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## Scientific, Educational Strategies of Young Scientists as Representatives of Kazakh Middle Class

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### Abstract

Young scientists, active participants in research and education process are potential representatives of professional middle class. Its presence is an indicator of positivity of current economic, social and educational reforms. Education in modern world provides socio-economic progress of society and is an important source of motivation of human behavior; it's a mainstay in solution of social problems. However, in modern society, where presence of large middle class is a symbol of solution of hidden economic problems, education is an inalienable part of formation and reproduction of middle class.

The article presents results of sociological research, conducted in 2012 and aimed at assessing the content of professional activity of young scientists in terms of compliance with international standards and priorities for research activities.

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### 1. Young scientists and middle class

Nowadays, there is an active modernization of higher education and institutional forms of organization of science in Kazakhstan. And necessity to examine young scientists as a social and professional group, formed in high school, is particularly relevant at a time when universities of Kazakhstan acquire a new research status and become an important component of the innovation economy oriented to the development and implementation of new technologies. An appeal to young scientists as representatives of the middle class and the object of the study is due to significance and special role of this professional group in the generation and transmission of educational values that defines many current trends in higher education in Kazakhstan.

Therefore, the universities have a responsibility not only for the quality of training of scientific personnel but also their professional employment, career mobility. Today, the successful functioning of Kazakhstan science is possible only with the formation of not only research competencies of the younger generation, but also its other kinds (interpersonal, systemic, and subject), demanded in conditions of innovative economy, knowledge society and the global labor market. Consequently, study of social and behavioral characteristics of young scientists of Kazakhstan and elaboration on its basis of recommendations to improve professional effectiveness and their social role acquires important theoretical and practical significance.

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The survey is within the program 120 - Grant financing of scientific researches (№ - FSR 1163 GF "Prospects of development of civic education in formation of intellectual potential of the nation"), was conducted in seven regions of Kazakhstan: Astana, Almaty, West Kazakhstan region, Aktobe region, South Kazakhstan region, Karaganda region, East Kazakhstan region.

The sample population of the study was 500 respondents (2.5% of the population), which allows to represent the universe by the main socio-demographic characteristics.

Target group of the study were composed of young professionals under the age of 40 years, working in research institutions and organizations, higher education institutions or enrolled in post-graduate education (master and doctorate programs).

During the preparation of the research a combined, multi-sampling was applied. At the stage of selection of scientific institutions quota sample has been applied. During the selection of units in institutions - cluster sampling was used (as clusters faculties, departments, divisions and sections were used). In the selection of respondents random interval sampling based on lists of personnel was used.

The values and norms of behavior of the middle class are reflected in educational programs and allow creating a base for the "production stream" of its representatives. Middle class is directed by the constant striving for new, applied knowledge, which is able to provide with a worthy place in the modern world. At the same time the middle class itself has a significant influence on the development of education. In this social group not only businessmen and entrepreneurs, not professors and teachers that are directly related to the educational environment are united. They can be named as the main carriers of value and behavioral ideals of the middle class - precisely because of their work, students can obtain the necessary knowledge base and norms that will allow them to either retain their middle status in society, or to increase their chances of upward social mobility. Thus, higher education is the source of the formation and the main guarantor of the preservation and reproduction of the middle class. And the better and more diversified the system is, the more high-quality, diverse and stable will be the middle class (Torkunov A., 2008). There are two main aspects of this research, which seemed very important - scientific and professional resource and features of status formation of young scientists.

## 2. Scientific and professional resource of young scientists

Analysis of results obtained showed that young scientists who participated in the survey specialize in different fields of science.

In the field of social sciences and humanities - about 47% of respondents, in field of fundamental and applied natural scientific researches - 24%, mathematics and information technology - 13.5%, medical sciences - 7.5%.

In order to flesh out the idea of the nature of research activities of young Kazakhstani scientists' respondents were asked "Do you practice scientific research activities?"

66.4% of young scientists permanently (36.5%) or occasionally (29.8%) engaged in scientific researches. Among young scientists who have a degree - 88.5%. Another 7% carry out research activities within the PhD doctoral program.

17.5% of respondents assert that are engaged only in educational activities that does not correspond to the general direction of postgraduate programs.

9.2% of respondents could not answer the question. It should be noted that in thematic cluster of questions dedicated to research activities percentage of those who could not or did not want to answer the questions varies from 9% to 18%. In general the answers in these questionnaires can be conventionally considered as negative.

In whatever fields of science young specialists are engaged, there are common universal forms of scientific activity, such as writing papers (books, monographs, etc.), types of experimental research activity, development, implementation, patents and etc. of new technologies and etc.

Table 1 - " The intensity of research activity of young scientists" (in % percent of the respondents positively answered to this question).

№	Response options	%
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1	Permanently	36.50%
2	Occasionally	29.80%
3	Only educational activity	17.50%
4	Within PhD doctoral program	6.90%
5	Nothing to say	9.20%
<b>TOTAL</b>		100%

Concretization of the main types of scientific and research activities of young scientists based on results of the survey are presented in Table 2.

