

UDC: 159.923.32; 316.612
orcid.org/0000-0002-9169-5471

PSYCHODIAGNOSTICS OF PERSISTENCE OF FULFILLING HOMEWORK FOR MIDDLE SCHOOL PUPILS

Olena O. Shcherbakova

*State Institution "Institute for Children and Adolescents
Health Care of the National Academy
of Medical Sciences of Ukraine", Kharkov*

The Aim of the study is to determine the possibilities of diagnostics of persistence in homework of pupils of middle school.

Material: The study used the original questionnaire of academic self-regulation, standardization of which is described below. The sample included 444 people (421 women and 182 men) among them - 84 pupils of the 5th form, 120 from the 6th form, 84 from the 7th form, 85 to 8th form, 70 students of the 9th form and 62 students of the 10th form of the gymnasium №169 of Kharkiv.

Results: The final version of the questionnaire "Persistence in homework Questionnaire" represented by scales – "Perseverance", "Parenting help in fulfilling a homework", "Parental control in fulfilling a homework" and "Anxiety while doing homework". The developed technique meets the modern requirements for psychometric substantiation of personal questionnaires.

There is a positive correlation between the perseverance and a hubristic motivation and school anxiety. There are no statistically significant relationship between persistence in homework and patience.

Conclusions: "Persistence in homework Questionnaire" represented by scales – "Perseverance", "Parenting help in fulfilling a homework", "Parental control in fulfilling a homework" and "Anxiety while doing homework". The results of the "Persistence in homework Questionnaire" standardization have shown. Its validity and reliability were proved.

Keywords: persistence in homework of pupils of middle school, hubristic motivation, school anxiety, motivation of learning, middle school pupils.

Психодіагностика наполегливості у виконанні домашніх завдань учнів основної школи

О.О. Щербакова,

ДУ «Інститут охорони здоров'я дітей та підлітків НАМН України»

Метою дослідження є визначення можливостей діагностики наполегливості у домашніх завданнях учнів середньої школи.

Матеріали: у дослідженні використано оригінальний опитувальник академічної саморегуляції. Психометричну вибірку склали 444 особи (421 дівчаток та 182 хлопчиків) - 84 учні 5 класу, 120 з 6 класу, 84 з 7 класу, 85

до 8 класів, 70 студентів 9 класу та 62 студенти 10 клас гімназії №169 м. Харкова.

Результати: У статті показано результати україномовної стандартизації опитувальника наполегливості у виконанні домашньої роботи Т.О. Гордєєвої. Кінцевий варіант анкети "Наполегливість у виконанні домашнього завдання" представлений шкалами - "Наполегливість", "Допомога батьків у виконанні домашньої роботи", "Батьківський контроль при виконанні домашньої роботи" та "Тривога під час домашньої роботи". Розроблена техніка відповідає сучасним вимогам до психометричного обґрунтування опитувальників.

Існує позитивна кореляція між наполегливістю та гурбистичною мотивацією та шкільною тривожністю. Немає статистично значущих зв'язків між наполегливістю у домашніх завданнях і терпінням.

Висновки: "Наполегливість у домашній роботі", представлена шкалами - "Наполегливість", "Підтримка батьків у виконанні домашньої роботи", "Батьківський контроль при виконанні домашньої роботи" та "Тривога під час домашньої роботи". Результати опитування "Наполегливість у домашній роботі". Показано стандартизацію опитувальника, доведена його достовірність та надійність.

Ключові слова: наполегливість у виконанні домашньої роботи учнів середньої школи, гурбистична мотивація, шкільна тривога, мотивація навчання, учні середніх шкіл.

Introduction. As an independent characteristic of educational activity of schoolchildren, perseverance began to be studied quite recently. And accordingly, it has recently been empirically proven that it can indeed claim to make a key contribution to academic success. In a series of studies conducted by A. Duckworth, K. Peterson (Duckworth et al., 2007) has been shown that perseverance is a predictor of success in various areas of productive activity. The authors have proved that persistence does not depend on the level of intelligence (or in some samples it shows weak negative correlations with it) and has prognostic validity regarding the results of learning (Duckworth et al., 2007). However, there remains an open question about the internal sources of persistence and the possibility of its development and support among pupils of the middle school. Within the educational activity of schoolchildren, the role of persistence in academic achievements was studied by R. Vallerand with colleagues (Vallerand et al., 1997), however, it is operationalized very narrowly, due to the behavioral result of persistence, which is expressed in the continuation of training in high school, which is characteristic of foreign secondary education, and which can not be used as a dependent variable in Ukrainian realities. Persistence is an important factor in competing in the value of intelligence,

the importance of which has long been considered extremely high for achieving high results, both in teaching and in professional activities (Gordeeva, 2013). Research data on the connection between the persistence and success of academic activities conducted on American and Canadian samples should be checked on the Ukrainian sample, as the obvious contribution of the educational environment to school assessments.

