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The Russian Researcher's Motivation for International Project-Related Activity

Natalie M. Edwards* and Tatiana A. Golovanova

Siberian Federal University
79 Svobodny, Krasnoyarsk, 660041 Russia¹

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This is an attempt to consider the researcher's motivation and some relevant tactics stimulating a higher motivation for international project-related activity as a specific part of comprehensive researcher's activity. The article provides the results of interviewing 82 researchers geographically varied from Moscow to Tuvinskaya Republic and affiliated to universities and the Russian Academy of Science institutes.

Keywords: motivation, arousal, international project-related activity, researcher, competence.

Point

The researcher of today is expected to be involved in comprehensive activities, which includes research and development, national brainpower reproduction and scientific advising, contribution to the global-scale research area development, active public activity, and some specific duties determined by the organization of affiliation. Speaking of the researcher's training for international research activity in particular [1, 3], it should be accentuated that all the activities are in close association and the researcher proceeds from motivation in all the above activities. Therefore, it is reasonable to consider the researcher's motivation phenomenon and some relevant tactics stimulating a higher motivation and international collaborative orientation.

In psychology, motivation is regarded as a complicated concept with varied approaches to its interpretations and theories. The Russian

Language Ozhegov's Dictionary provides the definition for motivation as a "totality of motives, reasons for justifying something" [7]. The Longman's Dictionary defines the motivation as "eagerness or willingness to do something without needing to be told or forced to do it", [8]; some researchers provide more descriptive definition for motivation as "all the complex of various inducements, motives, needs, aspirations, attractions, motivation statements or dispositions, ideals and so on, which implies determination in a general sense", and some overseas researchers define motivation as a process of motive forming [11].

Some investigations of younger generation research motivation cause significant concern with the research community: young people are opting less and less for scientific, engineering, innovation studies and careers. The European research project ROSE "The Relevance of

* Corresponding author E-mail address: NEdwards@sfu-kras.ru

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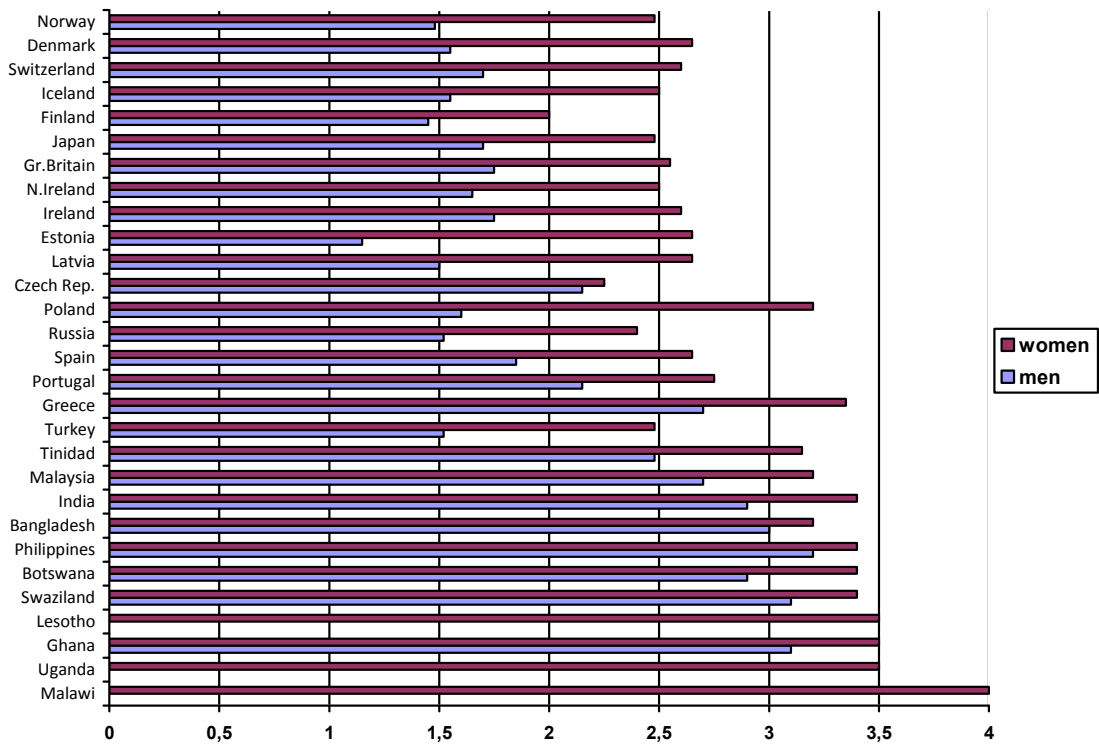


