilities (ability to conceptual synthesis).

III. Technique for revealing intentional abilities.

The technique of “Mood” for the diagnosis of intentional abilities (Sipovskaya, 2015).

The material of our developed methodology “Mood” developed by us represents 9 questions from various school disciplines. For the correct answer to these questions, knowledge from the school curriculum for 9th graders is not enough - you need an intellectual presentiment, a sense of direction of the decision.

After each question, there is a scale from 1 to 7, according to which there is a subjective confidence in the correctness of this answer.

It is proposed to write down the answers themselves on a separate white sheet of A4 format, which is attached to the text of the methodology.

Instructions for the “Mindfulness” methodology were given in writing at the top of the first sheet: “We offer you a series of assignments from various school subjects. Try to solve them, based on the knowledge of the school curriculum or your hunches, guesses, ideas. After solving each of the tasks, evaluate and write down in the table the degree of your confidence in the correctness of the answer given by you: 1 - completely unsure (a); 2 - unsure (a); 3 - rather not sure (a) than sure (a); 4 - I do not know; 5 - rather sure (a) than uncertain (a); 6 - sure; 7 - absolutely sure. Do not miss a single task. Remember that this is not a test of your abilities, but only the identification of the individual characteristics of your mindset.

Criteria for assessing the answers: 1 points - the answer without argumentation (any answer, regardless of the correctness); 2 points - an answer (any answer) with argumentation (it doesn't matter if

the correct statements are given as a confirmation of one's point of view) +1 point for different options of argumentation, if any; 3 points - citing an example or analogy from various subject areas (+0.5 points for each example, if there are several).

The scores for answers to questions are summed up, and a total score is determined that assesses the level of intentional abilities, namely, the measure of the severity of the ability to make decisions in the absence of the necessary knowledge based on personal attitudes (a measure of confidence in one's own intuition). The points are also summed up according to the confidence in the correctness of the answer, and the total score is determined by the severity of the subjective confidence in the correctness of one's own decision (a measure of the stability of individual mindsets).

Indicators: 1) a measure of the severity of mindset (in points); 2) a measure of the stability of the mindset (in points).

#### IV. Methods for identifying metacognitive abilities.

1) "Methodology for diagnosing the level of reflexivity" (Karpov, 2003).

This technique diagnoses the severity of such a metacognitive ability as reflexivity. The text of the questionnaire consists of 27 statements, for each of which, in the answer form opposite the question number, the research participant puts a figure corresponding to the variant of his answer: 1 - absolutely incorrect; 2 - incorrect; 3 - rather incorrect; 4 - I do not know; 5 - rather true; 6 - true; 7 is absolutely true. The points are added up and the total score is set. The translation into the walls was not carried out due to the lack of norms for older adolescents and the use of the average value as the norm. Indicator: reflexivity level as an aspect of metacognitive (arbitrary) abilities, in points.

2) Modification of the methodology "Comparison of similar drawings" by J. Kagan (Lobanov, 2008a, 2008b).

The Matching Familiar Figures Test (MFFT) is used to diagnose impulsiveness / reflectivity in the cognitive style. This cognitive style, in accordance with the initial assumption of J. Kagan (Kagan, Rosman, Day, & Phillips, 1964; Kagan, 1965; Kagan, 1966), characterizes individual differences in the cognitive pace: the tendency to make decisions quickly or slowly. In the framework of this empirical study, a modified version of the methodology "Comparison of similar drawings" was used for a group survey developed and tested by A.P. Lobanov. Participants in the study are presented with 2 training sheets, then 12 main sheets, on each of which there is an image of a familiar object (a reference figure) on top, and at the bottom are two rows of 8 almost identical images of the same subject, among which only one is completely identical to the reference figure. The research participant must find and indicate an image that is completely identical to the reference figure, highlighting it. After detecting the image, the subject must raise his hand so that the researcher inserts the exact time of the figure detection into the individual form of this study participant and gives a sign that it is possible to continue the procedure. At the end of the study, all the sheets with drawings were collected, and with the help of a key, the accuracy of detecting a figure identical to the standard was evaluated. That is, unlike the original version of the test, in this case only one answer was recorded for each of the 12 presentations, which the subject himself considered the "right choice". The introduction of the modified (shortened) version of the test was due to several reasons: the study was conducted after school hours (after all the lessons), so we had to take into account the fatigue of the

participants; strictly limited time of the study, established at parental meetings and during agreements with adolescents themselves.

