Individually-Typological Features of the Relationship of Conscious Self-regulation, Psychological Well-being, and Academic Achievement in 6th Grade Students[¤]

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ABSTRACT

Background. This paper was prepared in the context of the under-investigated aspect of the immediate problem of individually-typological manifestations of non-cognitive predictors of academic achievement at school.

Objective: the analysis of individually-typological relationships between conscious self-regulation, psychological well-being, and academic achievement of 6th grade school students.

Design. The sample consisted of 169 children (average age 11.9 years). The following tools were applied: "The Self-Regulation Profile of Learning Activity Questionnaire" (SRPLAQ) by V.I. Morosanova, the Russian version of "Well-Being Manifestation Measure Scale" (Morosanova et al.), the Russian version of «Big Five Questionnaire — Children Version: BFQ-C» (Malykh et al.), the "Attitude towards learning in middle and high school" questionnaire which is a modification of the "Method of diagnostic of learning motivation and emotional attitude to learning in secondary and high school" (Andreeva, Prikhozhan), and the "Academic Motivation Scale — School" (AMS-S) questionnaire (Gordeeva et al.).

Results. Five individually-specific profiles with a different degree of psychological well-being, conscious self-regulation, and academic achievement were registered. It was revealed that high academic achievement was supported by learning motivation and psychological well-being, while psychological well-being of the students with medium achievement was supported by their conscious self-regulation. In case of insufficient well-

being and self-regulation, this situation can be improved by means of regulatory flexibility, cognitive motivation, and conscientiousness. If the afore mentioned values are at medium level, students' achievement can be supported by achievement and self-respect motivation, as well as motivation to avoid failure. Students with low academic performance can potentially improve it by means of self-development motivation, achievements, and evaluation of their results. For this category, the source of maintaining psychological well-being is planning, responsibility, and cognitive motivation.

Conclusion. The obtained results can be used both for the design of personalized psychological and educational developmental programs for conscious self-regulation, and for the support of psychological well-being and academic achievement in students. New results that require additional research to be explained are discussed as well.

Keywords: Differential approach, individually-specific profiles, conscious self-regulation, psychological well-being, academic achievement

Highlights:

- The differential approach allows a complex study of the manifestations of the relationship between well-being, self-regulation, and academic achievement on the individual level.

- 6th grade students typically demonstrate five combinations of degrees of psychological well-being, self-regulation, and academic achievement.

- Personality features and learning motivation act as resources for higher results and well-being in the groups where they are more pronounced.

- Conscious self-regulation is a significant resource for the improvement of academic achievement and psychological well-being in the groups where their level is lower.

АБСТРАКТ

Актуальность. Работа выполнена в контексте малоизученного аспекта актуальной проблемы индивидуально-типических проявлений некогнитивных предикторов академических достижений школьников.

Цель исследования: анализ индивидуально-типических особенностей взаимосвязи осознанной саморегуляции, психологического благополучия с академической успеваемостью учащихся 6-х классов.

Дизайн. Выборку исследования составили 169 человек (средний возраст — 11,99 лет). Использовались: просник В.И. Моросановой «Стиль саморегуляции учебной деятельности (ССУД-М 52)», русскоязычная версия опросника «Шкала проявлений психологического благополучия подростков» (Моросанова и др.), русскоязычная версия опросника «Большая пятерка — детский вариант» (Малых и др.), опросник «Отношение к учению в средних и старших классах школы» (ОУУ) — модификация «Методики диагностики мотивации учения и эмоционального отношения к учению в средних и старших классах школы — МЭОУ» (Андреева, Прихожан), опросник «Шкала академической мотивации школьников — ШАМ-Ш» (Гордеева и др.).

Результаты. Выделено пять индивидуально-типических профилей с различной выраженностью психологического благополучия, осознанной саморегуляции и академической успеваемости. Обнаружено, что высокая успеваемость поддерживается академической мотивацией и психологическим благополучием. Психологическое благополучие учащихся со средней успеваемостью поддерживается осознанной саморегуляцией. Успеваемость таких учащихся может быть повышена за счет регуляторной гибкости, познавательной мотивации и добросовестности, если

благополучие и саморегуляция низкие, а если они средние, она поддерживается мотивацией достижения и самоуважения, а также мотивацией избегания неудач. Учащиеся с низкой успеваемостью потенциально могут ее повысить за счет мотивации саморазвития, достижения и оценивания результатов. Ресурсом поддержания психологического благополучия в данной группе являются планирование, ответственность и познавательная мотивация.

Выводы. Полученные результаты могут использоваться для подготовки индивидуализированных психолого-педагогических программ развития осознанной саморегуляции, а также поддержания психологического благополучия и академической успешности учащихся. Обсуждаются новые результаты, требующие проведения дополнительных исследований для их объяснения.

Ключевые слова: Дифференциальный подход, индивидуально-типические профили, осознанная саморегуляция, психологическое благополучие, академическая успеваемость

Ключевые положения:

- Дифференциальный подход позволяет комплексно исследовать проявления взаимосвязи благополучия, саморегуляции и академической успешности на индивидуальном уровне.
- Шестиклассникам характерно 5 вариантов сочетаний академической успеваемости, психологического благополучия и саморегуляции.
- Личностные черты и академическая мотивация выступают ресурсами успеваемости и благополучия в группах с их высокой выраженностью.
- Осознанная саморегуляция является значимым ресурсом повышения академической успеваемости и психологического благополучия в группах с их средней и низкой выраженностью.

