

## Conference Paper

# Professional Interests in the Early Youth: Peculiarities of Boys and Girls

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## Abstract

We give the results of research interests in choosing a profession among high school students. The sample consisted of 859 people, 385 of them were boys and 474 were girls between the ages of 14 and 18. The purpose of the study is to study the differences in interests between young men and women that we identified earlier in the professional fields of technology and art in relation to other professional spheres. For the study, the results of computer testing, using the 'Proforientator' method, were used. Studies have made it possible to identify the psychological construct as a community of interests in the professional fields of technology, science and sign. Another distinguished psychological construct is the combination of interests of art, communication, business and sign. It is shown that there are specific, reflecting gender identity in addition to the common interests in the professional socialization among boys and girls. The following specific features are revealed: interest in technology among young men is an additional combination with interests in the professions of business and art. So, girls have an additional combination of interests in the fields of nature and communication but young men have interest in art and it is combined with interests in the professions of science and nature.

**Keywords:** interests, professional socialization, professional spheres, career guidance work with teenagers

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Received: 25 July 2018

Accepted: 9 August 2018

Published: 1 November 2018

Publishing services provided by  
Knowledge E

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Selection and Peer-review under the responsibility of the Fifth International Luria Memorial Congress Conference Committee.

## 1. Introduction

Modern socio-economic conditions have actualized the problems of socialization and professional self-determination of the individual. Professional identity begins to form in adolescence. High school students are more consciously and purposefully planning and choosing a professional path. Making decisions about the future profession is associated with successful professional self-identification, which includes full-fledged mental and personal development, the formation of the structure of personal motives,

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development of interests, talents and competences, the developed ability for self-analysis and maturity [1]. As a priority, freedom from any kind of inequality in the emergence of man is proclaimed.

One of the important grounds constituting the hierarchy of social relations is gender [2]. Gender socialization is important for the age of early adolescence. In the process of gender socialization, the self-determination of high school students in the professional sphere determines the character of the future professional development and the life perspective of the individual. In the course of professional orientation, it is necessary to take into account the formation of gender norms, stereotypes, correction of possible asymmetry in the professional sphere.

The significant experience of psychological and pedagogical support and assistance in the vocational guidance of high school students is summarized in literature. [3–7] However, the process of gender socialization is not sufficiently taken into account. Only in recent years, the results of a study on the problems of gender socialization and its relationship to the process of professional self-determination have appeared [8–10]. Gender socialization takes place throughout the course of a lifetime. Most clearly this process occurs in adolescence and early adolescence. Professional self-determination, taking into account the gender socialization of high school students, is viewed as a multifaceted process of integrating the personality through the harmonization of personal and social-professional needs. There is an awareness of various social roles, including male and female ones. Recently, male and female roles have undergone strong changes. The traditional concept of the 'sexual division of labor' has changed too. The traditional gender division of labor has become less rigid and unchangeable, cultural stereotypes of masculinity and femininity have been changed [11, 12].

Professional self-determination, taking into account gender socialization, includes the coordination of personal and social-professional needs, knowledge and perceptions of oneself, their gender identity, their individual professionally important features and ideas about the future profession. Every year the issue of self-determination of adolescents and young people is becoming more acute. The basis for which can only be given by their own, substantial, personally topical interests. The main criteria that determine the choice of the future profession, for the majority of high school students is the interest in a particular specialty [13–15].

Significant factors of gender socialization are: the socio-economic and socio-cultural situation, the influence of the school, which is considered gender neutral but there is also the establishment of certain stereotypes, the manifestation and reproduction of gender inequality. Strong traditional stereotypes which are defined male and female

roles in society. Although, their transformation takes place. Undoubtedly, the family defines the basic norms of the individual's behavior depending on gender and forms values related to the organization of private life of a person within the continuum of femininity-masculinity [16].

Researchers of different scientific trends note the specificity of the formation of interests taking into account gender specific features at the biological, psychological, and social levels [17]. When accompanying the professional self-determination of high school students, it is important to take into account gender differences, the features of gender socialization.

The authors consider relevant the study of how such an ambiguous the picture of gender socialization is refracted in the professional choices of modern high school students. The object of study was the interests of high school students. B.G. Ananiev in his studies noted that cognitive interest was a personally significant education. It develops in a person's activity and ensures its productivity and a higher effect [18].

The purpose of this study was to identify the features of preferential interests in the occupations of the fields 'Technique' and 'Art' among young men and girls and their connection to interests in other professional fields.

