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## Features of Formation of Implicit Theories and their Relation to Students' Intellectual and Personal Potential

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### Abstract

Foreign and domestic psychologists' theoretical concepts of implicit theories of intellect and personality and the degree of influence of these theories on learning and a person's success are analyzed. The results of an empirical study of interrelations of analytical intellect and personal potential with students' established implicit theories are presented. There is a discussion of the hypothesis according to which students who have a higher level of personal potential and higher intellectual parameters understand personality and intellect as phenomena which develop throughout life.

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*Keywords:* Implicit theories; intellectual and personal potential; psychological safety; analytical intellect

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### 1. Introduction

Currently there are many views on what affects a person's success and learning throughout life and his/her ability to find contact with others and cautiously react to changes in public life. For many years previously intellect (Kudryavtseva, 1995; Kornilova, T.V., Smirnov, 2008) and some personal features (Gordeeva, 2010) were considered the key influencing factors. However, over time it became clear that intellect should not be considered as the only existing reason for achieving success, especially given the fact that intellect has a complex structure and specialists started to distinguish, for example, abstract, practical, emotional and social kinds of intellect. Regarding personal determinants it can be said that some paradoxical data were obtained, which point to the fact that such

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personal characteristics as sense of purpose, propensities for planning, self-organization of activity, reflexivity of activity and basic beliefs do not have a significant impact on the examination effectiveness of Russian students and in some cases correlate negatively with it (Sheketera, Sudneva, Bogomaz, 2014). These facts initiate the search for other reasons determining a person's success and learning.

## 2. Methodology

One of the possible reasons may be implicit theories of intellect and personality, which, according to C. Dweck, represent a set of spontaneously formed human beliefs about individual intelligence and personality. Moreover, some people (the supporters of “the profit theory”) believe that intellectual abilities and personal qualities are under their control and it is sensible to make efforts in order to develop them. In people who are oriented and motivated towards mastery and success in a particular professional field, a “profitable model of abilities” is formed. Their first priority is not to prove their competence but to increase it. The other kind of people is bound to think that intellectual abilities and personal qualities are innate (the supporters of “the theory of predetermined outcome”) and out of their control. Consequently, they are bound to believe that there is little point in making efforts in order to develop them. The supporters of the “theory of predetermined outcome” claim that the result of activity depends more on abilities than efforts because abilities are fixed and unchanging (Dweck et al., 1995). The “theory of predetermined outcome” is the feature of those who have strong achievement motivation, but more often it is prevalent in individuals with strong motivation to avoid failure. The implicit theories perform four major functions: descriptive, explanatory, predictive and administrative (Allakhverdov, 2012). Thus, a person describes the world around them and him/herself in this world.

It was important to assess the degree to which students' intellectual abilities and personal potential are interrelated in them with the generated implicit theories of intelligence and personality. On the basis of the published data it was proposed that students who have a higher level of personal potential and higher intellectual parameters would understand personality and intellect as phenomena which develop throughout life.

### 2.1. Research Design

To study the implicit theories in the student sample the questionnaire by C. Dweck modified by T.V. Kornilova et al. was used (Kornilova, 2008). The questionnaire enables the assessment of four parameters: the prevalence of ideas about incremental intellect; the prevalence of ideas about unchanging or enriched personality; acceptance of learning goals; self-assessment of learning. To assess personality characteristics “the scale of basic beliefs” by R. Janoff-Bulman adopted by O.A. Kravtsova, M.A. Padun and A.V. Kotelnikova (Kravtsova, Padun and Kotelnikova, 2007) was used, which enables an assessment of beliefs about the world, themselves and the ability to control life events in the world. When conducting research and interpreting data, the fact that basic beliefs as a cognitive construct are formed in childhood, but their formation is influenced by the culture and society where that person develops, was taken into consideration (Janoff-Bulman, 2000). Personality characteristics were studied with the technique “Questionnaire of self-organization of activity” (Mandrikova, 2007), meant to diagnose the maturity of tactical planning and strategic goal-setting skills, as well as the methods to study life orientations (Leontiev, 2000). To assess intellectual parameters the version of the test “Progressive Matrices of J. Raven”, modified and adapted by B. Koichu, was used, by which the effectiveness and efficiency of analytical intelligence was assessed (Sheketera, Sudneva, Bogomaz, 2014). The psycho-diagnostic results obtained were organized into an electronic database and processed statistically using the Statistica 10.0 program.

The sample included 55 students of the Faculty of Psychology aged 18 to 23.

