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**Motivating Potential of Possible Selves in Academic Domain**

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## OVERALL SCOPE OF THE RESEARCH

**Relevance of the research.** The last half of the 20<sup>th</sup> century has been associated with an increased interest in the problem of the future (Epshtein, 2001). Before that, it was believed that only the present and the past were subject to scientific studies, but during the last century, researchers finally realized that the future could be given a scientific description as well. Psychology initially followed the trend set by other disciplines, since even classical studies of temporal perspective included the future along with the past and the present (Abulkhanova, Berezina, 2001; Nutten, 2004). It is worth noting that scientific interest in the problem of the future is a reaction to the request from society (which correlates with the views of L.S. Vygotsky (Vygotsky, 1982)). The practice (upbringing, education, business, medicine, etc.) is interested in predicting and describing the future as accurately as possible (Asmolov, Gusel'ceva, 2016; Makarenko, 1990; Mikhalsky, 2014, 2015). The ability for constructive reflection, which includes thoughts about the future, is inseparably linked with the level of personal maturity development (Leontiev, 2011).

At the same time, modern society is characterized by the absence of clear trajectories for one's life path, a wide field of opportunities for development, and the erosion of the boundaries between age periods, which creates certain difficulties for people in planning their future. The problem is mostly prevalent in young people; a number of studies indicate that young people find it difficult to think about their desired future, plan steps to achieve it, and to also stick to the chosen trajectory (Bochaver et al., 2016). The academic domain is not an exception: according to Rosstat in 2017, 32% of graduates from Russian universities did not work in their chosen field (in the social sciences, their number reaches 44%), therefore, there is a gap between the initial idea of their professional future and their real career. Understanding the conditions that contribute to the transition of ideas about the future into real steps towards it can help to solve the problem.

Along with the designated interest in the studies of the future, there is an increasing interest in analyzing individual's ideas about himself in the future, the so-called "possible self". Possible selves are individual's ideas about what he would like to become, what he

could become or what he is afraid of becoming in the future (Markus, Nurius, 1986). There are a large number of empirical studies on the content, structure, and attributes of possible selves of people in different age groups, different cultures, minorities, and in varying life circumstances, etc. (Kao, 2000; King, Smith, 2004; Waid, Frazier, 2003). Comparative studies of possible selves during life periods of adolescence, maturity and old age include: adolescents, prone to delinquency; young parents before and after their child's birth; people who have overcome the personality crisis or are in its epicenter; adults seeking jobs; people from different cultures (for example, possible selves of people from Japan, Canada and Italy); clients in the process of psychotherapy (Dunkel et al., 2006; Hooker, Kaus, 1994; Markus, Nurius, 1986; Morfei et al., 2001; Oyserman, Markus, 1990, etc.). At the same time, there is practically no generalization of the obtained empirical data, as well as no understanding of the process of emergence of the possible selves and their transformation into real behavior. Researchers pay little attention to the theoretical understanding of the phenomenon of possible selves and its comparison with the ideal selves, dreams, fears and other similar constructs (Erikson, 2007).

Another area of existing empirical work addresses the problem of the effect of possible selves on human behavior (Markus, Ruvolo, 2015; Oyserman, Markus, 1990, etc.). Regulatory function is recognized as one of the most important functions of the individual's image of himself in the future. Possible selves can create motivation to achieve or avoid certain selves during the personalization process of hopes and fears (Markus, Nurius, 1986; Oyserman et al., 2006). They also affect the actual selves in the sense that aspirations or fears of the future can determine the behavior in the present and affect the self-concept (Frazier, 2009; Markus, Nurius, 1986). There are empirical studies proving that possible selves have motivating potential; future selves take part in the self-regulation process and subject's activity, guiding his behavior and activities towards the realization of the desired future (Oyserman et al., 2004). Such works include behavioral research aimed at maintaining health; studies of the regulatory function of future images in the field of psychotherapy and psychological counseling, as well as in the field of professional and academic achievement (Friedman, Combs, 2001; Furman, Ahola, 2001;

Eron, Lund, 2011; Hooker, Kaus, 1994; Oyserman et al., 2002, 2006; Oyserman et al., 2004; White, 2010).

Thinking about a possible self is always the personal choice of one of the future options of oneself. D.A. Leontiev proposed a scheme of transition for the possibility into action “the possible - the valuable (meaningful) - the due - the goal - the action” (Leontiev, 2011). It is a formula of self-regulation, where possible selves are necessary links of self-regulating behavior. From the point of view of D.A. Leontiev (2011), self-regulation includes three functions: self-determination, realization and conservation. Possible selves are associated with all of these functions: they allow a person to self-determine in the field of opportunities and with the help of motivating potential guide himself to their realization.

The question of the relationship of possible selves in the academic domain with academic motivation and, accordingly, with academic achievement was raised in a number of works aimed mainly at finding and identifying attributes of possible selves that have the greatest motivating potential (Oyserman et al., 2002, 2006; Oyserman et al., 2004). However, the obtained results turned out to be rather isolated and contradictory: in some works it was shown that positive possible selves have the highest motivating potential; in others it was found that the more elaborated and balanced the possible selves were, the more likely they were to affect the students’ behavior (Markus, Ruvolo, 2015); while in others it was revealed that only possible selves combined with strategies to achieve them, were predictors of academic achievement and diligent behavior in school (Bi, Oyserman, 2015). Confidence in one’s own ability to make possible selves real also increased its motivating potential and led to the fact that students began to devote more time to their studies and had higher academic performance (Oyserman, Destin, 2010).

