

## **ЕКСПЕРИМЕНТАЛЬНІ ТА ПРИКЛАДНІ ДОСЛІДЖЕННЯ**

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### **CORRELATION BETWEEN EDUCATIONAL PERSISTENCE AND SELF- ORGANIZATION OF ACTIVITY OF SCHOOL AND UNIVERSITY STUDENTS**

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*The Aim of the study is to define correlation between educational persistence and self-organization of school and university students.*

***Material and methods:** Psychodiagnostical complex for research the self-organization role in the structure of educational perseverance and persistence consists of the following methods: questionnaire of educational persistence by M.A. Kuznetsov, O.S. Halata; questionnaire of self-organization of activity by E.Y. Mandrikova. The diagnostic indicators of all these methods have been conducted analysis of r-Pearson's correlation. The psychometric sample consisted of 260 people (181 women and 79 men, average age is 18 years).*

***Results:** Educational persistence – is a strong-willed individual quality; it is responsible for supporting the initiated action, manifestation of will power or volitional control of action. Persistent educational action consists of: 1) purposefulness, that is, the aspiration of learners to achieve the educational goal; 2) the application of this person's efforts, 3) high self-control and 4) the ability to get the work done.*

***Conclusions:** It is proved that the persistence of school and university students is due to the positive parameters of regularity, purposefulness, perseverance and fixation. This indicates the ability to overcome all the difficulties and obstacles on the way to achieving the goal.*

***Keywords:** persistence, persistent educational action, educational activity, perseverance, self-organization of activity.*

## Взаємозв'язок навчальної завзятості та самоорганізації діяльності у школярів та студентів

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*Метою дослідження є визначення взаємозв'язку між навчальною завзятістю та самоорганізацією школярів та студентів університету.*

*Матеріали та методи: Психодіагностичний комплекс для дослідження ролі самоорганізації в структурі виховної наполегливості та завзятості складається з наступних методів: анкети навчальної наполегливості М.А. Кузнецова, О.С. Галата; анкета самоорганізації діяльності О.Я. Мандрикової. Проведено діагностичні показники всіх цих методів аналізу кореляції *r*-Pearson.*

*Психометричну вибірку склали 260 осіб (181 жінок та 79 чоловіків, середній вік 18 років).*

*Результати: Навчальна завзятість – це вольова індивідуальна якість, що відповідає за підтримку ініційованої дії, прояв волі влади або вольового контролю дії. Дії навчальної завзятості складаються з: 1) цілеспрямованості, тобто прагнення студентів до досягнення навчальної мети; 2) застосування зусиль цієї людини, 3) високого рівня самоконтролю та 4) здатності виконувати роботу. Кореляційний аналіз показав суттєву позитивну кореляцію між завзятістю та самоорганізацією. Роль самоорганізації у навчальних діях завзятості є значною, і характеризується вираженою внутрішньою концентрацією зусиль людини в навчальній діяльності.*

*Висновки: Доведено, що завзятість школярів та студентів університету обумовлена позитивними параметрами регулярності, цілеспрямованості, наполегливості та фіксації. Це вказує на здатність подолати всі труднощі та перешкоди на шляху до досягнення мети.*

*Ключові слова: завзятість, навчальні дії завзятості, навчальна діяльність, наполегливість, самоорганізація діяльності.*

**Introduction.** In modern psychological science it is noted, that success in various activities, especially in educational activity, depends on certain personal characteristics, that help people organize the implementation process of activity and manage its. We believe that one of the factors of such results might be persistence, as basic volitional personal quality.

The main relevance of this research is due to the fact that persistence is acts as a regulator of educational activity of school and university students. Persistence and perseverance can help students work on a task for a long time, even when it seems too complicated or uninteresting, do not give in before failures, and continue this activity despite external and internal obstacles, barriers or distractors. The study of the relationship of persistence

in learning activities and the parameters of its self-organization is important, because it is necessary to determine the formation of tactical planning skills and strategic goal-setting of school and university students. Considering self-organization is one of the most important predictors of the people's ability to manage and control their activity, there is a need to understand the formation and diagnosis principles of this personal quality, especially of teenagers and students. From the degree of development or lack of ability of school and university students to conscious regulation their own educational activity depends on the meaningfulness of life choices and their correspondence with personality peculiarities.

*The aim* of this article is to define correlation between educational persistence and self-organization of school and university students.

