Dynamics of Academic Motivation and Orientation towards the Grades of Russian Teenagers in the Period from 1999 to 2020

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This study is devoted to the analysis of the dynamics of academic motivation in adolescents in 1999, and again 20 years later. The sample consisted of 735 students of the seventh and eighth grades of comprehensive secondary schools in Moscow (N=242 in 1999 and N=493 in Jan 2020). The results of the study indicate a decrease in all types of motivation, both intrinsic and various types of extrinsic, which indicates a significant change in the place of educational activity in the life of the contemporary student. At the same time, it is characteristic that one of the most significant types of academic motivation — studying for the sake of getting good grades — did not undergo significant changes during the study period. With regard to one of the types of extrinsic motivation — the motivation of parental control — a gender specificity was found: this type of motivation decreased only in girls, while in boys it showed stability, which speaks in favor of parents showing a constant level of control over boys’ studies. The cognitive components of motivation also revealed negative trends — the level of perceived controllability of educational activities and perceived competence decreased, despite the fact that the level of subjective difficulty of educational activities did not increase, but, on the contrary, slightly decreased. The results obtained are analyzed from the point of view of the educational reforms of recent decades associated with the introduction of the Unified State Examination and the decrease in the value of a wide range of academic subjects, as well as the widespread use of social networks by contemporary teenagers.

Keywords: academic motivation, intrinsic motivation, dynamics of learning motivation, educational reforms, adolescents.

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Динамика учебной мотивации и ориентации на оценки у российских подростков в период с 1999 по 2020 гг.

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Настоящее исследование посвящено анализу динамики учебной мотивации школьников подросткового возраста в 1999 г. и спустя 20 лет. Выборку составили 735 учащихся седьмых и восьмых классов общеобразовательных средних школ г. Москвы (N=242 — в 1999 г. и N=493 — в январе 2020 г.). Результаты проведенного исследования свидетельствуют о снижении всех типов мотивации — как внутренней, так и различных типов внешней, что говорит о значительном изменении места учебной деятельности в жизни современного школьника. При этом характерно, что один из наиболее значимых типов учебной мотивации — учеба ради получения хороших отметок — не подвергся существенным изменениям за исследуемый период. Когнитивные составляющие мотивации также обнаружили негативные тенденции — снизился уровень воспринимаемой контролируемости учебной деятельности и воспринимаемой компетентности, при том, что уровень субъективной трудности учебной деятельности не повысился, а, напротив, несколько снизился. Полученные результаты анализируются с точки зрения образовательных реформ последних десятилетий, связанных с введением ЕГЭ и снижением ценности широкого спектра учебных предметов, а также широким использованием современными подростками социальных сетей.

Ключевые слова: учебная мотивация, внутренняя мотивация, динамика учебной мотивации, образовательные реформы.

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Introduction

Motivation is a key factor in learning — it is that upon which perseverance and the actual effectiveness of learning activities depend [5; 6; 12; 14; 15; 20], while the lack of classroom interest among schoolchildren is considered by Russians as the most serious problem facing secondary schooling, one which needs to be addressed in the coming years [7]. Psychological research conducted over the past few decades has made it possible to make significant progress in understanding the various characteristic types of learning motivation that regulate the implementation of learning activities, as well as their sources and consequences [19—21]. Initially present in psychology, the opposition of intrinsic and extrinsic academic motivation, the former based on interest in the learning activity itself and the latter on the desire to receive various kinds of rewards and incentives or avoid negative consequences, was overcome in self-determination theory [20]. Within the framework thereof, characteristic types of extrinsic motivation were identified, differing in varying degrees of frustration of the need for...
autonomy, i.e., the desire of the subject to be the source of his/her activity — integrated, identified, introjected, external, and amotivational. In addition to motivation from external control, rewards and punishments (extrinsic), motivation from the secondary value of the activity (identified) and the motivation of guilt, shame and pride (introjected) were singled out as characteristic and essential for the educational process and well-being.

