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SELF-REGULATION OF LEARNING ACTIVITY IN STUDENTS WITH DIFFERING DYNAMICS OF PSYCHOLOGICAL WELL-BEING

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Abstract

The article describes the study of dynamics of conscious self-regulation and its role in ensuring stability and growth of the pupils' psychological well-being (PB) during their transition from primary to secondary school. The main goal of the study – to identify the specifics of conscious self-regulation in the students with different trajectories of psychological well-being based on the longitudinal research data. The sample of the study consisted of the general secondary school students (N = 139). The first study was conducted in grade 4 (10-11 years), the second one - in a year - in grade 5 (11-12 years). The research results revealed three types of trajectories of changes in the students' psychological well-being: "Increased WB", "Stable WB" and "Decreased WB". The obtained data showed that the majority of students could successfully overcome the transition to the new patterns of learning. The regulatory resources of adaptation to the new learning conditions are specific for different trajectories of the WB. Students with "Increased WB" are characterized by the development of regulatory processes «Results evaluation», «Modeling» and «Flexibility». Students with "Stable WB" keep their level of well-being by means of increasing the processes of «Planning» and «Responsibility». Students with «Decreased WB» are distinguished by the lowest level of «Modeling», «Results evaluation», «Reliability» and «Responsibility». Students with different WB trajectories also differ in their motivational and emotional attitude to learning and indicator levels of personal dispositions. Thus, students with "Decreased WB" demonstrated reduced cognitive activity and higher indicators of anxiety, negative emotions, and extraversion.

Keywords: Conscious self-regulation, psychological well-being, transition from primary to secondary school.

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1. Introduction

The educational environment is considered by researchers as a significant factor of psychological well-being (WB). During the schooling period, a solid foundation is laid for a person's well-being and positive functioning in adulthood (Eryilmaz, 2012; McCabe et al., 2011). Suldo and Shaffer (2008) emphasize the importance of the study of life satisfaction (LS) in adolescence and come to conclusion that students with a high LS level have better educational achievements and social relationships. Moreover, the early adolescence is considered an important stage in the development of positive and negative trajectories of WB in subsequent ages. The study of the factors ensuring the stability of psychological WB during the schooling period is an urgent task of modern research.

Intrapersonal factors are most often considered as predictors of WB. Stable moderate correlations are found between extraversion, neuroticism and WB in adolescence (Fogle et al., 2002; Hayes & Joseph, 2003; Holder & Klassen, 2010; Suldo et al., 2015). Although researchers demonstrate that personal factors are relatively stable, yet, forming a certain basis, they do not remain unchanged and invincible. It is shown that specially organized training for effective strategies of behavior regulation in adolescents with high neuroticism leads to decreasing its adverse impact on activity, and, ultimately, can contribute to increasing their WB.

One of the personal resources that contribute to the maintenance of an optimal level of psychological WB and ensuring its stability during the transition periods of school education can be the conscious self-regulation of educational activity. Recent meta-analyzes show that the relationship between successful goal-achievement and WB is fairly stable and, on average, is fixed at $\rho = 0.43$ (Klug & Maier, 2015). The links of positive development with self-regulation in adolescents have been studied in the longitudinal studies (Gestsdottir & Lerner, 2008). The self-regulation measured in the 5th grade proves to be a significant predictor of the positive functioning of adolescents in the 7th grade and is negatively associated with manifestations of depression and delinquent behavior (Zimmerman, Phelps & Lerner, 2007). Self-regulation turned to reduce the likelihood of problematic and risky behavior of adolescents (Freund & Baltes, 2002; Raffaelli & Crockett, 2003). Self-regulation in these studies is considered as the deliberate use of strategies to regulate one's activity and manage external/internal resources to achieve the goals of activity (Baltes, 1997).