We can conclude that in modern psychological literature devoted to the problem of possible selves, there is a lack of a broad, detailed study of the motivating potential of possible selves in the academic domain, which would illuminate simultaneously a number of different aspects: what is the place of possible selves in the academic domain in the overall picture of possible selves; how possible selves are connected with motivational and personality variables; and which attributes of possible selves can act as predictors of

academic success. The range of these issues determines **the problem of our research**, which is the analysis of the role of the motivating potential of possible selves in the academic domain among university and college students.

It is worth emphasizing the importance of cross-cultural research in the field (Waid, Frazier, 2003). It is considered that Eastern and Western cultures fundamentally diverge: the first is dominated by collectivist priorities of interdependence (interpersonal harmony, group cohesion, social duty), while the second is dominated by individualistic priorities of independence (separate identity, personal fulfillment, autonomy) (Sedikides, Gregg, 2002). Since the 2000s, scientists have shown that the motivating potential of possible selves differs depending on the culture (Western or Eastern society) (Unemori et al., 2004). Russia is considered to be the country between the East and the West, therefore it is interesting to study the attributes of possible selves among representatives of Russian and American cultures. Will the content of possible selves of Russian students coincide with the content of possible selves of their American peers? How do possible selves contribute to the academic success of students from Russia and the USA? Questions about the cultural specifics of the content and the motivating potential of the possible selves in the academic domain also act as problems of the study.

**Objective:** to reveal the characteristics of possible selves in the academic domain that do have motivating potential.

**The object** of the research is possible selves.

**The subject** of the research is the motivating potential of possible selves.

The following **research hypotheses** were formulated:

1. There are differences in the content of possible selves among Russian and American university students: American respondents are more focused on studies and careers, while Russian respondents are more focused on family and relationships.
2. Students who have important possible selves in the academic domain have a higher intrinsic and extrinsic academic motivation compared to those who do not have them.
3. Possible selves in the academic domain are connected with motivational and personal characteristics: dispositional optimism, intrinsic motivation to accomplish things, sense of purpose, persistence, structured routine, planning coping and life satisfaction.

4. Possible selves predict academic achievement and choices of tasks related to the academic domain: such attributes of possible selves as achievement strategies, perceived efficacy, outcome expectancy, understanding the obstacles to achieve a possible self predict academic performance, and thinking about positive and negative possible selves in the academic domain predicts the choice of tasks related to the academic domain.

Based on the objective and the research hypotheses, the following **research aims** were formulated:

- 1) To analyze approaches to the problem of “the possible” in psychology: an approach related to self-concept; an approach related to temporal perspective; and an approach related to personality potential;
- 2) To analyze the meaning of the motivating potential of possible selves;
- 3) To analyze the content of positive and negative possible selves of Russian and American respondents;
- 4) To investigate the connection of possible selves in the academic domain with academic motivation and other motivational and personal constructs in Russian and American respondents;
- 5) To investigate the effect of possible selves as predictors of academic performance;
- 6) To identify the effect of the motivating potential of possible selves in academic domain.

**The methodological and theoretical basis** of the study is formed by methodological and theoretical principles of the cultural-historical approach by L.S. Vygotsky, the personality potential theory by D.A. Leontiev (T.O. Gordeeva, D.A. Leontiev, E.Yu. Mandrikova, E.N. Osin and others), the possible selves theory (D. Bybee, K. Dunkel, L. Frazier, M. Hock, K. Hooker, L. King, H. Markus, P. Nurius, D. Oyserman, C. Terry and others), the research of the self-concept, self-consciousness and reflection (R. Burns, I.I. Chesnokova, O.N. Molchanova, C. Rogers, I.N. Semenov, V.D. Shadrikov, V.V. Stolin and others), the studies of temporal perspective (K.A. Abulkhanova, K. Levin, J. Nutten, A. Syrtsova and others), and the works in the field of academic motivation (T.O. Gordeeva, R. Vallerand).

**Methods of the research.** In order to test the hypotheses, the following methodological tools were used.

In Russian:

1. Possible Selves Questionnaire (Adaptation of the protocol of the interview Possible Selves, Frazier, Hooker, 2006).
2. Academic Motivation Scale (Gordeeva et al., 2014).
3. Life Satisfaction Scale (Osin, Leontiev, 2008).
4. Dispositional Optimism Test (Gordeeva et al., 2010).
5. Self-Organization Activities Questionnaire (Mandrikova, 2010).
6. The COPE Coping Strategies Questionnaire (Rasskazova et al., 2013).
7. Quasi-experiment aimed at the study of the motivating potential of possible selves in academic domain.

In English:

1. Possible Selves Questionnaire (Adaptation of the protocol of the interview Possible Selves, Frazier, Hooker, 2006).
2. The AMS-C 28 Academic Motivation Scale (student version) (Vallerand et al., 1992).
3. Life Satisfaction Scale (Diener et al., 1985).
4. Dispositional Optimism Test (Scheier, Carver, 1985).
5. Time Structure Questionnaire (Bond, Feather, 1988).
6. Cope Inventory (Carver et al., 1989).

For statistical data analysis, the SPSS 20.0 program was applied: descriptive statistics (mean, standard deviation, median), non-parametric methods for comparing means (Mann-Whitney test, Chi-square test), Spearman correlation test, hierarchical linear regression, and logistic regression.

**The empirical base of the research** was formed by 486 subjects. Participants in a correlation study included 157 students of the National Research University Higher School of Economics (Russia), Psychology course, 204 students of the Florida International University (USA), 64 students of MGOK College (Russia). Participants in a quasi-experimental study included 61 students of the National Research University Higher School of Economics (Russia), Developmental Psychology course.