Studies show that a decrease in intrinsic motivation, with high rates of extrinsic regulation and amotivation, leads to low academic achievements among schoolchildren, and the students’ failure to effectuate their full intellectual potential [6]. The results of a recent meta-analysis [15] (344 samples, N=223209) show that intrinsic motivation is associated with student success and well-being, while the regulation identified (personal value) is most closely associated with effort, perseverance, and involvement in the learning process. Introjected regulation (guilt and shame motives) is positively associated with persistence and goal achievement, but is also positively correlated with indicators of distress. Motivation driven by the desire to receive rewards or avoid punishment (external regulation) was associated with anxiety, depression, and negative emotions and was not associated with performance or persistence. Amotivation has been associated with negative academic outcomes such as absenteeism, high levels of anxiety, and low academic achievement [15].

Studies of the dynamics of psychological variables in adolescents in recent decades concern the dynamics of psychological well-being [10; 23; 24]. In our country, they concern the dynamics of values, long-term life plans and optimism/pessimism. The only study devoted to the dynamics of motivation and attitudes towards school and learning was conducted by A. D. Andreeva (2021) and concerns a comparison of the academic motivation of Russian adolescents in the post-war years (1945-1950, according to a study by L. I. Bozhovich, N. G. Morozova and L. S. Slavina (2008) [2]), in the so-called era of stagnation (1980s) and in 2019 [1]. Significant dynamics in intrinsic learning motivation were found — from insignificant in the post-war years (with the predominance of the motive of obtaining a profession) to highly significant in the 80s and somewhat less significant in 2019. It was also shown that today’s schoolchildren, unlike Soviet schoolchildren, do not relate to learning as their responsibility or duty to society and do not consider good academic performance as a means of self-affirmation in a peer group. Compared to schoolchildren of the late 1980s, contemporary teenage schoolchildren have begun to experience more negative emotions in the classroom, which is indirect evidence of a decline in the quality of the educational environment in contemporary schools. However, a significant limitation of this study is the use of non-uniform tools for data collection and different categories of data analysis. In addition, the state of motivation among adolescents in the 1990s, when a series of reforms was carried out to transform Russian education, was not covered.

Educational reforms in Russia over the past 20 years

In the 1990s, after a long period of “stagnation”, there was a paradigm shift in Russian school education. The Education Act of 1992 created the regulatory framework for the introduction of real diversity in education [9]. The main principles were “freedom and pluralism in education” [9] and the adaptability of the education system to the abilities and needs of students. The educational reforms of the 1990s concerned the opening of various educational institutions designed to meet the needs of students with different abilities and interests: new lyceums and gymnasiums, schools with in-depth study of individual subjects, private schools, etc., were created, which implied the possibility of free choice regarding the profile of one’s education. Many new subjects were introduced and new textbooks and curricula were developed. In general, there is reason to believe that these were quite constructive reforms and progressive educational innovations that could have had a positive impact on the academic motivation of adolescent schoolchildren in the late 1990s.

In contrast, over the past 20 years, the characteristics of the macroenvironment of education have changed significantly, which corresponded to a number of new educational reforms, including the widespread introduction of the Unified State Examination (similar to the SAT; introduced in 2009), the replacement of entrance exams by unified state testing, and the unification of schools into large educational complexes, accompanied by the closure of lyceums and gymnasiums for schoolchildren who wished to study (from elementary school) certain subject areas in depth, a decrease in the social status of teachers, accompanied by an increase in the responsibilities and requirements placed upon them. New educational standards were introduced along with paid services in schools and paid education in universities, which led to the perception of high-quality higher education as less accessible [7]. Many students have become interested only in passing the three selected exams that are currently required for university entrance, rather than showing interest in a broad educational process and a variety of different subjects.

The importance of this factor as influencing academic motivation is confirmed by previous studies, which showed that the features of the educational environment are an important source of academic motivation for schoolchildren [3; 4; 11; 13; 18].