Another study was focused on the prognostic links of adolescents' life satisfaction and their school engagement. Engagement is seen as a meta-construct involving behavioral, cognitive and emotional components (Appleton et al., 2008; Fredericks et al., 2004). The cognitive aspect of school engagement is related to the self-regulation of learning activity. Studies have shown that during the transition from primary to secondary school, it is the cognitive dimension of engagement measured in primary school students that significantly predicts a positive outlook for adolescents' life satisfaction in subsequent grades (Lewis et al., 2011).

2. Problem Statement

Researchers note that the links of psychological WB with personality factors and intrinsic goals tend to change across time: extraversion and intrinsic goals are more associated with WB in the young people than in older age groups (Gomez et al., 2012). Therefore, scrutinizing the psychological

determinants of the dynamics of students WB during the school education period seems to be an actual empirical task.

We believe that self-regulation of educational activity is a significant factor of the students WB stability. Students who are more satisfied with their lives are more open to new knowledge, use effective self-regulation strategies, link their learning goals and objectives to the future, and learn more consciously (Lewis et al., 2011). We consider the conscious self-regulation (SR) as an integrative cognitive-personal construct, including the system of cognitive processes of information processing (goal planning, modeling of significant conditions for their achievement, programming of actions, results evaluation) and instrumental personal-regulatory properties (flexibility, independence, reliability, responsibility, etc.) (Morosanova, 2013). We found that conscious SR is a significant WB predictor in younger schoolchildren, even when controlling personality factors (Fomina, Eftimova & Morosanova, 2017). However, the comprehensive research of the regulatory mechanisms ensuring students' WB stability in educational environment is possible only within the longitudinal studies. We believe that longitudinal design will allow us to examine the dynamics of changes in the WB level and to identify those regulatory and intrapersonal characteristics affecting these changes.

The present study is the next step in exploring the problem of the WB dynamics and its determining factors. At the center of our attention is a complex and very important period of the pupils' transition from primary to secondary school. It is during this period that changes are observed in the WB level and quality. In Russian schools, grade 4 completes the initial stage of education, after which all the children move to the secondary school. In grade 5, the load on the students' adaptive abilities is drastically increasing. The conditions of educational process essentially change: the number of school subjects increases, the teaching stuff is accordingly expanded, and the class composition can be different. All these changes place high demands on the students' conscious SR, on their ability to effectively, reliably and flexibly manage their learning activity in the new challenging conditions, to keep the goals of activity, to set the programs of actions and evaluate their results.

3. Research Questions

- What are the trajectories of the students' WB changes during their transition from the primary stage of education to the secondary one?
- What are the peculiarities of conscious SR and its dynamics in the students with different WB trajectories?
- Is there any specifics in manifestations of the personality features and emotional attitude to learning in the students with different WB trajectories?

4. Purpose of the Study

On the basis of the longitudinal data, to identify the characteristics of conscious SR in the students with different WB trajectories in the period of their transition from primary to secondary education stage.

To achieve the purpose of the study the following tasks were set:

- To describe the changes in general level of psychological WB and its manifestations in students during their transition from primary to secondary school;

▪ To compare groups of students with different WB trajectories taking into account their regulatory, intrapersonal characteristics as well as their motivational and emotional attitudes to learning;

▪ To identify and describe the specific dynamics of SR in the students with different WB trajectories

5. Research Methods

5.1. Sample

The data of this study were sourced from the Russian secondary schools. The survey was conducted in a group format. 139 participants (71 boys, 68 girls) were educated in the 4th and 5th grades of the formal educational system.

5.2. Procedure

The study was carried out according to the plan of the longitudinal panel design. The data of the fourth graders were collected measuring their regulatory, intrapersonal characteristics and psychological WB level. In one year, in the same sample, the data on WB, SR, motivational and emotional attitude to learning were collected in the 5th grade of schooling. New participants were not added. All the tests and questionnaires were completed in the same order during one session in the presence of a researcher.