## 3. Discussion of results

According to the research, significant negative correlations were revealed between “intellectual productivity” and the scales “upgradable intelligence” ( $r=-0.3$ ;  $p=0.03$ ) and “enriched personality” ( $r=-0.36$ ;  $p=0.02$ ) of the questionnaire “Implicit Theories”. This means that it may be characteristic of psychology students with a high level of analytical intellect development to be assured that intellect and personality are “innate” and it is senseless to try to

develop them. The reasons for such assurance are not clear yet, but they contradict the opinion of foreign researchers (H. Azuma, K. Kashiwagi, 1987). Perhaps this assurance is a typological feature of highly intelligent individuals, and it may be due to the influence of cultural factors. However, verification of these assumptions is only possible with additional research.

The following significant correlations between the values of “Scale of Basic Beliefs” and the scales of the questionnaire “Implicit Theories” were found. The parameter “Belief in the World’s Favor” correlated positively with the scales “Acceptance of Learning Goals” and “Self-assessment of Learning”; the parameter “Belief in the Goodwill of People” correlated positively with the scale “Self-assessment of Learning”; the parameter “Belief in the Controllability of the World” correlated negatively with the scale “Acceptance of Learning Goals”; the parameter “Belief in the Randomness of all Events” correlated negatively with the scales “Acceptance of Learning Goals” and “Self-assessment of Learning” (Table 1).

Table 1 – The results of correlation analysis of the scales of the “Implicit Theories” questionnaire and basic beliefs in the sample of psychology students (n=55).

Scales	Belief in the World’s Favor	Belief in the Goodwill of People	Belief in the Controllability of the World	Belief in the Randomness of all Events
Acceptance of Learning Goals	R=0.32 p=0.031	R=0.24 p=0.107	R=-0.36 p=0.017	R=-0.40 p=0.006
Self-assessment of Learning	R=0.42 p=0.004	R=0.32 p=0.031	R=-0.03 p=0.852	R=-0.31 p=0.039

Consequently, the stronger the students’ belief that the world is supportive and kind to them, the more positive the understanding of a student’s activity in the learning process is; apparently, it is understood as effective and sensible. The stronger the belief in the goodwill of people, the higher the degree of acceptance of learning goals, i.e. the learning process is understood as sensible and a student’s activity as productive and beneficial to them and to others. We assume that the development of these basic beliefs will have a positive impact both on the development of a positive attitude towards educational activities and, as a consequence of the development of internal motivation, flexibility and mobility of methods of actions, the transition to creative activity, an increase in the proportion of self-education and success in the student’s activity.

However, it was also found that the stronger the belief in the randomness of all life events, the lower the degree of acceptance of learning goals and self-assessment of learning. In other words, with the students’ negative belief in randomness of all events and their inability to influence them, a belief in the uselessness of making efforts is formed, because hardly anything depends on them. Thus, the learning process becomes formal, students begin to understand it as inefficient and rather insensible. Apart from this, the stronger the belief that the world is controllable, the lower the degree of acceptance of learning goals. Apparently, a strong belief in the fact that the world is controlled by someone or something, that everything in the world is already organized so that nothing depends on a person and he/she bears no responsibility for such organization of life may determine the formal attitude towards learning activities and formal adherence to rules and regulations.

It should be highlighted that basic beliefs about the world and the person him/herself in this world did not correlate with the beliefs of psychology students about opportunities for the development of intellect and personality.

Subsequently, a correlation analysis of the scales of “Questionnaire on the Self-organization of Activity” and the questionnaire “Implicit Theories” was conducted. As a result, significant correlations between the “Self-organization” parameter and summary value of the propensity to self-organized activity (SOA) were found on the one hand and the parameters “Acceptance of Learning Goals” and “Self-assessment of Learning” of the method “Implicit Theories” on the other hand (Table 2).

Table 2 – The results of a correlation analysis of the scales of the questionnaire “Implicit Theories” and “Questionnaire on the Self-organization of Activity” (n=55).

Scales	Self-organization	Consolidated Figure of the Propensity for Organization
Acceptance of Learning Goals	R=0.41 p=0.005	R=0.12 p=0.410
Self-assessment of Learning	R=0.61 p=0.000	R=0.38 p=0.009

According to the analysis of the results we may presume that the “stronger” acceptance of learning goals is and the higher the self-assessment of self-learning, the higher the propensity for self-organization of activity. Presumably, those students who better understand and accept their learning goals and also evaluate themselves higher in the educational environment, have a stronger developed propensity for the organization of their activity, in particular, by means of various tools (daybooks, planning, time budgeting). Apart from this, it may be expected that those students who tend to evaluate themselves highly in the educational environment and see clearly the result of their activity in high academic achievements and/or a respectful attitude of group mates and teachers, are more courageous in the setting of meaningful goals, are bound to plan their activity and head to the achievement of objectives by demonstrating willpower and persistence.

