

Selected Paper of 9th World Conference on Learning, Teaching and Educational Leadership (WCLTA-2018) 26-28 October 2018, Quality Hotel Rouge et Noir Congress Center, Roma, Italy

## Metatraits of the successful university-level students

**Nosenko Eleonora\***, Department of Educational and Developmental Psychology, Oles Honchar Dnipro National University, 72 Gagarin Av, 49050 Dnipro, Ukraine.

**Arshava Iryna**, Department of General Psychology and Pathopsychology, Oles Honchar Dnipro National University, 72 Gagarin Av, 49050 Dnipro, Ukraine.

**Kornienko Victoria**, Department of General Psychology and Pathopsychology, Oles Honchar Dnipro National University, 72 Gagarin Av, 49050 Dnipro, Ukraine.

**Kutovyy Kostiantyn**, Department of General Psychology and Pathopsychology, Oles Honchar Dnipro National University, 72 Gagarin Av, 49050 Dnipro, Ukraine.

**Arshava Inna**, Department of Social Psychology, Oles Honchar Dnipro National University, 72 Gagarin Av, 49050 Dnipro, Ukraine.

### Suggested Citation:

Nosenko, E., Arshava, I., Kornienko, V., Kutovyy, K. & Arshava, I. (2018). Metatraits of the successful university-level students. *New Trends and Issues Proceedings on Humanities and Social Sciences*. [Online]. 5(3), pp 165–172. Available from: [www.prosoc.eu](http://www.prosoc.eu)

Selection and peer review under responsibility of Prof. Dr. Jesus Garcia Laborda, University of Alcala, Spain  
©2018 SciencePark Research, Organization & Counseling. All rights reserved.

### Abstract

As higher education acquisition is expected in all the civilised countries of the world not only to innovate the students' knowledge base but also to produce a humanising effect on their personalities, the aim of this study was to identify the key dispositional and dynamic metatraits of the successful university-level students potentially predictive of the humanising effect of education. Those metatraits were singled out with reference to the assumptions that they should denote how the individual thinks, feels and acts in the course of pursuing major life tasks suggested by the prominent personality psychology specialist J. B. Campbell. Using the quasi-experiment method, we have confirmed on a representative sample comprising big Ukrainian University students the existence of statistically significant differences in the above-mentioned metatraits of the more and less successful students. The findings allow to recommend accounting for the metatraits in the system of the personality selection and the assessment of the quality of education.

**Keywords:** Metatrait, metacognitive competence, emotional intelligence, self-efficacy beliefs, coping adequacy, positive values.

---

\*ADDRESS FOR CORRESPONDENCE: **Nosenko Eleonora**, Department of Educational and Developmental Psychology, Oles Honchar Dnipro National University, 72 Gagarin Av, 49050 Dnipro, Ukraine. *E-mail address:* [enosenko2001@gmail.com](mailto:enosenko2001@gmail.com)

## 1. Introduction

The idea of facilitating the humanising impact of education on the students' personality development appeared simultaneously with the realisation of the necessity to transfer knowledge to each new generation of learners. Its significance is recognised at all the stages of the institutionalised education, including the professionally oriented higher education (Poliakov & Savchuk, 2009).

At the same time, there are no universally agreed approaches to the implementation of this idea into practice, although the earlier spread slogan of the necessity to form in students an adequate 'picture of the world' still remains a guiding principle in defining the content of education. Different approaches to the identification of the criteria for assessing the impact of higher education on the personality development are summed up in our study (Nosenko, 1996) and in our paper published in the Proceedings of the Second International Conference for assessment and evaluation (ICA-2015, Saudi Arabia; Poliakov, Arshava & Nosenko, 2015).

In one of the most developed countries of the East Japan, the primary significance was attached to the formation of the communicative abilities of the students. The efforts to solve this task begin with teaching students the ethical communication and with ensuring the acquisition by them of the professional communication ethics (Chi & Glasser, 1980). In the United States, the primary concern of the educators is centered on the development of the moral values (Ausubel, 2000). That is why, probably, the ill-famous 'academic cheating' is interpreted as a manifestation of dishonesty and might entail expulsion of the student from the university for immoral academic behaviour.

The history of higher education in the European countries (Poliakov & Savchuk, 2009) shows that the so-called 'seven liberal arts', which included: Grammar, rhetoric, logics, ethics, astronomy, geometry and music, were more closely related to the practical needs of the students. Soon in those universities, Latin as an obligatory language which was taught for the sake of opening an access for the learners to the 'heights of human wisdom', described in the works of Roman and Greek philosophers, was substituted by 'live' languages, spoken by the people in different European countries. This signalled the beginning of the new era of the 'scientific humanism' in education (Kurts, 1973).

