SOCIOCULTURAL AND SOCIOPSYCHOLOGICAL FACTORS AS PREDICTORS OF IMPRESSING

Elena Viktorova

Department of Theory and Practice of Social Work, Penza State University, Penza, Russia

Abstract

The experience of theoretical construction of complex predictors of impressing is presented. Age determinants of situations of emotional vulnerability and socio-cultural parameters of the environment are considered as prognostically informative characteristics of impressing. Examples of integration of sociopsychological and sociocultural factors of impression into a single complex predictor are given.

Keywords: *personality, critical period, emotional vulnerability, sociocultural environment, impressing, impression, predictors*

1. INTRODUCTION

The necessity to construct predictors of impressing is due to its specific features, noted by the geneticist and pedagogue V.P. Efroimson. Impressing is individual and selective: in the same conditions of the sociocultural environment, different individuals react differently to similar influences [1]. This feature determines the poor predictability of impressing and the need to identify the factors that allow predicting its occurrence, that is, to be considered as predictors.

2. RESEARCH METHODOLOGY

2.1. Research approaches to impressing

The article presents the experience of theoretical construction of predictors of impressing, based on the results of theoretical and empirical research of this phenomenon.

The theoretical study of impressing is interdisciplinary in nature and is based on cultural-psychological and sociocultural approaches. The cultural-psychological approach, the essence of which is to identify the relationship between "practice-psyche-culture" [2], [3], [4], allows the most complete disclosure of the multifaceted phenomenon of impressing. In our research, we proceed from the fact that impressing is the impact of the socio-cultural environment on a person during critical periods of ontogenesis, leading to the formation of aspiration for certain types of activity, a stable and fruitful passion for it [5]. From the presented definition it is clear that impressing is a phenomenon, a full analysis of which is impossible only within the mental framework. This is the research case when, in the words of M.S. Kagan, it is necessary to consider the psyche as a cultural phenomenon [6].

Hence there appears the need to apply a sociocultural approach [7]. It allows to reveal the essence and the variety of influences of the socio-cultural environment that are significant for the development of a personality in the integrity of its material and spiritual components. In addition, the sociocultural approach implies a value-centered attitude towards a person in any situation of his life, which corresponds to the "spirit" of impressing, a valuable consequence of which is the activation of the creative abilities of the individual.

The results of a theoretical study of impressing have been refined and expanded by the data obtained in the course of empirical research. The description of the factors predisposing to impressing is based on the generalization of the data of empirical research, which was conducted in several stages and which is being conducted at present [8].

2.2. The predictors of impressing: general terms

The construction of predictors for the analysis of individual phenomena in personality development is used quite widely and is based on the concept of the "predictor-corrector" model [9]. At the same time, the understanding and application of this model in psychological and pedagogical research is characterized by relative flexibility - it depends on the specifics of the phenomenon under study and specific research tasks. The most commonly used variation of this model involves the construction of predictors that can be observed and influenced, leading to the expected response. The division into predictors and responses in this case depends on the specific objectives of the study [10]. In any case, the main goal of constructing predictors is to predict individual development and its individual manifestations and phenomena. The reliability of forecasts based on the construction of predictors is assessed by different researchers in different ways, but this research method does not lose its value [11].

The direct construction of predictors is also due to the specificity of the studied phenomenon. Since a predictor as such is a prediction tool, in each specific research case, various factors, characteristics, indicators, etc., can become the basis for a prediction. They can be, firstly, the characteristics of the personality itself [12]. They must be relatively stable to be considered as independent variables. Secondly, the source of constructing predictors can be the properties of the sociocultural environment: subject-spatial and social (social interaction) [13]. It is noted that the reliability of a predictor increases if it has a complex nature, that is, it combines the action of two or more factors [14], [15]. In a strict sense, the procedure for constructing predictors is the identification of individual prognostically informative characteristics, their statistical verification and integration into a complex predictor. At the same time, it seems important to have a preliminary theoretical construction of predictors for their further statistical verification and refinement.

Impressing being the subject of our research is characterized by features that make it difficult to study empirically. These include not only the aforementioned selectivity of the individual to the effects of the environment, but also the one-time, non-repeatability of such an impact (a single impact is enough to form a personally significant impressing), its unpredictability [16]. In our opinion, the search and experimental verification of characteristics that, in the case of impressing, can be considered as independent variables and form the basis for constructing predictors, is a promising direction in the study of impressing. The construction of predictors of impressing is important not only from a theoretical point of view - as an attempt to study this difficult phenomenon. Predicting the appearance of impressing is important for pedagogical and psychological practice.

