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School Adjustment Problems of Fifth Graders As a Risk Factor in Learning Difficulties

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Abstract

In recent years, there has been a tendency in Russia to separate primary school from secondary one; gymnasiums and lyceums where children are recruited in the fifth grade through a competitive examination start operating. Despite the fact that such schools enroll children from prosperous families who perform well at school, some of them start experiencing learning difficulties resulting in dramatic decrease in academic performance, behavioral problems, and health deterioration. One of the risk factors for these problems is the difficulties of adjusting to a new school, conditioned by age-specific psychological and physiological conditions of fifth graders and pedagogical factors. The purpose of this study is to increase awareness of fifth graders school adaptation, collect empirical data, by examining the relationship between its various components, as well as self-esteem.

The present study explored 144 fifth graders aged 10-11 (74 boys and 70 girls) and their 6 class tutors (homeroom teachers).

Measures: School Anxiety Questionnaire (B.N. Phillips), expert evaluation, «Sociometry» (J.L. Moreno), self-esteem methodology called «Ladders».

The results of the study into academic, social and psychological aspects of fifth graders School adjustment showed that the period of adaptation is characterized by decreased academic performance compared to the fourth grade while a third of the subjects lacked interest in studying. 39 % of fifth graders showed a low sociometric status. More than half of the students (55 %) are dissatisfied with their relationships with their classmates. An increased level of school anxiety is typical for 25% of fifth-graders. The main causes of school anxiety are fear of self-expression, problems with the teacher, fear of not meeting the expectations of others.

Factor analysis proved a three-fold structure of school adaptation. The correlation analysis showed that academic adaptation is related to all components of school adaptation, whereas social and psychological components are not linked.

55 % of fifth graders have low or poor self-esteem. They are most dissatisfied with their lack of authority among their classmates and their appearance. Factor analysis demonstrated that the self-esteem of fifth graders in the period of adaptation to secondary school is more connected to the indicators of the social component of adaptation.

Teachers adequately evaluate only student performance and behaviour, but not their sociometric status, school anxiety, and interest in learning. This complicates the identification of the problem and timely assistance to the fifth graders with difficulties in social and psychological adaptation.

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1. Introduction

In recent decades, there has been an increasing trend in the number of children having learning difficulties at school. The term school or learning difficulties refers to the range of problems arising in the process of studying leading to considerable functional strain, deterioration of health, a decline in academic performance, and disruption to socio-psychological adaptation [4].

From the perspective of children adaptation, two most complicated critical periods are distinguished: the beginning of instruction in the first grade and the transition from primary to secondary school in the fifth grade. In this regard, the adaptation of fifth graders is considerably less studied [20]. Nevertheless, the demand for such studies in Russia has increased due to the tendency to separate the primary from the secondary school. Educational institutions, gymnasiums and lyceums mainly, where children are recruited in the fifth grade through a competitive examination tend not to have primary schools. Children have to adapt to the new learning environment, new school requirements, more challenging educational programme, new classmates and teachers, and the so called *classroom system* of education (on the secondary level there is a different teacher for each subject and children go from one classroom to another). Despite the fact that such schools are attended by children with satisfactory academic performance from prosperous families, some of them start experiencing learning difficulties resulting in dramatic decline in academic performance, behavioural problems, and health deterioration. There are a number of pedagogical factors causing these adjustment difficulties, such as an intensified educational process, its irrational organisation, inadequate requirements for the psycho-physiological student capabilities, or unfavourable environment in the class. These factors affect not only the successful and effective teaching, but also a child's growth, development and health.

Moreover, 10-11 years of age represent a transformation from the primary school age to adolescence, which is considered to be the most critical developmental period. It is early adolescence that is characterized by changes in all the systems of the body resulting from dramatic endocrine and substantial cerebral morphology changes. It can be temporarily accompanied by impaired perception, emotional stability, and ability to

concentrate [4]. Studies show that the transition period from primary to secondary school is also accompanied by some limitations of intellectual capabilities [7]. A characteristic feature of fifth graders is unstable emotional state and excessive anxiety [3, 16]. This period demonstrates one of the lowest mental health indicators [8].

Although learning remains important for the young adolescent, social interaction with peers prevails, and their opinions matter more than those of adults. Their commitment to self-sufficiency and independence is accompanied by aggressiveness, stubbornness, negativism and an increase in behavioral problems [19].

All these physiological and psychological factors may impede adaptation and put learning at risk.

The School adjustment structure comprises three components, each with its own indicators:

1. Academic adaptation, whose main indicator is academic performance along with interest in learning and school behaviour.