The active development in the nineteenth century of the natural sciences gave a powerful push to the spreading of the 'cognitive orientation' in education. In response to this, the advocates of the 'scientific humanism' proclaimed the orientation of the educators to the search of other means of ensuring the humanising effect of education on the personality development instead of the extensive 'humanitarisation' of its content.

An interesting idea was proclaimed in this connection by the Academy of the Pedagogical Sciences of Ukraine, known as the orientation of education of the needs of the learner (Kremen, 2008). It has opened up new vistas for the innovative 'education', that is, the type of education which innovates not only the 'knowledge base' of the students but also their personalities in the first rate.

### 1.1. Aim and tasks of this study

Thus, the major aim of this study is to identify the key psychological precursors for the development of personality of the learners in the course of higher education acquisition, operationalised in terms of their significant metatraits: 'Rational thinking', resulting in the formation of the metacognitive competence of the learners, their emotional intelligence (alongside with the cognitive one), their self-regulation abilities, mastering adequate coping strategies and the system of the so-called 'values-in-action', including wisdom, humanism, courage, justice and transcendence.

The major *tasks* of the study were to demonstrate the following:

- students with higher levels of educational achievements possess
- higher levels of metacognitive competence which can be assessed in terms of the degree of similarity to the metacognitive competence of the *experts* in the field
- higher levels of emotional intelligence as a measure of their proneness to experience satisfaction with oneself as the subjects of knowledge acquisition and agents of one's goal-setting activities
- higher levels of the self-efficacy beliefs
- the balanced repertoire of the coping strategies with the problem-focused strategy given preference over the emotion-focused one and that of avoidance
- a more diverse system of the positive values and character strengths with the values of wisdom and the character strengths of curiosity, openness to the new experience, love of learning being given more prominence by the students with higher levels of educational achievements.

## 2. Methods and results

We have hypothesised that even the level of development of some *dispositional traits* of the learners (such as openness to the new experience, conscientiousness, emotional stability) might appear informative in predicting their higher levels of educational achievements.

By formulating the above hypotheses, we took into account the following research findings which had early been obtained by us.

At the Second World Congress of Positive Psychology by the personality psychologists, some convincing data were reported (Nosenko, Arshava & Grisenko, 2011) which demonstrated the lawful relationship between some types of educational experience and the level of development of such dispositional traits, as conscientiousness and openness to new experience. It has been found out that the amount of the self-access work of the university students and the regularity of attending lectures at the university correlate positively (at a statistically significant level) with the dispositional traits of 'conscientiousness' and, at the same time, negatively with the trait of neuroticism. In addition, this relationship was found to be reciprocal: The high level of conscientiousness and the low level of neuroticism predicted the proneness of the individual to study successfully, whereas the success in studies, in its turn, enhanced conscientiousness and reduced neuroticism levels. On the basis of those research findings, it was postulated that in the course of studies the learners not only acquired knowledge but also they left educational establishments with higher levels of the abilities to regulate their behaviour and enhance study efforts, with higher personality resources to cope with the stress-inducing events as well as with the well-formed systems of the positive values and predispositions to achieve success in life (Arshava & Nosenko, 2008; Nosenko, Arshava & Kutovyy, 2011).

In accordance with our hypothesis, high-quality education can stimulate the formation in the learners of the psychological precursors to experience satisfaction with themselves as the agents of the cognitive activity and the self-efficacy belief. In this light, the major criterion of the quality of education and, at the same time, the psychological mechanism of its humanising impact on the personality development is: The quality of the structural arrangement of the teaching materials; the learners' emotional intelligence level, and their system of the positive predispositions, that stimulate the strive to self-perfection and their cognitive competence attained.

The facilitation of the efforts of educators to improve the conceptual knowledge structuring in accordance with the achievements in the field of cognitive psychology was promoted by the active introduction into the educational practice, of the new informational technologies and distance learning. With reference to the above, the *deductive* form of information presentation has become dominant (unlike the traditional inductive one). New demands to the presentation of information to the learners have appeared, including the necessity to identify the system of concepts, known as the 'advance organizers'. The latter include meta-concepts as 'the minimal units' for structuring teaching material. The advantages of the form of information presentation were analysed and summed up in

our studies (Nosenko et al., 2011; Arshava, Nosenko, & Saliuk, 2013) in accordance with the methodological postulates, presented in those studies and other publications of the authors (Nosenko & Arshava, 2014), the major postulates of this conception and the principles of distance-learning courses design are summed up.