**The present research is a synthesis of studies** conducted in 2015-2018 and contains the following stages:

1. The first stage (2015-2016) was devoted to the theoretical analysis of the problem of the motivating potential of possible selves. As a result, a theoretical model of the research was developed, research hypotheses were formulated, and the plan for the empirical research was proposed.
2. The second stage (2016-2017) was devoted to the study of the connection between possible selves and motivational and personal characteristics in American and Russian students, as well as to the research of possible selves as predictors of academic performance.
3. The third stage (2017-2018) was devoted to the study of the action of the motivating potential of possible selves in a quasi-experiment on a sample of Russian students.
4. The fourth stage (2018) was devoted to the analysis and interpretation of the results of the empirical research, description of the study in general, and to providing conclusions of the study.

**Reliability of the research results** is ensured by a comprehensive theoretical analysis of the problem, the use of a set of methods adequate to the goals and objectives of the study, the use of the basic principles of empirical research, the use of statistical analysis methods, and a combination of quantitative and qualitative data analysis methods.

**The scientific novelty of the research** includes the following:

1. The questionnaire Possible Selves (Frazier, Hooker, 2006) was translated into Russian and tested on the sample of Russian students.
2. For the first time a comparative analysis of positive possible selves (hopes) and negative possible selves (fears) among Russian and American students was conducted.
3. For the first time, the connection between possible selves and motivational and personal characteristics of Russian and American students is described in detail.
4. The attributes of possible selves that are predictors of academic performance of Russian and American students are studied.



5. The presence of the motivating potential of possible selves in the academic domain in a situation of choice is described.

**The theoretical significance** of the study contains the following:

- 1) A theoretical model of the motivating potential of possible selves in the academic domain is presented. It reveals the connections between the attributes of possible selves related to their motivating potential and motivational and personal characteristics and social context.
- 2) The cross-cultural specificity of the content of possible selves among Russian and American students is disclosed.
- 3) The connections of various attributes of possible selves with motivational and personality variables of Russian and American students are identified and analyzed.
- 4) The content of possible selves in the academic domain of college students in comparison with Russian and American university students is disclosed.
- 5) The presence of the motivating potential of possible selves has been proven: possible selves can act as predictors of academic achievement and they can predict the choice of tasks related to the academic domain.

**The practical significance** of the study includes the possibility of using the data obtained in teaching and counseling work. The results of the research can be applied in psychological counseling and psychotherapy in order to help people who are experiencing difficulties in making their hopes, expectations, dreams come true. The data obtained can be used in training sessions aimed at generating possible selves and formulating strategies for transforming them into actions for students. The results of the work can be used in general psychology, personality psychology and developmental psychology courses.

**Principles for the defense:**

1. The content of possible selves of Russian and American university students is distinguished by a large variety of domains presented, Russian students provide fewer important possible selves in the academic domain, compared to American students.
2. Russian and American university students that have in the structure of their self-concept important positive image of themselves in the future (possible self) in the

academic domain, have a higher motivation to accomplish things compared to those respondents who do not have such an important future image.

3. There is a connection between the correspondence of the positive possible self in the academic domain to the real self, perceived efficacy of a positive possible self, outcome expectancy and dispositional optimism, goal-setting, persistence, as well as life satisfaction in Russian university students.

4. There is a connection between perceived efficacy, outcome expectancy of a positive possible self in the academic domain and dispositional optimism, persistence, life satisfaction, and intrinsic motivation to accomplish things in American university students; as well as the connection of the outcome expectancy of avoiding a negative possible self in the academic domain and extrinsic introjected motivation, sense of purpose, persistence, positive reinterpretation and personal growth, and life satisfaction.

5. Possible selves in the academic domain have a motivating potential and act as predictors of academic achievement and choices related to the academic domain: such attributes of possible selves as perceived efficacy, importance, correspondence of the possible self to the real self predict academic performance, and thinking about the positive possible self in the academic domain predicts the choice of tasks related to the academic domain.

**Approbation of the research.** The dissertation materials were discussed at the meetings of the postgraduate scientific seminar at the Department of General and Experimental Psychology of the National Research University Higher School of Economics, were presented at the 5th International Conference of Young Scientists “Psychology is the Science of the Future” (Moscow, 2013), the International Youth Scientific Forums “Lomonosov” (Moscow, 2014, 2015 2016, 2017, 2018), International Scientific Conference of Young Scientists Psychology of the XXI Century (St. Petersburg, 2016), 31st International Congress on Psychology (Japan, 2016). The content of the thesis is presented in 12 publications, four of them are included in the list of recommended journals for the dissertation defense at HSE.

The structure of the thesis follows the general logic of the study and consists of an introduction, two chapters, conclusion, list of references, including 199 titles, 86 of them

in foreign languages, and five appendices. The main text of the thesis is presented on 150 pages. The results of the theoretical and empirical analysis are presented in 49 tables and 2 pictures.

## **MAJOR CONTENT OF THE RESEARCH**

**The introduction** section covers the relevance of the research, problem, subject and object; defines the goals, hypotheses, aims, research methods; reveals the scientific novelty, theoretical and practical significance of the study; formulates principles for the defense; provides data on the approbation of the research results; and describes the structure of the research.

**The first chapter** of the thesis is devoted to the theoretical analysis of the Russian and international studies on the topic of the motivating potential of possible selves.

