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Individual-psychological features of the assessment of mental abilities in determining youth's intention to professions

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Abstract---The urgency of research on psychological inclinations activity is determined primarily by a large practical significance of this problem. The steady increase in the number of jobs increases the importance of the study of human abilities and aptitudes for different activities. These practice areas as vocational guidance and counseling, professional selection and placement of personnel in work posts, job training, will require the development and implementation of reliable and predictive diagnostic techniques level of development tendencies and their qualitative uniqueness. The value of the work lies in the fact that the results of the study contribute to the development of scientific bases of professional self-determination. We believe that the results of the study are significant for the development of the early manifestations and development dispositions in adolescence, as well as vocational guidance in schools and other educational establishments, with a view to the effectiveness of self-determination to the student activities.

Keywords---human abilities, inclinations, individual psychological, psychophysiological approach, psychological preconditions, human factor, external through internal, internal conditions, typological properties, nervous system, natural prerequisites, individual differences, typology, motivation.

Introduction

An individual-psychological and psycho-physiological approach to the problem of choosing professions today is becoming an urgent task for the professional training of young people. One of the goals of the ongoing school reform is to promote a more correct choice of occupation by young people, in accordance with their inclinations and interests. However, this task, in addition to practical measures for broad professional education with the aim of correct orientation in the world of professions, includes a number of fundamental scientific studies. In understanding inclinations, we proceed from the ideas that were developed in the works of S.L. Rubinstein /1940/, [1] B.M. Teplova /1941/, [2] Gurevich K.M.1970, [3] B.R. Kadyrova [4] Nebilitsin V.D. /1976/[5] and others, where the inclination was considered as a focus on the appropriate activity, as a need for certain activities.

We proceed from the fact that the development of inclinations, which occurs under the decisive influence of socio-historical conditions, life experience, fashion and other social factors, envy and from individual "internal conditions" through which external influences are refracted. Such an understanding of the determination of psychological properties, in particular, inclinations, goes back to the well-known formula of S.L. Rubinstein - "external through the internal", characterizing both the mechanism of psychological reflection and the principle of the development of the psyche. [fifteen] Frequent cases of coincidence of inclinations and abilities are explained precisely by the internal connection of individual characteristics in activity and its self-regulation, which are the main psychological prerequisites for the development of both abilities and inclinations.

In the context of our study, inclinations and interests can be attributed to the needs of knowledge "inherently inherent in all living things." These basic needs are a source of self-expression of self-development, a source of self-improvement of a person, inducing to the unknown, the unknown. At the foundation of developing inclinations are neurophysiological and psychophysiological processes that ensure the expression of needs, selective activity. The psychological study of propensity involves considering the relationship between propensity and intellectual capabilities, as well as neurophysiological and psychophysiological processes that ensure the expression of needs, the selective activity of the subject. The professional orientation and readiness of the individual for professionally active work, in all likelihood, mutually determine each other. The professional orientation of the personality is manifested in its interests, inclinations, beliefs, ideals, as well as in intellectual capabilities.

Psychological assistance to students in choosing a profession is still completely insufficient, although many teenagers experience certain difficulties on the threshold of choosing a profession. Therefore, a huge number of young people remain not covered by the psychological service. And even if there are working certified psychologists in the field, they do not always have the necessary sets of methods that allow more or less accurately determine the characteristics of the inclinations and abilities of adolescents. Psychological centers have yet to be created, which, in particular, also perform the functions of diagnostics. All this requires a reasonable distribution of scientific forces, strengthening the

propaganda of the possibilities of psychology in the professional orientation of young students.