Impulse / reflectivity indicators as an aspect of metacognitive (involuntary) abilities: 1) latent time of the first answer (the sum of the time of all first answers); 2) total number of errors.

Statistical processing was carried out by the Kruskal Wallace method. Modern statistical data processing packages (SPSS 20.1) were used.

## 6. Findings

The first step in the statistical analysis was to test the hypothesis about the difference between older adolescents in terms of the severity of the indicator of the manifestations of semantic sensory abilities using the Kruskal Wallace method (Table 1).

**Table 01.** Testing the hypothesis about the difference in adolescents studying in different schools by the level of severity of the indicator of the manifestation of semantic sensory abilities of different types of modality.

Indicator s	Variables					
	Synthesi s	Interpretatio n	Mood s	Kagan _ Errors	Kagan_Tim e	Confidenc e
Chi- square	2,947	,536	1,587	3,404	,888	,790
$\rho$	,229	,765	,452	,182	,641	,674

Note: the degree of freedom is 2, the grouping variable is empathy.

Based on the results shown in table 2, there is reason to conclude that the hypothesis that the samples of older adolescents are equal in terms of the severity of the rate of manifestations of moral choices is plausible.

The resulting veils indicate that a correlation between the degree of development of the moral sphere of the personality in older adolescents and indicators of conceptual (conceptual), intentional and metacognitive abilities has not been established. Probably, this is the period of the formation of the moral sphere of the personality, since the other components are interconnected (Sipovskaya, 2016). So, (Volkova, 2011, 2016) claims that similar results can be obtained in two cases:

- at the maturity of the constructs of the psyche, when they are in the stage of becoming so full of differentiated and integrated content that they are isolated and present in the individual human experience as separate metasystem formations;
- with the immaturity of mental constructs that are in the stage of formation and disunity, non-integration and poor differentiation in the individual mental experience of the individual.

For this empirical study, it is important to talk about the second version of the explanation of the facts, in view of the particular age of the study participants (older adolescents, acting as a period of an ontological crisis). It is in this age period that there is a transition from one stage of intellectual development to another through a kind of “shapeless intellectual education” (Volkova, 2017a, 2017b), accompanied by the destruction of old ties between constructs and the creation of fundamentally new formations that are

adaptive to the changing living conditions of the subject of activity, forming new forms and styles of behavior. Along with this, it should be emphasized that the facts presented in the article are also related to the dissertation research of (Ivanova, 1999; Vinokurova, 1999; Nazarova, 2001). The authors conclude that with an increase in the number of correlations between one or another construct, one should speak of the emergence of a new quality. Due to the fact that no significant correlation was revealed in the empirical study, we can make an assumption about the lack of formation or insufficient degree of formation of a new education for a given age - the moral and moral experience of the individual.

Thus, the results of an empirical study substantiated the lack of correlation between the indicators of conceptual (conceptual), metacognitive (voluntary and involuntary), intentional (attitudes and beliefs) abilities and characteristics of the moral and moral development of an individual in older adolescents.

## 7. Conclusion

Consequently, I concluded that the results obtained indicate the absence in the older adolescents of the conjugation of indicators of conceptual (conceptual), metacognitive (voluntary and involuntary), intentional (mentality and beliefs) abilities and characteristics of the moral and moral development of a person. Such facts probably speak in favor of the insufficient degree of formation of the construct of moral and moral experience of man. Accordingly, I can conclude that the hypothesis put forward in this empirical study is false: there are no significant differences between older adolescents (indicators of intellectual competence, conceptual, metacognitive and intentional abilities) in the level of severity of personality moral development characteristics.

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## References

- Dudnikova, T. A. (2017). *Abilities Giftedness Individuality. Materials of the All-Russian scientific-practical conference XXXII Merlinsky readings*. Perm: PGGPU.
- Erikson, E. H. (1993). *Childhood and society*. WW Norton & Company.
- Ivanova, E. V. (1999). Psychological features of cognitive differentiation and personality structures of older preschool children with accelerated development (Candidat dissertation). Retrieved from Higher Attestation Commission from The dissertation department of the Russian State Library.
- Kagan, J. (1965). Reflection-impulsivity and reading ability in primary grade children. *Child Development*, (36), 609–628.
- Kagan, J. (1966). Reflection-impulsivity: The generality and dynamics of conceptual tempo. *J. of Abnorm. Psychology*, (71), 17–24.
- Kagan, J., Rosman, B. L., Day, D. A. J., & Phillips, W. (1964). Information processing in the child: significance of analytic and reflective attitudes. *Psychological Monograph*, 78(1). (Whole No578).
- Karpov, A. V. (2003). Reflexivity as a mental property and methods of its diagnostics. *Psychological journal*, 24(5), 45-57.
- Kholodnaya, M. A., & Gelfman, E. G. (2016). Development-focused educational texts as a basis for learners' intellectual development in studying mathematics (DET technology). *Psychology in Russia: State of the Art*, 9(3), 24-37.