The most impressive effect has been observed in the course of testing knowledge retention: The strategies of processing the learning material, which had been acquired in the course of mastering one discipline, are easily transferred into the new situations (Arshava et al., 2013). It has also been found out that the presentation of the well-structured learning material results in the positive emotions and the effective formation of the metacognitive competence.

The relationship between the metacognitive competence and the emotional states, experienced by the learners, was also demonstrated on the sample consisting of 125 young teachers (mean age 28 years) (Grisenko & Nosenko, 2012). The satisfaction of the teacher with oneself (as an agent of a professional activity) appeared to prevent the emotional burnout. The study of the system of positive values, acquired by the teachers, has demonstrated the following 'character strengths': Openness to the new experience, curiosity, creativity and the love of learning prevent the burnout of teachers. It has also been found that the early burnout of teachers was related to their insufficient command of the techniques which are necessary for processing information. The likelihood of the emotional burnout in pedagogues is higher in case when they have low level of metacognitive competence and below-average level of general intelligence. These findings explain the well-known fact that proneness to burnout is more pertinent to the pedagogues who teach *gifted* children than to those who teach learners with *mild intellectual impairment* or children of the ordinary schools. It is evident that teaching the *gifted* children might entail more stress and requires better command of structuring teaching material as the factors that facilitate confidence in the self-efficacy and the self-esteem as the factors that defend from frustration.

Another possible source of the negative emotions in the conditions of the institutionalised education, based on the principles of the collective instruction, is the experience by the subjects of educational activities (both by the teachers and the learners) of the emotional state of public self-consciousness caused by the necessity to communicate and interact daily with the great number of people (as partners of academic interaction). Public self-consciousness might entail negative emotions caused by feeling the threat to one's sensitive 'ego' and result in the stimulation of the unconstructive defense mechanisms, reduction of the frustration tolerance, the choice of the inappropriate coping strategies and even self-handicapping (Nosenko, Arshava & Nosenko, 2014). We have found out that self-handicapping as an inappropriate form of proactive coping is frequently resorted by the individuals with low self-esteem and high level of neuroticism. This empirical observation stimulated the development of the so-called 'mini-paradigmatic model' for the diagnostics of the level of the emotional stability of the learners as a possible means of assessing the quality of instruction.

As the personality traits, as claimed by the contemporary personality researches, have the 'two-component' structure (i.e., the cognitive component and the behavioural component), it is possible to assess the humanising effect of the high-quality education and, on the contrary, the unfavourable (neurotising) effect of the low-quality education on the basis of the metatraits acquired by the learners.

In this research, we have also substantiated the possibility of the implicit (mediated) diagnostics of the likely changes in dynamic indicants of the emotional states of the subjects of the academic activities: (1) by the ratio in their academic experience of the positive and negative emotions and (2) by the more differentiated behavioural responses which reflect different models of 'information overloading' and insufficient abilities to structure the perceived information (Nosenko & Arshava, 2006).

The above-mentioned abilities can be diagnosed by 'the method of predicting the emotional stability of the individual' and 'by the choice of one of the two modes of information processing' (simultaneous vs. analytical) (defended by the patent of Ukraine for the innovation (Arshava, Nosenko & Khyzha, 2010).

The method is based on simulating the laboratory settings of the negative emotional state induced by the experimental conditions of information processing that doom the subjects to an unavoidable failure, that is, stress. Because the stress-inducing factor is relevant for the real educational conditions, when the students have to share attention even between more than two equally important types of activities, it can predict the reactions of the individuals to the situations of academic failures, lack of skills to process large amount of information and the like. Experiencing negative emotional states in educational settings can result even in the appearance of the ‘learned helplessness’ and cause threat to the success of learning (Nosenko et al., 2011; Nosenko & Truliaev, 2014).

The model, used in this method of diagnostics, adequately reflects as one can gather; one more specific feature of the institutionalised education activity is the necessity to perform simultaneously several different types of activities, such as preparation for two-or-three seminars in different disciplines which requires skills of attention distribution.

In Table 1, we have presented the results of the empirical research, using the method of implicit diagnostics of the students ability, to process large amount of information either more successfully (cluster 1) or significantly less successfully (cluster 2). The results show differences between the groups in: (1) dispositional traits; (2) coping strategies and (3) their psychological well-being.