Readiness to actively overcome the difficulties arising in the educational activity, to the manifestation of perseverance in understanding the complex material is positively associated with the success of learning and subjective school well-being (Gordeeva, 2013).

Persistence, determination and orientation to a high level of achievement occupy the second place in their hierarchy of value orientations after the value of education (for adolescents) (Фельдштейн, 2010).

Persistence is manifested in the time devoted to solving the problem, both in terms of the continuity of work on tasks, and in the sense of the duration of the desire to achieve the goal, perseverance in the process of its solution, as well as its completion and the achievement of a certain result, despite the possible obstacles and failures (Gordeeva, 2013).

The **aim** of the article is to determine the possibilities of diagnostics of persistence of pupils of middle school. According to the research aim, the following **task** was set: to adopt a questionnaire of persistence and check its validity and reliability.

Research methods. The study used the original questionnaire of persistence in homework, standardization of which is described below.

The sample included 444 people (421 women and 182 men) among them - 84 pupils of the 5th form, 120 from the 6th form, 84 from the 7th form, 85 to 8th form, 70 students of the 9th form and 62 students of the 10th form of the gymnasium №169 of Kharkiv.

Results. We adapted the Gordeeva's questionnaire aimed at persistence of pupils of middle school. The task of the study involves the standardization of the questionnaire, in particular, its reliability, constructive, discriminatory and convergent validity, and test-retest reliability.

Reliability of the questionnaire. Russian-language adaptation of the questionnaire was carried by T.O. Gordeyeva (2013). We translated 21 items, which in content correspond to the structure of school activities for pupils, the following instruction was created: "Please indicate how each statement reflects your opinion on your own learning activities. Use the following answers: "Disagree", "Rather Disagree", "It is difficult to answer", "Rather agree", "Agree".

The first step in processing the raw data received was to check the internal consistency of the questionnaire. The Cronbach's alpha statistics were calculated for a scale that includes all 21 items. The value of the Cronbach's alpha for a scale of 21 items was 0,614, which is below the acceptable level of 0,7.

According to the results of the analysis of the indicators of Cronbach's alpha for the each item of the questionnaire it was established that items 8, 9, 14, 16 impair the psychometric index of one-time reliability. Consequently, they were excluded from the final version of the questionnaire, which influenced the increase of the Cronbach's alpha to 0.743.

Constructive validity of the questionnaire. The factor analysis was used to detect the internal structure of the questionnaire, excluding the items 8, 9, 14, 16. As a result of explorative factor analysis (with angular rotation) 4 factors that were not correlated with each other (0,07-0,11) were found.

Factor 1 (19,8% of dispersion) created by the items: 2 (0,739), 3 (0,400), 5 (0,716), 10 (0,633), 12 (0,792), 19 (0,757), 20 (0,532). The content of this factor formed the items that are included in the scale of the "Perseverance". The content of this factor corresponds to the integral indicator of perseverance and characterizes such volitional qualities of the student as insistence, perseverance, diligence and patience.

Factor 2 (14,5% of dispersion) includes items: 1 (0,831), 7 (0,862), 15 (0,458), 18 (0,753). The content of the factor reveals the student's awareness of the desire of parents to help with the fulfillment of their homework. The factor was called "Parenting help in fulfilling a homework".

Factor 3 (13,7% dispersion, 2.33 factor weight) is represented by items 4 (0,778), 11 (0,643), 21 (0,849). The factor was called "Parental control in fulfilling a homework".

Factor 4 (11,3%; 1,92) contains items 6 (0,773), 13 (0,750), 17 (0,676). The content of the factor explains "Anxiety while doing homework".

Thus, the final version of the questionnaire "Persistence in homework Questionnaire" represented by scales – "Perseverance", "Parenting help in fulfilling a homework", "Parental control in fulfilling a homework" and "Anxiety while doing homework". The developed technique meets the modern requirements for psychometric substantiation of personal questionnaires.

Test-retest reliability of the questionnaire. Repeated testing of the same sample (120 people) was conducted at intervals of two weeks. The correlation between the results of the first and second tests was at the level

of $r = 0,654 - 0,831$, which indicates a sufficiently high test-retest reliability of the questionnaire.

Normative scale. In table 1 the descriptive statistics of «Persistence in homework Questionnaire» are set.

Table 1

Descriptive statistics of «Persistence in homework Questionnaire»

Indicators	Mean	Min	Max	Std. dev
Perseverance	21,14	6	30	7,33
Parenting help in fulfilling a homework	11,34	4	20	5,41
Parental control in fulfilling a homework	8,28	3	15	3,53
Anxiety while doing homework	7,93	3	15	3,59

Dividing into three intervals the marginal values of the norm for the indicators of the Perseverance scale are 13-28 points, for the Parenting help in fulfilling a homework – 8-16 points, for the Parental control in fulfilling a homework – 8-12 points, Anxiety while doing homework – 9-12 points.

