

Gender Characteristics of the Students' Innovative Behavior

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Abstract: The study presents theoretical and empirical analysis of gender studies devoted to innovative behavior component. Basing on theoretical analysis of innovative behavior components, the authors of the article present an empirical study of gender characteristics of innovative traits and leadership skills among students. At the first stage of the study, we examined in detail the gender features of leadership skills manifestations among students enrolled in undergraduate psychological and economic specialties. The study revealed significant differences in the levels of leadership skills expressiveness and innovative qualities of male and female students getting different professions. As a result of the second phase of the study we analyzed the qualitative and quantitative information about the features of innovative behavior manifestation in male and female Master program students. Interpretation of the numerous data suggests that there are significant differences in the features of innovative behavior manifestation in young male and female students. In addition, students of different specialties demonstrated differences in levels of leadership skills and innovative qualities expressiveness. Based on the results, the article presents recommendations for the improvement of psychological-pedagogical technologies of innovative behavior formation accompaniment in higher educational institutions considering the students gender-specific personal development features.

Key words: Innovative behavior, innovation, leadership skills, gender characteristics, bachelor and master degree courses undergraduates

INTRODUCTION

The development of a young person's potential capabilities is one of the important directions in the modern psychologists-experts activity. The human capital of the 21st century is made of constructively thinking personalities, capable of generating and most importantly, introducing progressive ideas quickly. Innovations implementation is not possible without personalities possessing specific characteristics. An important role in the innovative behaviour is played not only by innovative characteristics but also by leadership abilities. It is the leaders who bring constructive novelty into the professional reality. The leader acts as a carrier of specific innovation and at the same time as an initiator of its implementation.

Currently the society need leaders whose potential abilities will form the basis of progress and socio-economic growth. Certainly, among the many personal qualities that characterize the efficiency of a leader, a feel for innovation is one of the most important components. Constructively minded individuals, capable of generating and most importantly, introducing progressive ideas

rapidly are the main asset of any civilized State. The main characteristics of innovative behavior can be the specificity of decision-making, flexibility of actions, attitude to risk, motivation of achievement and value-motivation attitude to work, innovation and leadership.

Literature review: Behavior and individual's activity in a changing world concerning something new, changes and innovation, vital events and situations, etc. can be studied through the innovative dispositional system, where the innovative disposition intensity depends not only on age but also on gender. The present condition of the society blurs the specifics of male and female roles, erases many differences, previously seeming natural while the idea of equality is sometimes interpreted as sameness (Verzhibok, 2009).

Gender attitude to competition and entrepreneurial risks was explored by Zhuravlev and Pozdnyakov (2012). The results showed that men prefer the relationships of competition, contest with other people. A group of men entrepreneurs said that they liked to compete with people and they preferred to work in a competitive environment. At the same time, women

entrepreneurs avoid competition. Men evaluate their competitiveness more highly and the women-entrepreneurs evaluate their competitiveness twice more often (Zhuravlev and Pozdnyakov, 2012).

Some scientists believe that female leadership has its own specific characteristics and assign a woman with a more democratic, flexible style of leadership, adding that it has empathy, lower aggressiveness, great plasticity of the nervous system, sociability, adaptability. Women leaders increasingly demonstrate internality, ostentatiousness, competence, creativity and work performance. They have a high self-esteem, clarity of objectives, they realize their potential and feel no constraints, they're sensible, pushy and independent. They often act as an emotional leader, focused on interpersonal relations, dominate in small groups, they are more open, expansive and interact with the staff better (Eagley and Johnson, 1990).

In numerous studies of Alice Eagly and her colleagues, various performance characteristics of male and female leadership were identified (Eagly, 1995). Male leaders demonstrated greater effectiveness in meeting objectives in managing the representatives of their gender; in military and sports organization at the lowest level of management that requires technical skills. Women leaders were more effective in the development of interpersonal cooperation in their leadership skills realization in education, business, social and public service (Eagly, 1995).

When studying leaders and managers in student groups, T.V. Bendas found that young men groups and young men situation-leaders, compared with girls-leaders in women's groups demonstrate greater productivity. The young female leaders have authoritarian traits, young men leaders are democratic, female student groups in comparison with male ones have a more noticeable formal and informal leadership mismatch (Bendas, 2000). In the sphere of management, the phenomenon of leadership is considered as a process associated with the movement towards a common goal with influencing others in order to achieve a certain goal (R. Daft, F. Fedaye, R. Rubin, S. Glouz, A. Maslow and others).