## 2. Methodology

The total number of the sample was 859 people, including 385 boys and 474 girls between the ages of 14 and 18. The sample included pupils of 8th-11th grades of schools in Ekaterinburg, Sverdlovsk region and the Ural Federal District. Half of the sample consisted of 16-year-old high school students. The main part of the sample consisted of pupils from schools with an elevated status. These pupils were from 11 schools of Ekaterinburg, from 10 lyceums and gymnasiums, students of the Lyceum from Muravlenko (Yamalo-Nenets Autonomous District), students of the preparatory courses of the Ural Federal University, participants of the regional stage of the Olympiad in Social Studies.

For the study, we used the results of vocational guidance diagnostics on the computer complex testing 'Proforientator', developed under the leadership of A. G. Shmelev. The complex 'Proforientator' allows you to get a differentiated view of the level of interest in professional activity [19, 20]. This methodology has shown not only the recognition of a large number of users throughout the Russian Federation but also a high predictive validity [21]. In accordance with the methodology, eight areas of interest are diagnosed and conditionally designated as: 'Technique', 'Science',

'Art', 'Communication', 'Business', 'Sign', 'Nature' and 'Risk'. Each sphere of interest is measured by a separate 10-points scale of walls. The choice of eight scales by this method was based on the theoretical approaches of domestic psychology [Klimov, 2010] and American psychology [22].

Statistical processing of data was carried out with the help of the program 'Statistica 6.0'. The nonparametric Mann-Whitney criterion was used for the comparison of contrast groups.

### 3. Results

As gender features, interests in the professions of the sphere 'Technics' are used as an indicator of the preferential interests of the young men and interests in the professions of the sphere 'Art' as an indicator of the preferential interests of the girls. To study the relationship between these preferences and other interests, contrast groups were used. With this goal, groups of high school students with indicators above and below the norm (more than 7.5 and less than 3.5 points on the scale of the walls, respectively) were singled out on both scales 'Technique' and 'Art' and the indicators of their interests on other scales were considered.

The choice of contrasting groups on the scales 'Technique' and 'Art' is due to the fact that the differences among them were the most significant. So, the selected contrast groups with high and low interest in technology were compared in relation to the interests of other areas in both sex groups (Table 1). Both, the young men and the girls in the group with high interest in technology showed a high interest in science and accordingly in the group with low interest in technology showed a low interest in science. So, the differences in the groups were statistically reliable. We have already suggested the proximity of interest groups to technology and science, in this case we see additional evidence to this and equally expressed both among young men and girls. The same coincidence of the interrelation of interests between two sex groups was obtained on the scale 'Art', only with an inverse relationship. In the group with a high interest in technology, there was a low interest in art but in the group with a low interest in technology, it was high. These differences were statistically reliable only among young men not among girls. Thus, direct links between interests in technology and science have been identified and feedbacks between interests in technology and art.

A similar connection in the groups with a high interest in technology is also revealed the interest in the professions of 'Sign'. The group of boys and girls who have a high

interest in technology, the average values on the scale of interest in the professions of 'Sign' were significantly higher than in the group with low interest (Table 1). Consequently, the interests to the occupations: 'Technique', 'Science' and 'Sign' are similar. In this case, the general pattern of expressiveness of interests is observed among girls and boys. From a practical point of view, it is not easy to choose preferences in the future profession for such group of students. Between the groups of boys and girls with a high interest in 'Technique', the differences of interests in such areas as 'Business', 'Communication' and 'Nature' were revealed. Young men in a group with an increased interest in 'Technique' have an increased interest in 'Business' which significantly distinguishes them from the opposite group, with a low interest in 'Technique'. Girls do not have such pattern. A similar situation for girls is observed in another pair of interests: to 'Technique' and 'Nature'. In the group with an increased interest in 'Technique' girls expressed an increased interest in 'Nature'. This group is significantly different from the group with a low interest in 'Technique'. Boys, unlike girls, do not have such regularity. There is an opposite pattern among girls in the field of interests in professions related to 'Communication'. A group of girls with an increased interest in 'Technique' has a decreased interest in the professions of 'Communication' and on the contrary, groups with a low interest in 'Technique' have a high interest in the professions associated with 'Communication' and the differences between groups are reliable. Consequently, boys and girls differently perceive interest in the professions of 'Business', 'Communication' and 'Nature' and this is their specificity. Neither boys nor in girls had significant differences on the scale 'Risk' between contrast groups with the interest in technology.