It is known that the majority of schoolchildren in adolescence are not able to independently and adequately choose a profession. At the same time, among adolescents, you can see guys who are already serious, selective about their future activities, they seem to listen to themselves, to their needs. However, even by the ninth grade, most students cannot definitely say who they would like to become, although many of them already have preferred types of activities, favorite subjects. But their desires for hobbies are not very clear, often they lack awareness of the world of professions. This is understandable, since life itself has not yet confronted them with the need to choose occupations, and the position of teachers and parents is more likely to self-determine little, which means for teenagers, because they still do not know enough what certain professions require from a person and what needs to be done in order to master them. For their professional self-orientation, most students are in dire need of help from psychologists, teachers, and professions popularizers; a variety of information is needed, revealing, in particular, the psychological content of professions. In the process of personality formation, professional self-determination occupies an important place. Professional inclinations, career-oriented to the desired field of activity, of course, are inextricably linked with the content aspects of the personality, its motives and social attitudes.

Professional self-determination is a complex and lengthy process. Its course is determined, first of all, by social and family-pedagogical conditions. It is also significant that the formation of inclinations is associated, in particular, with the consciousness of one's psychophysiological capabilities. According to recent studies, the majority of students are not guided by their capabilities, rather they are carried away by the external side of professional activity. Psychological counseling for the majority of students "opens their eyes" to themselves, to their capabilities. And at the same time, there are students who are more or less correctly aware of themselves, according to their psychological and psychophysiological data, they choose certain types of professional activities. Golubeva E.A. [12]

It should be emphasized that the success of labor largely depends on its compliance with inclinations. Labor activity sets certain requirements for a person, and usually those people who have favorable psychological and psychophysiological prerequisites for these activities work more productively, it is easier for them to learn the business, they are more likely to advance at the base of high levels of skill. However, the same work can be mastered with a strong desire and persons who do not have such prerequisites; in such cases, as studies have shown, a person develops certain compensatory mechanisms, a special individual style of activity /but this is not possible in all professions/. It was established by K.M. Gurevich that there is a profession with severe requirements for a person, for his endurance, reactivity or other psychological qualities - such professions are not available to everyone, in these cases people are selected according to their psychophysiological capabilities. Therefore, self-knowledge allows you to more correctly navigate the variety of types of occupations, makes possible a more optimal set of professions. Of course, the choice made by a

teenager does not yet mean the end of professional self-determination. Even within a firmly chosen profession, a person still searches for “his own methods of work, develops his own individual style” for a long time. [13].

Information about children writes N.S. Leites “With an early dawn, abilities provide very significant material for the problem of “Inclinations and abilities”. Propensity - this disposition to reality, the desire to deal with it. The degree of severity of the need for activity characterizes the dynamic side of inclinations, increasing the propensity for mental activity. [22] B. R. Kadyrov experimentally shows the idea of V. N. Myasishev, the propensity goes as if ahead of abilities and is one of the important factors in the development of inclinations and gives a positive emotional coloring to mental activities, increases efficiency, awakens dormant forces.[17] Based on the above ideas, my research attempted to determine the psychological and motivational factors in the development of inclinations in adolescence. We believe the leading motives for activity will overestimate the nature and temperament of the subjects. Therefore, the method of Ryman Kettell /1958/ was used, 14 factorial test is intended for adolescence. This technique determines the character and temperament of the subjects.

Currently, this technique is widely used for a multidimensional study of personality. We in our study this technique is not to identify the deep structures of personality, but to determine the nature and emotional attitudes of inclination to activity. We assume that an actively operating motive also causes various functional shifts in the dominant mental manifestations of inclinations, depending on the nature of the personality. Together, these data determine the general characterological picture of the subject. The obtained materials according to the Cattell method can be used to determine professional inclinations, as well as the characteristic aspects of a person to perform any type of activity. The results of comparing inclinations and motives. As is known, R. Cattell's technique determines not only the characteristics of the character and temperament of the subjects, but some motivational aspects of the personality of adolescents. Therefore, using this technique, they tried to identify motivational factors in the development of inclinations in adolescents. At the first stage of the study, combined indicators of propensity to DDO E.A. Klimov with the data of R. Catell's method for the same students. Comparison of the results obtained by the two methods was carried out using correlation analysis.