In **paragraph 1.1.** the problem of “the possible” is analyzed in the context of research on self-concept and self-consciousness. Self-consciousness is understood as the subject's awareness of their individuality and the focus of their reflection on themselves. Russian theories of self-consciousness are described (Chesnokova, 1977; Merlin, 1996; Mukhina, 1999; Stolin, 1983). Self-consciousness can be viewed from two sides - as a process (self-awareness) and as its result. The process of self-awareness is an act of reflection. Reflection is defined as a thought process and specific activities that are aimed at understanding and realizing oneself as a subject, as well as changing his behavior (Karpov, 2003; Semenov 2009, 2013, 2015; Shadrikov et al., 2015; Shadrikov, 2018). Self-concept is the result of the process of self-awareness. Self-concept is defined as a dynamic system of an individual's self-representations, including the awareness of his physical, intellectual, affective, personal characteristics, as well as his behavior. Research on the self-concept of Russian and foreign psychologists is discussed (Agapov, 2009, 2010, 2012; Arkhireyeva, 2008; Cooley, 2000; Horney, 1997; James, 1890; Markus, Nurius, 1986; Rogers, 1997; Rosenberg, 1965). It is noted that at present, researchers distinguish a large number of structural elements of the self-concept and types of self, which indicates the complexity and diversity of the phenomenon. At the same time, there remains a gap in understanding how the elements of the self-concept are interconnected. One of the problems of studying the self-concept is the analysis of its temporal aspects,

possible, ideal, potential selves, etc. According to the approach that connects “the possible” with the self-concept, the subject determines themselves and their personality using a possible idea of themselves in the future.

**In paragraph 1.2.** the concept of “the possible” is discussed in the context of the research of temporal perspective. An analysis of the temporal aspects of personality research, presented in the concept of a temporal perspective is provided. Also the section includes different approaches to the temporal perspective: motivational (J. Nutten, V. Lens, T. Gisme, Z. Zaleski), the theory of temporal orientation (F. Zimbardo, J. Boyd), causal concept of psychological time (E.I. Golovakha, A.A. Kronik), typological approach (K.A. Abulkhanova, V.I. Kovalev, V.F. Serenkova). The ideas of A.K. Bolotova on time and temporal competence are discussed (Bolotova, 2007). The carried out analysis shows that “the possible” is included in the context of studies of temporal perspective where “the possible” can be viewed as a connecting bridge between the past, present and future, which correlates with the concept “chronotope” (Zinchenko, 2002).

**In paragraph 1.3.** the concept of “the possible” is analyzed in line with the research of personality potential. Personality potential is an integral system characteristic of individual psychological characteristics that constitutes the ability of the individual to make choices according to stable internal criteria and guidelines and maintain stability of values and performance even if there is pressure and changing conditions (Leontiev, 2011). Personality potential includes the following components: optimism, resilience, personal autonomy, self-efficacy, coping strategies, tolerance for ambiguity, reflexivity, self-organization and others (Bond, Feather, 1988; Carver et al., 1989; Gordeeva, 2011; Leontiev, 2011; Mandrikova, 2010; Rasskazova, Gordeeva, 2011; Scheier, Carver, 1985), which are analyzed in detail in the present research. Personality potential is connected with “the possible”, since it is directed towards the challenges of the future, and is also a necessary prerequisite for autonomous, self-determined life activity (Leontiev, 2011).

**In paragraph 1.4.** theoretical and empirical studies of possible selves are analyzed. Possible selves are described as the individual’s ideas about what he would like to become, could become or is afraid of becoming in the future (Markus, Nurius, 1986). The main types (hopes, expectations, fears) and properties of possible selves (importance,

socio-cultural specificity of the possible self, variability and vulnerability of the possible self) are provided (Cameron, 1999; Erikson, 2007; Markus, Nurius, 1986; Markus, Ruvolo, 2015; Oyserman, Markus, 1990; Oyserman et al., 1995; Oyserman et al., 2002; Unemori et al., 2004). The basic attributes of possible selves are analyzed: domain, emotional sign, balance, strategies to achieve the possible self, perceived efficacy, outcome expectancy, frequency of thoughts, importance, salience and others (Carver et al., 1994; Hooker, 1992; King, Smith, 2004; Oyserman, Markus, 1990; Oyserman et al., 2004; Unemori et al., 2004). Possible selves also differ in the spheres of human life. The most elaborated possible selves are associated with professional, academic, interpersonal and intrapersonal fields. Various functions of possible selves are described, among these the regulatory function is the most essential. Possible selves are considered to be an incentive and organizer of future behavior (Oyserman et al., 2004). Possible selves fill the gap between the formal ideal and the real current self, they shed light on the mechanisms of self-determination, and clarify the factors that motivate the choice of specific goals.

The literature review of possible selves revealed a number of problems associated with the phenomenon: issues of conceptual understanding of the reality for the concept of "possible self"; determination of sustainable configurations of possible selves attributes that can act as predictors of a meaningful activity; analysis of possible selves as a necessary component of self-regulation, performing the functions of self-determination and self-realization.

**In paragraph 1.5.** the concept of “academic motivation” is described. According to T.O. Gordeeva, academic motivation is a complex multidimensional construct that includes motives, goals of learning activities, cognitive mechanisms, persistence, and coping strategies (Gordeeva, 2006). The models of academic motivation and types of academic motivation are provided. It is shown that in modern psychological literature, the opposition of extrinsic and intrinsic academic motivation has been overcome. The intrinsic and extrinsic motivations are heterogeneous and include various motives. An analysis of the ideas about intrinsic and extrinsic motivation in the theory of self-determination by E. Deci and R. Ryan is provided (Ryan, Deci, 2000). One of the most

popular theoretical models in the field of academic motivation is R. Vallerand's model. He and his colleagues subdivide intrinsic motivation into motivation to know, motivation to accomplish things and motivation to experience stimulation; and extrinsic motivation - into introjected motivation, identified motivation, external motivation, and also they describe amotivation (Vallerand et al., 1992). The described model, with some additions from the theory of self-determination, was used to formulate the theory of academic motivation by T.O. Gordeeva. She suggests the following structure of academic motivation: intrinsic motivation, that includes motivation to accomplish things, motivation to know and motivation of self-development; extrinsic motivation, that includes self-esteem motivation, introjected motivation and external motivation; and also separately amotivation (Gordeeva et al., 2014).