5.3. Measures

Regulatory features were measured with a 67-item Self-Regulation Profile of Learning Activity Questionnaire (SRPLAQ; Morosanova & Bondarenko, 2015). SRPLAQ items describe typical situations concerning achieving the learning goals. These statements are grouped into the following 9 scales: planning, modeling, programming, results evaluation, flexibility, independence, reliability, responsibility, social desirability. High scores (maximum 6) denote high self-regulation. An integrative 10-th indicator - General level of conscious self-regulation - is also estimated by summing up the scores (maximum 58). The results of the SRPLAQ psychometric evaluation were found to be satisfactory (Morosanova et al., 2016).

Morosanova's Self-Regulation Profile Questionnaire - Junior (Morosanova & Bondarenko, 2015) consists of 7 self-assessment scales: Planning of goals, Modeling of significant conditions, Programming of Activity, Results Evaluation, Flexibility, Independence, and Responsibility. The general level of self-regulation is estimated by summing up the scores on seven scales. The incentive material is presented in the form accessible for primary school age - descriptions of typical situations associated with organization of learning activities and pupils' behavior relative to the training implementation. The child is to choose to what extent the described behavior is characteristic of himself. Validity and reliability of the questionnaire scales were demonstrated on a sample of more than 400 students.

Russian version of the «Big Five Questionnaire – Children (BFQ-C)» - designed to measure personality traits in children of primary and secondary school age: «Neuroticism», «Extraversion», «Openness», «Agreeableness» and «Conscientiousness» (Malykh, Tikhomirova & Vasin, 2015). The Questionnaire consists of 62 statements.

Psychological Well-Being was accessed using the slightly modified 24-items of Well-Being Manifestation Measure Scale developed by Masse (Masse et al., 1998). This questionnaire contains the following subscales: «Control of Self and Events», «Sociability», «Happiness», «Social Involvement», «Self-Esteem», «Mental Balance», and the cumulative scale «Psychological Well-Being». Participants rated the statements on a scale ranging from 1 («never») to 5 («almost always»). Questionnaire was previously validated on a sample of 295 students of the 4th grade of the Russian formal educational system (mean age 10.12, σ=0.53). Based on the content analysis and analysis of the eigenvalues graph, the 6- factor solution turned to be the most suitable. The resulting solution explains 53% of the variance, and the factor loads of each statement have the values from 0.9 to 0.2. A similar percentage of the explained variance is also given for the original questionnaire (Masse et al., 1998).

The validation study showed that coefficients of the items' internal consistency for each scale ranged from 0,62 to 0,73, indicating an overall reasonable homogeneity of the items in each scale. The subscales practically did not correlate with each other. The results of the retest reliability study performed in three months after the initial study (N = 89) were satisfactory (r from 0.40 to 0.72, p <0.0001). The WBMMS also showed a reasonable criterion validity: almost all the regulatory indicators were significantly interrelated with the WB indicators of the schoolchildren (r from 0.18 to 0.56, p <0.01). Numerous positive correlations with all Big 5 scales (r from 0.28 to 0.54, p <0.01) have been revealed, except the «Neuroticism» scale (r from - 0.32 to -0.41, p <0.01).

«Method of diagnostic of learning motivation and emotional attitude to learning in secondary and high school» (Spielberger's State-Trait Personality Inventory, Russian adaptation of Andreeva & Prikhozhan, 2006) for assessing learning activity, attitudes toward learning, and emotional state with the scales of learning activity, motivation for educational achievements, as well as the degree of anxiety and negative emotion of anger. The method is used to characterize the regulatory mechanisms of the motivational and emotional level.

6. Findings

Descriptive statistics of psychological WB indicators and personality characteristics (Big 5) of the students are presented in Table 1.