In our work, the predictors of impressing are considered as predisposing (prognostic) factors of its occurrence. The research results allow us to speak about two main groups of factors that can form the basis for the development of prognostic predictors of impressing: sociocultural and socio-psychological. At the same time, a combination of the most probable factors of its occurrence, their integration into complex predictors, is of fundamental importance for predicting impressing.

3. RESEARCH RESULTS

3.1. Sociopsychological parameters of impressing

The specificity of the research subject imposes its limitations on the search for stable and prognostically valuable characteristics. So, most likely, it is impossible to rely on personality characteristics that can serve as independent variables. This is due to the impressing mechanism. High motivation, striving for achievements in the chosen activity, etc. are qualities that are considered not prerequisites for impressing, but its consequences [17], [18], [19]. Neither impressionability nor emotionality as characteristics of a person are informative, since not all emotional experiences lead to impressing. Although the situation of emotional vulnerability is considered as a factor predisposing to impressing, its occurrence and course depend on factors external to it. Research complexity is also represented by such a feature of impressing as a single exposure [20]. It does not allow for the

construction of predictors to take parameters and indicators in the strict sense of these concepts, since it is impossible to measure the characteristics of the impressing due to their unrepeatability.

For the construction of socio-psychological predictors, the most informative and ontogenetically stable are the age characteristics of the individual [21], [22], [23], [24]. These are socio-psychological signs of a certain critical period of ontogenesis, that is, the most likely age for the emergence of impressing. Each of the critical age periods for the emergence of impressing, characterized by certain features, determines the characteristics of the situations of emotional vulnerability arising within its framework. Such complex characteristics can be considered stable and subjected to statistical verification in the future, since the ideas about them, obtained theoretically and empirically, coincide.

The construction of a socio-psychological predictor is a selection of factors for the occurrence of situations of emotional vulnerability, typical for a particular critical period, and their integration into a single complex factor. The theoretical support in this case will be the ideas about the socio-psychological characteristics of the age-related development of the personality, among which the leading type of activity, interaction with significant persons from the close environment, new mental elements are of particular importance for the emergence of impressing. [25], [26], [27], [28].

The leading type of activity in early childhood is communication, the main significant person is the mother. Consequently, interaction with the mother can be assumed as a socio-psychological predictor of the emergence of a potential situation of impressing in early childhood. This is confirmed by the data of pilot and diagnostic studies: in early childhood, most impressings are associated with communication with the mother and, less often, with other people in the close family environment. We note that interaction with key figures from the close social environment as a prognostic factor of impressing does not exclude the occurrence of such in communication with other people - we are only talking about its higher probability. Other cases are more selective and depend on the environmental dispersion - on the characteristics of the socialization of each individual [29]. It should be noted that, according to a number of authors, it is these features of the environment that have a significant impact on the development of personality [30], [31]. Impressing, apparently, refers to the phenomena for which this statement is more than true.

The most important developmental and socialization value in the preschool age is game. In the close environment, the closest family members are important - mother, father, grandmothers, grandfathers, elder brothers and sisters, etc. Therefore, the probability of impressing is the highest one in game activities with one of these persons who have a greater influence on the child. In this case, the predictor is not as unambiguous as in the case of early childhood, and needs to be adjusted taking into account the characteristics of socialization.

At primary school age, educational activity becomes more significant, in addition to games. It involves evaluativeness, which increases the occurrence of situations of emotional vulnerability. The teacher becomes a significant person. Consequently, the situations of the teacher's assessment of the success or failure of a student can be considered as factors predisposing to impressing. The data of empirical studies also indicate that at this age, impressings obtained in interaction with people from the close family environment are quite frequent. Therefore, socio-psychological predictors of impressing for this age period also require adjustment, taking into account the characteristics of the individual's socialization.

For teenagers, situations of communication with peers become emotionally vulnerable. The data of empirical studies allow us to confidently say that the prognostic factors of impressing at this age will be situations of discussion of a teenager (his appearance, behavior, individual actions, hobbies, abilities, etc.) with peers (friends, classmates, and even unfamiliar people). This is facilitated by actively developing self-awareness, self-esteem, the image of "Self". Any discussion of topics that are personally important for a teenager will be predisposing to impressing. At the same time, as research data show, parents also retain significant positions in this case.