2. Social adaptation, which reflects how successfully the child integrates into a social group. Its main indicator is the sociometric status in a group of classmates. Another important indicator is a student's satisfaction with their relationships with peers.

3. Psychological adaptation, which includes a student's emotional and personal attitudes to school life and determines their emotional satisfaction or dissatisfaction with studying and communication, school anxiety being its main indicator.

If any of these components is not successfully accomplished, they become risk factors in learning difficulties, especially in case of two or all three components. The markers of maladjustment to studying in 5-6 grades are as follows: diminished interest in learning, decline in academic performance, signs of school anxiety, misbehaviour, and disturbed relations with peers [13].

Most studies in this field are devoted either to examining individual socio-psychological characteristics of fifth graders (school anxiety, motivation, self-esteem, sociometric status) or to examining their individual relations, for instance, between anxiety and academic performance [10, 11], sociometric status and self-esteem [5, 17, 18], sociometric status and intelligence [2], academic performance [9], behaviour [1], and aggressiveness [6]. Many authors believe there is a lack of integrative studies that assess the adaptation process as a whole, and the interrelationship of all its components at different ages, especially critical ones [7, 8, 19].

Self-esteem is one of a student's personality characteristics actively developing during adolescence and linked to all adaptation components [12, 14, 15]. On the one hand, it affects successful adaptation, on the other, it can result from it. Self-esteem, at different stages of school life, can be more closely related to the different adaptation components. However, the specific nature of this relation during the transition from primary school age to adolescence has not been studied to any significant extent.

An important problem which has not received adequate attention is whether teachers realistically evaluate the adaptive capacity of every child and can provide timely assistance in the face of adaptation difficulties.

This study looks into the interrelation of academic, social and psychological adaptation components and self-esteem in order to gain a better understanding of the School adjustmentof fifth graders and to collect empirical data. The following hypotheses were put forward:

1. There is a connection between the academic, social and psychological components of the School adjustmentof fifth-graders.

2. The self-esteem of fifth graders is linked to all the adaptation components, but mostly to social adaptation.

3. The teachers' evaluation of the School adjustmentcomponents differs from the students' self-evaluation.

2. Methodology

2.1. Participants

The participants of the study, 144fifth graders and their 6 class tutors (homeroom teachers), came from two gymnasiums in the city of Yekaterinburg (Russia). The students ranged in age from 10 to 11 years old. The gender composition of the sample was 74 boys and 70 girls.

2.2. Measures and procedure

The empirical study used:

1. School Anxiety Questionnaire by B.N. Phillips;

2. Self-esteem methodology called «Ladders»;

3. «Sociometry» methodology by J.L. Moreno modified by M. R. Bityanova;

4. Expert evaluation of the teachers;

5. Analysis of the data on the semi-annual academic performance of the students.

The study was carried out in March and April 2017. In conformity with the rule of informed consent, to insure the rights of the children, class meetings were organised where the parents were informed about the purpose and methods of the study, as well as the voluntary nature of participation. Written permissions were obtained from those who agreed.

3. Results and Discussion

3.1. Study of academic adaptation

Data on the number of students with different levels of academic performance in the 4th and 5th grades are shown in Table 1.

TABLE 1: The number of students with different levels of academic performance.

Sample categories	The number of students with different levels of academic performance (% / number)			
	High	Average	Moderate	Low
4th graders (n=144)	4.8 % / 7	78.6 % / 113	16.6 % / 24	0 % / 0
5th graders (n=144)	0.7 % / 1	66.7 % / 96	29.8 % / 43	2.8 % / 4
φ* Fisher	φ*emp = 2.359**	φ*emp = 2.257*	φ*emp = 2.673**	φ*emp = 1.765*
Note: * p≤0.05; ** p≤0.01;				

For the purpose of this study, data of the students' semi-annual academic performance in the key subjects (Russian, literature, mathematics, English) was analysed. (The Russian Federation uses a five-point academic grading system). Students with a high level of academic performance include those who gain 5 points ("excellent") in all the subjects, those with the average level gain 4-5 points ("good"-"excellent"), whereas those with the moderate level score 3 points ("satisfactory") in one or more subjects. The low level implies that a student only gains 3 points in all the subjects. The analysis revealed a downward trend in fifth-graders' performance. The number of students with the moderate performance almost doubled. Low performers also emerged.

Another indicator of academic adaptation is the students' behavior at school. The teachers were asked to rate the behaviour of firth-graders on the scale of "poor-fair-good-excellent". The data on the number of firth-graders with different patterns of behaviour are presented in Table 2.

TABLE 2: Number of students with different behaviour marks at school.