In psychology, persistence is considered in three contexts: 1) dispositional context (personal), where persistence is defined as a certain property of the subject, which is responsible for the duration of action, regardless of the situation; 2) situational, in which persistence is a certain behaviour property, caused solely by external factors; 3) interactive (transactional) – the context in which persistence is defined as a behaviour trait, which is caused both by external (situational) and internal (personal) factors. Using the last approach involves searching mutual transactions between situational (related to the task, context) and personal conditions of persistence, and correlation between them.

Persistence is often studied in will psychology, strong-willed personality traits or as volitional control of actions. For instance, G. Miller, E. Galanther and K. Pribram are proposed the following control scheme of action: Test-Operate-Test-Exit (Miller, Galanther&Pribram, 1965). The authors believe that individual behaviour is initiated by the discrepancy between current (present) and desired (or required) state of the organism. First of all a person tests the difference between required and actual state of the organism, makes possible attempts to improve this state; then re-tests situation for discrepancies, if the difference is not eliminated, it continues to operate, if the state of the organism is satisfactory, stops or terminates the loop. To conclude, this theory is showed an approach to understanding perseverance, as a principle of negative feedback, where a human desire is to reduce the difference between current (present) and desired (or required) state of the organism.

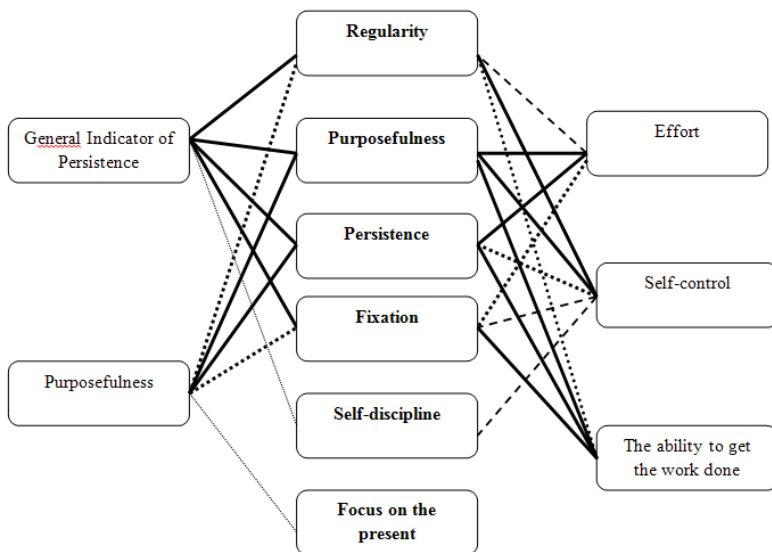
In our research, persistent educational action consists of: 1) purposefulness, that is, the aspiration of learners to achieve the educational goal; 2) the application of this person's efforts, 3) high self-control and 4) the ability to get the work done.

**Methodology of Research.** To determine self-organization role in the structure of educational perseverance and persistence, we have used the following methods:

1. Questionnaire of educational persistence by M.A. Kuznetsov, O.S. Halata(2017);
2. Questionnaire of self-organization of activity by E.Y. Mandrikova (2010).

The sample consisted of 260 people (181 women and 79 men, average age is 18 years). The research was carried out at the H.S. Skovoroda Kharkiv National Pedagogical University, Kharkiv State Academy of Physical Culture, Kharkiv Pedagogical Lyceum № 4 and Kharkiv general learning school of I-III steps №38.

**Results and Discussion.** Let`s consider the positive correlation between indicators of the questionnaire of educational perseverance by M.A. Kuznetsov, O.S. Halata and questionnaire of self-organization of activity by E.Y. Mandrikova (Fig. 1).



*Fig. 1. Significant correlations between educational persistence and self-organization of activity (n=260).*

*(Note: oily solid line – direct correlation,  $p < 0,00001$ ; oily dotted line – direct correlation,  $p < 0,0001$ ; thin dotted line – direct correlation,  $p < 0,001$ ).*

Positive relationships were established between the general indicator of persistence and the indicators of regularity ( $0,43, p \leq 0,00001$ ), purposefulness ( $0,55, p \leq 0,00001$ ), fixation ( $0,40, p \leq 0,00001$ ), and persistence ( $0,53, p \leq 0,00001$ ). The above relationships indicate that a person who has got a high level of persistence and perseverance can see and set long-term educational goals, can efficiently plan their activities, shows high-level volitional qualities and perseverance. These people can effectively structure their own learning activities, draw conclusions and analyze learning outcomes. Describing this fact we can mention, that it indicates that people with a high level of perseverance, regardless of the level of intelligence or talent, can follow their own plans, goals, intentions, and may show better learning outcomes than other students. A similar position to determine the nature of perseverance is described by A. Duckworth in her theory of «Grit» (Duckworth et al, 2007). The author proved that persistence is a construct that contributes to the success of the activity, and defined persistence as perseverance and passion for long-term goals. A. Duckworth's research explains why some individuals are more successful than others with an equal level of intellectual potential (Duckworth, 2018).