RESUMEN

Introducción. Este artículo fue preparado en el contexto del aspecto poco investigado del problema inmediato de las manifestaciones tipológicas individuales de los predictores no cognitivos del rendimiento académico en la escuela.

Objetivo. El análisis de las relaciones individual-tipológicas entre la autorregulación consciente, el bienestar psicológico y rendimiento académico de estudiantes de sexto grado de la escuela.

Diseño. La muestra consistió de 169 niños (edad media de 11,99 años). Se aplicaron las siguientes herramientas: "El Perfil de Autorregulación del Cuestionario de Actividades de Aprendizaje" (SRPLAQ) de V.I. Morosanova, la versión rusa de la "Escala de medida de la manifestación del bienestar" (Morosanova et al.), la versión rusa del "Cuestionario de los Cinco Grandes — Versión Infantil: BFQ-C" (Malykh et al.), la "Actitud hacia el aprendizaje en escuela secundaria y preparatoria" que es una modificación del "Método de diagnóstico de la motivación para el aprendizaje y la actitud emocional hacia el aprendizaje en la escuela secundaria y preparatoria" (Andreeva, Prikhozhan), y la "Escala de Motivación Académica — Escuela" (AMS-S) (Gordeeva et al.).

Resultados. Se describieron cinco perfiles individuales específicos con diferente grado de bienestar psicológico, autorregulación consciente y rendimiento académico. Se reveló que el rendimiento académico alto se apoyó en la motivación de aprendizaje y el bienestar psicológico, mientras que el bienestar psicológico de los estudiantes con rendimiento medio se apoyó en su autorregulación consciente. En caso de bienestar y autorregulación insuficientes, esta situación puede mejorarse mediante la flexibilidad regulatoria, la motivación cognitiva y la conciencia. Si los valores mencionados se encuentran en un nivel

medio, el logro de los estudiantes puede estar respaldado por la motivación de logro y el respeto por sí mismo, así como por la motivación para evitar el fracaso. Los estudiantes con bajo rendimiento académico pueden potencialmente mejorarlo mediante la motivación al autodesarrollo, los logros y la evaluación de sus resultados. Para esta categoría, la fuente de mantenimiento del bienestar psicológico es la planificación, la responsabilidad y la motivación cognitiva.

Conclusión. Los resultados obtenidos pueden ser utilizados tanto para el diseño de programas personalizados de desarrollo psicológico y educativo para la autorregulación consciente, como para el apoyo al bienestar psicológico y al rendimiento académico de los estudiantes. También se discuten nuevos resultados que requieren investigación adicional para ser explicados.

Palabras clave: Enfoque diferencial, perfiles individuales específicos, autorregulación consciente, bienestar psicológico, rendimiento académico

Destacados:

- El enfoque diferencial permite un estudio complejo de las manifestaciones de la relación entre el bienestar, la autorregulación y el rendimiento académico a nivel individual.

- Los estudiantes de sexto grado suelen demostrar cinco combinaciones de grados de bienestar psicológico, autorregulación y rendimiento académico.

- Los rasgos de personalidad y la motivación por el aprendizaje actúan como recursos para obtener mejores resultados y bienestar en los grupos donde son más acentuados.

- La autorregulación consciente es un recurso importante para la mejora del rendimiento académico y el bienestar psicológico en los colectivos en los que su nivel es más bajo.

RESUME

Origines. Ce travail a été réalisé dans le contexte d'un aspect peu étudié du problème actuel des manifestations individuelles typiques des prédicteurs non cognitifs des réalisations académiques des écoliers.

Objectif. Le but de cette étude est d`analyser des caractéristiques individuelles typiques de la relation entre l'autorégulation consciente, le bien-être psychologique et la performance scolaire des élèves de 6e année.

Mise au point. L'échantillon de l'étude était composé de 169 personnes (âge moyen - 11,99 ans). Méthodes utilisées : « Le Questionnaire sur le style individuel d'autorégulation des activités éducatives », comprenant 52 questions sous la forme d`affirmation, la version russe du questionnaire « Échelle de mesure des manifestations du bien-être psychologique » (Morosanova V. I. et autres), la version russe du questionnaire « Big Five - version pour enfants » (Malykh, S. B.et autres), le questionnaire « Attitudes envers l'apprentissage au collège et au lycée » qui est une modification de «la Méthodologie de diagnostic de la motivation pour l'apprentissage et de l'attitude émotionnelle à l'apprentissage au collège et au lycée » (Andreeva A. D., Prikhojan A. M.), le questionnaire « Échelle de motivation scolaire des écoliers » (Gordeeva T. O. et autres).

Résultats. Cinq profils individuels typiques avec une gravité différente du bien-être psychologique, de l'autorégulation consciente et des performances scolaires ont été identifiés. Il a été constaté que des performances académiques élevées sont soutenues par la motivation académique et le bien-être psychologique. Le bien-être psychologique des élèves ayant des résultats scolaires moyens est soutenu par une autorégulation consciente. La performance de ces élèves peut être améliorée par la flexibilité réglementaire, la mo-

tivation cognitive et la conscience, si le bien-être et l›autorégulation sont faibles, et s›ils sont moyens, elle est soutenue par la motivation de réussite et d›estime de soi, ainsi que par l›évitement de l›échec motivation. Les étudiants ayant de faibles performances scolaires peuvent potentiellement les améliorer en raison de la motivation du développement personnel, de la réalisation et de l›évaluation des résultats. Les ressources pour maintenir le bien-être psychologique dans ce groupe sont la planification, la responsabilité et la motivation cognitive.