Table 01. Descriptive statistics of psychological well-being measures and personality traits measures in the study (N=139)

	4th grade		5th grade	
	M	SD	M	SD
Control of Self and Events	12,88	3,411	14,27	3,734
Sociability	18,27	4,402	18,94	4,359
Happiness	14,49	3,153	14,62	3,633
Social Involvement	13,18	3,280	13,71	3,801
Self-Esteem	13,99	3,240	14,51	3,269
Mental Balance	15,11	3,299	14,80	3,585
Psychological well-being	87,92	16,233	90,86	18,277
Extraversion	27,61	4,542		
Agreeableness	29,90	5,657		
Conscientiousness	27,66	5,649		
Neuroticism	19,39	4,821		
Openness to experience	27,96	5,281		

The analysis of the dynamics of the WB indicators during the students' transition from the primary to secondary school has shown that there is a tendency for increasing the average WB level from 4th to 5th grade. Worth to note the increase in the indicator «Control of Self and Events», which induces the interest in studying the relationship between WB and conscious SR. On the other hand, there is an indicator demonstrating a certain decrease – «Mental Balance», which gives us grounds for analyzing not only positive, but also negative emotions, such as grief and anxiety.

Since personal dispositions are a stable characteristic, we present their average indicators obtained in the 4th grade. Two properties are distinguished: «Agreeableness» - for its highest mean values, and «Neuroticism» - for the lowest mean values.

6.1. The dynamics of changes in the students' psychological well-being

To compare the level of conscious SR in groups of students with different WB trajectories, 6 new indicators were calculated concerning the dynamics of changes in the WB during their transition from 4th to 5th grade. They represent the difference between the WB indices measured in the 4th and 5th grade. The results in all the WB sub-scales are presented in Table 2. Negative values for each of the new variables indicated a decrease in the WB level, and the positive ones - the WB increase. The cluster analysis using the K-means method was performed to analyze the SR features of the students with a positive, negative and stable WB trajectory. All 6 indicators of the psychological WB were subjected to clustering.

Table 02. Mean values of the WB indicators dynamics in the obtained clusters

Cluster	N	%	Dynamics of «Control of Self / Events»		Dynamics of «Happiness»		Dynamics of «Social Involvement»		Dynamics of «Self-Esteem»		Dynamics of «Mental Balance»		Dynamics of «Sociability»	
			mean	σ	mean	σ	mean	σ	mean	σ	mean	σ	mean	Σ
Increased WB	52	37%	3,77	3,31	3,75	3,48	2,48	3,03	2,67	2,37	3,12	2,90	1,42	2,62
Stable WB	62	45%	1,06	2,97	0,11	3,45	-0,29	2,56	-0,18	2,79	-0,63	2,33	-0,71	3,05
Decreased WB	25	18%	-3,04	3,35	-4,40	3,08	-3,96	3,39	-2,00	3,10	-2,36	2,66	-3,20	2,69

It's worth saying that the number of children with negative WB dynamics (18% of the sample) is significantly lower than those with positive (37%) and stable WB dynamics (45%), which allows to conclude that the majority of pupils were able to mobilize their resources facilitating them to successfully cope with the difficulties of the transition period. Clusters were named «Increased WB», «Stable WB» and «Decreased WB».

Positive/negative dynamics of particular WB indicators does not allow to make an unambiguous conclusion about the general WB level in the investigated clusters. The results of the clusters comparison by the general WB level are presented in Fig. 1.
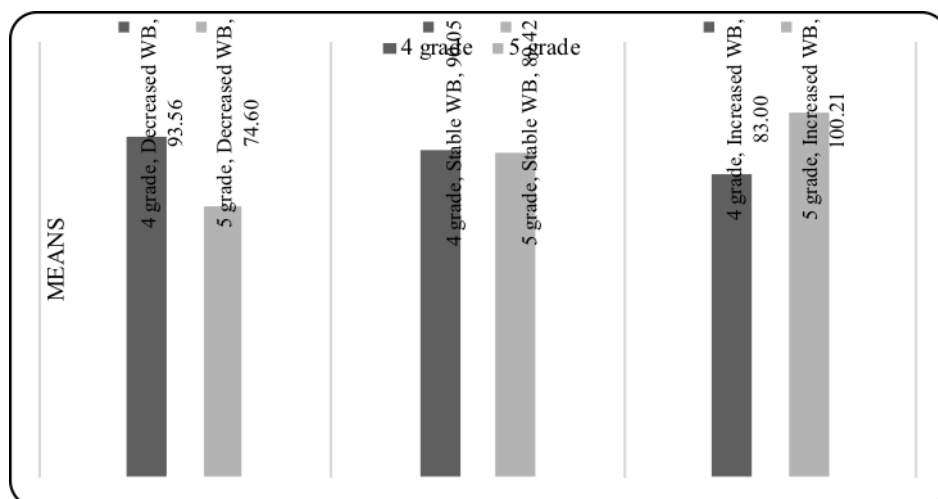
Figure 01. Comparison of the distinguished groups by the general WB level in 4th and 5th grades