Thus, for these groups of high school students (with a high interest in technology), regardless of gender, there is an increased interest in the occupations of the groups 'Technique', 'Science' and 'Sign'. At the same time, boys have a special interest in the group of professions 'Business' and a decreased interest in the group of professions 'Art'. A feature of girls, interested in technology, in contrast to boys is the increased interest to the group of professions 'Nature' and a decreased interest to the group of professions 'Communication', which determines their specificity. For the modern practice of vocational guidance work with students in the upper grades, such pattern of interests in different professional fields can have a very definite meaning. In recent years, research on vocational education has suggested that the dynamics of changing the world of professions which we can observe now, it becomes extremely difficult to relate the profession to a particular class once and for all. A modular approach is proposed. According to which, each profession consists of certain typical elements

TABLE 1: Comparison of contrasting groups of boys and girls who are interested in techniques by interests to other occupational fields (average values on a 10-point scale of walls).

Scales of 'interests'	Boys		Girls	
	High to technique	Low to technique	High to technique	Low to technique
Science	6.4*	5.1*	7.9*	4.8*
Art	4.5*	5.5*	5.7	6.3
Communication	5.0	5.2	3.6*	5.0*
Business	6.2*	5.0*	4.7	4.2
Sign	5.7*	3.5*	7.2*	4.7*
Nature	4.8	4.7	6.6*	4.9*
Risk	5.9	5.4	5.3	5.4

Note: \*Here and in the future, the reliability of the differences between the corresponding groups at the level  $p < 0.05$

of activity (modules), each of which corresponds to a certain set of psychological characteristics. Different professions can contain the same modules. Thus, knowing the modular composition of each profession and having a psychological description of the modules, we get an opportunity to represent the world of professions compactly. It will allow you to approach the choice of training options more accurately [23].

Contrast groups of interest in 'Art' showed significant differences in the field of interests 'Communication, Business' and 'Sign' as among boys as among girls. Moreover, in both sexes, the increased interest in the professions in the field of 'Art' is combined with an increased interest in the professions in the sphere of 'Communication' and low interest in the professions 'Business' and 'Sign' (Table 2). Thus, young people regardless of sex are interested in art and they are not interested in business and professions associated with sign systems. The revealed regularity is important for the practice of career guidance work. In contrast groups on interest in art, young men unlike girls, had significant differences in scales 'Science' and 'Nature'. Thus, it revealed their gender characteristics. The group of boys with an increased interest in the professions of 'Art' shows a significantly higher interest in the professional fields 'Science' and 'Nature' than the group with a low interest in this field. Girls do not have such a statistically significant regularity (Table 2). Thus, the preferred interest in the professional field of 'Art' is characterized by a common interest for both sexes in the professions of the 'Communication' sphere and with a slight interest in the professions of the 'Business' and 'Sign' areas. Specificity in the interrelation of interests is reliably manifested only among boys. They, in contrast to girls, the professions in the field of 'Art' are associated with an increased interest in the professions of the spheres 'Science' and 'Nature'.

TABLE 2: Comparison of contrasting groups of boys and girls who are interested in art by interests to other professional areas (average values of 10 points scale of walls).

Scales of 'interests'	Boys		Girls	
	High to art	Low to art	High to art	Low to art
Technique	6.3	7.0	4.2	4.1
Science	<b>6.9*</b>	<b>6.1*</b>	5.7	5.0
Communication	<b>5.8*</b>	<b>4.4*</b>	<b>5.4*</b>	<b>4.0*</b>
Business	<b>4.7*</b>	<b>6.9*</b>	<b>3.6*</b>	<b>5.0*</b>
Sign	<b>4.4*</b>	<b>6.1*</b>	<b>4.5*</b>	<b>6.6*</b>
Nature	<b>5.5*</b>	<b>4.3*</b>	5.3	5.0
Risk	5.7	5.9	5.5	4.8

## 4. Conclusions

We have identified that a preferable interest in the professions of the technical sphere can be considered a fairly stable psychological construct. This construct includes other areas of professional interests of high school students, such as: science and sign. Spheres of professions – engineering, science and sign unite the cognitive nature of the activity and increased attention. The corresponding personal qualities form a community of interests among high school students in these professional fields. Both, boys and girls who show an increased interest in technical professions simultaneously display an increased interest in the fields of science and sign. Thereby, they express a commonality of interests regardless of gender. Conversely, high school students of both sexes who are not interested in the technical sphere do not show interest in the scientific activities and professions which are associated with sign systems.