From the point of view of the frequency of experiences of impressings, among the indicated age periods, the most critical are adolescence and early childhood, then preschool and primary school age, and less often - the period of adolescence. In conditions of successful socialization, adolescence, as an

age period of personality development, is characterized by a formed self- and world consciousness. Therefore, it is viewed as more stable in terms of the occurrence of situations of emotional vulnerability. However, as noted by V.P. Efroimson, impressing can be experienced not only in adolescence, but in youth and even in later years [32].

3.2. Sociocultural environment of the emergence of impressing and its prognostic characteristics

The selectivity in the perception of external influences in the case of impressing is so high that its cause is seen as a laid down "program" that predetermines the individual's response to certain influences. At the same time, other components of the impressing are considered as triggers of already given parameters [33], [34]. In this case, the role of "other components" is emphasized by the fact that most of the hereditary program remains unclaimed, since it does not enter into a resonance relationship with the environment. If the key stimulus does not arrive at the right moment, then the corresponding program does not start or is launched distortedly or not completely [35].

In the emergence of impressing, the role of random coincidence of many factors is great: hereditary predisposition, critical age and associated psychological characteristics, situations of emotional vulnerability, and the specificity of the socio-cultural impact of the environment. Among them, the most predictable ones are age parameters, and the most influenced are environmental ones. In accordance with the predictor-corrector model, the properties of the sociocultural environment are those variables that can not only be observed, but controlled, expecting a response (the emergence of a personally significant impressing). So, the model of impressing as a biosocial and cultural mechanism of socialization presupposes the sociocultural component (content and conditions of influence) as the most amenable to control and influence [36], [37].

The role of the environment in activating or inactivating the hereditary tendencies of the personality can hardly be overestimated [38], [39], [40]. The sociocultural environment in the integrity of its components and their properties is a necessary condition for the formation and development of a person. The versatility of the characteristics of the socio-cultural environment, due to various criteria for its structuring, affects the specifics of the emergence of situations of impressing within it. Impressing is not directly dependent on individual features of the sociocultural environment, but is the result of the coincidence of many of its parameters. The experience of empirical research of impressing makes it possible to say that its emergence is somehow connected with the parameters of the main components of the socio-cultural environment: the symbolic content of the environment, value-normative social behavior, the everyday language (language environment) [41].

Studies show that the symbolic content of the environment is of particular importance in the emergence of impressing. We are talking about two of its components: the symbolic activity of the person's close environment and the products of symbolic activity. The following characteristics can be predictively informative in this case: the enthusiasm of persons from a significant environment for any activity, the effectiveness of these hobbies (achievements), the enrichment of the cultural environment (regularity and variety of leisure activities), etc.

The value-normative parameters of social behavior in the environment in which the socialization of the individual proceeds, largely determine the emergence of a situation of emotional vulnerability of the individual. By their behavior, actions, evaluative actions, members of a social group "implement hierarchical orders of their value preferences" [42]. Evaluation, as noted above, by its nature is always accompanied by more or less pronounced emotionality, which increases the chances of a situation to become impressionable for a child who falls into it [43]. The value-normative parameters of the environment that can serve the construction of sociocultural predictors of impressing include stable characteristics of relationships in the close environment of the child. Respect for each other's interests, support in undertakings, relations of equality, the possibility of free choice, etc. are important for the emergence of a positive impressing and self-confidence. Of particular importance here are the vector and the degree of evaluativeness, which are able to determine the strength and direction of the consequences of the impressing [44].

It should be noted that the value-normative characteristics of the sociocultural environment testify to a very conditional differentiation of the prognostic factors of impressing into socio-psychological and

sociocultural ones. Any potentially impressionable situation is socio-psychological in nature and arises in a specific socio-cultural field. The third component of the socio-cultural environment - the language (speech) that exists in it - also illustrates this feature of impressing, since it is closely related to the normative characteristics of the environment of its origin. We can say that language acts as one of the instruments of value-normative interaction of people: through the "cultural concepts" grouped in it, the language can provide informational impact as such [45]. And, of course, the emotional coloring (expressiveness) of linguistic means acts as one of the factors in the emergence of situations of emotional vulnerability of the individual. For the situation of the emergence of impressing, praise for success and efforts, words of gratitude, approval, expression of trust, hope, confidence in success, etc. are important.