It is noted that traditionally motivational and personal factors, along with intellectual variables, are considered as predictors of academic performance. As for the motivational variables, their attribution to the academic performance is emphasized by many researchers, but there is no consistent data on the nature of this contribution (Gordeeva, Osin, 2012). We assume that the contribution of academic motivation to academic performance is determined by the personal significance of the goal for the subject, that is, by his possible images of the future in the academic domain.

**In paragraph 1.6.** the concept of “motivating potential” in psychology is discussed. The motivating potential is included into a wider area of studies of motivation, and it differs from the “psychological potential”, “human potential”, “psychophysiological potential”, and “personality potential”. In general, the concept of motivating potential is mostly used for revealing the motivating potential of the exact activity, i.e. how much activity is able to motivate the subject to perform it (Hackman, Oldham, 1975). There is a conceptual vagueness of the concept due to the fact that in empirical studies it is often determined only by its consequences: if there is a successful influence on behavior, the researchers conclude that this activity has a motivating potential.

**In paragraph 1.7.** the concept of “the motivating potential of possible selves” is analyzed. The present research discusses the relationship of self-concept and motivation,

special attention is paid to identity-based motivation (Oyserman, Destin, 2010). The literature review shows that in the field of possible selves the connection between self-concept and motivation is evident because possible selves have a motivating potential (Oyserman, Markus, 1990). The motivating potential of possible selves is described as a characteristic of the possible self that encourages the individual to act towards making his desired future come true or towards avoiding the undesired future.

Empirical studies of the motivating potential of possible selves are presented. These studies examine the various attributes of possible selves responsible for the enhancement of the motivating potential (Hooker, Kaus, 1994; Markus, Nurius, 1986). It is noted that contradictory results were obtained that do not give a clear idea of the relationship of possible selves with motivation and real behavior. The literature review shows that a sufficiently large number of empirical studies devoted to studying the influence of possible selves on the subject's behavior and activities paradoxically combine with the theoretical vagueness of the concept of "motivating potential of possible selves". There are many unresolved questions about its structure, mechanisms and factors, leading to real actions, its connection with motivational and personal characteristics, self-concept, and social context.

The research proposes a theoretical model, which reflects the author's understanding of the components that enhance the motivating potential of possible selves. Attributes of possible selves, motivational and personal characteristics, including personality potential and academic motivation, as well as socio-cultural context are described as these components.

**Chapter two** is devoted to the description of the methodology, plan, organization, and results of the empirical research.

**In paragraph 2.1.** the characteristic of the methodology of the study is provided. Since the study is cross-cultural (Russian and American respondents took part in it), six questionnaires were filled out by Russian subjects and six questionnaires were filled out by American respondents. Most Russian-language methods are adapted versions of the English-language methods. There was a double reverse translation of the possible selves questionnaire from English into Russian and from Russian into English made by a

professional translator after the consent by the author of the original instrument L. Frazier was received. This section also describes the methods of the statistical data analysis.

**In paragraph 2.2.** the detailed description of the sample of the study is provided. The sample consists of 486 respondents who are students of Russian and American universities, as well as college students.

**In paragraph 2.3.** the description and discussion of the research results are provided.

**In subparagraph 2.3.1.** the possible selves of Russian and American students are analyzed. American students have significantly more important hopes (positive possible selves) in the academic domain compared to Russian respondents, while Russian university students have more important hopes related to family and relationship domains compared to American students, which confirms hypothesis 1. Hopes in the academic domain of the Russian respondents have a more evident "academic character": Russian university students are more interested in further education and development in the scientific field, while Americans rather see themselves in practice and business.

Russian respondents have significantly more fears (negative possible selves) related to relationships compared to Americans, while American students have significantly more fears associated with their financial situation, studies in their chosen field, and their professional way in their chosen field. Fears in the academic domain among Russian respondents are more associated with professional activities after graduation, while among Americans they are more related to studies in university and short-term professional goals.

In our opinion, the differences obtained can be explained by differences in the values and priorities of Western and Eastern cultures (Sedikides and Gregg, 2002). American students, being representatives of the individualistic society, are more concerned about their studies, profession, and financial situation, while Russians, demonstrating the values of a collectivist society, are concerned about relationships and family.

For Russian college students, success, work in general, as well as the academic domain and professional path in the chosen field act as the most significant hopes, and



the value of the family is somewhat lower, which may be due to the younger age of these students. The most significant fears of college students, as well as Russian university students, are rather related not to the academic sphere, but to the inability to find a job in general, and also to their financial situation and their physical appearance.

A comparative analysis of the attributes of possible selves in the academic domain showed that the hopes of Americans correspond more to their real selves, hopes are more important to them, subjects are more confident that their possible self will become true, and respondents more often think about their hopes compared to Russian university students. It is possible to associate the obtained results with the basic American value - self-confidence, which creates such an “optimistic future image” of Americans (Hsyu, 2001). In Eastern societies, there is a tendency for a more modest self-esteem and self-perception (Myers, 1997), in present research Russian university students demonstrate this tendency.