Table 2

After the correlation analysis, we obtained the following data.После

DDO E.A. Klimov					
14F Kettel	Nature	Technique	Person	Sign.sys.	Art.arr.
A	0,018	0,093	0,588	0,318	0,068
B	0,124	0,298	0,0579	0,496	0,153
D	0,080	0,579	0,268	0,126	0,305
J	0,084	0,305	0,175	0,126	0,508
Q4	0,424	0,095	0,264	0,039	0,120

After a correlation analysis, we found that, according to the Cattell method, such factors turned out to be irresistible, which suggest that it will be possible to

determine characterological and motivational factors in the development of inclinations in adolescence using this method. The table shows that each significant correlation indicator has its own psychological explanation. Factor "A" is significantly correlated with the "person" scale. $h=0.588$

Factor A

Warm-hearted, open, good-natured, cheerful, taking part in all common affairs. Attentive to people, soft-hearted, he is part of the team.

Human

Requirements: All the time to communicate with people and at the same time maintain restraint, calmness, goodwill. Able to establish contacts with people has sensitivity to other people. As you can see, they must have a high emotional sensitivity to people. To be good-natured, to be able to give crawling advice in solving individual problems. And also be open. Factor "A" also determines the above personality traits. We believe that the "A" factor and the "Man" scale in their psychological content are the same personality traits. Based on this, we can legitimately say that the development of inclinations in adolescence and interests in certain types of activities depends on the characterological and motivational aspects of the subjects.

Factor "B" is significantly correlated with the "sign systems" scale. $h=0.496$. Factor "B" character high intelligence, /bright/, high mental abilities, insight, quick learner, intellectually adaptable, has more intellectual interests. "B" factor significantly correlates with "sign systems" $h=0.496$

Sign System

Requirements: to have perseverance, patience, steady attention, the ability to concentrate for a long time, speed and accuracy of movements, a tendency to work alone / without private contacts with people /. These indicators indicate that factor "B" and "Sign system" are close to each other in terms of their psychological values. Those who received a high score on "B" tend to work according to the distribution of professions of the type - "Sign system" which require attentiveness, intelligence, accuracy and patience.

Factor "D" significantly correlated with the "technique" scale $h=0.579$.

FACTOR - "D"

Non-democratic, cautious, prudent, ponderous, overloaded with details. Steady, calm, patient.

Technique

Requirements: Spatial representation, technical thinking. An employee of the "technique" type must be careful, prudent, and it is also necessary to possess a complex of motor skills, sensorimotor coordination. Comparisons of the "D" factor and "technique" gave us the opportunity to say that those who received the low score of the "D" factor are mainly characterized by phlegm and therefore they

most of all choose a profession that does not require reactivity of action. Since we know that phlegmatic temperament, slow, cautious, constant, etc. We believe that subjects with such qualities tend to perform work that does not require active action in work.

The "J" factor significantly correlates with the "technique" scale $h=0.508$.

FACTOR "J" 0.508

Finely thoughtful. Sensitive, artistically refined, theatrical. Emotional in inner life and communication, imagination plays a big role, acts on the basis of sensitive intuition. Factor "A" is significantly correlated with "artistic image"

Artistic Image

Requirements: Developed artistic taste, artistic abilities, understanding of artistic effects, brightness of visual and figurative representations, rich imagination, a penchant for creativity, flexibility of thinking, increased sensitivity when evaluating works of art. These data indicate that the "J" factor and "artistic image" have a statistically high correlation $h = 0.508$. Those who score high on the "J" factor tend to be "artistic." We believe that the data is completely original.

Factor "Q4" significantly correlates with the scale "Nature" $h=0.424$

FACTOR "Q4"

Intense, action-oriented, with strong motives, always wants something. Excited, overworked, irritable.