The general indicator of persistence is positively correlated with self-discipline ( $0,25, p \leq 0,005$ ). That is, if the level of self-discipline of school or university student is higher, the more likely this person will regulate own educational activities using external aids (diaries, notebooks, online managers, etc.), which is proved in the studies of E. Yarchevskaya-Hertz, where it notes that there is a connection between a personal tendency to figurative thinking, which is called mental simulation, and a persistent educational action. The author points out that we can define people with a procedural and a productive type of mental simulation, and notes that people with a procedural type of mental simulation have a tendency to imagine the actions that should be done to realize the intention, the development of specific action plans and anticipate potential problems and difficulties that may occur itself on the way to achieve the goal (Kolianchik & Voitsishke, 2015). These students are accustomed to visualizing their own ideas about the educational goal, break it into several intermediate goals and imagine ways to achieve them.

The general indicator of persistence is practically non-correlated with the indicator focus on the present ( $0,17, p \leq 0,05$ ). Such individuals are able to see and appreciate their psychological past and future, and they have the ability to concentrate on what is going on with him/her at the current moment. This means that students with a high level of perseverance and

persistence barely guided by «Do-goals», or specific purposes of motor acts, but they are guided by long-term educational goals that C Carver and M. Scheier, the authors of this theory, called «Be-goals» (Leontev, 2011).

The volitional effort at the high level is positively related to the purposefulness (0,51,  $p \leq 0,00001$ ). Students with a high level of volitional effort can clearly understand the purpose of educational activity, choose a plan, method and means of action, also can consciously control and regulate their actions, mobilize volitional resources in order to achieve their goals. The volitional effort is found in people with a high level of persistence (0,45,  $p \leq 0,00001$ ). Persistence is especially pronounced when a person is in a critical (problematic) situation when it is necessary to demonstrate volitional efforts to overcome the difficulties and obstacles on the way to achieving educational goal. Those people, who are making more effort to do a particular task, improve their skills in these tasks and have higher educational achievement.

The positive connection between the indicators of volitional effort and the fixation by questionnaire of self-organization of activity by E.Y. Mandrikova was established (0,35,  $p \leq 0,0001$ ). Such people, despite any external or internal circumstances, can finish the activities and things to end. Thus, the circumstances that hinder the achievement of the goal might be external – the absence of appropriate conditions, or some factors that interfere, and internal – caused by the internal state of the subject, his illness, uncertainty, laziness, etc. The high level of volitional effort and fixation helps to overcome these factors successfully. However, a high level of fixation could negatively affect on the individual's efforts, because the student may not be enough flexible in planning own activities and in building relationships, that is, person cannot change the concept and means of achieving the goals if they fail or ineffective.

Self-control is positively correlated with the regularity (0.51,  $p \leq 0,00001$ ) and purposefulness (0.43,  $p \leq 0,00001$ ). The goal serves as the start point of any self-regulation and self-control, and the refusal of the goal is equivalent to the termination of self-regulation in relation to this goal (Ivannikov, 2006). The students with a high level of self-control, who adopt their educational goals as a vital necessity, define these goals and move between them, and also define anti-goals and keep them away. In this case, we are dealing with an adaptive reaction, a tactical change the low-level goal, which effectively reaches the middle goals «Do-goals» and the high level of «Be-goals».

Correlation analysis showed significant positive correlation between self-control and persistence (0,34,  $p \leq 0,0001$ ). Subjects with pronounced high self-control and self-regulation show the ability easily overcome

difficulties, disadvantages and setbacks, the tendency to take risks, and make persistent decisions. Human's emotions play a major role in the formation of self-control, because emotions are one of the most important components that regulates educational activities. Therefore, school and university students with low level of self-control are guided by the mood and emotions that they are experiencing at the moment in homework preparation, long-term projects, etc. (Ilin, 2009).

Indicators of self-control also positively correlate with fixation (0,30,  $p \leq 0,001$ ). People who have got a high level of self-control apply will in order to finish the job begun and to streamline activity.