- Khohlodnaya M.A. (2019). The psychology of intelligence, the paradoxes of research: a textbook for undergraduate and graduate. 3rd edition, revised and enlarged. Moscow: Yurayt Publishing House.
- Lobanov, A. P. (2008a). *Psychology of intelligence and cognitive styles*. Minsk: Vladimir Grevtsov Agency.
- Lobanov, A. P. (2008b). *Cognitive Psychology: From Sensations to Intelligence: A Training Manual*. - Minsk: New Knowledge.
- Nazarova, V. V. (2001). The dynamics of cognitive differentiation and age-related intellectual characteristics of students (Candidat dissertation). Retrieved from Higher Attestation Commission from The dissertation department of the Russian State Library (61 02-19/87-7).
- Ozhiganova, G. V. (2015). Higher spiritual and self-regulatory abilities in the ancient oriental system of knowledge - Buddhism: a historical-psychological approach. *RUDN Bulletin (a series of psychology and pedagogics)*, (4), 7-14.
- Ozhiganova, G. V. (2016). Spiritual abilities as a resource for life. Moscow: Publishing House "Institute of Psychology, RAS."
- Sabadosh P. A. (2017). A Russian version of the Engagement Scale: The multitrait-multimethod model. *Psychology. Journal of Higher School of Economics*, 14(1), 7–21.
- Sabadosh, P. A. (2015). Resource function of aesthetic experiences: analysis and systematization of approaches. *Psychological Journal*, 36(5), 21–31.
- Sipovskaya, Y. I. (2016). Conceptual, metacognitive and intentional abilities in the structure of intellectual competence (Candidat dissertation). Retrieved from Higher Attestation Commission from The dissertation department of the Russian State Library (9 16-19/70).
- Sipovskaya, Y. I. (2015). Features of measuring intentional abilities in older adolescents. *International Scientific School of Psychology and Pedagogy*, 9(17), 37- 42.
- Vecker, L. M. (1976). *The psychological processes*. St. Petersburg: Publishing House of Leningrad State University.
- Vinokurova, G. A. (1999). Cognitive features of primary schoolchildren with different levels of mental development (Candidat dissertation). Retrieved from Higher Attestation Commission from The dissertation department of the Russian State Library (IO983.402.1-513,0).
- Volkova, N. E. (2017a). Conceptual abilities and productivity of cognitive development in the period of early adulthood / Personality, intelligence, metacognition: research approaches and educational practices. Materials of the II-nd International Scientific and Practical Conference April 20-22, 2017, Kaluga, Russia. Kaluga: Polyphop, publishing house. Retrieved from <https://elibrary.ru/item.asp?id=29721865>
- Volkova, E. V. (2011). *Psychology of special abilities: differential-integrative approach*. Moscow: Publishing House "Institute of Psychology RAS".
- Volkova, N. E. (2017b). The role of conceptual abilities as the most important factor responsible for the productivity of intellectual activity in the structure of coping behavior / All-Russian Jubilee Scientific Conference "Fundamental and applied research of modern psychology: results and development prospects", November 16-17, Moscow. <https://elibrary.ru/item.asp?id=30670087>
- Volkova, E. V. (2016). *Technology of development of mental resources*. Moscow: Publishing House "Institute of Psychology RAS".
- Voronin, A. N., & Goryunova, N. B. (2016). Cognitive resource: structure, dynamics and development. - Moscow : Publishing house "Institute of Psychology RAS".
- Yadrovskaya, E. R. (2012). The development of the interpretative activity of the reader-student in the process of literary education (grades 5-11). (Doctoral dissertation). Retrieved from Higher Attestation Commission from The dissertation department of the Russian State Library (Ч426.21,6 (2)-221,0).