**In subparagraph 2.3.2.** the relationship between possible selves and motivational and personal characteristics of Russian and American university students, as well as college students is analyzed.

As for the Russian university students, the respondents that have in their self-concept the positive possible self in the academic domain, have a higher motivation to accomplish things than the respondents who do not have it. In addition, subjects who have an important negative possible self in academic domain, have a higher external motivation compared to those who do not have this image. American students that have in their self-concept the important positive possible self in the academic domain, have a higher intrinsic motivation to accomplish things, as well as extrinsic introjected motivation compared to students who do not have this image. College students who have an important negative image of the future in academic domain, have a higher self-esteem motivation and lower amotivation compared to those who do not have this image, and differences for the positive image of the future are not found. The obtained results partially confirm hypothesis 2, mostly for students of Russian and American universities and lesser for college students. It is noteworthy that there is a difference in the motivation of university students and college students. The results are consistent with the data

showing that students of ordinary schools in their motivational profile have a higher self-esteem motivation as opposed to students of high-rating schools, where motivation to accomplish things is more significant (Gordeeva et al., 2016).

Russian university students demonstrated a connection between the correspondence of the positive possible self in the academic domain to the real self, perceived efficacy of the positive possible self, outcome expectancy and dispositional optimism, goal-setting, persistence, and also life satisfaction.

The connection between perceived efficacy, outcome expectancy of the positive possible self in the academic domain and dispositional optimism, persistence, life satisfaction, and the intrinsic motivation to accomplish things of American university students was obtained; as well as the connection of the outcome expectancy of avoiding a negative possible self in the academic domain and extrinsic introjected motivation, sense of purpose, persistence, positive reinterpretation and personal growth, and life satisfaction. The relationship of the fears in the academic domain and motivational and personal characteristics is presented more differentially, in contrast to the connection of the latter with the hopes in the academic domain among Russian college students. These results partially confirm hypothesis 3.

The results of the study correspond to the previously obtained, according to which the idea of one's self-efficacy and the outcome expectancy affect different aspects of human activity, determining the level of effort, persistence, the choice of tasks of a certain degree of difficulty, emotional distress (Bandura, 2000; Gordeeva, 2006; Shepeleva, 2008). In addition, the obtained data is consistent with the results of the study that shows the relationship of self-organization activity with planning, modeling and self-regulation (Mandrikova, 2010).

**In subparagraph 2.3.3.** the attributes of possible selves that are predictors of academic performance in Russian and American university students are presented. This study was not conducted on college students due to the lack of access to students' academic performance.

Among Russian university students, the most significant predictor of academic performance is the perceived efficacy of hopes in the academic domain (see Table 1).

That means, that the more the student believes that his hope becomes true, the higher his academic performance, which is consistent with the academic self-efficacy studies (Shepeleva, 2008).

Table 1. Regression model of predictors of academic performance of Russian students

Variables	R <sup>2</sup>	Adjusted R <sup>2</sup>	Change Statistics	Final model statistic
<i>GPA</i> 1. perceived efficacy of the possible self	0.217	0.196	F=10.279**	F (1, 38)=10.279**

**Note:** \*\* p <0.01

The resulting regression equation  $Y = 5.143 + 0.412 * \text{perceived efficacy of the possible self} + 0.739$

Where 5.143 is the constant, 0.739 is the measurement error.

As for American students, the most significant predictors of academic performance are the perceived efficacy of the positive possible self, the correspondence of the possible self to the real self, and the less importance of the possible self (see Table 2). In other words, the closer the hope in the academic domain to the current image of oneself, the more the student believes that he can make this hope come true, and the lesser the importance of the image, the higher his academic performance. It is noteworthy that the "over-significance" of the hope does not make a positive contribution to the academic performance. This result, on the one hand, again demonstrates the importance of academic self-efficacy for success in academic performance (Shepeleva, 2008), on the other hand, indicates that the optimal gap between the possible self and the real self is also important for a good result (Wells, Marwell, 1976). It is noteworthy that the "over-significance" of hope does not make a positive contribution to student performance, which in some sense is consistent with the Yerkes-Dodson law (Yerkes, Dodson, 1908).

Table 2. Regression model of predictors of academic performance of American students

Variables	R <sup>2</sup>	Adjusted R <sup>2</sup>	Change Statistics	Final model statistic
<i>GPA</i> 1. correspondence of the possible self to the real self	0.153	0.118	F (1, 72)=6.779*	F (3, 72)=4.345**

2. importance of the possible self 3. perceived efficacy of the possible self				
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**Note:** \* p <0.05; \*\* p <0.01.

The resulting regression equation is  $Y = 2.452 + 0.068 * \text{correspondence of the possible self to the real self} - 0.154 * \text{importance of the possible self} + 0.213 * \text{perceived efficacy of the possible self} + 0.735$

Where 2.452 is the constant, 0.735 is the measurement error.

In **subparagraph 2.3.4.** the results of the quasi-experimental study of the motivating potential of possible selves are presented. One of the attributes of possible selves that contribute to the motivating potential is the domain of the possible self. It was hypothesized that thinking about the possible self in the particular domain (academic) will motivate students to make a choice of activities related to the domain.