Interest in the professions of the technical sphere reveals the differences and manifestation of the specificity of interests among boys and girls. Boys who are interested in the professions of the technical sphere show an increased interest in the professions of the business sphere and a decreased interest in the professions of art, girls do not have such regularity. Technical and artistic creativity is different and even contrasted for boys. Girls do not have opposition between technical and artistic creativity. For girls, the preservation of interest in the field of art with increased interest in technology can be a confirmation of a certain 'female' specificity of perception of the professions in the sphere of 'Engineering' and 'Art'. We regard the interest in the professions of the sphere of art as an independent sign and a psychological construct. Specificity of the sign – interest in technology among girls is manifested in the interests of the professions 'Nature' and 'Communication'. In contrast to boys, girls who are interested in the

technical sphere, show an increased interest in the professions of nature. Probably, as in the case with interest in the professions of art, interest in nature is characterized by a certain feminine feature of the perception of these activities. Girls, exhibiting a high interest in technology, show the interest in the profession of nature significantly higher than boys. As for the occupations of the spheres of technology and communication, they are opposite in the subject of interaction: in the first case of the device, in the second case the person himself. We assume that these differences are more important for girls. Therefore, they are opposed and this is not so important for boys.

Thus, interests in the professions of such spheres as nature and communication, business and art, considering them in groups with expressed interest in technology, have revealed the specificity of their manifestation among boys and girls.

Another feature of professional preferences that we have identified is the interest in the professions of the sphere of art that characterizes an independent psychological construct. As we have already noted in the previous article, girls have a high interest in this professional sphere than boys. Common for both sexes is a combination of increased interest in the professions of the art sphere with an increased interest in the professions of the communication sphere and a decreased interest in the spheres of business professions and sign. Professions of the spheres of art and communication are united by an orientation toward man, although they are different. In the field of art, people's orientation is related to artistic creativity and in the sphere of communication with people. Professions of the business sphere require the adoption of quick decisions, personal responsibility and they do not require such characteristics for the art profession. In this case, the perception of the future profession among boys and girls is similar: with interest in the professions of the art, business professions are not attracted to them. A similar pattern between the interests in the professions of the spheres of art and the sign is explained by the nature of the professions themselves. The profession of the sphere sign requires punctuality and clarity of the performed actions. In the professions of the sphere of art there is no such strict logic and formalization as in the professions of the sphere sign, many actions are related to the mood and are not always predictable. Therefore, boys and girls who are interested in art they are not interested in the profession of the sphere sign.

However, in addition to common interests for boys and girls in the professions that make up the psychological construct – interest in art has revealed specific interests. Boys, unlike girls, who have increased interest in the professions of the sphere of art also have an increased interest in the occupations of the spheres of science and nature. Professions of the spheres of science and art unite the creative direction of activity. But



the nature of this activity is different: in art this is artistic creativity and in science the knowledge of the new. For boys, unlike girls, this is not a fundamental difference. Girls, unlike boys, also see the difference between professional spheres of art and nature. As we can see, in the professions of the sphere of art the actions are directed at the person himself and in the professions of the sphere of nature the action is directed at the person's environment. Apparently, for boys, unlike girls, these differences are not so significant.

The conducted researches are an attempt to trace differences in professional preferences of high school students of different sexes. The revealed patterns of psychological constructs on the interests of technology and art can be of interest for conducting career guidance work with high school students.

## References

- [1] Pryazhnikova, E. Yu. and Egorenko, T. A. (2012). Problemy' professional'nogo stanovleniya lichnosti. *Sovremennaya zarubezhnaya psixologiya*, vol. 2, pp. 111–121.
- [2] Semenova, V. E. (2006). *Osobennosti genderny'x otnoshenij sub"ektov deyatel'nosti v sisteme sfer obshhestvennoj zhizni*. Nizhnij Novgorod. Retrieved from [https://new-disser.ru/\\_avtoreferats/o1003028208.pdf](https://new-disser.ru/_avtoreferats/o1003028208.pdf)
- [3] Klimov, E. A. (2010). *Psixologiya professional'nogo samoopredeleniya*. Moskva: Izdatel'skij centr «Akademiya».
- [4] Pryazhnikov, N. S. and Romyanceva, L. S. (2013). *Samoopredelenie i professional'naya orientaciya uchashhixsya*. Moskva: Izdatel'skij centr Akademiya
- [5] Rezapkina, G. V. (2013). V poiskax orientirov In *Materialy' 11 Vserossijskogo soveshchaniya «Professional'naya orientaciya i professional'noe samoopredelenie v sovremennoj Rossii: zadachi, sodержanie, texnologii» 12-13 noyabrya 2013 goda*, pp. 33–38. Moscow: Federal'ny'j institut razvitiya obrazovaniya.
- [6] Ismagilova, F. S. (2013). *Professional'noe konsul'tirovanie: problemy' i podxody'*. Germany: Palmarium Academic Publishing.
- [7] Dianina, E. V. (2017). Rossijskaya i zarubezhny'e sistemy' upravleniya professional'noj orientaciej uchashhejsya molodezhi: sravnitel'ny'j analiz,. *Sociodynamics*, vol. 3, pp.10–17. Retrieved from [http://e-notabene.ru/pr/article\\_22349.html](http://e-notabene.ru/pr/article_22349.html)
- [8] Klecina, I. S. (2004). *Psixologiya genderny'x otnoshenij*. Sankt-Peterburg. Retrieved from [http://irbis.gnpbu.ru/Aref\\_2004/Kletsina\\_I\\_S\\_2004.pdf](http://irbis.gnpbu.ru/Aref_2004/Kletsina_I_S_2004.pdf)
- [9] Aron, I. S. (2009). Genderny'e aspekty' professional'nogo samoopredeleniya starsheklassnikov Grani poznaniya, vol. 3, no. 4. Retrieved from <http://www.grani>.