In psychology leadership is studied as a person's state (mood, impulse, inspiration), inspired with their ideas of others) as a personal quality-a stable set of characteristics needed for the integration, interaction and influencing people for the sake of some result (K. Levin, A. Meneghetti, B.D. Parygin, A.N. Zankovski, O.N. Pervushina, O.V. Evtikhov and others).

Monitoring of scientific papers and dissertation researches, which has been conducted over several years, suggests that the Russian psychology has almost no

theoretical and empirical descriptions of how innovation and leadership correlate. Some researchers are trying to introduce the term "innovative leadership". The viability of this term is controversial because, originally, a constructive leader cannot be an innovator. Moreover, an innovator must be a leader, otherwise his will potential remain a potential (Mikhailova, 2014).

The problem of research of innovation manifestation features in contemporary society is dictated by the need to develop new forms of personality development management. In search of the boundaries between personal success, effectiveness and impact, new leaders appear who can use their activity both for the benefit and for the detriment of themselves and the society. The prospect of researching psychological directions devoted to innovation are connected not only with the identification of this quality peculiarities in the activity process but also with the introduction of effective psycho-social and psycho-pedagogical technologies of personal characteristics management for the development of social creativity (Rogers, 2004).

The innovation potential of a personality is seen in our studies as an integrated set of qualities, realized as a result of personal inclusion into the innovational activity and consisting of interrelated and inter-explaining components: innovativeness and creativity. Innovativeness is a combination of personal qualities which provide the perception, assessment, development, rapid adoption and implementation of original ideas used in the activity. Innovativeness is linked to other personal characteristics but also has fundamental differences from creativity and enterprise. The creativity expressed by intellectual activity is an integral part of the person's innovative potential (Csikszentmihalyi, 1999). If creativity is viewed as a set of qualities creating the idea then innovativeness is a combination of personal qualities which help to implement a creative idea into reality (Mikhailova, 2015).

The distinctive feature of innovation is that the purpose of a creative idea's realization does not presume any economic effect and this is a fundamental difference between innovativeness and creativity, respectively, between simulation activity from business activity. It is necessary to start the development of leaders and innovative qualities in the educational environment, so in the practice of higher education there are still a lot of promising directions to get new empirical evidence which will allow forming specific psycho-pedagogical technologies. The diagnostics of manifestations' features of leadership skills and innovative qualities of an individual will identify basic forms and methods in the development of the innovative capacity of today's students.

MATERIALS AND METHODS

Participants: The study involved students of Philological Faculty (Psychology specialty) and the Faculty of Economics, 2nd-4th years, full-time undergraduate courses (in total 100 people, 50 male and 50 females among them). The age of students was from 18-25 years. With a view to expand the boundaries of empirical research and to get more meaningful results of innovative conduct formation in a personality of different age groups we studied some groups of Magistracy students. The study involved 108 people. Among them there were 79 people graduate students of Moscow International Business School (MIBS) (53 males and 26 females) aged 21 to 25 years and 29 students-masters of Russian Peoples Friendship University in the following specialties: Psychology, Linguistics, Journalism, Philology (12 male and 17 females).

Materials: “Self-evaluation scale of innovative qualities of the person” (Lebedeva *et al.*, 2013), “Leadership skills diagnostics” test (E. Zharikov, E. Krushelnitskiy), Kirton indicator (Kirton, 2004) the diagnosis of individual moral responsibility level a personal survey on willingness to change; a multilevel personality questionnaire “Adaptability” by A.G. Maklakov and S.V. Chernyanin have been chosen as techniques.

RESULTS AND DISCUSSION

The results of research among undergraduate students (Bachelor program): The conducted research among students enrolled in ‘psychology’ specialty did not reveal a high level of expressiveness of leadership abilities either with the males or with the females. The average level of leadership skills among males is more expressed than among the females. A large group of female psychologists (68%) has a low level of leadership skills.

Unlike psychologists, the general sample of students economists demonstrated indicators of high-level leadership skills expression. In the male sample of students-economists, 32% have high leadership abilities while 12% of female economists also demonstrated a high level of leadership skills. It should be noted that among male economists there was also a group of students with a low level of leadership skills 28%, although it is smaller than that of students-psychologists 36%. Thus, students economists both in male and female samples have higher levels of leadership skills, however, this group is smaller in number than the group with medium and low leadership abilities.