Another significant change that potentially affects the attitude to learning and academic motivation among adolescents is the widespread use of the Internet, smartphones and social networks, which have become incredibly popular among today’s teenagers.
The rise of smartphones and social networks as a source of change in attitudes towards learning

In the last decade, there has been explosive growth in the use of online communications [22]. Social networks have a significant impact not only on online activity, but also on offline behavior and life in general; digital activities are crowding out alternative activities such as reading books, socializing with peers and family, and playing sports. Contemporary children aged 8–12 spend an average of 6 hours a day on social networks, and teenagers aged 13–18 spend 9 hours a day, not counting the time they spend using smartphones at school or at home [17]. Researchers associate the active use of online communications with reduced indicators of psychological well-being, which contemporary adolescents have begun to demonstrate [23]. The negative impact of social networks on the educational process can be associated both with a reduction in the amount of time devoted to it, and with the quality of this kind of pastime, which tends to promote values outside of learning, interferes with concentration on the educational process and encourages a superficial approach to information analysis.

The main hypothesis of the study was the assumption that intrinsic academic motivation will show a decline due to two main factors, one related to the educational environment generated by the cycle of reforms carried out in the last two decades and the other related to global trends, including the active involvement of contemporary adolescents in social networks, both in their free time and in class. We also assume that one of the most significant types of extrinsic motivation, studying for good grades, will not change significantly over the study period, as grades are consistently used in our schools as the primary means of influencing student motivation [4].

Method

The sample consisted of 735 students of the seventh and eighth grades of comprehensive secondary schools in Moscow. In 1999, 242 students participated in the study, of which 108 (45%) were boys and 134 (55%) were girls, mean age \( M = 13.74, SD = 0.98 \). In 2020, 493 adolescents took part in the study, of which 270 (55%) were boys and 223 (45%) were girls \( M = 13.61, SD = 0.66 \). In 1999, the study was conducted as a part of a project that included a series of questionnaires about school life and the psychological well-being of adolescents. In 2020, students completed the same questionnaires at the request of a school psychologist who invited them to participate in a survey on “how students of your age learn and what they are interested in?” The survey was conducted in January 2020, before the start of the COVID-19 pandemic in Russia.

Motivation was assessed using Multi-CAM, which estimates motives and cognitive components of motivation according to self-determination theory and self-efficacy theory [16]. It includes 51 items, which form 16 scales (see the description of the scales in the table 1). These scales allow intrinsic, identified, introjected, external positive and negative motivation to be assessed, as well as a number of cognitive components of motivation: the expected controllability of learning activities, self-efficacy and subjective learning difficulty. The questionnaire is made up of three blocks of items, each of which combines different answers to the stem question, for example, “Think about WHY you are learning new material at school. Because...”. Each of the proposed options were asked to be rated on a scale from “Almost never” (1 point) to “Almost always” (4 points). The structure of the questionnaire including 16 correlated factors is confirmed by the results of confirmatory factor analysis (CFA): \( \chi^2 = 2174.11; df = 1104; p < 0.001; CFI = 0.953; TLI = 0.946; SRMR = 0.033; RMSEA = 0.036; 90\% confidence interval for RMSEA: 0.034-0.039; PCLOSE = 1; N = 735 \) (weighted least squares mean and variance adjusted estimator).

Welch’s t-test was used to analyze differences in motivation scores. Due to the large number of pairwise

| Motivation types and scales | Number of items | Cronbach’s \( \alpha \) | Examples of items (with stem items) |
|-----------------------------|-----------------|---------------------|-----------------------------------|
| **Intrinsic motivation**    |                 |                     |                                   |
| 1. Enjoyment of learning    | 6               | 0.93                | Why are you learning new material at school? Because you enjoy doing it? |
| 2. Study for oneself        | 3               | 0.86                | Do you want to do it for yourself? |
| 3. Personal importance      | 3               | 0.76                | Do you think that learning new material at school is important? |
| **Introjected motivation**  |                 |                     |                                   |
| 4. Duty                     | 3               | 0.73                | Do you think that learning new material in school is what you are supposed to do? |
| **Positive extrinsic motivation** |         |                     |                                   |
comparisons, to enhance the reliability of the findings, only those differences that showed a high level of statistical significance (\(p < 0.001\)) were considered significant. Two-factor analysis of variance was used to analyze the interaction of factors. All calculations were carried out in the data analysis and statistical programming environment R.