**Table 1. Explicitly assessed measures of the participants’ personality characteristics**

List of traits and their scales	Mean values		t value	p value
	Cluster 1	Cluster 2		
Big Five				
Extraversion	25.052	15.462	<b>3.170</b>	0.002
Agreeableness	26.636	26.936	-0.080	0.936
Conscientiousness	28.212	18.486	<b>2.989</b>	0.0045
Neuroticism	14.714	25.692	<b>-6.463</b>	0.0001
Openness to the new experience	28.517	20.872	<b>6.170</b>	0.0001
CISS				
Task-focused coping	61.485	51.769	<b>4.282</b>	0.0001
Emotion-focused coping	47.667	54.000	<b>-2.272</b>	0.028
Avoidance coping	41.848	51.538	<b>-3.080</b>	0.003
Psychological well-being				
Self-acceptance	60.060	51.154	4.211	0.0001
Positive relations with others	62.606	61.692	0.324	0.747
Autonomy	60.030	56.308	1.303	0.235
Environmental mastery	62.818	50.769	<b>7.348</b>	0.0001
Purpose in life	61.333	60.077	0.569	0.623
Personal growth	67.333	55.154	<b>6.702</b>	0.0001
Cumulative level of psychological well-being	374.181	335.154	<b>6.78</b>	0.0001

The participants of the ‘opposite’ clusters, formed by the method of cluster analysis on the results of their cognitive performance indices, appeared to statistically significantly differ on extraversion ( $t = 3.170$ ,  $p < 0.01$ ); conscientiousness ( $t = 2.989$ ,  $p < 0.01$ ); openness to the new experience ( $t = 6.170$ ,  $p < 0.000$ ) and neuroticism ( $t = -6.46$ ,  $p < 0.000$ ). There are also significant differences on the three basic strategies that the participants are governed with in their life as well as on the measures of psychological well-being: Ecological mastery, personality growth, self-acceptance and the integrated score of psychological well-being.

These empirical data convincingly confirm our hypothesis in such a way that different personality metatraits can determine the quality of information process relevant for success of higher education acquisition.

Our empirical data show that the method designed by us for studying, for the determination of which mode of information processing is preferred by the individual, allows to predict the agentic activity of the learners, the individual's proneness to experience psychological well-being, one's adaptability, tolerance of ambiguity and other psychological precursors of the individual self-efficacy as the most significant characteristic feature of the optimal personality functioning.

In this study, we have also demonstrated the role of the emotional intelligence in achieving high quality of education acquisition.

It has been demonstrated that it is possible to single out three levels of emotional intelligence manifestation which are relevant for predicting educational success. The lowest level of emotional intelligence is characterised by responding to the stress-inducing situations on the *sensory-perceptive level* (in accordance with the scheme of the conditioned reflex).

The middlemost intermediate level is characterised by responding to the emotion-inducing factors on the level, mediated by thinking. The highest (rational) level of responding to the emotion-inducing factors is mediated by the individual's sets consciously chosen norms of behaviour in a whole class of the functionally equivalent situations (Nosenko et al., 2011).

The interpretation of the phenomenon of emotional intelligence as a virtue allows considering it to be a reliable personality measure of the high level of educational attainments.

This statement is based on our empirical data, proving that emotional intelligence positively correlates both with all the three forms of well-being such as psychological, social and subjective and with all the global (Big Five) dispositional personality traits, such as emotional stability, openness to experience, agreeableness, conscientiousness and extraversion.

The 'external' (behavioural) aspect of emotional intelligence (observable in the acts of interpersonal interaction) makes this phenomenon a convenient instrument for investigating not only the pertinence to the subjects of education of the appropriate predispositions, the acquisition which makes them feel free of any situational constraints in the situations of the emotionally charged communication, but also observation in the academic settings.

We have designed a number of techniques for the implicit diagnostics of the level emotional intelligence attained, namely:

- by the choice of the individual particular types of coping strategies
- by the characteristics of the efficacy in the course of information processing in stressful conditions (designed by us)
- by the balance of the positive and negative emotions in the course of learning activities as the predictor of the subjective well-being
- by the styles of humour manifestations
- by the signs of non-verbal behaviour and oral speech, indicative of the level of the hyper-compensatory resource of the personality
- by the intensity of experiencing language anxiety in the course of foreign-language acquisition
- by the measures of self-concept

### **3. Conclusion**

This study presents the results of the theoretical substantiation and empirical assessments of the humanising impact on the higher education acquisition based on the development of the metatraits relevant for the successful personality functioning.

For the first time, the humanising function of the approach to the formation of the cognitive structures of the personality, suggested by the authors, has been theoretically substantiated with reference to the unifying philosophical and psychological concept of the 'picture of the world'.

An innovative approach to the formation of the cognitive structures of the personality with the use of new informational technologies has been demonstrated.