Nature

Requirements: You must be ready to work in difficult weather conditions. Features lie in the fact that its results appear for a long time. Dynamics of mental processes. The explanation of this procedure seems natural to us. For example: a scientific researcher, a microbiologist, always intensively studies microorganisms, always wants to find or invent something. As a result of these data, it turned out that this O4 factor determines the strong motivational aspects of activity in adolescents. And the connection with nature may have psychological characteristics when performing long-term observation of plants or animals with dominant motives. At the second stage of the study, to study the intellectual capabilities of adolescents, we used the technique of J. Raven. (1936) This technique is designed to assess mental abilities to solve visual logical problems. Raven's progressive matrices are a test of a person's ability to understand the meaningless figures given to him for review, to see and understand the relationships of the details of the drawing and to establish the logical design of the figure, and in this way develop in himself a systematic cycle of reasoning.

The methodology is designed to include a wide range of intellectual development from the moment the child was able to grasp the idea, corresponding to finding the missing component needed to complete the given image. This technique is quite detailed, which makes it possible to assess the maximum ability of a person to compare and infer by analogy. A positive feature of the technique is that it is not too cumbersome and does not tire the person too much. This test is based on

Spearman's theory of regeneration, as well as the theory of perception of the form of Gestalt psychology. In the course of working with this test, it was found that there are 3 main thought processes that can be used to solve the problems that make it up. They consist of attention, contemplation, perception. When solving problems in the "Raven" tables, an important role is played by the activity of attention, its adequate volume, distribution. At the same time, attention is a factor of cognition, according to which cognition creates a certain institution (program) of production activity. Using the Raven test, researchers determine not only intelligence, but also the ability to relate to intellectual activity.

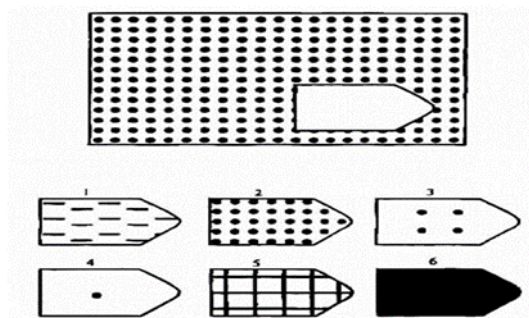


Figure 1. Light

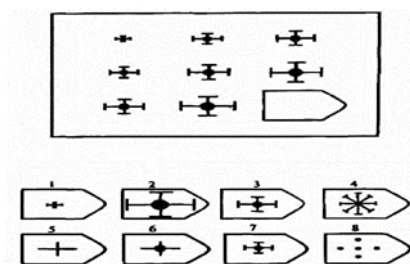


Figure 2. Difficult

The test consists of non-verbal questions. The test consists of 60 tables divided into 5 series. In each series, the problems become more complicated.

Tab.2

PERCENTAGE					
Level intelligence	Above	Above average	Medium	Below the average	Mene
I	95%				
II		75-95. %			
III			74%		
IV				5-24%	
V					5%

We compared Raven's methods as indicators of the general level of intellectual development with integral indicators of inclinations. I - level -95% and above - high intelligence. For this purpose, the total score of each subject according to the Raven method was ranked in descending order. After the animation, three groups

of subjects were identified according to the severity of intellectual abilities. High, average, below average intellectual levels per 105 subjects. For comparison, we chose two extreme intellectual levels of "high" and "below average" intelligence, then in parallel put indicators on inclinations, each subject in 5 areas of activity according to the methodology.

Tab. 3. The results of comparing propensity and intelligence according to Student's t-test					
D.D Klimova	Intellect	(according to the methody D.J.Ravena)			
Nature	2,126				
Technique		2,586			
Person			1,765		
Sign.sys				3,825	
Art. Arr					3,114

The results of comparing the data of the Raven method and the average indicators of the three psychological methods of propensity indicate that the group that received high scores according to Raven has higher values on the scale "Sign system" and the indicator "Artistic images". The remaining three scales of E.A. Klimov by the criterion of "Student" gives statistically insignificant results. The relationship between the propensity indicators of the "Sign system" and a high level of intelligence, which is determined by the Raven method, indicates the role of reasonable symbolic thinking in solving logical problems presented visually. And the connection with the indicators "Artistic images" indicates the age specificity of adolescents to be open to all kinds of external information, which in turn contributes to the enrichment of the integral possibilities of adolescence.