During statistical processing significant correlations of the Purpose-in-Life test (PIL) parameters with the scales of the questionnaire “Implicit Theories” were also found. Thus, the scale “Life Effectiveness” of PIL correlated positively with the parameters “Incremental Intellect” ( $r=0.401$ ;  $p=0.015$ ) and “Self-assessment of Learning” ( $R=0.353$ ;  $p=0.035$ ). According to the data obtained those students who evaluate higher the effectiveness of past years are satisfied with their self-realization, consider their life productive and meaningful, and are bound to believe that it is sensible to make efforts in order to develop their intellect. Apart from this, such students also evaluate themselves higher in educational activity.

#### 4. Conclusion

Thus, we have found that in this group of psychology students the parameter of intellectual productivity correlates negatively with their belief in the ability to increment intellectual abilities, the parameters of life orientations and the peculiarities of the self-organization of activity correlate positively with the parameters of implicit theories. It was also found that the parameters of basic beliefs, such as “Belief in the Controllability of the World” and “Belief in the Randomness of all Events” are negatively interconnected with the parameters of implicit theories; the parameters “Belief in the World’s Favor” and “Belief in the Goodwill of People” are positively interconnected with the parameters of implicit theories. The results obtained are not ambiguous, and the proposed hypothesis was partially confirmed, which is why we intend to widen the available sample and to continue research on the sample of students of different specializations. The facts and regularities identified may be taken into account when organizing the educational process at university, during psychological trainings and the development of programs of psychological support for highly intelligent young people.

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#### References

- Allakhverdov, M. V. (2011). Model struktury implitsitnoi teorii doveriya. *Ananievskiy chteniya. Sotsialnaya psikhologiya i zhizn: Materialy nauchnoy konferentsii* (pp.382-383). SPb.

- Gordeeva, T. O. (2010). Teoriya samodeterminatsii: nastoyashcheye i budushcheye. Part 2: Voprosy prakticheskogo primeneniya teorii. *Psikhologicheskiye issledovaniya: elektron. nauch. zhurn.*, 5 (13). URL: <http://psystudy.ru>
- Kornilova, T. V., Smirnov, S. D., Chumakova, M. A., Kornilov, S. A., & Novototskaya-Vlasova, E. V. (2008). Modifikatsiya oprosnikov C. Dweck v kontekste izucheniya akademicheskikh dostizheniy studentov. *Psikhologicheskij zhurnal*, 29 (3), 86-100.
- Kudryavtseva, N. A. (1995). *Yedinstvo intellekta : nauch. otchet*. SPb.: SPbGU.
- Leontiev, D. A. (2000). *Test smyslozhiznennykh oriyentatsiy (SZHO)*. M.: Smysl.
- Mandrikova, E. Yu. (2007). *Oprosnik samoorganizatsii deyatelnosti*. M.: Smysl.
- Matsuta, V. V., Bogomaz, S. A., & Sudneva, O. Yu. (2014). Rol intellektualnykh i lichnostnykh faktorov v dostizhenii vysokoy rezultativnosti v EGE po matematike. *Sibirskiy psikhologicheskij zhurnal*, 52, 52-66. (Gos. zadanie No. 2014/233).
- Soldatova, G. U., & Shaigerova, L. A. (Eds.). (2008). *Psikhodiagnostika tolerantnosti lichnosti*. M.: Smysl.
- Sheketera, A. A. (2014). Stepen vyrazhennosti i analiz vzaimosvyazi abstraktno-logicheskogo i sotsialnogo vidov intellekta u shkolnikov. *Vestnik TGU*, 383, 206-211.
- Azuma, H., & Kashiwagi, K. (1987). Descriptions for an intelligent person: A Japanese study. *Japanese Psychological Research*, 29, 17-26.
- Dweck, C. S., Chiu, C., & Hong, Y. (1995). Implicit theories and their role in judgments and reactions: A world from two perspectives. *Psychological Inquiry*, 6, 267-285.
- Janoff-Bulman, R., & Berger, A. (2000). The other side of trauma: Towards a psychology of appreciation. *Loss and trauma: General and close relationship perspectives* (pp. 29-44). Philadelphia: Brunner-Routledge