Convergent and discriminant validity of «Persistence in homework Questionnaire» checked out by identifying the correlation between the indicators of persistence in homework fulfillment and the indicators of hubristic motivation (Fomenko, 2012) and learning anxiety (Prakticheskaya psikhodiagnostika, 1998) (convergent validity), patience (Il'in, 2009) (discriminant validity).

There is a positive correlation between the perseverance and a *hubristic motivation*: aspiration to perfection ($r=0,23$, $p < 0,001$) and aspiration to superiority ($r=0,31$, $p < 0,0001$). Parenting help in fulfilling a homework is positively related to the aspiration to perfection ($r = 0,43$, $p < 0,0001$). Parental control in fulfilling a homework is positively related to the aspiration to superiority ($r = 0,34$, $p < 0,0001$).

There is a positive correlation between the Anxiety while doing homework and *school anxiety*: Fear of not meeting the expectations of others ($r = 0,41$, $p < 0,0001$), Fear of self-expression ($r = 0,32$, $p < 0,0001$) and General anxiety at school ($r = 0,28$, $p < 0,0001$).

There are no statistically significant relationship between persistence in homework and patience.

Conclusions. Current investigation has shown that “Persistence in homework Questionnaire” represented by scales – “Perseverance”, “Parenting help in fulfilling a homework”, “Parental control in fulfilling a homework” and “Anxiety while doing homework”. The results of the

“Persistence in homework Questionnaire” standardization have shown. Its validity and reliability were proved.

References

Duckworth A.L., Peterson C., Matthews M.D., Kelly D.R. (2007). Grit: Perseverance and passion for long-term goals. *Personality Processes and Individual Differences*, 2007. V. 92, 6. P. 1087-1101.

Gordeeva T.O. (2013). Motivatsiya uchebnoy deyatel'nosti shkol'nikov i studentov: struktura, mekhanizmy, usloviya razvitiya [Motivation of educational activity of schoolchildren and students: structure, mechanisms, conditions of development]. M.: MSU. [in Russian].

Feldstein D.I. (2010). Izmenyayushchiysya rebenok v izmenyayushchemsya mire: psikhologo-pedagogicheskiye problemy novoy shkoly [A changing child in a changing world: psychological and pedagogical problems of a new school]. *Natsional'nyy psikhologicheskii zhurnal [National Psychological Journal]*. 2 (4). - P. 6-11.

Prakticheskaya psikhodiagnostika. Metody i testy : ucheb posobiye [Practical psychodiagnosics. Methods and tests: study guide / [ed. D. Ya. Raygorodsky] (1998). Samara: Bakhrahk.

Vallerand R.J., Fortier M.S., Guay F. (1997). Self-determination and persistence in a real-life setting: Toward a motivational model of high-school drop out. *Journal of Personality and Social Psychology*. V. 72. - P. 1161–1176.

APPENDIX

Persistence in homework Questionnaire (final version)

1. Мої батьки завжди готові допомогти мені з уроками, якщо я прошу їх про це.
2. Я завжди намагаюся доробити домашнє завдання до кінця.
3. Якщо я докладу зусилля, то можу виконати всі уроки.
4. Мої батьки часто наполягають на тому, аби контролювати виконання домашніх завдань.
5. Зазвичай я дуже старанно виконую домашні завдання.
6. Іноді мені здається, що я погано розумію, як виконувати домашні завдання.
7. Мої батьки завжди допомагають мені виконувати домашнє завдання, якщо у мене виникають труднощі.
- 8 (10). Я точно знаю, що повинен (повинна) робити, аби успішно впоратися з домашніми завданнями.
- 9 (11). Іноді мої батьки намагаються допомагати мені з уроками, хоча я не прошу їх про це.
- 10 (12). Навіть коли домашні завдання великі й нецікаві, я примушую себе виконати їх якнайкраще.

11 (13). Коли я не розумію чогось у домашніх завданнях, то сильно засмучуюсь і не знаю, що робити.

12 (15). Мої батьки часто запитують, чи потрібна мені їхня допомога

13 (17). Коли я намагаюся зрозуміти складні завдання, то часто усвідомлюю, що їх ніколи не зрозумію.

14 (18). Якщо я чогось не зрозумів (ла) у домашньому завданні, то завжди зможу запитати у батьків.

15 (19). Я завжди намагаюся виконати домашні завдання якнайкраще.

16 (20). Зазвичай я дізнаюся про щось нове, виконуючи домашні завдання.

17 (21). Зазвичай мої батьки уважно стежать за тим, як я виконую домашні завдання.

Original manuscript received September, 11, 2018

Revised manuscript accepted September, 23, 2018