### Results

The results of a comparison of motivation indicators between samples of schoolchildren of different years (see table 2) indicate that adolescents in 2020 have lower indicators of intrinsic motivation (the scale “Enjoyment of learning”), identified motivation (the scales “Study for oneself” and “Personal importance”), and introjected motivation (“Duty” scale), while the effect size (\(d\)-Cohen) ranges from weak to moderate. Moderate differences were found in indicators of external motivation related to the motives to earn the sympathy of classmates and to avoid ridicule from classmates, not to make parents angry and to avoid the teacher’s disapproval. On all these types of motivation, the students in 1999 also outperform the students in 2020. Contemporary schoolchildren also have significantly lower expected controllability and academic self-efficacy.

Comparison of boys and girls on the motivation scales in the 1999 sample presents the conclusion that there are no significant differences. In the 2020 sample, significant differences were found in indicators of external motivation, reflecting positive and negative motives associated with attitudes towards parents: to please parents (\(t(453) = 4.05; p \leq 0.001; \text{Cohen’s } d = 0.37\)) and not to make parents angry (\(t(474) = 3.41; p \leq 0.001; \text{Cohen’s } d = 0.31\)). In addition, there was a difference in the scale measuring the motive to demonstrate the ease of learning (\(t(491) = 4.39; p \leq 0.001; \text{Cohen’s } d = 0.39\)). For all these indicators, girls in the 2020 sample have lower averages than boys.

The results of the analysis of the interaction between the factors of gender and the year surveyed using two-way analysis of variance showed the absence of any highly significant interaction. At the same time, trends were found that were statistically significant at \(p \leq 0.05\), indicating a weak interaction of these factors for the motives to please parents (\(F(1;730) = 5.6; p \leq 0.05\)) and not to make parents angry (\(F(1;730) = 4.4, p \leq 0.05\)). These trends reflect the fact that girls have lower means in 2020 than in 1999, while no such difference is observed for boys (see figure).

The trends revealed in the interaction of the factors of gender and year surveyed on the scales of motivation associated with parents correspond to the statistically significant differences described above on these scales between boys and girls in 2020, while there were no similar differences in 1999.

### Discussion

The results obtained are in agreement with the main hypothesis of the study, according to which a decrease in intrinsic learning motivation was expected. This finding is presumably associated with the series of educational reforms in recent decades, including the introduction of...
the Unified State Examination and the decrease in the value of a wide range of academic subjects, as well as the widespread use of social networks by contemporary teenagers. Based on the results obtained, it can also be assumed that recent educational innovations, including the introduction of the USE and the concentration of schoolchildren on passing it, have led to a decrease in intrinsic motivation due to an increase in anxiety and a decrease in the need for competence.

In addition, an analysis of the dynamics of academic motivation of adolescents in 1999 and 20 years later indicates a decrease in all types of motivation, not only
Intrinsic, but also various types of extrinsic, which indicates a significant change in the place of educational activity in the life of contemporary schoolchildren. At the same time, one of the most significant types of academic motivation — studying for the sake of getting good grades — did not undergo significant changes during the study period, which corresponds well with the constant use of grades in Russian schools as the main means of influencing student motivation [4].

With respect to one of the types of external motivation — parental control motivation — a gender specificity was found: this type of motivation decreased only in girls, showing stability in boys, which speaks in favor of parents maintaining a constant level of control on boys’ learning and exhibiting greater trust in girls, which corresponds well with their higher academic achievement. The cognitive components of motivation also revealed negative trends — the level of perceived controllability of educational activities, perceived competence, and self-efficacy decreased, while the level of subjective difficulty in educational activities did not increase, but, on the contrary, slightly decreased.

A comparison of our results with the data from A.D. Andreeva [1] shows that they are in agreement with each other — contemporary teenagers have become less interested in learning activities; their desire for knowledge is present to a lesser extent than it was in the 80s [e.g., 1] and the 1990s (our data).

Our study is unique in terms of the analysis of the temporal dynamics of academic motivation over the past 20 years and has broad prospects for future study. The negative dynamics of academic motivation revealed is associated with the increasing loss of meaning in learning activities among contemporary adolescents and requires the adoption of appropriate measures to counteract it.

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