Conclusion. Les résultats obtenus peuvent être utilisés pour préparer des programmes psychologiques et pédagogiques individualisés pour le développement de l'autorégulation consciente, ainsi que le maintien du bien-être psychologique et de la réussite scolaire des étudiants. De nouveaux résultats sont discutés qui nécessitent des recherches supplémentaires pour les expliquer.

Mots-clés: Approche différentielle; profils individuellement typiques; autorégulation consciente; bien-être psychologique; des progrès scolaires

Points principaux:

- L'approche différentielle permet d'explorer en profondeur les manifestations des relations entre le bien-être, l'autorégulation et la réussite scolaire au niveau individuel.

- Les élèves de sixième année se caractérisent par 5 combinaisons d`efficience scolaire, de bien-être psychologique et d'autorégulation.

- Les traits personnels et la motivation scolaire agissent comme des ressources pour la réussite scolaire et le bien-être dans les groupes avec leur grande sévérité.

- L'autorégulation consciente est une ressource importante pour améliorer les performances scolaires et le bien-être psychologique dans les groupes avec leur intensité moyenne et faible.

Introduction

Differential variations in the manifestation of psychological phenomena and laws are of utmost interest and importance for the research in present-day psychological science (von Eye, Bogat, 2006). Multiple studies describe differential variations in the manifestation of personal dispositions (Ferguson, Hull, 2018), as well as motivational (Lazarides, Dietrich, Taskinen, 2019), and regulatory specifics (Dörrenbächer, Perels, 2016). In Russian psychological science, typological approach is applied in the studies of conscious self-regulation under the leadership of V.I. Morosanova. Conscious self-regulation (CSR) is understood as a reflective mean of organization of personal activity based on the self-organization of various subsystems of regulatory processes (Morosanova, 2014; 2021). The differential approach to the studies of conscious self-regulation derives from the ideas of CSR's stylistic specifics such as individual characteristics of organization of internal and external activities that consistently manifest themselves in different situations and contexts (Morosanova, 2020). These specifics can be described through individual profiles of regulatory competences in the planning of learning goals, modelling of important conditions and achieving them, programming of learning activities and evaluation of their

results, and personal regulatory features such as flexibility, independence, responsibility, and reliability (Morosanova, 2020; 2021). Individually-typological profiles are viewed as a universal regulatory resource allowing the individual forming personalized regulation styles for different activities that would structurally match not only one's personality, but the requirements of this particular activity as well (Morosanova, 2020; 2021). The typologies of personal regulatory resources of efficient achievement of different goals are designed for various activities, including learning (Morosanova, 2020).

The problem of the relationship between self-regulation, academic achievement, and psychological well-being is of immediate interest for researchers, and the subject of many contemporary studies (Richardson et al., 2012); (Morosanova et al., 2018); (Dent, Koenka, 2016); (Steinmayr et al., 2018); (Morosanova, Fomina, 2019). We understand psychological well-being (PWB) based on K. Riff's concept. She studied this phenomenon from the perspective of being content with one's self-actualization in a particular life situation, and of achieving the harmony of goals, values, and meanings. PWB is one of the indicators of positive development in students. Those with high PWB level demonstrate better results, engagement, academic self-efficiency, and lower level of academic stress (Antaramian, 2017); (Steinmayr et al., 2018). According to various research works, psychological mechanisms related to the actualization of self-processes affect PWB to the highest extent; among them, self-orientation (Moreira et al., 2015), self-control (Ronen et al., 2016), and self-regulation (Fomina, Eftimova, Morosanova, 2017). Another promising line of research is the regulatory characteristics as significant predictors of PWB (Tavakolizadeh et al., 2012); (Tian et al., 2017). Self-regulation is understood as an efficient supporting mean for psychological well-being (van Genugten et al., 2017). The studies held by our laboratory also revealed that self-regulation (SR) was indeed, a strong predictor both of PWB and academic achievement (Fomina, Eftimova, Morosanova, 2018); (Morosanova, Fomina, 2019). It can also act as a mediator for the personality dispositions that affect PWB, such as extroversion, conscientiousness, and openness to a new experience (Fomina, Morosanova, Makushina, 2019). Our longitudinal study revealed that in the 4th and 5th grade students, SR was not only a strong predictor of PWB in the fourth grade but continued to affect it in the fifth (Fomina, Burmistrova-Savenkova, Morosanova, 2020).

Despite a considerable amount of research works aimed at the analysis of general patterns of the relationship between psychological well-being, self-regulation, and academic achievement, our literature review didn't localize any studies focused on a complex investigation of these patterns on a personal level. Therefore, the goal of this work is the analysis of individually-typological features of the relationship between psychological well-being, self-regulation, and academic achievement in the 6th grade students. The research questions are the following: 1) What are the individually-typological features of such a relationship? 2) What are the resources of academic achievement and well-being of 6th graders depending on the type of their profile?

Methods

Participants

The sample consisted of 169 6th grade students from Moscow and Kaluga schools (47% — females). Average age was 11.99 years.

Procedure

1. "The Self-Regulation Profile of Learning Activity Questionnaire" (SRPLAQ) by V.I. Morosanova, (Morosanova, Bondarenko, 2017). Scales: planning, modelling, programming, results evaluation, flexibility, independence, responsibility, reliability, and the integrative indicator, i.e. general CSR level.

2. "Well-Being Manifestation Measure Scale" (Masse et al., 1998, adapted by Morosanova, Bondarenko, Fomina, 2018). Scales: control of self and events, sociability, happiness, social involvement, self-esteem, mental balance, and the integral scale for psychological well-being.

