



AG Hochschulforschung + FREREF Réseau Uni 21  
VIII. International Workshop at the University of Konstanz  
“Expectations and outcome of study”

## **PhD students in Ukraine: expectations and outcomes of scientific activities**

Prof. **Olga Kutsenko**  
Sociology Faculty  
Taras Shevchenko National University of Kyiv, Ukraine

15-17 October, 2015

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## **Content:**

1. Aspirantura vs. PhD program: main differences.
2. What are main expectations concerning Aspirantura Program in Ukraine?

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## 'Aspirantura' vs. 'PhD program'

**Aspirantura** (*from Latin*) – a 'Soviet model' of graduate school; or a school that awards advanced degrees;

an academic institute responsible for preparation of 'scientific' and 'scientific-pedagogical cadres'.

Its main features are:

- mostly individual programs for aspirants in preparation of their thesis based on cooperation between aspirant and his/her supervisor,
- poor-structured educational program's component,
- Duration is usually three-year with a small stipendium for those aspirants who entered on state-supported program.



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The institute of Aspirantura was formed in 1925 in the USSR and exists in Ukraine till now.

In 1950-1952 the institute was transferred in the Czech, East Germany, Poland etc.

- as a component of the '[Soviet cultural imperialism](#)'  
Natalia Tsvetkova, 2013 (Leiden, Boston)

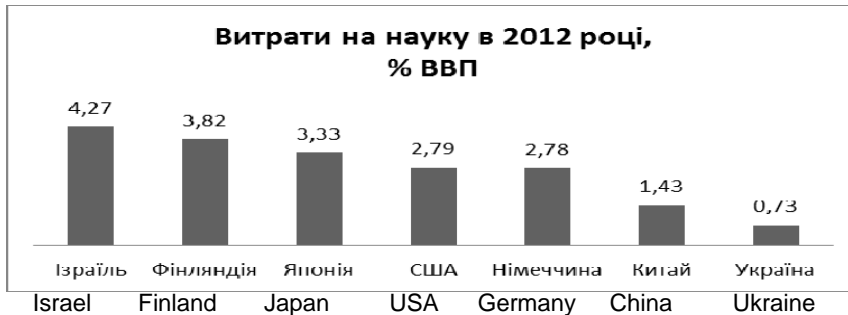
**The main common problems of Aspirantura are:**

- it's weak efficiency in professional and personal development of Aspirants,
- it's weak correlation with the European experience of PhD programs that does not further, partly, academic mobility and competition of Ukrainian aspirants in the European science and research.

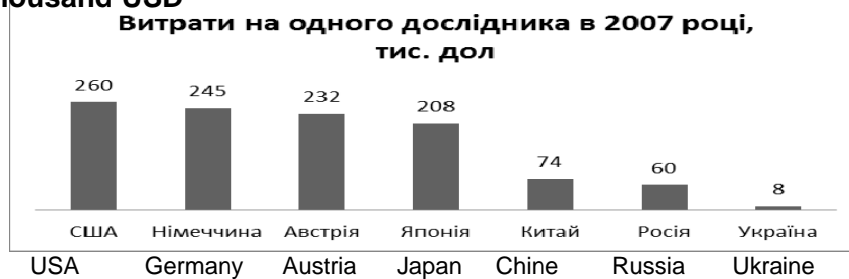
**+ Ukrainian state is not a judge of science and researchers.**

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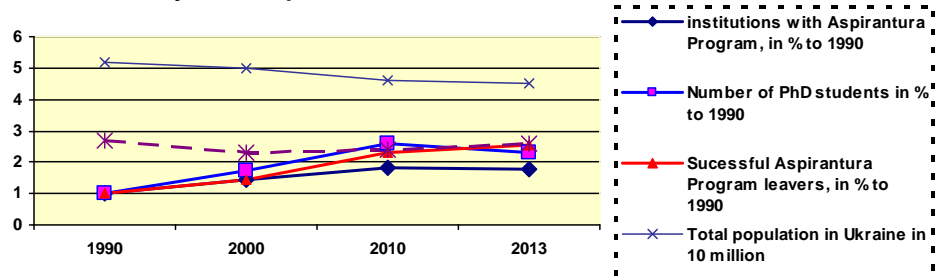
### 1. State expenditure on science, % of GDP, 2012



### 2. State expenditure on science per a researcher in 2007, in thousand USD

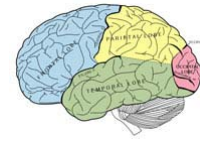


### Efficacy of Aspirantura in Ukraine for 1990 - 2013



- The number of aspirants increased in 2 times since 1990, but efficacy of aspirantura decreases.
- **Current changes of the Soviet model of training of researchers (via Aspirantura) and awards advanced degrees towards development of the PhD programs in Ukraine.**
- **The transformation policy remains under discussion.** Its implementation has strong resistance from Academy, some Universities and Professors.