Fig. 1. Interview results of students who stated they want to be researchers. Project ROSE (The Relevance of Science Education, 2005-2006). Source: Svein Sjoberg, Camilla Schreiner, “Values and Choices”, Research UE, the magazine of the European Research Area (ERA), special issue of June 2007, p.9

Science Education” coordinated by the Education Sciences Department of University of Oslo (Norway) reveals the current state of affairs through an impressive study in 43 countries including Russia, on all the continents, in 2006-2007 [14]. The study was to figure out motivation and intention of young people for R&D activity as a career choice (Fig. 1).

International joint research involvement is encouraged and expected from the researcher and it can hardly be imposed externally. Moreover, it requires appropriate competence and infrastructural skills from the researcher [2]. The formation of such competence and skills proves to be productive if motivation for international project-related activity exists and the researcher’s scientific competency is positively positioned internationally (adequacy and high standard of the research, instrumentation and technologies applied, R&D high level, etc.).

In research papers, the motivation phenomenon is thoroughly investigated by now as well as motivation for research activity, but it is less considered in relation to international joint research involvement as an integral part of the researcher’s multi-component activity. It might be interpreted though as a specific human inclination towards long-life learning and self-development (Van J. Rossom, Oleynikova O.N., Zheleznov B.V., Osipova A.V.). The concept is well-known from the formulation by American researcher Abraham Maslow in 1968 and later developed by Carl Rogers in 1969, 1983 and 1995 as self-actualization theory, where self-development and long-life learning are treated not as respond to external impact but as a process of internal inducement and impulse as the highest category of the intellect [4, 6, 12].

Treated as a novel activity, the international project-related involvement might be investigated

as a cognitive arousal of adults or professional needs, and from this point the phenomenon was justified by P. Smith (1998), Field J. (2000); Jarvis P. (2001); Merriam Sh. and Caffarella R. (1999); Valentine T. (1997), P. Jarvis (1995, 2001, 2004), J. Rogers (2001), C. Zemke (1995), etc. In overseas andragogy, motives are basically defined as the factors, which induce the action and govern the behavior intentions organized for some purpose achievement [12]. Those theories and concepts being undoubtedly valuable in investigating the basic psychological phenomena of the human cognitive motivation are still far from revealing the researcher's specific motivation associated with international joint research involvement.

Examples

In his book "Motivation and Motives" (2006), Ilyin E.P. provided the psychological justification for research activity motivation. In his judgment, two aspects should be differentiated: motivation for research activity as a career choice in general, and the arousals defining the researcher's specific field of scientific interest. The combination of the motives is dynamically variable and individually specific in each case. For example, the researchers in the Krasnoyarsk region monitored by the Regional Information Node in their European project activities (within FP6 networking projects SITE and RUSERA-EXE) admitted in conversations that they had been motivated by a possibility to obtain funding for research and development purposes at the starting point of their involvement in international consortia. But in the course of their interactions with European colleagues, materialistic arousal lost domination and gave way to cognitive arousal. The cognitive domination developed in the process of learning and mutual exchange as the leading approach towards R&D activities. Practically all the researchers associate international project-related activity with higher professional achievements,

which falls with the "Need for Achievement" theory introduced by David McClelland in the 1970-s. Some aspects of the Russian university researcher's motivation associated with international joint research involvement were investigated by Zoobova L.G., Leukshanova S.V. and Romanovskaya O.T. [9, 13, 15].