The results of the overall index determination showed that 28% of male students-psychologists demonstrated innovativeness of high level and 72% of them demonstrated the average level of innovation. Female psychologists’ group with a high index of innovation is much smaller 12%. Most of the females have an average level of innovativeness (64%) and 24% of females have a low level.

The male sample of students-economists demonstrated the same results as the male psychologists. We allocated the groups with high (28%) and average level of innovativeness (72%). In the group of economists we revealed a small group of females with a high level of innovativeness (4%). Among the female economists, the majority (84%) have a medium level of innovativeness.

Among the male students-economists and psychologists there are no respondents with a low level of innovativeness. Female students had this criterion identified in 12% of cases. High level of innovativeness is increasingly typical of males, and the average level of the females.

However, the data analysis in a group of students-economists suggests that the males with medium and low leadership abilities demonstrate a higher general index of innovativeness than those males in the group with high leadership skills. While the group of female economists with high leadership abilities has a high level of innovativeness. The comparative analysis of the research results among future psychologists and economists showed that, in general, psychological specialty students with low level of leadership skills have higher innovation indicators than students economists with a similar level of leadership.

The male psychologists with a middle level of leadership abilities demonstrate higher indicators on the scale of creativity than the young economists. The same trend is observed on the scale of risk for the sake of success. The male psychologists with a middle level of leadership abilities showed a higher willingness to risk than the male economists with a middle level of leadership. The male economists with a middle level of leadership abilities demonstrated higher results on the scale of future orientation than the young psychologists.

On the contrary, the females-psychologists with a middle level of leadership qualities demonstrated lower data on the scale of creativity than the females economists. The same situation is with the female psychologists who have a middle level of leadership their results in risk for success and future orientation scales are higher than those of female economists.

The results of research conducted among postgraduate students:

Aiming at expanding the empirical research boundaries and at more meaningful results of personality's innovative conduct formation in different age groups we conducted a study in some groups of students studying in Magistracy. To evaluate innovative characteristics using the Kirton indicator we made two groups: adaptors and innovators. The group of adaptors was comprised of 22 people (8 males and 17 females.), the group of innovators respectively was made of 86 people (30 males and 53 females), indicating the vast majority of students-innovators.

A group of innovators made almost 80% of the total sample. It can be assumed that we got such results because the majority of respondents who took part in the study are enrolled in Master's Moscow International Business School where they create conditions for the leadership skills expression, disclosing personal and professional potential which contributes to a greater manifestation of innovativeness. In the group of innovators high values were found on the scales of "creativity", "risk for the sake of success" and "future orientation". The results on the scales "creativity" and "future orientation" of male innovators and female innovators have equal value. The males' results on the scale of "risk for success" are significantly higher than the females' ones. It can be assumed that this quality is naturally lower in females, because risk is a mainly masculine feature.

The highest values in a group of students innovators studying in the masters program are shown on the scale of adaptation abilities. The results are the same as in the adaptors' group. It is also important that the low values on the scale indicate the respondents truthful answers while the methodics was applied. It should be noted that the level of the female innovators and male innovators' neuromuscular stability and moral normativity indexes on relevant scales are close in values. In the group of innovators, compared with the group of adaptors we identified higher rates according to all the methods, whereas the gender aspect is expressed more equally. The group of male innovators demonstrate definite differences in such scales as "risk for success", "moral reflection", "altruistic emotions", "passion", "optimism and confidence". Equal values demonstrated by male and females are defined with such scales as: "creativity", "future orientation", "neuro-psychical stability", "moral standard", "moral intuition", "existential aspect of liability", "moral and esthetical values" and "adaptability". The female innovators displayed the following characteristics as dominating: "adaptive capacity", "social desirability", "tolerance to ambiguity".

Table 1: Differences in the manifestation of innovativeness characteristics of male adaptors and male innovators studying in Magistracy

Variables	Adaptors	Innovators	Mann-Whitney U	The level of meaning
Risk for the sake of success	28.5	271.5	13.5	0.01
The scale of lies	95.5	204.5	14.5	0.01
Quick wit	27.5	272.5	12.5	0.01
Confidence	30.0	270.0	15.0	0.02

Table 2: Difference in the manifestation of innovativeness characteristics among female adaptors and innovators, studying in Magistracy

Variables	Adaptors	Innovators	Mann-Whitney U	The meaningfulness level
Reliability	57.5	470.5	36.5	0.03
Communicative abilities	145.5	382.5	31.5	0.01

The comparative analysis of students-male and females' innovativeness indexes was conducted using the Mann-Whitney U criterion. The data showing differences in manifestations of innovation variables among male and female students are presented in Table 1 and 2.