- vspu.ru/jurnal/4
- [10] Kobazova, Yu. V. (2009). *Gendernaya socializacii starshix shkol'nikov v processe professional'nogo samoopredeleniya*. Moskva. Retrieved from [https://new-disser.ru/\\_avtoreferats/01004403313.pdf](https://new-disser.ru/_avtoreferats/01004403313.pdf)
- [11] Zdravomy'slova, E. A. and Temkina, A. A. (2001). Issledovaniya zhenshin i genderny'e issledovaniya na zapade i v Rossii, in E. A. Zdravomy'slova and A. A. Temkina (eds.) *Xrestomatiya k kursu «Osnovy' genderny'x issledovanij»*, pp. 225–234. Moscow: Moskovskij centr genderny'x issledovanij.
- [12] Rozhkova, S. V. (2006). *Genderny'e osobennosti pedagogicheskoy kul'tury' uchitelya*. Rostov Don. Retrieved from <https://dlib.rsl.ru/viewer/01003278580#?>
- [13] Rogovskaya, N. I. (2007). Formirovanie poznavatel'ny'x interesov podrostkov s uchetom genderny'x osobennostej, in *Innovacii v obshhem i dopolnitel'nom obrazovanii., Izvestiya Volgogradskogo gosudarstvennogo pedagogicheskogo universtiteta.*, vol. 1, pp. 50–53. Volgograd: Volgogradskij gosudarstvenny'j pedagogicheskij universitet.
- [14] Berezhkovskaya, E. L. (2010). Interests' features and self-determination in teen age. *Herald of the RSUH. Series: Psychology. Ptdagogy. Education*, vol. 17, no. 60.
- [15] Shafranov-Kucev, G. F. and Efimova, G. Z. (2014). Sociological portrait of the senior of the university (elite) gymnasium in Tyumen region. *The Education and Science Journal*, vol. 10, pp. 76–92.
- [16] Yavon, S. V. (2013). *Zhiznennoe samoopredelenie molodezhi v sovremennom rossijskom obshhestve*. Moskva. Retrieved from <https://search.rsl.ru/ru/record/01005536635>
- [17] Rogovskaya, N. I. (2007). Formirovanie poznavatel'ny'x interesov podrostkov s uchetom genderny'x osobennostej. *Izvestiya Volgogradskogo pedagogicheskogo universtiteta*, vol. 1, pp. 50–53.
- [18] Anan'ev, B. G. (2010). *Chelovek kak predmet poznaniya*. Moskva: Piter.
- [19] Shmelev, A. G. (2007). *Psixodiagnostika lichnostny'x chert*. Moskva: RGB.
- [20] Ivanova, O. N. and Odinczova, V. V. (2006). Kompleks testirovaniya «Proforientator»: psixometricheskie i pragmaticheskie svojstva testa. *Psixologicheskaya diagnostika*, vol. 2, pp. 41–69.
- [21] Serebryakov, A. G., Kononova, V. N., Altuxov, V. V., et al. (2010). Prognosticheskaya validnost' psixologicheskoy metodiki «PROFORIENTATOR» (po materialam otsrochennogo anketirovaniya. *Voprosy Psichologii*, vol. 1, pp. 115–127.
- [22] Holland, J. L. (1959). A theory of vocational choice. *Journal of Counseling Psychology*, vol. 59, pp. 35–45.

- [23] Gavrilov, V. E. (1987). Ispol'zovanie modul'nogo podxoda dlya psixologicheskoy klassifikacii professij v celyax proforientacii, *Voprosy' psixologii*, vol. 1, pp. 111–117.