3. The Russian version of «Big Five Questionnaire — Children Version: BFQ-C» (adapted by Malykh, Tikhomirova, Vasin, 2015). Scales: extroversion, openness, conscientiousness, agreeableness, and neuroticism.

4. "Attitude towards learning in middle and high school" which is a modification of the "Method of diagnostic of learning motivation and emotional attitude to learning in secondary and high school" (Andreeva, Prikhozhan, 2006). Scales: cognitive activity, achievement motivation, anxiety, anger, motivation to avoid failure, and general indicator of attitude to learning (integral level).

5. "Academic Motivation Scale — School" (AMS-S) questionnare (Gordeeva et al., 2017). Scales: cognitive motivation, achievement motivation, self-development motivation, self-respect motivation, introjected motivation, motivation for parents' respect, external motivation, and amotivation.

We used the mean total annual grade of the students in all disciplines as the academic achievement indicator.

Results

1. Cluster analysis results

In order to define the profiles of relationship between psychological well-being, self-regulation, and academic achievement, we applied cluster analysis (Ward's method) to the sample consisting of the 6th graders (see *Figure 1*). The clustering was based on the standard values of general level of conscious self-regulation, general level of psychological well-being, and average score in academic achievement (z-scores). Five groups were discovered that differed in the degree of manifestation of psychological well-being (PWB), self-regulation (SR), and academic achievement (see the picture below).
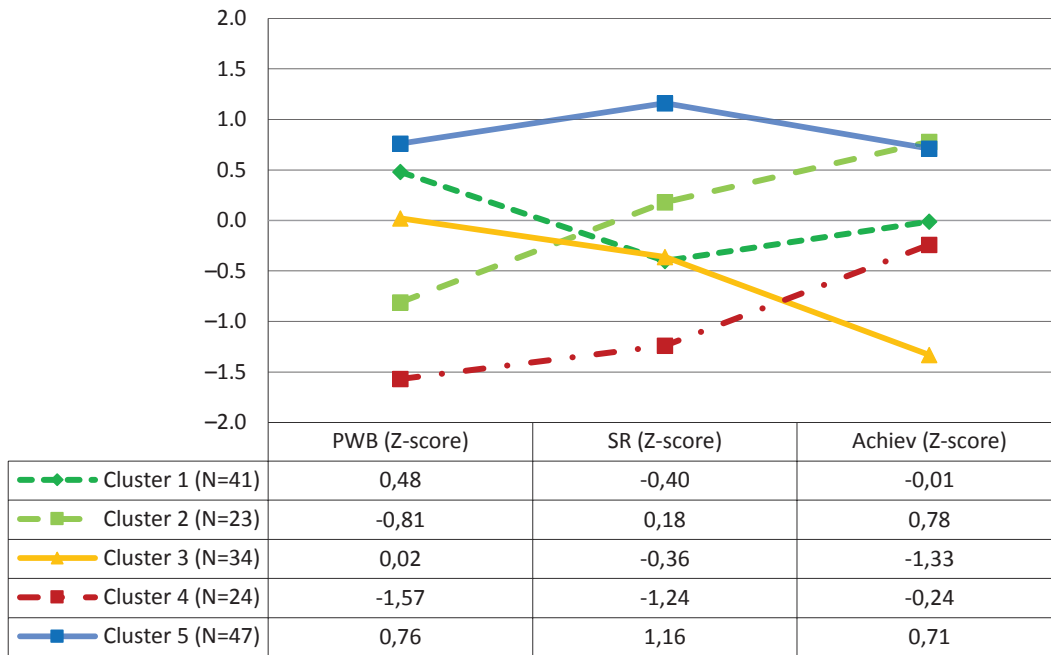
	PWB (Z-score)	SR (Z-score)	Achiev (Z-score)
Cluster 1 (N=41)	0,48	-0,40	-0,01
Cluster 2 (N=23)	-0,81	0,18	0,78
Cluster 3 (N=34)	0,02	-0,36	-1,33
Cluster 4 (N=24)	-1,57	-1,24	-0,24
Cluster 5 (N=47)	0,76	1,16	0,71

Figure 1. Profiles of the relationship between conscious self-regulation, psychological well-being, and academic achievement. Symbols: PWB — psychological well-being, SR — self-regulation, Achiev — academic achievement

See *Table 1* for more detailed description of the groups (mean values for all the indicators were analysed for each group).

Table 1 demonstrates that Group 1 (N = 41) is characterized by a mean degree of manifestation of all indicators, SR, PWB, and academic achievement. Motivational indexes and personality dispositions were also at the medium level. In Group 2 (N = 23), high academic achievement was combined with one of the lowest levels of PWB among all 6th graders. Having a medium SR, they obtained quite high scores for internal motivation, but at the cost of pronounced anxiety and neuroticism. Group 3 (N = 34) had the lowest academic results, but the SR and PWB were on the medium level. Along with medium motivation scores, this group demonstrated low neuroticism and well-pronounced motivation to avoid failure. It is interesting that the programming score was the highest in this group, but it was also combined with low regulatory reliability, and the lowest results evaluation score, if compared to other groups. Group 4 (N = 24) had the lowest PWB and SR, as well as the lowest score for the openness to new experience, conscientiousness, extroversion; high anxiety and anger, external motivation, and amotivation. Surprisingly, academic achievement remained on the medium level in these students. Last but not least, Group 5 (N = 47) demonstrated the highest academic achievement, PWB, and conscious SR scores.