3.3. General age and individually personal predictors of impressing

The integration of sociocultural parameters of the environment into a complex predictor can occur both in general age and in an individually personal format. General age predictors of impressing include the sociopsychological parameters discussed above and generalized characteristics of the environment in which children stay systematically. Such parameters of the environment must be amenable to control and correction. As a result, general age predictors cannot be constructed for the family sociocultural environment - only for the educational environment, taking into account its symbolic content and the corresponding significant people. Individually personal predictors are built taking into account the peculiarities of family socialization, in which impressings occur most often. In other words, there is an individually personal correction of the general age predictor.

Let us consider examples of constructing complex general age and individually personal predictors for the primary school and adolescent periods.

In the socio-psychological predictor of the situation of the teacher's assessment of the success/failure of a student, the parameters of the socio-cultural components of the environment - symbolic activity/normality of interaction/language can be integrated. Consequently, complex age-specific predictors of impressing for a student can be 1) sincere praise by the teacher of the child's efforts, 2) the teacher's story about his childhood hobby, 3) an enthusiastic story about the various opportunities for carrying out an extracurricular activity event and giving a choice, 4) trust in the organization of the event, etc. Since the trustworthy relationship between the teacher and the parents is important at this age, the teacher's praise of the child's efforts with the parents can become a predictor. The predictor will become even more informative if the parent is included in it, which is the most significant for the student (the procedure of individually personal correction of the predictor).

The predictor for adolescence - the situation of communication with peers - can be supplemented with a variety of symbolic, value-normative and linguistic characteristics. For the complex, these can be such factors/predictors as 1) approval of the actions/interests/choices of a teenager in the circle of classmates, 2) a story about the aspirations/efforts/success of a teenager in a circle of classmates, 3) giving the right to choose in conducting homeroom or extracurricular activity, 4) an appeal to a teenager with a request/offer to consult in some matter in which he understands, 5) an expression of gratitude for anything related to his hobbies/successes, etc.

It is known about the striving of adolescents to acquire a reference personality in their environment, striving for the ideal. On this basis, it is possible to build such predictors of impressing, such as, for example, communication on an equal footing with a teenager of famous personalities or people who have achieved significant success in some area. Individually personal correction of the predictor in this case will consist in the fact that a well-known/successful person will be selected taking into account the tendencies of the adolescent.

The relationship of adolescents with their parents is often not easy, but parents do not lose their role in the emergence of impressings in this critical period. Therefore, many of the predictors given as an example can be adjusted to take into account the most significant people from the close environment of the adolescent. If the father's opinion is very significant for a teenager, then the general age predictor - "the situation of praise in the presence of third parties" will be adjusted taking into account the individually personal characteristics of socialization as follows: "praise of a teenager in father's

presence", "praise of a teenager by his father", "praise of a teenager by his father in front of friends/classmates".

It should be emphasized once again that in the case of impressing, the support in the construction of predictors is not the personality traits, but the factors of the appearance of the impressing situation that can be controlled. Hence the specificity of responses - potential indicators of impressing impact. They can be an increase in the child's activity in a chosen field, enthusiasm for him (he devotes more time, enthusiastically talks about it, trusts more in the one who has been the subject of the influence), an increase in confidence in his abilities and, of course, specific achievements.

3.4. Sociocultural determinism of the impressing response

One of the essential characteristics of impressing is its result/consequence - the aspiration of a person to a certain type of activity, boundless enthusiasm for it, leading to the achievement of not only personally significant successes, but, possibly, socially significant ones. It should be noted, however, that significant achievements of an individual in a particular case as expected consequences of impressing do not always arise. According to V.P. Efroimson's concept, not all inclinations activated by impressing develop, and even fewer abilities that have been developed lead to significant achievements.

The scholar assumed the presence of three stages in the realization of the effects of impressing: activation of inclinations; their development and transformation into abilities, which occurs in activity; the achievement of significant results by the individual in his activities [46].

The main role in this case is determined by the environment, which promotes or does not contribute to the development and successful implementation of abilities. According to V.P. Efroimson, most of the activated abilities remain unfulfilled, since talent meets many social obstacles on its way, overcoming which even aspiration and perseverance in their activities - the characteristic features of a person who has experienced an impressing - do not help to overcome them. Hence there is the need to take into account the factors affecting the implementation of significant results of the impressing.

Impressing is a single exposure to the environment. However V.P. Efroimson noted the existence of factors that enhance its effect [47]. These include, among other things, the repetition of a similar effect, which makes it possible to use this feature of impressing in the development of a predictor-corrector model and apply it in psychological and pedagogical practice to create optimal impressing conditions. In other words, both general age and individually personal predictors can be designed taking into account the stages of the intended results/consequences of impressing: activation, development or realization of abilities.