If the state is not interested in science, so what about interests in science of (young) researchers?



**Research questions:**

- What are research expectations of students entering the Aspirantura Program in Ukraine?
- How much significant the value orientations on science and research in Aspirant's expectations?
- What differences of expectations between young representatives of the natural sciences and humanity?



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**Project “Scientific potential of Aspirants at Shevchenko National University of Kyiv”, 2013-2014**

**Case of the Taras Shevchenko National University of Kyiv (KNU)** - 1630 aspirants in 2014 or 9% of the total number of aspirants in Ukraine; n = 165.

Error of representation (estimated for a small sample) is = 1.7 (P = 0.95).

The field work is conducted by *Katerina Shelestun* and a student research team with supervision by *Iryna Nabrusko and Olga Kutsenko*.

**Methods:** - academic statistics and reports analysis;  
- semi-formalized interview of Aspirant/s. Random selection among aspirants at the full-time 2d and 3d levels training program.

Randomization within the quotes of Aspirants which pass training on the natural VS. humanitarian sciences with control their representation of different faculties and departments.

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## Attitudes on research and expectations of Aspirants: measurement and hypotheses

### *Parameters of measurement:*

1. Motives and expectations of enter the Aspirantura;
2. Attitudes to personal scientific activities.

**Hypothesis ( $H_0$ )** : attitudes to research and science are dominate among aspirants.

**Hypothesis ( $H_1$ )**: the material factors to enter the aspirantura are more significant than the value orientations on research.

Trial hypotheses:

- Attitudes at scientific activities are differ for the young natural scientists and humanitarians. Humanitarians are less motivated for research.
- Motivation of scientific activities and further career depends on economic and social resources of Aspirants.

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## Structural parameters of the inquired group: descriptive profile

| <p>The mean <b>age</b> is 25,5.</p> <p><b>Margie status:</b><br/>Single – 72%; married – 20%;</p>          | <p><b>Material status (self-estimations):</b><br/>Higher - 8%<br/>Average – 64 %<br/>Lower – 16 %<br/>Lowest (economical with food) – 12 %</p>   |        |        |        |        |      |      |              |      |      |           |      |      |
|--|--|--------|--------|--------|--------|------|------|--------------|------|------|-----------|------|------|
| <p><b>Residence:</b></p>   | <p><b>Educational status of parents:</b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">Mother</th> <th style="text-align: center;">Father</th> </tr> </thead> <tbody> <tr> <td>Higher</td> <td style="text-align: center;">54 %</td> <td style="text-align: center;">52 %</td> </tr> <tr> <td>Professional</td> <td style="text-align: center;">20 %</td> <td style="text-align: center;">28 %</td> </tr> <tr> <td>Secondary</td> <td style="text-align: center;">20 %</td> <td style="text-align: center;">20 %</td> </tr> </tbody> </table> |        | Mother | Father | Higher | 54 % | 52 % | Professional | 20 % | 28 % | Secondary | 20 % | 20 % |
|  | Mother   | Father |        |        |        |      |      |              |      |      |           |      |      |
| Higher   | 54 %   | 52 %   |        |        |        |      |      |              |      |      |           |      |      |
| Professional   | 20 %   | 28 %   |        |        |        |      |      |              |      |      |           |      |      |
| Secondary  | 20 %   | 20 %   |        |        |        |      |      |              |      |      |           |      |      |
| <p>Reside in a dormitory – 54 %;<br/>Reside with parents – 34 %;<br/><u>Rent an accommodation – 9%</u></p> |  |        |        |        |        |      |      |              |      |      |           |      |      |

|        | Natural sciences | Humanities |
|--------|------------------|------------|
| Female | 44 %             | 65 %       |
| Male   | 56 %             | 35 %       |

— Mother or Father of 8 % aspirants are \ were employed in Scientific or Educational institutions.

**A typical aspirant in Ukraine (KNU):** very young, unmarried, has more or less average material status, has origin from high-educated family, more often is female.

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## Expectations of a further employment (after graduation), in % (by column)

Prospects of professional career are very important for 24 % aspirants.

But: After graduation 91 % former aspirants in Humanities are employed not in education and science but in business, politics, public administration and other spheres.