Table 2 - "What exactly are you doing now in terms of scientific work?" (In % of total respondents).

№	Response options	%
1	Studying literature, writing a research paper	43.4%
2	Writing a dissertation	15.2%
3	Working on monograph	6.3%
4	Conducting scientific experiments, research, and various field work	15.2%
5	Implementing new technologies, creating a program	4.3%
6	Have no time for the scientific work	10.3%
7	Nothing to say	12.9%
<b>TOTAL</b>		100%

The most common type of scientific activity of young Kazakhstani scientists is writing a research paper - 43.4% of respondents. In quantitative equivalent this indicator has increased by 10% compared to 2008. This is followed by the position "Writing a dissertation" - 15.2% and "Conducting scientific experiments, research, and various field work" - 15.2%. Compared to the results of the survey in 2008, number of persons involved in writing a dissertation has significantly decreased: from 34.2% to 15.2%, which is more than 2 times. Obviously, this is due to changes in Kazakh system of training of scientific personnel and to the end of the traditional postgraduate and doctoral programs. Obtained quantitative data is also correlated with previously noted growth of young professionals with scientific degree.

Data obtained on a group of young scientists engaged in scientific experiments remained practically unchanged: only a slight increase 1.9% is noted.

Working on a monograph - 6.3% of young scientists (1.3% more compared to 2008).

According to the research results, more than 80% of young scientists in Kazakhstan have a number of scientific publications in the last 3 years.

18.4% of respondents could not answer the question about the presence of publications. Among them, undergraduates, young teachers and researchers without a degree – 56.3%, also PhD students - about 7%.

Analysis of young scientists' publication activity.

#### 1. Publication in scientific journals of Kazakhstan

Among the publications, of course, Kazakh editions predominate - 72.4%. The percentage increased slightly during the analyzed 4-year interval for 6.4%.

#### 2. Publications in Russia and CIS countries

25% of young scientists noted that they have published in scientific journals of Russia and the CIS countries. This figure has not changed in comparison with 2008.

#### 3. Publication in scientific journals of foreign countries

10.6% of respondents have been published in foreign countries. This indicator increased slightly for 1.6%. Also shows a positive trend and analysis of the quality of the publications:

- Publications in journals with zero impact factor - 7.4%
- The journals included in the Scopus database – 3.7%
- The journals included in Thomson Reuters database – 2.6%.

Distribution of answers to the question "When did you decide to pursue an academic career?" shows that the relative majority of respondents came to the decision in the process of obtaining the basic professional education - 33.3%, and after finishing university - 22.9%. Followed by an answer "After joining the university or research

institutes" - 14.4%. The lowest numerical index - young Kazakhs who have decided devote themselves professional science at school - 11.4%.

Answers to the question "Why do you do research?" confirm the predominance in motivation of professional activity of young scientists of creativity, finding ways to self-realization and implementation of an active civic and patriotic position. "Interest" is the main motive for one third of the respondents engaged in science. Among the main reasons should also be noted the "possibility of creativity" - 18.7% and "desire to be useful to society and the country" - 18.7%. The answer "source of livelihood" deserves special attention that is selected by every fifth respondent. Over the past 4 years, the indicator has increased more than 2 times.

### 3. The features of status formation

Features of status position of young scientists on one hand are caused by the fact that they represent some kind of professional community with professional status characteristics a certain level of the system, subject, inter-personal competencies, determining the willingness to academic and research activity (lectures, publication of scientific articles, participation in grant activities, etc.).

On the other hand, they represent the most responsive and dynamic group - young people undergoing internal changes and the increasing complexity of relations and relationships with all elements of the social, political, economic and other structures of society. At the same time, this social group exhibits different degrees of activity in the social, economic, political, cultural, family and work activity, possesses social mobility, depending on the generated needs, acquired skills, knowledge, interests, values.

Young scientists are representatives of professional status group, which is characterized by a variety of social and professional features. Age stands as an objective criterion that determines belonging to this group. According to the majority of participants of the focus groups, the age of young scientists can be defined - up to 35 years for the persons having a "candidate of science" degree and 40 years for "doctors of science".

Social portrait of a young scientist, which differs in its values, professional orientation, methods of social and cultural activities. This is "scientific man" on the first place; financial interest is not the motive for his behavior.

The social status of young scientists is determined by several factors the objective ones in the first place (education and income, socio-economic conditions, the state policy in the field of science education and science and etc.) and subjective (skill level, prestige of the profession and etc.). Young scientist admits the value of education and science, but the latter for him is not a field for the application of its creative energy but a means of a certain social status in society and the possibility of material security.

Thus, the results of conducted research indicate the imbalance of the level of education and income, both among teachers and among researchers. According to our survey about 82% of young scientists on certain quality criteria and the degree of their involvement in innovative forms of scientific and educational activity identify themselves with the "middle class." In general, social and professional sustainable type of a young scientist identified characterized by orientation toward scientific or academic career and predominance of basic social characteristics (having a family and children).

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