In the Krasnoyarsk region, this aspect of motivation was revealed in the course of regional researchers' involvement in European consortia through individual non-formal conversations with each of them. Proceeding from the feedback and basing on the motive classifier of the researcher's "intellectual migration" by E.P. Ilyin [5], it appeared possible to formulate the following motives categories capable of inducing the researcher to international research project involvement.

Speaking of motivation as a "totality of motives" inducing the researcher to international research project involvement, the interpretation of the motive origin by Ilyin E.P., Zabrodin Yu. M. and Sosnovsky B.A. looks most reasonable. They suggest that the motives cannot be subdivided into internal and external, because "they are always internal as opposed to arousals initiating the process of motivation, which may be called internal (interceptive) and external". According to the above scientists, external motives and motivation imply some external influences of other individuals or attractiveness of other objects. These arousals are called "motivators" [5]. Working with such arousals or motivators is important in the content and types of the learning process for researchers, because they are adult and mature individuals with a high professional experience level and a high need for self-actualization.

In spite of wide-spread appeal to "form international collaborative motivation" with university staff members we proceed from our experience, which dictates that the "education

Table 1. The Russian Researcher's Motive Categories for International Research Project Involvement

No.	Motive Category	Motive Essence
1.	<i>Professional</i>	Advanced research and instrumental data and expertise, which might be helpful for professional development and activity. Higher will to master a foreign language for professional communication.
2.	<i>Materialistic</i>	Arousals for higher and more stable material conditions through grant support, comfortable working conditions through higher expenditures on research and development.
3.	<i>Touristic</i>	Satisfying the interest to other lands and need for impressions provided through inter-cultural cooperation and exchange.
4.	<i>Psychological</i>	Need for higher achievements and self-esteem, psychological protection through the involvement in the peers consortium, sense of communion with the global research area.
5.	<i>Social</i>	Social advantages and sheltering in the own social group, recognition in the global research area, career development chances.

manager” (not teacher) responsible for the learning procedures oriented at researchers is in no position or power to *form* the motivation, but is capable of *contributing* to the motivation process. The approach to the process must not imply any substitution of the internal motivation for direct stimulating towards the international project-related involvement, but give way to a comprehensive approach to this complex process. In particular, the *interest phenomenon* may be applied as the process basis for the personal orientation. That implies an active concentration of attention, thoughts and intentions upon definite activity associated with emotionally positive attitude towards mastering it. It would be logical to proceed from the assumption that interest is only displayed in the contact with some information capable of causing *curiosity* of the researcher: an intellectual value, which stimulates to learn, to see, to hear something new. According by Platonov K.K., curiosity acts as “targeted but emotionally dependent desire for learning, internal manifestation of investigatory reflex”[10].

In February-June 2009, a scheduled up-grading program “Some Aspects of Innovative University Academic Staff Activities” for university academic staff took place at Siberian

Federal University. The program is included in the area of “Issues of the Siberian Federal University United Innovative Area” and incorporates a learning module as preparation for international research project activities (FP7, TEMPUS, DAAD, etc.). The module content is flexibly modified due to the changes, which constantly take place in international programs and R&D infrastructure. In the course of training and via e-mailing, 82 researchers were interviewed. The researchers were to assess their category as “Beginner” (26), “Intending to start” (49) or “Experienced” (7) proceeding from their experience and international research cooperation contact intensity. Therefore, 60 % of them defined themselves as intending to start such cooperation. Geographically, the researchers registered for the training program varied from Moscow to Tivinskaya Republic, and their affiliation varied from universities to the Russian Academy of Science institutes. So, the participants were introduced to the questionnaire subject through being informed or trained within a special course and therefore were aware of and interested in international projects and programs, to some extent. The primary attention was given to the researcher's motivation for international project-related activity and then the questionnaire