The resources of academic achievement, and psychological well-being were then analysed in the revealed profiles.

Table 1

Mean values of all research indicators in identified groups

	Group 1 (N=41)	Group 2 (N=23)	Group 3 (N=34)	Group 4 (N=24)	Group 5 (N=47)
Psychological well-being (General level)	103.1	82.65	95.76	70.46	107.62
Self-regulation (General level)	26.76	31.48	27.09	19.96	39.36
Achievement (mean grade)	3.95	4.42	3.15	3.81	4.38
Extroversion	45.07	41.57	43.38	38.29	49.23
Agreeableness	46.56	44.57	43.65	41.04	53.15
Conscientiousness	42.61	43.43	41.76	36.92	51.47
Neuroticism	31.63	34.43	29.68	39.58	24.34
Openness to experience	43.95	45.39	42.15	40.17	53.17
Cognitive activity	17.61	16.35	17.56	15.29	19.49
Achievement motivation	18.56	18.61	16.91	16.42	20.11
Anxiety	11.24	12.3	12.18	15.54	9.38
Anger	11.22	10.91	11.65	14.5	8
Motivation to avoid failure	14.88	13.87	15.21	16.25	10.3
General level of attitude towards learning	−1.17	−2.13	−4.56	−14.58	11.91
Cognitive motivation	3.45	3.64	3.18	3.05	4.38
Achievement motivation	3	3.21	3.02	2.56	4.11
Self-development motivation	3.35	3.55	3.18	2.92	4.22
Self-respect motivation	3.76	3.86	3.49	3.02	4.3
Introjected motivation	3.3	3.43	3.43	3.44	3.38
Motivation for parents' respect	3.67	3.79	3.64	3.66	3.76
External motivation	3.38	3.26	3.42	3.56	2.74
Amotivation	2.41	2.02	2.61	2.64	1.45
Control of self and events	15.90	12.57	14.29	10.63	17.06
Happiness	20.90	16.61	20.00	13.83	22.06
Social involvement	16.22	13.87	15.41	11.88	17.19
Self-esteem	16.32	12.09	14.35	10.54	16.70
Mental balance	16.59	13.22	15.47	10.75	16.98
Sociability	17.17	14.30	16.24	12.83	17.62
Planning	4.00	4.70	3.85	2.75	5.38
Modelling	3.37	4.48	3.32	2.83	4.98
Programming	3.71	3.91	4.12	2.33	4.77
Results evaluation	2.78	3.17	2.35	2.42	4.51
Flexibility	3.34	3.74	3.35	2.96	4.89
Independence	3.29	3.48	3.59	2.67	4.34
Reliability	2.93	3.57	2.88	2.00	4.98
Responsibility	3.34	4.43	3.62	2.00	5.51

2. Regression analysis results

2.1. The significant predictors of academic achievement in groups with high, medium, and low mean grades are presented in *Table 2*, *3* and *4*.

Table 2

Significant predictors of academic achievement in groups with high academic achievement (groups 2 and 5)

Predictor	Group 2			Group 5		
	(N= 23)			(N=47)		
	R²	Significant predictors	β	R²	Significant predictors	β
Conscious self-regulation (processes and features)	0.47	Planning	0.89**	0.24	Programming	−0.40*
		Reliability	0.71**		Flexibility	*−0.28*
		Responsibility	−0.54*		Independence	0.35*
					Reliability	*−0.31*
Academic motivation	–	–	–	0.28	Achievement motivation	0.63*
					Amotivation	−0.49**
Big Five	0.42	Conscientiousness	−0.78**	0.18	Neuroticism	0.31*
		Neuroticism	0.51*			
Attitude to learning	0.32	Achievement motivation	0.95**	0.26	Motivation to avoid failure	−0.52*
Psychological well-being	0.52	Happiness	−0.68*	0.17	Social involvement	0.48**
		Mental balance	0.58*			
		Sociability	0.76*			

Note. Here and in the following tables: *** — p<0.001, ** — p<0.01, * — p<0.05, italic — tendency.

The students from Group 2 and 5 demonstrated a similarly high academic achievement level. However, the participants with Profile 5 had a higher SR and PWB level (see *Table 1*). *Table 2* shows that they also share a more positive attitude to learning, the highest internal motivation score, low anxiety, anger, neuroticism, as well as high extroversion, conscientiousness, agreeableness, and openness to a new experience. In Group 5, motivational indicators contributed the most to the academic performance. Achievement motivation turned out to be a significant positive predictor, while amotivation and the motivation to avoid failure were negative predictors. Independence and social involvement also became important contributors. Interestingly, we observed a positive effect of neuroticism in both high achieving groups. Apart from that, Group 2 demonstrated high scores for internal motivation and SR, but their integral indicators were lower than in Group 5. Besides, their level of anxiety and neuroticism is also higher, and it is also important to emphasize, their PWB level is one of the lowest among 6th graders. Nevertheless, it is the PWB that provides the

biggest contribution to the academic achievement in this group by means of mental balance and sociability. The negative influence of such PWB indicator as happiness is also very unusual. Planning and regulatory reliability play an important role, too, together with the negative contribution of responsibility and conscientiousness. Meanwhile, neuroticism, as mentioned before, provided a positive effect on the academic achievement of those children. Achievement motivation also showed high effect on academic achievement in this group.