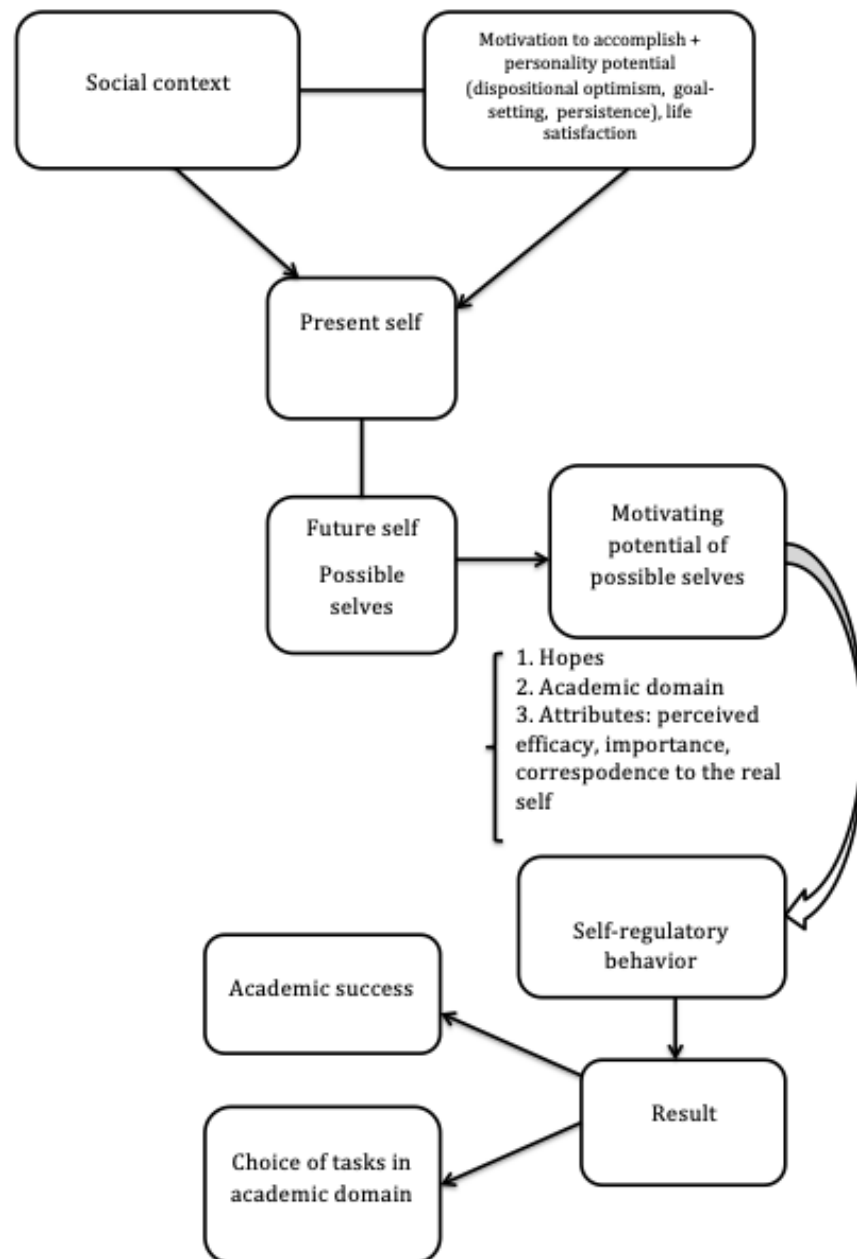
The study was conducted according to the following plan: first, the subjects filled in a modified questionnaire “Possible Selves”, in which one of the three instructions were randomly assigned: indicate your own 1) positive possible self in the academic domain, 2) negative possible self in the academic domain or 3) positive possible self in the interpersonal domain. In addition, the subjects identified their actual and planned strategies to achieve each possible self. Each of the instructions was presented to between 19 and 21 subjects. Next, the subjects made a choice of what they would like to do in the second part of the study: solve the problem, the solution is based on their knowledge in the field of psychology, or watch a video clip about exhibitions held in Moscow. In order to participate in the second part of the study, respondents were asked to come to one of the university classrooms. After completing the assignment, all respondents filled in the “Academic Motivation Scale” (Gordeeva et al., 2014). The results of the study showed that students whose motivation to accomplish things is higher, more often made a choice in favor of solving the psychological problem compared to watching a video clip. In addition, it turned out that thinking about positive possible selves in the academic domain

while controlled for the motivation to accomplish things is a predictor of the choice made in favor of the academic domain. The data partially confirms hypothesis 4. The result obtained, on the one hand, is consistent with the results of previous studies, that show the importance of the domain and the emotional sign of a possible self for success in activities (Markus, Nurius, 1986; Markus, Nurius, 1987), on the other hand, reveals the importance of motivation for achievement.

In the **conclusion** section, main conclusions are made, the limitations of the study are considered, and the prospects for further research of the motivating potential of possible selves are outlined.

## GENERAL CONCLUSIONS OF THE RESULTS OF THE STUDY

General conclusions of the results of the study are presented in Picture 1 and are discussed later.



Picture 1. Connection of motivating potential of possible selves with content and attributes of possible selves, motivational and personality characteristics and social context

1. Theoretical analysis has confirmed that possible selves are considered as individual's ideas about what he would like to become, could become or is afraid of

becoming in the future. There are positive possible selves (hopes) and negative possible selves (fears). Possible selves have attributes that include: strategies to achieve/avoid, obstacles to achieve/avoid, balance, perceived efficacy, outcome expectancy, importance, time spent thinking, correspondence to the real self, domain, emotional sign and others. Possible selves serve a regulatory function, directing individual's behavior to his goals, aspirations, and dreams. The motivating potential of the possible self is a characteristic of the images of the future, that consists in encouraging the individual to act towards his desired future or to avoid the undesired future. Attributes of possible selves, personality potential, academic motivation and sociocultural context are connected with the motivating potential of possible selves.