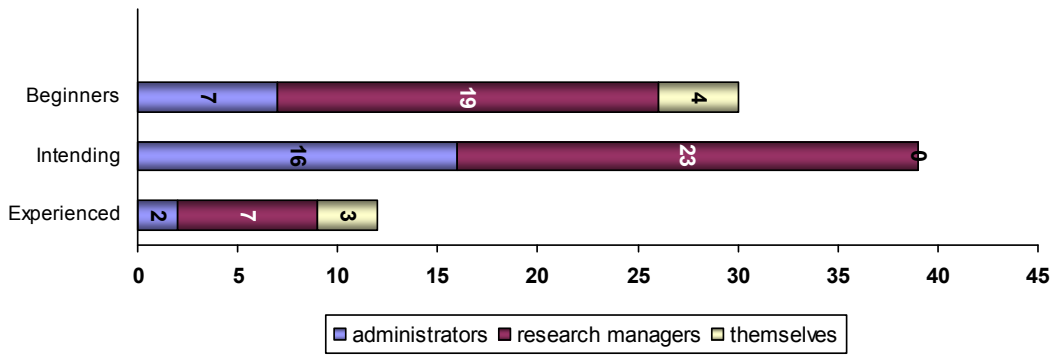


Fig. 2. Answering the question: “Who to your opinion could efficiently involve you into international research contacts with overseas colleagues?” depending on the researcher’s category: experienced, intending or beginners

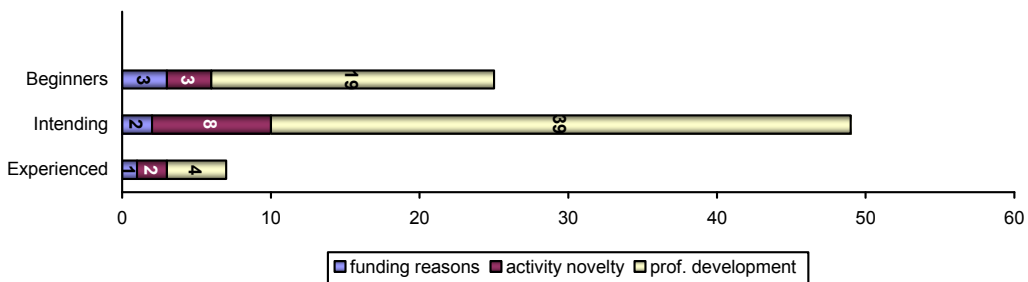


Fig. 3. Answering the question: “What are the inducements for international research contacts for you personally?” depending on the researcher’s category: experienced, intending or beginners

focused on training needs for this activity. It was figured out that international project-related activity was especially attractive for 73.4 % of the researchers, many of which would like to contribute to international conferences as well. Then, the researchers admitted that they might be involved in international projects by definite people (Fig. 2).

Therefore, research managers and intermediary professionals can promote 47.6 % of researchers for international research contacts, for 14.6 % of them their administrator’s opinion would be stimulating and 37.8 % rely on their inner motivation. The inner motivation is displayed by the researchers in the following ratio (Fig. 3).

As it is demonstrated by the answers, the material reason as the major one was admitted by 7.3 % of the researchers only, whereas 75.6 % appreciate possibilities of professional development and for around 1 % of them, activity

novelty is of major importance. Some researchers though would appreciate all the reasons as acceptable for themselves.

Speaking of the arousals for international project involvement, the researchers defined them as follows: an unknown researcher’s “success story” – 31.7 %, analytical demonstration of the Russian efficient participation – 59.8 % and colleague’s experience – 8.5 %. Their own participation will be possible under the following conditions (Fig. 4).