Table 3

Significant predictors of academic achievement in groups with average academic achievement (groups 1 and 4)

Predictor	Group 1 (N=41)			Group 4 (N=24)		
	R²	Significant predictors	β	R²	Significant predictors	β
Conscious self-regulation (processes and features)	0.47	Flexibility	0.29*	0.58	Results evaluation	−1.14**
		Independence	−0.68***		Flexibility	0.48*
		Reliability	−0.38*			
Academic motivation	0.23	Self-respect motivation	0.67*	0.48	Cognitive motivation	0.60*
					Self-development motivation	−1.2**
					Motivation for parents' respect	*0.59*
					Amotivation	−0.55**
Big Five	–	–	–	0.42	Agreeableness	−0.79*
					Conscientiousness	0.75**
					Neuroticism	*0.48*
Attitude to learning	0.21	Achievement motivation	0.42*	0.58	Anxiety	0.79**
		Anxiety	*−0.47*		Anger	−1.0***
		Motivation to avoid failure	0.39*			
Psychological well-being	0.36	Mental balance	−0.62**	0.52	Control of self and events	−0.65*
					Social involvement	*0.50*

Group 1 and 4 demonstrated medium academic achievement level (see Table 1), but the resources for this indicator varied in these two groups (Table 3). Group 4 had the lowest PWB and SR levels, as well as the lowest scores for the following scales: openness to a new experience, conscientiousness, and extroversion. The level of neuroticism, anxiety and anger, external motivation, and amotivation was quite high. In this group, SR and attitude to learning became the most significant predictors to the

academic achievement. In particular, regulatory flexibility and anxiety played a positive role (which is typical for the first years of middle school), while anger and results evaluation affected children's performance negatively. PWB supported achievement through students' social involvement. On the other hand, it's important to note the negative contribution of control of self and events in this context. Cognitive motivation and motivation for parents' respect had a positive influence on the achievement, while self-development motivation and amotivation played a negative role. A significant positive contribution of neuroticism and conscientiousness was registered, while sociability turned out to be disadvantageous.

Group 1 had medium level of SR, PWB, and academic achievement. Their motivation and personality dispositions were also manifested on a medium level. Similarly to Group 4, the highest contribution to the students' academic performance was provided by SR, mostly due to flexibility. Academic motivation contributed through achievement and self-respect motivation. Motivation to avoid failures had a positive effect, while anxiety was rather jeopardizing. It is interesting to note the negative influence of independence, reliability, and mental balance. Apparently, this group's regulatory resources were insufficient to cover all students' needs.

Table 4

Significant predictors of academic achievement in group with low academic achievement (group 3)

Predictor	Group 3		
	(N=34)		
	R²	Significant predictors	β
Conscious self-regulation (processes and features)	0.47	Modeling	−0.49*
		Results evaluation	0.76**
Academic motivation	0.54	Self-development motivation	0.91*
Big Five	0.20	Openness to experience	0.48*
Attitude to learning	0.36	Achievement motivation	0.58*
		Anxiety	−0.54**
		Anger	0.60**
Psychological well-being	0.49	Control of self and events	0.59**
		Social involvement	0.39*
		Mental balance	−0.58***

Group 3 academic achievement was the lowest in the entire sample, while PWB and SR were pronounced on the medium level (see Table 1). Motivational indicators in this group were also low, together with neuroticism. However, motivation to avoid failures was high. In the *Table 4*, one can see that the most important contribution to the academic achievement in this group was provided by PWB and SR indicators, and academic motivation. Control of self and events, social involvement, self-devel-

opment motivation, and regulatory competence in results evaluation had a positive effect on the performance. Same as in Group 1, mental balance and modelling played a negative role. Achievement motivation, openness to a new experience, and anger, were significant positive predictors, while school-related anxiety reduced academic performance scores in these students.

2.2. The significant predictors of psychological well-being in the groups with high, medium, and low academic performance in all the disciplines are presented in *Table 5*, *6*, and *7*.

Table 5

Significant predictors of psychological well-being in groups with high academic achievement (groups 2 and 5)

Predictor	Group 2			Group 5		
	(N= 23)			(N=47)		
	R²	Significant predictors	β	R²	Significant predictors	β
Conscious self-regulation (processes and features)	0.49	Planning	0.73*	0.26	Programming	0.66***
		Modeling	*0.48*		Independence	–0.47**
		Flexibility	–0.51*			
		Reliability	0.56*			
Academic motivation	0.50	Learning motivation	0.71*	0.39	Introjected motivation	0.39*
		Self-respect motivation	–1.31**		Motivation for parents' respect	–0.63**
		Motivation for parents' respect	1.08**		Amotivation	–0.39*
		Amotivation	–0.46*			
Big Five	–	–	–	0.72	Extroversion	0.32*
					Conscientiousness	0.40*
Attitude to learning	0.40	Achievement motivation	0.56*	0.37	Motivation to avoid failure	–0.38*
		Anxiety	*–0.61*			
		Anger	0.85*			
Achievement	0.18	Mean grade	0.47*	0.16	Mean grade	0.43*

Table 5 demonstrates that SR and motivation became the PWB resources that contribute the most to the PWB level of Group2 (low medium PWB, medium SR, high academic achievement). In particular, we found significant effect of planning, reliability, modelling (tendency), cognitive motivation, motivation of parents' respect, achievement motivation as a component of attitude to learning, and anger. The results

also showed a negative effect of flexibility, self-respect motivation, amotivation, and anxiety (tendency). Note that personal dispositions didn't really play a significant role, while the academic achievement explained the lowest percentage of well-being variance.