2. The study identifies several priority domains of possible selves of the entire sample. Positive possible selves contain academic domain and professional way in the chosen field, family, work, material, success, personal characteristics and others, negative possible selves contain academic domain, relationship, family, work, material, health, death, failure in life, and personal and physical characteristics. Cross-cultural specificity was discovered in the content of positive and negative possible selves. American students have more hopes and fears in the academic domain compared to Russian university students, they believe more that they will be able to achieve their hopes in the academic domain. For Russian university students, the most significant hopes and fears are related to relationships and family. For college students along with the images of the academic domain, work and family, there are future images of success, financial position, and physical appearance.

3. The connection between the presence of possible selves in the academic field and different types of motivation is revealed. In samples of Russian and American university students, it was found that respondents who have positive possible selves in the academic domain, have higher motivation to accomplish things compared to those who do not have them. Cultural specificity has also been discovered: Russian students who have fears in the academic domain have higher external motivation. American university students who have hopes in the academic domain have higher introjected motivation than those who do not have them. College students who have significant fears in the academic domain

have a higher self-esteem motivation and lower amotivation compared with those who do not have them.

4. A connection between the attributes of possible selves and motivational and personal characteristics that are part of the personality potential has been found. Significant differences in the Russian and American samples are revealed. It has been empirically proven that for Russian university students, there is a connection between perceived efficacy of hopes and the outcome expectancy of hopes with dispositional optimism, goal-setting, persistence, life satisfaction, but not with academic motivation. For American students, there is the connection of hope attributes (perceived efficacy, outcome expectancy) and fear attributes (outcome expectancy) in the academic domain with motivational and personal characteristics, such as academic motivation, dispositional optimism, persistence, sense of purpose, positive reinterpretation and personal growth coping, as well as with the level of life satisfaction. For college students, the connection between fears in the academic domain and motivational and personal characteristics is presented more differentially, in contrast to the connection between the motivational and personal characteristics and hopes in the academic domain.

5. Possible selves have motivating potential that is guiding the individual's behavior to the future. Possible selves are predictors of academic achievement and choices of tasks related to the academic domain: such attributes of possible selves as perceived efficacy, importance, correspondence of the possible self to the real self predict academic performance, and positive possible selves in the academic domain predict the choice of tasks related to the academic domain.



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#### **List of publications**

1. Vasilevskaya, E.Yu., Molchanova, O.N. Psychological Essence of Youth: Age and Social-Historical Context // Cultural-Historical Psychology. 2013. №1. P. 52–60 (in Russian).
2. Vasilevskaya, E.Yu., Molchanova, O.N. Possible Selves: Review of International Studies // Psychology. Journal of Higher School of Economics. 2016. №13(4). P. 801–815 (in Russian).
3. Vasilevskaya, E.Yu. Comparative Analysis of Professional Possible Selves In Russian and American Students // Organizational Psychology. 2018. №8(4). P. 95–110 (in Russian).
4. Vasilevskaya, E.Yu. Possible Selves: Analysis of Narratives // Human being. 2019. №30(2). P. 42–56 (in Russian).

#### **Other publications**

1. Vasilevskaya, E.Yu. Possible Selves during Crises of Early Adulthood / In A.I. Andreev, A.V. Andriyanov, E.A. Antipov (eds.) Materials of the International student, postgraduate and young scientist conference «Lomonosov-2015». Moscow, Max press, 2015. (in Russian).
2. Vasileveskaya, E.Yu. (2016). Possible Selves: Representations of Oneself in the Future / In Materials of the XX International scientific conference of the young scientists “Psychology of the XXI century” (pp. 119–120). Saint-Petersburg, Skifia print, 2016. (in Russian).
3. Vasilevskaya, E.Yu., Molchanova, O.N. (2016). Psychological Essence of Possible Selves during Transition to Adulthood Crisis // Actual Problems of Psychology. №2(39). P. 13–23 (in Russian).
4. Vasilevskaya, E. Psychological Essence of Possible Selves during Crises of Early Adulthood // International Journal of Psychology. 2016. №51(S1). P. 545.

5. Vasilevskaya, E.Yu. (2016). Configuration of Possible Selves of Subjects with Different Levels of Fully Functioning. In Social practices: lessons of history and modern trends: Abstracts of presentations of the Scientific Conference of Oxford Russian Foundation Scholarship Students (pp. 61–63). Ekaterinburg, Urfu, 2016. (in Russian).
6. Vasilevskaya, E.Yu. (2016). Psychological Essence of Possible Selves of Subjects with Different Levels of Fully Functioning. In Z.I. Ryabikina, V.V. Znakov (eds.) Personality and being: person as a subject of a sociocultural reality: materials of the conference (pp. 55–57). Krasnodar, Kuban state university, 2016. (in Russian).
7. Vasilevskaya, E.Yu. (2017). Motivating Potential of Possible Selves in American College Students. In I.A. Aleshkovski, A.V. Andriyanov, E.A. Antipov (eds.) Materials of the International student, postgraduate and young scientist conference «Lomonosov-2017». Moscow, Max press, 2017. (in Russian).
8. Vasilevskaya, E.Yu. (2018). Motivating Potential of Possible Selves in the Choice Situation. In I.A. Aleshkovski, A.V. Andriyanov, E.A. Antipov (eds.) Materials of the International student, postgraduate and young scientist conference «Lomonosov-2018». Moscow, Max press, 2018. (in Russian).

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