It is assumed that Raven's progressive matrices can be used for career guidance, for professions that require good intellectual abilities, perception and attentiveness. But the dynamic manifestations of the mental, which are attributed to the natural sphere, turned out to be significant prerequisites for differences in the content side of such psychological formations as inclinations. Of course, there is no doubt about the paramount importance of the social conditions of development and life experience, which have a formative influence on a person's aspirations. But now it can be considered proven that, in relation to inclinations, one cannot discount the real role of individual differences in internal, motivational possibilities, which can be attributed to individually natural prerequisites for attraction to certain types of activity. It is known that in childhood, the energy-dynamic manifestation of activity can be of a definitely social nature, often with a high level of curiosity /the stage of intensive search for "what I don't know"/. But then, as the contact with different spheres of human activity deepens and the typological functional-brain mechanisms mature, the activity becomes more and more definite, aimed to some extent at the realization of the psychophysiological capabilities of a growing person.

Conclusion

We studied the tendencies of adolescents in a complex way: in the psychological and psychophysiological aspects. A certain system of psychological methods was used to diagnose tendencies. Further, on the same subjects, individual

differences in the ratio of signaling systems were studied. A systematic comparison of psychological and psychophysiological indicators of individual differences related to the sphere of inclinations was carried out. We sought to reveal the internal connections between individual types of inclinations and the individual natural prerequisites for such connections. We were convinced that in adolescence, preferences for certain types of activity, which are formed in the course of the interaction of a growing person with social reality, are influenced not only by social requirements, expectations, this or that awareness of professions, conscious attitudes, life plans, etc. .d., but to a certain extent due to the psychophysiological prerequisites for development, which are far from always conscious.

The disclosure of some internal conditions of the selective attitude of adolescents to certain types of activity gives an orientation to understanding the complex processes of development of inclinations, and can help optimize these processes. An experimental study made it possible to establish, in contrast to the traditional understanding of the development of propensities for a certain type of activity, as a typologically determined system of ways to most effectively perform activities, it develops only in people with active positive motivational activity. We proceed from the fact that:

- Inclinations develop always and under all conditions.
- One of the main features of the development of inclinations are motivational factors.
- Tendencies develop on the basis of not only the individual typological properties of the nervous system, but also the personality characteristics of adolescents
- The best understanding and performance of the type of activity is the process of developing inclination.

The study was the first to systematically compare the self-psychological indicators of individual and group differences related to the sphere of inclinations. Thus, it has been experimentally established that psychological differences, inclinations, being a relatively stable individual natural feature, are involved in the formation of internal prerequisites for elective activity, which creates a higher sensitivity to certain aspects of life, which is manifested in the disposition to certain types of activity. At the same time, a positively motivated attitude to activity helps to ensure a close connection, tension and other features of the dynamic side of developing inclinations.

- in general, it seems that in choosing certain types of activities, adolescents consciously or not, but somehow take into account their internal capabilities, they are inherent in the search for such types of activities that are "consonant" with their internal psychological fold and which can greatly satisfy them specific needs.
- Inclinations can be associated with the dominant motivation, which determines, *ceteris paribus*, the selectivity of a person's interaction with others, creates a special sensitivity to certain aspects of life.
- A comprehensive study of inclinations as a single psychological formation of an individual's emerging and developing processes of "socialization", in the

course of life, in activity, makes it possible to identify some of their individual natural prerequisites;

We assume propensity as a selectively positive attitude towards activity. But the concept of inclination is external and descriptive until we reveal its internal, typological, motivational aspect. The obtained data on some internal conditions of selective attitude to different types of activity can be used in the practice of professional consulting. In particular, knowledge of individual natural psychophysiological characteristics, which are the prerequisites for certain inclinations, opens up prospects for an earlier diagnosis of developing inclinations in adolescents.

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