In Group 5 (high level of PWB, high SR, high academic performance), PWB is mostly supported by extroversion and conscientiousness, together with motivational indicators, such as introjected motivation (positive), and motivation of parents' respect, amotivation, and motivation to avoid failures (negative). SR and academic achievement also provided significant contribution, but their effect was lower than that of personality and motivation. Moreover, while the latter played a positive role, the effect of the former was of dual nature: if programming played a positive role, then independence did the opposite.

Table 6

Significant predictors of psychological well-being in groups with average academic achievement (groups 1 and 4)

Predictor	Group 1			Group 4		
	(N=41)			(N=24)		
	R²	Significant predictors	β	R²	Significant predictors	β
Conscious self-regulation (processes and features)	0.39	Results evaluation	0.37**	0.52	Planning	0.52*
		Flexibility	0.51***		Results evaluation	0.69*
		Independence	0.39*		Responsibility	–0.61*
Academic motivation	0.28	Motivation for parents' respect	–0.47	–	–	–
		External motivation	0.65***			
		Amotivation	–0.41*			
Big Five	0.24	Extroversion	–0.86***	0.41	Extroversion	0.86*
		Openness to experience	0.42		Openness to experience	–1.04**
Attitude to learning	0.24	Anxiety	–0.50*	0.38	Cognitive activity	0.64*
Achievement	–	–	–	0.16	Mean grade	0.45*

Table 6 demonstrates that in Group 1 (medium PWB, medium achievement, and medium SR) it was SR that contributed to PWB the most due to results evaluation, flexibility, and independence. Academic motivation indicators also played an important role. On the other hand, external motivation played a positive role, while motivation of parents' respect and amotivation affected the students' PWB negatively. In regard to personality dispositions, extroversion played a negative role, while the openness to the new experience was a positive predictor. School-related anxiety contributed negatively, while the achievement caused no influence at all.

For the Group 4 (low PWB, low SR, medium achievement), SR also became the most important contributor of PWB. In particular, planning and results evaluation

played a positive role, while responsibility caused a negative influence. Interestingly, the contribution of extroversion and openness to a new experience in Group 4 was completely opposite than in Group 1. In other words, extroversion appeared as an important PWB resource, while openness to a new experience played a negative role. The results also revealed a significant positive effect of cognitive activity and academic achievement on PWB in this group.

Table 7

Significant predictors of psychological well-being in groups with low academic achievement (group 3)

| Predictor | Group 3 | | |
| | (N=34) | | |
	R²	Significant predictors	β
Conscious self-regulation (processes and features)	0.43	Planning	0.58*
		Flexibility	−0.44*
		Responsibility	0.56**
Academic motivation	0.39	Learning motivation	1.15**
		Achievement motivation	−0.63*
		External motivation	*−0.45*
Big Five	0.20	Extroversion	0.51*
Attitude to learning	0.28	Anxiety	−0.48*
		Anger	*0.40*
Achievement	0.08	Mean grade	*0.34*

Table 7 demonstrates that in Group 3 (medium SR, medium PWB, low achievement), SR was the most significant predictor of PWB, in particular, planning and responsibility (positive effect), and flexibility (negative). The second most important predictor turned out to be academic motivation: cognitive motivation and achievement motivation (positive contribution), and external motivation (negative). Extroversion also caused a positive effect, while school-related anxiety was disadvantageous. Anger tended to affect PWB positively, while the contribution of academic achievement was very low, and almost insignificant.

Discussion

This study analyzed individually-typological profiles of relationship between psychological well-being, conscious self-regulation, and academic achievement in 6th grade students. Some of these profiles coincide with the existing data on the connection of PWB, SR, and academic achievement (Morosanova, Fomina, 2019); (Virtanen et al., 2019). This holds true for Profile 5 with high level of all indicators, and Profile 1, with

medium level. For the first time we revealed profiles with low PWB, medium SR, and high achievement (Profile 2); with medium PWB and SR, and low achievement (Profile 3); and with low PWB and SR, but medium achievement (Profile 4).

It was also the first time when the supporting resources for academic achievement and psychological well-being were identified for these groups.

A) For children with high academic performance, it is neuroticism that supports it to a major extent. This result coincides with earlier data obtained on the 6th grade samples (Bondarenko, Potanina, Tsyganov, 2020); (Kuftyak, Tikhonova, 2019). If students had high SR and PWB level, motivational factors also contributed to their academic achievement, in particular, achievement motivation. Obtained results also suggest that the 6th graders belonging to this group already possess a subject position, given that their achievements are determined by the regulatory features of independence. It is important to emphasize that for this group, PWB is a significant resource for the achievement, while the PWB in turn is supported by extroversion and conscientiousness. It is also worth noting that high level of independence hinders well-being in this group. Perhaps, more successful and responsible students spend all their resources on the independent organization of learning activity, and since these resources get depleted (Baumeister, Tice, Vohs, 2018) there are not enough of them to maintain PWB.

B) For the students with high academic achievement, low PWB, and medium SR, it is the PWB (in particular, mental balance and sociability) that supports their academic performance. The negative contribution of responsibility and conscientiousness probably relates to the high anxiety in these children. We suggest that hyper-responsibility when combined with high anxiety, prevents successful performance in school. The resource role of neuroticism was described earlier. Academic motivation (especially, the cognitive one, and the motivation for parents' respect) and attitude to learning (achievement motivation) act as PWB resources. The positive contribution of anger to the well-being of these students seems quite paradoxical, though. Our analysis fails to explain this result. We suggest that this group requires additional attention from the part of educators and psychologists because their PWB at school is low, and it's related to their negative emotions towards the school. Meanwhile, their high academic achievement is based on hyper-responsibility and anxiety level.