4. CONCLUSIONS

Impressing is a difficult phenomenon to study. The model "predictor-corrector", according to our assumption, can contribute to the study of impressing, due to two of its features. First, it allows us to predict the emergence of impressing, based on various socio-cultural and socio-psychological factors that predispose to its occurrence, and on this basis to build flexible complex predictors. Secondly, it allows at the first step to predict the factors of the appearance of impressing, potentially suitable for a certain category, for example, age (general age predictors), and at the second step to clarify them taking into account the individual characteristics of personality socialization (individually personal predictors). Revealing the correlations of the theoretically identified predictors and the data of their empirical verification is the goal of further work.

ACKNOWLEDGMENTS

The reported study was funded by RFBR, project number 19-29-14014.

REFERENCES

1. Efroimson, VP 2010, “Genetics of genius”, Moscow, Time of Knowledge, p. 375.
2. Vasilyuk, FE 2003, “Methodological analysis in psychology”, Moscow, Smysl, p. 240.
3. Guseltseva, MS 2009, “Cultural-psychological analysis in psychology and related sciences”, *Psychological research*, no 2 (4), <http://psystudy.ru>.
4. Reed, M 2017, “Gathering Stones: The problems of modern cultural and activity research”, *Cultural-historical psychology*, vol. 13, no. 1, pp. 4-22.
5. Viktorova, EV 2016, “Sociocultural approach to the analysis of the nature of impressing”, *Knowledge. Understanding. Skill*, no. 1, pp. 253-262.
6. Kagan, MS 1996, “Philosophy of culture”, Moscow, Petropolis, p.415.
7. Reznik, YM 2008, “Sociocultural approach as a research methodology”, *Questions of social theory*, vol. 1 (2), no. 2, pp. 305-328.
8. Viktorova, EV 2015, “Experience of Empirical Research of Impressing: Problems and Prospects”, *XVII Sociological Readings of Teachers, Postgraduates and Students "Modern Child: Projection into the Future": a collection of scientific works*, Penza, PSU, pp. 40-45.
9. Ravich-Scherbo, IV, Maryutina, TI, Trubnikov, VI, Belova, ES, Kiriakidi, EF, 1996, “Psychological predictors of individual development”, *Problems of psychology*, no. 2, pp. 42-54.
10. Ravich-Scherbo, IV, Maryutina, TI, Trubnikov, VI, Belova, ES, Kiriakidi, EF, 1996, “Psychological predictors of individual development”, *Problems of psychology*, no. 2, pp. 42-54.
11. Ravich-Scherbo, IV, Maryutina, TI, Trubnikov, VI, Belova, ES, Kiriakidi, EF, 1996, “Psychological predictors of individual development”, *Problems of psychology*, no. 2, pp. 42-54.
12. Maryutina, TM, Ermolaev, OY, Trubnikov, VI 1998, “On the nature of psychological predictors”, *Psychological science and education*, no. 1, p. 28.
13. Maryutina, TM, Ermolaev, OY, Trubnikov, VI 1998, “On the nature of psychological predictors”, *Psychological science and education*, no. 1, p. 28.
14. Ravich-Scherbo, IV, Maryutina, TI, Trubnikov, VI, Belova, ES, Kiriakidi, EF, 1996, “Psychological predictors of individual development”, *Problems of psychology*, no. 2, pp. 42-54.
15. Semenov, DS 2015, “Psychological predictors in predicting professional activity”, *Fundamental research*, no. 2, pp. 4333-4335.
16. Efroimson, VP 2000, “Pedagogical genetics”, *Biology*, no. 31, p. 9.
17. Efroimson, VP 2010, “Genetics of genius”, Moscow, Time of Knowledge, p. 375.
18. Sagatovsky, VN 1999, “Philosophy of developing harmony”, St. Petersburg, part 3, <http://sofik-rgi.narod.ru>.
19. Uzilevsky, GY 2000 “On superearly teaching, classical principles of education and training from the standpoint of anthropological semiotics”, *Education and society*, no. 5, pp. 57-64.
20. Efroimson, VP 2000, “Pedagogical genetics”, *Biology*, no. 30, pp. 5-11, no. 31, pp. 5-11, no. 32, pp. 5-11.
21. Maryutina, TM, Ermolaev, OY, Trubnikov, VI 1998, “On the nature of psychological predictors”, *Psychological science and education*, no. 1, pp. 27-34.
22. Benson, JB, Cherny, SS, Haith, NM, Fulker, D W 1993, “Rapid assessment of infant predictors of adult Id: mid twin — mid parent analysis”, *Developmental Psychology*, vol. 29, n. 3, pp. 434-447.
23. Eysenck, H, Eysenck, M 1984, “Personality and Individual Differences”, L.
24. Brody, N 1988 “Personality in search of individuality”, N.Y., Acad. Press., p. 270.