Self-control is positively related to self-discipline (0,32,  $p \leq 0,001$ ). School and university students are accustomed to using auxiliary aids during the planning of educational activity. Due to this aids students can manage their activities and behaviour, encourage themselves to fulfil planned actions, and realize their internal potential. Self-control and self-discipline help together students' thoughts, and to make one more effort when activity seems out uninteresting and boring (Baumeister, Heatherton, & Tice, 1994). Self-organizing of activity, tactical planning skills and strategic goal-setting are determining main qualities for the formation of a high individual self-control; the result would be the high persistence and purposefulness of the school or university students.

Close correlation connections are found between the indicator of the questionnaire of education persistence «The ability to get the work done» and the following indicators of the questionnaire of self-organization of activity by E.Y. Mandrikova, such as fixation (0,37,  $p \leq 0,00001$ ), persistence (0,54,  $p \leq 0,00001$ ), and purposefulness (0,41,  $p \leq 0,00001$ ). A person with a high level of perseverance and purposefulness is capable of volitional control of the educational activity, does not retreat before difficulties, and works for a long time to achieve the goals, while making volitional efforts, to refuse all that distracts him from the educational goals, sets deadlines for achieving them.

The high significance was shown by correlation between regularity and the ability to get the work done (0,33,  $p \leq 0,0001$ ). The high level of students' regularity measures the degree of respondent's involvement in everyday tactical planning according to certain principals. Students could adequately and consciously understand their own hierarchy of goals, can distinguish between lower and intermediate goals from higher-level goals. These people can easily succeed in school education, spending a minimum of effort and time.

Indicator of purposefulness (as a component of persistence) is positively correlated with persistence ( $0,47, p \leq 0,00001$ ), and purposefulness ( $0,47, p \leq 0,00001$ ) of self-organization of activity by E.Y. Mandrikova. These correlation relationships indicates the person's ability to purposeful, persistent actions toward achieving the goal. H. Heckhausen describes the dynamics of purposeful action as a transition from the «motivational state of consciousness», maximally open to obtaining new information, to the «volitional state of consciousness», when the decision has already taken, the actions have taken a specific orientation and consciousness «closes» from distractions and changes. The transition from the first to the second state of consciousness occurs sharply and fast, when the subject make internal decision (Crossing the Rubicon) (Halata, 2017).

Of course, purposefulness may be due to the enthusiasm of person, and then it will be regulated not by perseverance, but by the emotions of the individual, his curiosity and interest. However, in practice, it is often at a certain stage of the distant goal achievement, subjective difficulties are arise (fatigue, overestimation of educational activity, disappointment in failure, etc.) or external distractors are appears (trials, temptations, obstacles, external authoritative pressure, etc.), which could be overcome only due to perseverance and perseverance (Ilin, 2008).

Correlation analysis showed significant positive correlation between purposefulness and regularity ( $0,33, p \leq 0,0001$ ), purposefulness and fixation ( $0,34, p \leq 0,0001$ ). Regularity and fixation are the components of the person's purposefulness mechanism. In the motivational person's sphere there is a stable inertial dominant, which can manage all human way of life, inhibiting other trains and interests. As a result, the purposeful person does not pay attention to trifles, does not spend his time and strength at the secondary educational purposes, and consistently step by step goes to the intended purpose.

There is a correlation between the indicator of purposefulness and focus on the present ( $0,25, p \leq 0,005$ ). This means that people, when planning and regulating their own activities, are guided by both future goals and the present, on what happens to a person at a particular moment. A person may refuse that goal, which currently has not options to achieve or is unimportant to the individual (Gizhitskii, 2016). All things considered, we can make a conclusion, that students with a high level of purposefulness can analyze their past activities, correct the present and take into account adjustments, to build new long-term goals.

**Conclusions.** Educational persistence – is a strong-willed individual quality; it is responsible for supporting the initiated action, manifestation of

will power or volitional control action. It consists of purposefulness, volitional efforts, self-control and the ability to get the work done.

Persistence of school and university students most closely related to regularity, purposefulness, perseverance and fixation. This indicates the ability to overcome all the difficulties and obstacles on the way to achieving the goal. Such students can clearly understand their goals, the motives of education, can break the educational goal into several intermediate, without losing the main way of the goal achieving. It should be noted that correlation analysis showed significant positive correlation between persistence and self-organization; it indicates that the role of self-organization in persistent educational action is significant, and characterized by the expressed inner concentration of human effort in educational activity.

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