Comparing the mean values of the general WB level in the «Decreased WB» cluster we can see that in the 4th grade these students demonstrated the highest WB indicators, yet in the 5th grade their well-being decreased to the lowest level in the sample. The students of the «Increased WB» cluster are characterized by the opposite dynamics. The analysis shows that in the 4th grade the general WB level in «Decreased WB» and «Stable WB» clusters was approximately the same (93.5 and 90, respectively). One part of the students was able to maintain their WB level, yet in the other part it significantly decreased. This result allowed us to assume that the identified trajectories are determined by the regulatory and / or personality characteristics of the students.

6.2. Specifics of the conscious self-regulation and its dynamics in the students with different trajectories of psychological WB changes

To test an assumption that students' WB dynamics is related to their level of conscious SR, the variance analysis was performed comparing the regulatory processes, regulatory-personal features and the general SR level in three isolated clusters. The analysis of SR characteristics in the clusters of the 4th-graders (SRPLAQ) showed no significant differences in all SR indicators. In the 5th grade, significant differences were identified in the Responsibility and General SR level. Differences in the Results Evaluation is revealed at the trend level. The comparison results are presented in Table 3.

Table 03. Comparative analysis of the self-regulation parameters (5th grade) in the groups with different WB trajectories

	Stable WB		Increased WB		Decreased WB		P
	mean	σ	mean	σ	mean	σ	
Planning	3,82	1,535	4,38	,079	3,71	1,268	,079
Modelling	3,13	1,692	3,40	,337	2,75	1,775	,337
Programming	3,62	1,658	4,26	,160	4,00	1,668	,160
Results evaluation	3,13	1,620	3,30	,059	2,33	1,579	,059

Flexibility	3,18	1,546	3,64	,160	3,13	1,227	,160
Independence	3,43	1,407	3,96	,115	3,88	1,154	,115
Reliability	2,88	1,530	3,22	,207	2,54	1,351	,207
Responsibility	3,58	1,576	4,14	,019	3,08	1,586	**,019**
General SR level	26,78	8,230	30,30	,022	25,42	7,395	**,022**

These results highlighted that students of the «Increased WB» cluster in the 5th grade had the highest SR level, while students of the «Decreased WB» cluster had the lowest SR level. Figure 2 shows the mean SR indicators in obtained clusters.
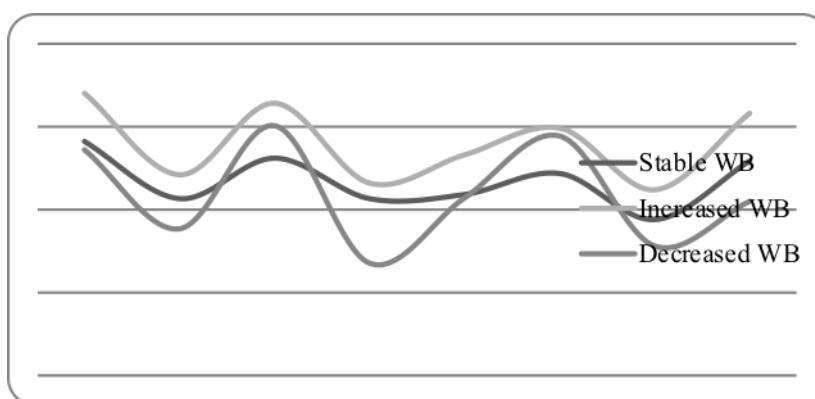