Number of fifth graders with different behaviour marks at school.			
Poor	Fair	Good	Excellent
6.9 % / 10	16 % / 23	36.1 % / 52	41 % / 59

According to teachers, the behavior of the majority (93%) of fifth graders is in line with the established norms. Only 7% of students show prolonged unsatisfactory behaviour, both in and outside the classroom.

Pearson's correlation analysis revealed that the behavior of fifth graders has a direct positive correlation with their academic performance ($rxy = 0.50$, $p \leq 0.05$). It is also related to the underachievement in the fifth grade as compared to the fourth grade ($rxy = -0.21$, $p \leq 0.01$).

An important indicator of academic adaptation is interest in learning. Both students and teachers were asked to evaluate the fifth-graders' interest in learning on a scale of 1-5 (Table 3).

TABLE 3: Number of students with different levels of interest in learning.

Data source	Mean value of interest in learning	Количество учащихся с разными уровнями интереса к учебе (% / number)		
		Low level	Average level	High level
Self-esteem	3.14	28.5 % / 41	43 % / 62	28.5 % / 41
Expert evaluation	4.2	4.2 % / 6	55.5 % / 80	40.3 % / 58

Almost every third fifth grader does not have any interest in learning. The expert teacher evaluation does not coincide with the self-evaluation of students, which is confirmed by the lack of correlation between these indicators ($rxy = 0.07$). Teachers tend to exaggerate their students interest in learning.

3.2. Study of social adaptation

Data on the number of subjects with different sociometric statuses, based on the methodology of J. Moreno and the expert teacher evaluation, are presented in Table 4.

TABLE 4: The number of fifth graders with different sociometric statuses.

Data source	The number of fifth graders with different sociometric statuses. (% / number)				
	1	2	3	4	5
Sociometry	6.9 % / 10	9.1 % / 13	45.1 % / 65	35.4 % / 51	3.5 % / 5
Expert evaluation	13.2 % / 19	23.6 % / 34	59 % / 85	4.2 % / 6	0%
Note: 1 - "Stars"; 2 - "Favourites"; 3 - "Accepted"; 4 - "Neglected"; 5 - "Isolated"					

Low sociometric status is characteristic for 39% of fifth graders. The results of the expert teacher evaluation and sociometry differ dramatically in terms of the number of high-status and low-status students. Teachers tend to overestimate the sociometric status.

An important indicator is student satisfaction with their relationships with classmates. Data on the number of fifth graders with different levels of satisfaction with their relationships in the group are presented in Table 5.

TABLE 5: The number of fifth graders with different levels of satisfaction with the relationships in the group.

The number of fifth graders with different levels of satisfaction with the relationships in the group (% / abs)			
High level	Average level	Moderate level	Low level
22.9 % / 33	32.7 % / 47	22.9 % / 33	21.5 % / 31

Data analysis shows that more than half of the students (55%) are not satisfied with the relationships with their classmates. At the same time, satisfaction is significantly and positively correlated with the sociometric status (rxy = 0.64, p <0.01).

3.3. Study of psychological adaptation

School anxiety is the main indicator of psychological adaptation. The percentage distribution of fifth graders with different levels of anxiety across eight factors of school anxiety (Phillips test) is presented in Table 6.

The optimal level of anxiety is inherent in 58% of fifth-graders. The factors "Fear of self-expression" and "Problems and fears in relationships with teachers" cause most school anxiety. For the fifth graders with increased and high levels of anxiety, these factors coexist with "Experiencing social stress" and "Fear of not meeting the expectations of others".

The study did not reveal any correlation between the indicators of school anxiety in the Phillips test as compared to the teachers expert evaluation (rx = 0.08).

TABLE 6: The number of fifth graders with different levels of school anxiety.

Indicators of school anxiety	The number of fifth graders with different levels of school anxiety (% / number)			
	moderate	optimal	increased	high
General anxiety at school	34.7 % / 50	48.6 % / 70	11.8 % / 17	4.9 % / 7
Experiencing social stress	11.1 % / 16	52.1 % / 75	31.9 % / 46	4.9 % / 7
Frustration of the need to achieve success	19.4 % / 28	59.1 % / 85	20.1 % / 29	1.4 % / 2
Fear of self-expression	12.5 % / 18	46.5 % / 67	19.5 % / 28	21.5 % / 31
Fear of performance tests	29.9 % / 43	50.7 % / 73	8.3 % / 12	11.1 % / 16
Fear of not meeting the expectations of others	29.2 % / 42	33.3 % / 48	22.2 % / 32	15.3 % / 22
Low physiological resistance to stress	18.1 % / 26	65.3 % / 94	7.6 % / 11	9% / 13
Problems and fears in relationships with teachers	18.1 % / 26	54.1 % / 78	25.7 % / 37	2.1 % / 3
Average rate of school anxiety across eight factors	16 % / 23	58.3 % / 84	23.6 % / 34	2.1 % 3

3.4. Study of self-esteem

The self-esteem methodology called «Ladders» includes the following self-assessment scales: self-confidence, nature, academic success, abilities, beauty, and authority among classmates. The students had to identify themselves with a "step" on a scale of 1-7, where 1 is the lowest, and 7 is the highest scale. Overall self-esteem was calculated as the average value of the scores of all scales. Data on the number of fifth graders with different levels of self-esteem are presented in Table 7.