A half of the researchers interviewed (50 %) are ready to get involved into international project-related activity if they may rely on informational and advisory support. 42.7 % must feel self-confidence and 7.3 % will start if any administrative decision dictates so.

Proceeding from the above arousals and determining international project-related activity factors it is important to figure out the major

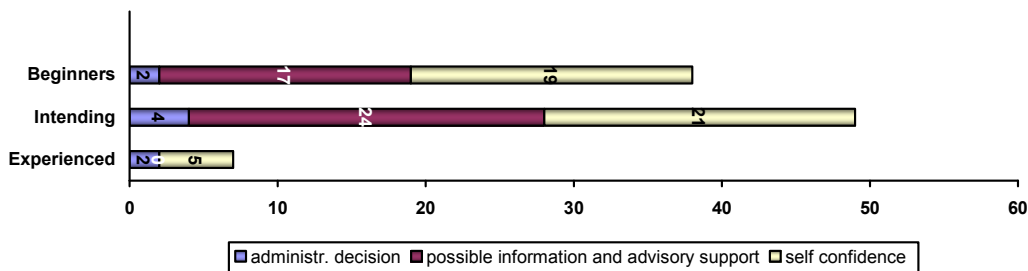


Fig. 4. Answering the question: “What factor will be determinant if your involvement into international project-related activity is required?” depending on the researcher’s category: experienced, intending or beginners

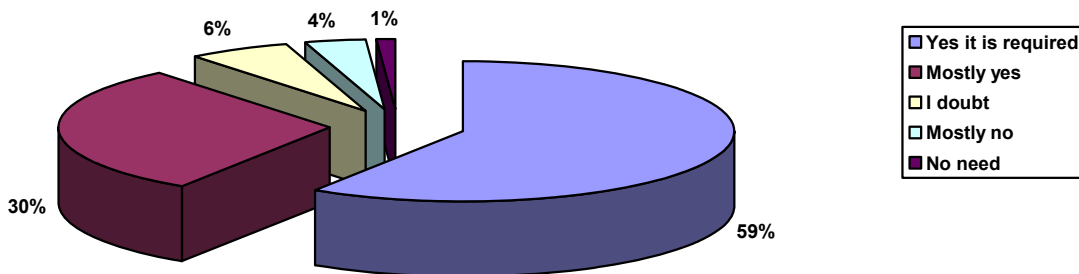


Fig. 5. Answering the conclusive question: “Do you personally need any training for international research project activity if a project is available?” independently of the researcher’s category, 82 researchers totally

questionnaire question, which is important for productive researchers’ training preparation: is training for international project-related activity required for the researchers if any participation international project if available? On the whole, the most of researchers answered in the affirmative (Fig. 5).

The analysis of the conclusive question indicates that 89 % of all the self-defined researchers’ categories admit the relevance and benefits of their training for a versatile and comprehensive international project-related activity and think it would be a reasonable practice. The training demand turned out to be the same as demand for information and advisory support in the process of a project proposal development, partner search or project implementation.

Conclusions

1. As the above survey indicates, the overwhelming majority of researchers (89%) from many Russian regions and various educational

and research institutions who are motivated towards international project-related activity to a variable extent, realize the importance of self-confidence and own competence, which proceeds from training, as well as continuous or episodic support and advisory assistance. The numerical overlapping of the two answers (see Fig.4 and Fig. 5 for details) concerning the involvement training and readiness to start the new activity may be explained by the researchers’ intention to basically build up their competence and then to steadily develop and grow it through outside information and advisory support as a long-life learning possibility. It is beyond question that support itself lacks to replace the researcher’s competence for activities associated with intercultural, team-based, user-oriented and market-like joint research activity within a different value, motivation and regulative framework, in contrast with purely domestic professional activity.