The degree of variables' expressiveness concerning "the risk for success", "quick wit", "confidence" and "social desirability" is significantly higher for male innovators, compared with male adaptors (Table 2). Overall, the analysis of the male sample showed the following results:

- Male innovators tend to trust others in reaching aims and success more than male adaptors
- Innovators, unlike the adaptors, more often tend to take risks
- In difficult situations, male innovators have shown ingenuity and the ability to quickly find a solution, a way out of a difficult situation
- Male innovators are also more likely than male adaptors aspire to present themselves, to better reveal their personal qualities in society, teamwork, in a group

According to the data presented in Table 2, it can be stated that there were differences in the severity of such characteristics as "Reliability" and "Communicative abilities" in female adaptors and female innovators. The values of these indicators are higher for female innovators in comparison with female adaptors. This indicates that the females from the group of innovators have a more developed ability to start communication, establish business contacts, relationships, if compared with the females from a group of adaptors. It is also important to note that the female innovators were more truthful when doing the psychological tasks.

RESULTS AND DISCUSSION

The students-psychologists who study to get a Bachelor degree are more willing to take risks for the sake

of success whereas the students of economic faculties have a high level of leadership and creativity which demonstrates their potential as future leaders. In addition we have identified a connection between the level of leadership skills expressiveness and the level of innovation. Bachelor students with higher rates on scales of creativity, risk for the sake of success and Future orientation have more vivid leadership abilities.

It should be noted that, in general, males getting different professions demonstrate a higher level of leadership and innovativeness expressiveness, although the values on the scale of creativity among the future female economists and psychologists are higher than among the males. When conducting comparative analysis of the female sample among undergraduate students we received the following results) on the scale of creativity among the females with a low level of leadership skills the indexes were higher than the same rates among the females with a medium level of leadership) indicators on the scale of risk for the sake of success with the females with an average level of leadership skills are higher than those of females with a low level of leadership skills) the females with an average level of leadership are more future focused, unlike the females with a low level of leadership. As a result of qualitative data analysis on the female sample we also found a connection between leadership skills and innovation.

Summarizing the obtained data on all methods, it can be concluded that the group of Masters students adaptors, the quality, characteristic for innovative behaviour (creativity, focus on the future, risk taking for the sake of success, communication skills, adaptability, moral-ethical development level, etc.) have low indexes. The conducted study showed that the personality innovativeness expression in students has gender-role specifics. In general, the studied sampling of students according to the Kirton techniques demonstrated a high percentage of potential innovators which is explained by the educational process and outcomes. Students with highly developed innovative potential continue to study in the Magistracy program.

The group of adaptors, i.e., students with poorly expressed innovativeness demonstrated low rates on all scales, characterizing this complex of personal traits. Moreover, male adaptors found lower results on the scale of "Creativity" but better results on the scale of "risk for the sake of success", although the adaptive abilities in the group of adaptors are generally high. Females from the group of adaptors revealed higher rates (compared to men) on the scales of creativity, focus on the future, adaptive abilities, moral reflection, confidence. It should be noted that innovativeness manifestations of the male

and females from both groups (innovators and adaptors) have distinct differences in the views in certain components. Having conducted the correlation analysis, we found that male innovators have a high level of dedication, resourcefulness, creativity and adaptability. The female innovators are intuitively-creative, their risk for the sake of success is connected with their self confidence and their future orientation indexes with the moral and ethical values.

CONCLUSION

For the development of innovativeness in higher education, attention should be given to leadership abilities and correcting gender stereotypes among students. It is important to promote specific leadership development programmes for females. In addition, psychological service of the university is required to develop a complex of psychological programmes aimed at creating value-motivational foundations of the future specialists' success. The psychological model of development of innovative behavior at the university consists of the stages corresponding to the level of education including various methods (diagnostics, interviews, training) aimed at updating the personal qualities of the student, taking into account gender specific manifestations in the formation and development of leadership and innovation. Perceptivity and efficiency of leadership and innovative qualities research are associated with the expansion of empirical base and a sample of respondents, as well as with the active implementation of effective psycho-pedagogical methods of future specialists' development in high school practice.

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