Figure 02. Comparison of the mean values of self-regulation parameters in three clusters*: Plan — Planning, Mod — Modeling, Prog — Programming, Res_ev — Results evaluation, Flex — Flexibility, Indep — Independence, Reliab — Reliability, Respons — Responsibility*

Fig.2 shows that students of the «Stable WB» cluster are characterized by a harmonious profile of self-regulation. SR profiles of the «Decreased WB» and «Increased WB» clusters seem to be similar as they look accentuated, however, some indicators of the «Decreased WB» cluster tend to achieve the level of the «Increased WB» cluster (in Programming and Autonomy), and the other indicators are much lower (Modeling, Results Evaluation, and Responsibility). Thus, a pairwise comparison of clusters by means of the variance analysis showed that students of the «Decreased WB» cluster significantly differ from those of the «Stable WB» (p = 0.043) and «Increased WB» (p = 0.024) clusters. Besides, the «Decreased WB» cluster students have significantly lower Responsibility indicators than those of the «Increased WB» cluster (p = 0.007). The obtained results allow to conclude that students who are able to identify conditions relevant for the learning goals achievement, to quickly navigate in the changing situation and to choose, according to the conditions, the program of their learning activities (the Modeling process), can as well formulate the criteria of their learning activity success, flexibly adapt to their changes in the training conditions (Flexibility), be attentive to the teachers' requirements (Results Evaluation). A high level of these processes development ensures the maintenance of a consistently high level of the students' psychological WB during their transition from the primary to secondary school.

In addition, we evaluated the changes in the conscious SR indicators measured with the Self-Regulation Profile Questionnaire - Junior during the students' transition from 4th to 5th grade. The

analysis was performed on the obtained clusters by means of the non-parametric Wilcoxon test for two related samples. In their 5th grade the students of the «Decreased WB» cluster have a significant tendency to decrease the mean values in such SR parameters as Modeling (z-statistic = -1.958, p = 0.050), Results Evaluation (z-statistic = -2.234, p = 0.025), and the General SR level (z-statistic = -2,086, p = 0.037). Students of the «Stable WB» cluster have a significant tendency to increase the mean values in Planning (z-statistic = -1.960, p = 0.050) and Responsibility (z-statistic = -2.105, p = 0.035). The «Increased WB» cluster students, compared with those of the «Stable WB», have a stronger significant increase of the mean values in the Results Evaluation (z-statistic = -2.373, p = 0.018), Flexibility (z-statistic = - 3.989, p = 0.000), and the General SR level (z-statistic = -3.451, p = 0.001).

It is shown that more developed SR processes and regulatory-personal features of the students lead to more successful process of their transition to a new system of education in the secondary school and higher levels of their psychological WB. It's worth saying that the changes in the SR processes and properties in the «Decreased WB» and «Increased WB» clusters are observed mainly in Modeling, Results Evaluation and Flexibility, i.e. those SR components that are responsible for smart orientation in the situation, the ability to understand key mistakes and promptly correct them, to adapt flexibly to the new system of requirements.

Thus, the mechanism for maintaining high WB level in the students of the «Stable WB» cluster is the developed regulatory process «Planning» and the high level of the regulatory-personal property «Responsibility». It can be assumed that this group consists of the students consciously setting their learning goals and responsibly achieving them. The WB increase is ensured by flexible adaptation to the requirements of the new teachers replacing the only teacher of a primary school. The WB decrease occurs due to the students' inability to assess the conditions relevant for the learning goals achievement as well as their disregarding the feedback given by the teachers in the form of assessments, comments and recommendations.