25. Vygotsky, LS 2003, “Psychology of human development”, Moscow, Smysl, p.1134.
26. Leontiev, AN 2005, “Activity. Consciousness. Personality”, Moscow, Smysl, p.431.
27. Bozhovich, LI 2008, “Personality and its formation in childhood”, Moscow, Peter, p.398.
28. Erickson, EG 1996, “Childhood and society”, St. Petersburg, Lenato, p.589.
29. Maryutina, TM, Ermolaev, OY, Trubnikov, VI 1998, “On the nature of psychological predictors”, *Psychological science and education*, no. 1, p. 29.
30. Egorova, MS 1995, “Behavioral genetics: psychological aspect”, Moscow, p.156.
31. Plomin, P 1986, “Development, Genetics and Psychology”, Lawrence, Erlbaum, p. 372.
32. Efroimson, VP 2010, “Genetics of genius”, Moscow, Time of Knowledge, p. 375.
33. Efroimson, VP 2000, “Pedagogical genetics”, *Biology*, no. 30, pp. 5-11, no. 31, pp. 5-11, no. 32, pp. 5-11.
34. Okonskaya, NB 2001, “Imprinting as a systemic mechanism of the evolution of society”, *Philosophical Sciences*, no. 1, pp. 114-124.
35. Leary, T, Stuart, M 2002, “Destructive psychotechnics. Technologies for changing consciousness in destructive cults”, St. Petersburg, Exlibris, p. 224.
36. Efroimson, VP 2000, “Pedagogical genetics”, *Biology*, no. 30, pp. 5-11, no. 31, pp. 5-11, no. 32, pp. 5-11.
37. Viktorova, EV 2016, “Sociocultural approach to the analysis of the nature of impressing”, *Knowledge. Understanding. Skill*, no. 1, pp. 253-262.
38. Efroimson, VP 2010, “Genetics of genius”, Moscow, Time of Knowledge, p. 375.
39. Bogomolova, MV, Tikhomirova, TN 2007, “The influence of the enriched educational environment on the intellectual and creative development of older preschool children” *Psychology. Journal of the Higher School of Economics*, vol. 4, no. 3, pp. 149-157.
40. Volynets, GV, Khavkin, AI, Nikitin, AV, Skvortsova, TA, Ilintsev, IV 2020, “Development of the ability to communicate in children” *Questions of practical pediatrics*, vol. 15, no. 3, pp. 81-86.
41. Flier, AYa 2013, “The cultural environment and its social features“, Humanitarian information portal “*Knowledge. Understanding. Skill*”, no 2, viewed 15 June 2020 <http://www.zpu-journal.ru/e-zpu/2013/2/Flier_Cultural-Milieu>.
42. Flier, AYa 2013, “The cultural environment and its social features“, Humanitarian information portal “*Knowledge. Understanding. Skill*”, no 2, viewed 15 June 2020 <http://www.zpu-journal.ru/e-zpu/2013/2/Flier_Cultural-Milieu>.
43. Matsumoto, D 2002, “Psychology and culture“, St. Petersburg, Prime-Euroznak, p. 718.
44. Efroimson, VP 2000, “Pedagogical genetics”, *Biology*, no. 30, pp. 5-11, no. 31, pp. 5-11, no. 32, pp. 5-11.
45. Flier, AYa 2013, “The cultural environment and its social features“, Humanitarian information portal “*Knowledge. Understanding. Skill*”, no 2, viewed 15 June 2020 <http://www.zpu-journal.ru/e-zpu/2013/2/Flier_Cultural-Milieu>.
46. Efroimson, VP 2010, “Genetics of genius”, Moscow, Time of Knowledge, p. 375.
47. Efroimson, VP 2000, “Pedagogical genetics”, *Biology*, no. 30, pp. 5-11, no. 31, pp. 5-11, no. 32, pp. 5-11.