TABLE 7: The number of fifth graders with different levels of self-esteem.

The number of fifth graders with different levels of self-esteem (% / abs)			
High inadequate	Adequate	Low	Poor
13.2 % / 19	31.9 % / 46	36.1 % / 52	18.8 % / 27

55 % of fifth graders have low or poor self-esteem. The most considerable number of fifth graders with poor self-esteem can be seen on the scales of "authority among classmates" (32%) and "beauty" (30%).

Interpersonal communication with peers prevails among adolescents. The findings confirm the sociometric data on the dissatisfaction with the nature of interpersonal relationships of a significant proportion of fifth-graders.

3.5. The study of the correlation between the academic, social, and psychological components of School adjustmentand self-esteem

The main indicator of academic adaptation is academic performance, that of social adaptation is the sociometric status, whereas that of psychological adaptation is the average level of school anxiety. The results of the Pearson correlation analysis of the School adjustmentcomponents and self-esteem are presented in Table 8.

TABLE 8: Correlation coefficients of the components of School adjustment and self-esteem.

	Academic	Social	Psychological
Social	0.23**	1.0	
Psychological	- 0.20*	- 0.13	1.0
Self-esteem	0.19*	0.25**	0.33**
Note: * p≤0.05; ** p≤0.01;			

The data shows that academic adaptation correlates with all the components of school adaptation, whereas the social and psychological components are not interrelated. Thus, academic performance remains the most important indicator of the fifth-graders' adaptation to secondary school.

The factor analysis of all indicators employing the Principal Components method (Varimax Normalized) confirmed the three-factor structure of school adaptation. The first factor, "psychological adaptation", includes all scale indicators of school anxiety (Expl.Var = 4.40; Prp.Totl = 0.13). The second factor, "academic adaptation", combines the indicators of academic performance, school behavior, a scale of anxiety ("frustration of the need to achieve success") and that of self-esteem ("academic success") (Expl.Var = 4.87; Prp.Totl = 0.14). The third factor comprises the sociometric status, all scales of self-esteem, as well as the anxiety scales of "experiencing social stress" and "low physiological resistance to stress." This factor corresponds to the social component of School adjustment(Expl.Var = 5.06; Prp.Totl = 0.15). Thus, the hypothesis that the self-esteem of fifth graders in the period of adaptation to secondary school is more closely connected with the indicators of social adaptation is confirmed.

The data obtained in the analysis revealed that 16fifth graders demonstrated low School adjustment indicators, 9 students - in social and psychological adaptation, 2fifth

graders in academic and social adaptation, and 2 students - in academic and psychological adaptation. In total, 20% of fifth graders need preventive pedagogical correction assistance and support.

4. Conclusions

1. The study of academic adaptation demonstrated the decrease of student academic performance in the period of transition to secondary school. One in three fifth graders does not evince interest in learning. The behavior of fifth graders at school is positively related to their academic performance and negatively related to their underachievement compared with the fourth grade.

2. The study of social adaptation revealed a low sociometric status in 39% of fifth graders and dissatisfaction with their peer relations in 55%.

3. The study of psychological adaptation showed that the optimal level of anxiety is characteristic for 58% of fifth-graders, whereas 25% of them have an increased level. "Fear of self-expression" and "Problems and fears in relationships with teachers" cause most school anxiety. Fifth graders with an increased level of anxiety additionally experience "social stress" and " fear of not meeting the expectations of others."

4. Factor analysis proved a three-fold structure of school adaptation. The correlation analysis data showed that academic adaptation is related to all components of School adjustment whereas social and psychological components are not linked. This means that the hypothesis about the connection between adaptation components was partially confirmed.

5. 55 % of fifth graders have low or poor self-esteem. They are most dissatisfied with their appearance and the lack of authority among classmates. Factor analysis also confirmed the hypothesis that the fifth graders self-assessment in the period of adaptation to secondary school is more closely related to indicators of social adaptation.

6. Teachers adequately evaluate only student performance and behaviour, but not their sociometric status, school anxiety, and interest in learning, which in turn makes it difficult to identify problems and provide timely assistance to fifth graders.

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