B) In children with medium academic achievement, and low PWB and SR, the "resource map" seems quite surprising. According to mean values, these students have very low level of self-regulation skills, low PWB, negative attitude to learning, and low internal motivation. It seems that their relatively high performance at school is provided by strict parents' control (as confirmed by high external motivation and a significant contribution of the motivation for parents' respect). Considering negative effect of results evaluation and control of self and events, we suggest, that even if the level of these indicators increases and children are allowed to evaluate and correct their results independently, it will only result in decrease of performance, since these students are not capable of it, yet. The positive effect

of neuroticism and anxiety is probably related to the fact that a certain level of school-related anxiety stimulated these students to perform better. Other resources worth mentioning are flexibility, conscientiousness, and cognitive motivation. Their contribution was demonstrated in various research works (Richardson et al., 2012; Morosanova et al., 2018). With regard to PWB resources, it was the conscious SR that mostly supported it in this group of students. The development of the process of planning and results evaluation would allow these children improve their PWB (Morosanova, Bondarenko, Fomina, 2019), while high responsibility would, in fact, become an obstacle in this case. Thus, the analysis of academic achievement and psychological well-being resources results in a contradiction: the factors that improve the former at the same time lower the level of the latter, but it also grows together with the academic performance.

C) In case when the students had medium degree of all three indicators (conscious SR, PWB, and achievement), the achievement was supported by academic motivation. This group shows a significant positive contribution of achievement motivation, self-respect motivation, and the motivation to avoid failure, while school-related anxiety affects them negatively. This fact is what possibly explains their medium performance: these students want to achieve high results but their anxiety and the tendency to avoid failure make them choose the tasks inadequately. Therefore, their grades are sufficient, but not very good. They also tend to evaluate their own results inadequately, which is confirmed by the low score of results evaluation indicator. Regulatory-subjective self-regulation components are underdeveloped, too. Similar to the previous group, the main PWB resource for these students is conscious SR. Interestingly, in this case, independence acts as a positive PWB predictor, but affects academic performance negatively. Another PWB resource is external motivation, which raises certain questions since it's usually related to the frustration of the need for autonomy and learning motivation based on the compliance to social requirements (Gordeeva et al., 2017). This connection clearly requests further investigation.

D) For students with medium SR and PWB level, and the lowest academic performance in this sample, it was the self-development motivation that stimulated the latter. This motivation is related to the development of one's own abilities in the learning activity context (Gordeeva et al., 2017). Self-regulation and attitude to learning also were quite resourceful in this regard. In particular, the results showed a significant contribution of results evaluation and achievement motivation. This means, even though these students were not very successful when accessed formally, the value of the possibility of achieving important results and the wish to develop and grow are the resources that can potentially improve the performance in this group. PWB in these students was mostly supported by certain indicators of conscious SR (planning and responsibility). The prognostic potential of planning for psychological well-being was already demonstrated by the studies held in our laboratory (Morosanova, Bondarenko, Fomina, 2019). Moreover, as the obtained data demonstrates, excessive regulatory flexibility in this group potentially worsens PWB. Another important resource for the

latter was cognitive motivation related to the need to learn something new and being interested in the studies (Gordeeva et al., 2017).

Conclusion

The obtained results allow the following conclusions.

1. Different combinations of academic achievement, psychological well-being, and self-regulation are typical for the 6th graders. Five profiles were defined which allowed the description of these typological groups from the perspective of resources supporting academic achievement and psychological well-being.

2. In the groups with the high level of academic performance, it was supported by the optimal level of neuroticism, academic motivation, and PWB. In the groups with the high PWB level and performance, the former was supported mostly by personality features of the students. In case of low level of well-being, it was the academic motivation that played the crucial role.

3. For the students with medium level of achievement, its resources differed depending on the degree of well-being and SR. When those were low, the performance was sustained by external control (motivation for parents' respect) and maintenance of the optimal anxiety level. It is possible to improve the achievement of these students by means of developing their regulatory flexibility, cognitive motivation, and conscientiousness. In case of medium SR and PWB level the performance was mostly supported by achievement and self-respect motivation, as well as the need to avoid failures. The most significant PWB resource under these conditions is SR, in particular, the process of results evaluation.

4. Low academic achievement could be improved through self-development motivation, achievement motivation, and the development of regulatory process of results evaluation. PWB of these students is supported by planning, responsibility, and cognitive motivation.

5. New data was obtained that requires further investigation to be fully explained, in particular, the positive role of anger as a supporting resource for academic achievement and PWB in some students. Further studies can be aimed at checking of repeatability of registered relationships on bigger samples, and on the exploration of potential explanatory factors for these connections.

Ethics Statement

The study was conducted in accordance with the Declaration of Helsinki, and the protocol was approved by the Ethics Committee of Psychological Institute of Russian Academy of Education (Project identification code 05-4/19.2019 May 16). All subjects gave their informed consent for inclusion before they participated in the study.

Informed Consent from the Participants' Legal Guardians

Written informed consent to participate in this study was provided by the participants' legal guardians/next of kin. After the study, feedback was provided upon the request of children and their parents/legal guardians.

Author Contributions

V.I. designed and directed the project, developed the theoretical framework; A.M. performed the analysis, drafted the manuscript and designed the figures; A.M. and V.I. interpreted the results and worked on the manuscript. All authors discussed the results and contributed to the final manuscript.

Conflict of Interest

The authors declare no conflict of interest.

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