6.3. Personality features and attitude toward learning in the students with differing WB trajectories

To analyze the differences in personality characteristics of the students with different WB dynamics, a pairwise comparison of the clusters was performed taking into account the Big 5 indices. Significant differences between the clusters were revealed only in the Extroversion parameter. Students of the «Decreased WB» cluster demonstrate the highest indices of this personality characteristic having significant difference with the «Stable WB» cluster at p = 0.039.

When comparing the students' attitude toward learning, significant results have been obtained concerning their general motivational and emotional attitude toward learning and the negative emotions of Anger and Anxiety. Students of «Increased WB» cluster have significantly lower levels of Anxiety (p = 0.005) and Anger (p = 0.004) and a higher level of cognitive activity (at the level of trend p=0,05) compared to the students of the «Decreased WB» cluster. Similar results were obtained when comparing the students with «Increased WB» cluster with those of the «Stable WB», but at the trend level. These data do not contradict to the previously obtained results. In case of high cognitive activity and achievement motivation positive emotions play a key role in maintaining high academic success and

engagement. If cognitive activity and achievement motivation are at the middle level, it is the self-regulation that determines the students' success, while positive emotions are not of significant importance. A combination of low cognitive activity, middle self-regulation level and low achievement motivation makes negative emotions a significant factor of underachieving at school (Bondarenko, 2016).

7. Conclusion

- Three trajectories of changes in the students' psychological well-being were revealed during their transition from primary to secondary school: «increased WB» (37%), «stable WB» (45%) and «decreased WB» (18% of sample). It is shown that the majority of pupils managed to maintain and increase their WB level during the transition to a new stage of education through actualizing their regulatory and intrapersonal resources.

- Groups with different WB trajectories differ in their regulatory resources of adaptation to the new learning conditions that are actualized in the 5th grade. Students with increased WB turn to be most successful in their adaptation and are characterized by high levels of the regulatory processes of Modeling and Results Evaluation, and the regulatory-personal property of Flexibility. Students with a stable WB are characterized by their high levels of Planning and Responsibility. Students with decreased WB are distinguished by the lowest levels of Modeling, Results Evaluation, Reliability and Responsibility.

- Students with different WB trajectories have their specific motivational and emotional attitude to learning and related personal dispositions. It is expressed in the reduced cognitive activity, high level of anxiety, and high extraversion in the students whose psychological well-being decreased during their transition from primary to secondary school.

- The prospect of further research is the study of the role and contribution of the regulatory and personality characteristics in maintaining students' psychological well-being.

References

Andreeva A.D. & Prikhozhan A.M. (2006) Metodika diagnostiki motivacii ucheniya i emocional'nogo otnosheniya k ucheniyu v srednih i starshih klassah shkoly [Method of Diagnostic of learning motivation and emotional attitude to learning in secondary and high school] *Psychological diagnostics*, *1*, 33-38.

Appleton, J. J., Christenson, S. L., & Furlong, M. J. (2008). Student engagement with school: Critical conceptual and methodological issues of the construct. *Psychology in the Schools*, *45*(5), 369-386.

Baltes, P.B. (1997). On the incomplete architecture of human ontology: Selection, optimization, and compensation as foundation of developmental theory. *American Psychologist, 23*, 366–380.

Bondarenko, I.N. (2016). The role of positive emotions and type of feedback in self-regulation of learning goals achievement: experimental research. *7th International Conference on Intercultural Education "Education, Health and ICT for a Transcultural World", EDUHEM* (pp. 405-411). Almeria, Spain.

Eryilmaz, A. (2012). A model for subjective well-being in adolescence: Need satisfaction and reasons for living. *Social Indicators Research*, *107*(3), 561-574.

Fogle, L. M., Huebner, E. S., & Laughlin, J. E. (2002). The relationship between temperament and life satisfaction in early adolescence: Cognitive and behavioral mediation models. *Journal of Happiness Studies*, *3*(4), 373-392.