The similar is concerning 52 % former aspirants of natural sciences.

|   | Expectation of employment | Expectation of employment |
|---|---------------------------|---------------------------|
| Teaching in University  | <b>24</b>                 | <b>47</b>                 |
| Researcher, employment in science                                 | <b>24</b>                 | <b>25</b>                 |
| Continuation of education abroad                                  | <b>32</b>                 | <b>2</b>                  |
| Other practical work including business, no education or research | <b>20</b>                 | <b>23</b>                 |
| Don't know  | <b>15</b>                 | <b>3</b>                  |

### 1. Main motives of enter an Aspirantura, multiple alternatives

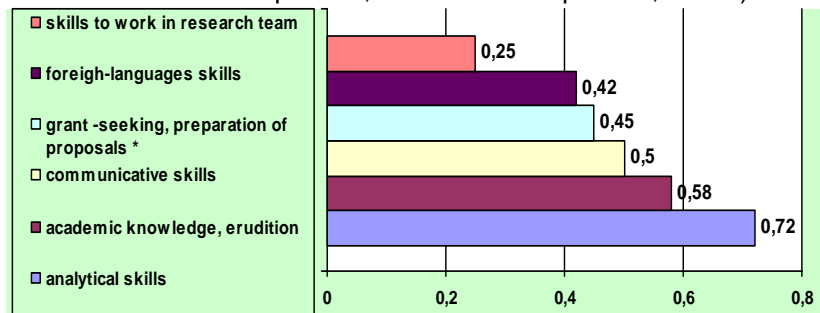
| Types of motives   | Natural sciences | Humanities |
|--|------------------|------------|
| 1. Self-realization, research interests  | 66 %             | 54 %       |
| 2-3. Financial reasons: to support own financial state for the nearest three years and future perspectives | 40 %             | 32 %       |
| 2-3. Social recognition and prestige   | 40 %             | 32 %       |
| n  | 74               | 91         |

### 2. Why aspirants are going to remain in science and research after graduation?

1. Financial and other material motives (higher income; housing) etc.)
2. Perspectives of career
3. Self-realization in science

## Study at Aspirantura: collision between expectations and outcomes

1. The skills and knowledge which Aspirants want to develop (1 = '1' means 'most important', '0' means 'unimportant', 1 \ 100)



\* 69% of aspirants never applied for a research or travel grant.

2. Main skills which are developed during 2-3 years of training in Aspirantura (self-estimation):

- Foreign languages skills (72 %),
- Research skills (68 %).

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*What is about analytical skills and professional knowledge?*

## Motives of "running from science and research" after graduation:

- Decrease of prestige of science (51%),
- Absence of perspectives for professional self-realization and career (64% natur.scientists and 58% humanitarians),
- 'Uncertainty of life perspectives' (35%),
- Unwillingness of the research institutions giving support to young researchers (33 % \ 41 %),
- Long term of commercialization of scientific findings (25%).

***'Nobel Prize? – No, thanks!'***

**Professional career horizon in science is pragmatic:**

- Head of department or laboratory at University or Academic Institution: 60% aspirants of natural sciences and 43 % of Humanitarians;
- Senior or principal researcher (10%).



## Conclusion:

1. Aspirantura remains rather attractive for students as an institution for self-development in research and intellectual activities.
2. However, **pragmatic motivation** (career, material conditions) is significant and more significant among Humanitarians. Pragmatization leads to decrease prestige of science as well as aspiration of Aspirants to invention and innovation in science.

This phenomenon correlates with the pragmatic trend in education at PhD program in Europe.

3. Many of aspirants are induced to search for additional income during the study and more profitable employment after graduation. In Ukraine R&Sc concedes business and other applied activities.
4. The main outcomes of the Aspirantura – awarded scientific degrees, its reproduction in academic institutions and development of foreign language skills of aspirants.

Aspirantura has a positive effect in development of research skills only for 2\3 aspirants.

However after graduation the individual significance of analytical skills and professional knowledge downgrades. It counters to the current global tendencies of innovative development.

5. Low professional perspectives in science and research after graduation, their uncertainty are a significant factor contributing in falling down scientific motivation of aspirants.

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## ➤ Necessity of development new structured PhD programs based on:

- Integration of educational and research interests;
- Development of transferable skills for a work in R&I within or outside the academic sphere;
- Development of mutual responsibility of aspirants, supervisors, PhD program administration, research and educational institution and business-partner for supporting capacity of PhD students (aspirants) of self-realization in science and to develop own professional life trajectory in R&I.

Thank you for attention!

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