2. The academic staff members (around 80 % of those interviewed) consider their part

in an international project as highly desirable, simultaneous and additional to their primary teaching activity. Apart from internal motivation, professionals rendering qualified supportive and advisory services, or department administrators oriented at international partnership development may definitely contribute to the researchers' motivation for participation in international project-related activity. For the researchers, facts are accepted as convincing arguments and persuasive authority when they make a decision on their involvement in international contacts or projects. These facts and reasons are provided from thorough analyses of international foundations and programs efficiency in Russia or the Russian and regional participation dynamics and productivity in international projects. Materialistic reasons for international project-related activity are not predominant with the researchers interviewed. The leading reasons stimulating them to get involved in this activity are professional development opportunities, which provide social, academic and career advantages. Venturing to join international projects, half of them are guided by the following determinant: to rely on continuous information and advisory support in this comprehensive activity (50 %), but nearly all of them (89 %) will rely on their readiness and competence for this activity.

3. The researchers basically realize that integration into the global research area requires not only adaptation to novel conditions under knowledge transfer mode, but mainly ensuring the so called "personal growth" along with further independent development capacity in the rapidly changing world. Therefore, the content of researcher's training for international project-related activity should meet the requirements of thorough information selection in order to induce the researcher's professional curiosity as the initial point for subject-based interest and then motivation growth. Flexible balancing of

deep understanding of the trainee's professional activity essence and the subject matter provides the basis for building up the internal readiness of the researcher's for international project-related activity as an adequate positive attitude for forthcoming activity, which determines its successful nature. This determination is formulated by the Yerkes-Dodson law, which ascertains the dependence of the executable activity performance upon the arousal extent. The First Law states that as the arousal intensity increases, the performance varies according to a bell-shaped curve: it is escalating first and gradually lowering after passing the highest activity performance. The arousal level where activity is the most successful is the optimum arousal here. The Second Law states that the more complex the activity is the lower arousal level is optimal for a person, because different tasks require different levels of arousal for optimal performance. With researchers as trainees, it implies the necessity of relevance and adequacy of the training content and delivery modes, in accordance with their activity stages and experience because the arousal and motivation vary and develop along with the activity development. So, the researchers actively involved in international joint projects will require a new investigation of their motivation and arousals.

4. Motivation may be safely suggested as a *necessary but not sufficient* prerequisite for successful international research activity in the form of projects, as well as the related training of the researchers. Another prerequisite is an adequate scientific competence of the researcher as positive *professional positioning* of the researcher at the global level rather than domestically or regionally.

5. The researcher's motivation acts as a dynamic internal process of motives (or motivators) formation as the grounding for forthcoming activities. Being the internal process,

it can hardly be formed externally. So, it seems reasonable to consider *external contribution* or arousal to the process rather than *formation* by educational managers or other intermediary professionals, taking into account the researcher's strong psychological values of curiosity and professional interest. Therefore, the researcher's internal readiness for international project-related activity is only possible a) through various types of training, and b) through information and advisory support, provided that a balanced

combination of required psychological conditions and laws with adequate and relevant content and forms of training could be achieved, on the base of a high cognitive motivation characteristic of this professional category.

6. Activity-oriented approach of researchers' training for international project-related activity proceeds from the statement that the personality actions are induced by arousals, which are consolidated in the activity and new arousals also appear in it.

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Мотивация российского ученого к международной проектной деятельности

Н.М. Эдвардс, Т.А. Голованова
*Сибирский федеральный университет
Россия 660041, г. Красноярск, пр. Свободный, 79*

В данной статье предпринята попытка рассмотреть мотивацию ученого и некоторые релевантные тактики, способствующие ее повышению в области международной проектной деятельности как специфического компонента комплексной деятельности ученого. В статье представлены результаты собеседований с 82 учеными различных регионов – от Москвы до Тувинской республики, работающими в университетах и институтах Российской Академии Наук.

Ключевые слова: мотивация, побуждение/активация, международная проектная деятельность, ученый, компетентность.