Fomina T.G., Eftimova O.V., & Morosanova V.I. (2017) Self-Regulation and Personality characteristics of elementary school children with School Life Satisfaction. *The European Proceedings of Social & Behavioural Sciences EpSBS*, *33*, 104-112. http://dx.doi.org/10.15405/epsbs.2017.12.11

Fredericks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research*, *74*, 59–109.

Freund, A. M., & Baltes, P. B. (2002). Life-management strategies of selection, optimization and compensation: Measurement by self-report and construct validity. *Journal of personality and social psychology*, *82*(4), 642.

Gestsdottir, S., & Lerner, R. M. (2008). Positive development in adolescence: The development and role of intentional self-regulation. *Human Development*, *51*(3), 202-224.

Gomez, V., Allemand, M., & Grob, A. (2012). Neuroticism, extraversion, goals, and subjective well-being: Exploring the relations in young, middle-aged, and older adults. *Journal of research in personality*, *46*(3), 317-325.

Hayes, N., & Joseph, S. (2003). Big 5 correlates of three measures of subjective well-being. *Personality and Individual differences*, *34*(4), 723-727.

Holder, M. D., & Klassen, A. (2010). Temperament and happiness in children. *Journal of Happiness Studies*, *11*(4), 419-439.

Klug, H. J., & Maier, G. W. (2015). Linking goal progress and subjective well-being: A meta-analysis. *Journal of Happiness Studies*, *16*(1), 37-65.

Lewis, A. D., Huebner, E. S., Malone, P. S., & Valois, R. F. (2011). Life satisfaction and student engagement in adolescents. *Journal of Youth and Adolescence*, *40* (3), 249-262.

Malykh S.B., Tikhomirova T.N. & Vasin G.M. (2015) Adaptatsiya russkoyazychnoy versii oprosnika «Bol'shaya pyaterka – detskiy variant [Adaptation of the Russian version of the «Big Five Questonnaire – Children (BFQ-C)»]. *Teoreticheskaya i eksperimentalnaya psikhologiya, 4*(8)*,* 6-12.

Massé, R., Poulin, C., Dassa, C., Lambert, J., Bélair, S., Battaglini, A. (1998). The Structure of Mental Health: Higher-Order Confirmatory Factor Analyses of Psychological Distress and Well-Being Measures. *Social Indicators Research*, *45*(1–3), 475–504.

McCabe, K., Bray, M. A., Kehle, T. J., Theodore, L. A., & Gelbar, N. W. (2011). Promoting happiness and life satisfaction in school children. *Canadian journal of school psychology*, *26*(3), 177-192.

Morosanova V.I., Fomina T G., Kovas Y. & Bogdanova O.Y. (2016). Cognitive and regulatory characteristics and mathematical performance in high school students. *Personality and Individual Differences, 90*, 177-186.

Morosanova, V. I., Bondarenko, I. N. (2015). *Diagnostika samoregulyatsii cheloveka* [Diagnostics of self-regulation of human]. Moscow: Kogito-Tsentr.

Morosanova, V.I. (2013). Self-regulation and Personality. *Procedia - Social and Behavioral Sciences, 86,* 452-457.

Raffaelli, M., & Crockett, L. J. (2003). Sexual risk taking in adolescence: the role of self-regulation and attraction to risk. *Developmental psychology*, *39*(6), 1036.

Suldo, S. M., & Shaffer, E. J. (2008). Looking beyond psychopathology: The dual-factor model of mental health in youth. *School Psychology Review*, *37*(1), 52.

Suldo, S. M., Minch, D. R., & Hearon, B. V. (2015). Adolescent life satisfaction and personality characteristics: Investigating relationships using a five factor model. *Journal of Happiness Studies*, *16*(4), 965-983.

Zimmerman, S. M., Phelps, E., & Lerner, R. M. (2007). Intentional self-regulation in early adolescence: Assessing the structure of selection, optimization, and compensation processes. *International Journal of Developmental Science*, *1*(3), 272-299.