The expediency of the new personality-oriented approach to the implicit assessment of the quality of education is elaborately described with reference to the mediated manifestations of the emotional stability and the emotional intelligence of the learners attained thanks to the education.

New approaches to monitoring the quality of education were elaborately illustrated by a variety of implicit techniques of the assessment of the level of development of the key metatraits, the university-level learners should possess, such as the metatraits of the metacognitive competence, the level of the emotional intelligence, the degree of the self-efficacy beliefs, the level of the coping adequacy and the level of pertinence to the individual of the values-in-action, referred to as wisdom with its corresponding character strengths: Creativity, curiosity, judgment and open mindedness, love of learning and perspective.

Further research in this field can be focused on investigating the ideas of the positive intelligence as a likely metatrait of the university graduates.

## References

- Arshava, I. F. & Nosenko E. L. (2008). *Aspect of the implicit diagnostics of the emotional stability of the individual*. Dnipropetrovsk, Ukraine: DNU. [in Ukrainian]
- Arshava, I. F., Nosenko, E. L. & Khyzha, O. L. (2010). U.S. Patent No. 91,842. XXXX: YYYY.
- Arshava, I., Nosenko, E. & Nosenko, D. (2013). Personality-mediated differences in coping behavior as precursors of the subjective well-being. *European Scientific Journal*, 2, 548–558.
- Arshava, I. F., Nosenko E. L. & Saliuk M. A. (2013). *Humanizing effect of the new informational technologies in education*. Dnipropetrovsk, Ukraine: Akcent. [in Ukrainian]
- Ausubel, D.P. (2000). *The acquisition and retention of knowledge: A cognitive view*. XXXX: Springer.
- Chi, M. & Glasser, R. (1980). The measurement of expertise. *Educational Testing and Evolution*, XX, 165–174.
- Grisenko, N. V. & Nosenko, E. L. (2012). *The role of positive values and character strengths in preventing burnout of the teacher*. Dnipropetrovsk, Ukraine: DNU. [in Ukrainian]
- Kremen, V. H. (2008). *The philosophy of "personality orientation" in the strategies of the educational experience*. Kyiv, Ukraine: Pedahohichna dumka. [in Ukrainian]
- Kurts, P. (Ed.). (1973). *The humanist alternative*. XXXX: Prometheus Books.
- McAdams, D. P. (2015). *The art and science of personality development*. New York, NY: Guilford Press.
- Nosenko, E. L. (1996). *The picture of the worlds as an integrating and humanizing factor in the content of education*. Dnipropetrovsk, Ukraine: DNU. [in Ukrainian]
- Nosenko, E. L. & Arshava I. F. (2006). *Theoretical and psychological aspects of the computer diagnostics of the emotional stability*. Dnipropetrovsk, Ukraine: DNU. [in Ukrainian]
- Nosenko, E. & Arshava, I. (2014). Personality trait development concern – A key social obligation in providing institutionalized education. *International Journal of Sociology Study (IJSS)*, 2, 57–65.
- Nosenko, E., Arshava, I. & Grisenko, N. (2011). *The higher is the level of development of all the character strengths, the more positive in nature are their consequences*. Abstract of the Second World Congress of Positive Psychology, Philadelphia, PA.
- Nosenko, E. L., Arshava, I. F. & Kutovyy, K. P. (2011). *The forms of the implicit manifestation of the emotional stability and emotional intelligences*. Dnipropetrovsk, Ukraine: Innovation. [in Ukrainian]
- Nosenko, D., Arshava I. & Nosenko, E. (2014). Self-handicapping as a coping strategy: Approaches to conceptualization. *Advances in Social Sciences Research Journal*, 1(3), 157–167.
- Nosenko, E. L. & Truliaev, R. O. (2014). *Positive values as a precursor of precursors of personality development of the subjects of knowledge acquisition*. Kyiv, Ukraine: Education. [in Ukrainian]

Nosenko, E., Arshava, I., Kornienko, V., Kutovyy, K. & Arshava, I. (2018). Metatraits of the successful university-level students. *New Trends and Issues Proceedings on Humanities and Social Sciences*. [Online]. 5(3), pp 165-172. Available from: [www.prosoc.eu](http://www.prosoc.eu)

Poliakov, M., Arshava, I. & Nosenko, E. (2015) *Personality-oriented approach to assessing the quality of higher education*. Proceedings of the Second International Conference for assessment and evaluation. XXXX: YYYY.

Poliakov, M. & Savchuk, V. (2009). *Classical university: from ancient ideas to the ideas of the Bologna process*. Dnipropetrovsk, Ukraine: DNU. [in Ukrainian]