SYSTEMIC-PSYCHOLOGICAL CHARACTERISTICS OF INTERPERSONAL RELATIONSHIPS AMONG STUDENTS IN THE MODERN HIGHER EDUCATION ENVIRONMENT AND THEIR DIAGNOSTICS

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Abstract. The article examines interpersonal relationships among university students as a complex, multi-level psychological system and substantiates a comprehensive approach to their diagnostics in the modern higher education environment. Drawing on the systemic approach of B. F. Lomov, the stratometric concept of the group developed by A. V. Petrovsky, N. N. Obozov's three-component model of interpersonal relationships, T. Leary's interpersonal circle, W. Schutz's theory of fundamental interpersonal relations orientation and J. L. Moreno's sociometry, the study identifies six interrelated components of students' interpersonal relationships - cognitive, emotional, behavioural, communicative, regulatory and motivational-value - and four levels at which they are realised: individual, dyadic, group and institutional. The specific features of the modern university environment, including academic mobility, digitalisation of communication, mixed and online learning formats and increasing cultural diversity, are analysed as factors that transform these relationships.

Keywords: interpersonal relationships, university students, systemic approach, student group, sociometry, interpersonal circle, psychological diagnostics, socio-psychological climate, higher education.

Annotatsiya. Maqolada universitet talabalarining şaxslararo munosabatlari murakkab, köp bosqiçli psixologik tizim sifatida körib çiqiladi hamda zamonaviy oliy ta'lim şaroitida ularni taşxislaşga kompleks yondaşuv asoslab beriladi. B.F. Lomovning tizimli yondaşuvi, A.V. Petrovskiy ilmiy maktabining stratometrik konsepsiyasi, N.N. Obozovning şaxslararo munosabatlarning uç komponentli modeli, T. Lirining şaxslararo doirasi, V. Şutsning şaxslararo munosabatlardagi fundamental yönalişlar nazariyasi va J.L. Morenoning sotsiometriyasi maqolaning nazariy asosini taşkil etadi. Mualliflar talabalar şaxslararo munosabatlarining özaro boğliq bölgan oltita tarkibiy qismini - kognitiv, hissiy, xulq-atvor, kommunikativ, tartibga soluvçi va motivatsion komponentlarni, şuningdek, ularning namoyon böltaşining törtta darajasini: individual, diadik, guruhiy va institutsional darajalarni aniqlaydilar. Zamonaviy universitet muhitining xususiyatlari - akademik harakatçanlik, muloqotning raqamlaştirilişi, aralaş va onlayn ta'lim formatlari, madaniy xilma-xillikning ortib borişi - şaxslararo munosabatlarni özgartiruvçi omillar sifatida tahlil qilinadi.

Kalit sözlar: şaxslararo munosabatlar, universitet talabalari, tizimli yondaşuv, talabalar guruhi, sotsiometriya, şaxslararo doira, psixologik diagnostika, ijtimoiy-psixologik iqlim, oliy ta'lim.

Аннотация. В статье рассматриваются межличностные отношения

студентов вузов как сложная многоуровневая психологическая система и обосновывается необходимость комплексного подхода к их диагностике в современных условиях высшего образования. Опираясь на системный подход Б. Ф. Ломова, стратометрическую концепцию группы А. В. Петровского, трёхкомпонентную модель межличностных отношений Н. Н. Обозова, интерперсональный круг Т. Лири, теорию фундаментальных ориентаций в межличностных отношениях В. Шутца и социометрию Я. Л. Морено, авторы выделяют шесть взаимосвязанных компонентов межличностных отношений студентов: когнитивный, эмоциональный, поведенческий, коммуникативный, регулятивный и мотивационно-ценностный, а также четыре уровня их реализации: индивидуальный, диадический, групповой и институциональный.

Ключевые слова: межличностные отношения, студенты вузов, системный подход, студенческая группа, социометрия, интерперсональный круг, психологическая диагностика, социально-психологический климат, высшее образование.

Introduction

The period of university study is one of the most intensive stages in the development of a young person's social relationships. Students leave the familiar environment of school and family, join new academic groups, live in dormitories or rented accommodation and build relationships with peers from different regions, social backgrounds and, increasingly, different countries. The quality of these relationships directly affects students' psychological well-being, academic motivation and achievement, as well as their decision to continue or abandon their studies.

Psychologically, this importance is rooted in a basic human need. R. Baumeister and M. Leary argued that the need to belong – to form and maintain lasting, positive and significant interpersonal relationships – is a fundamental human motivation, and that its frustration leads to a wide range of negative emotional and health consequences. In Uzbek psychology, E. G'oziyev emphasised that in youth communication with peers becomes a leading condition for the formation of self-awareness and social maturity of the personality.

At the same time, the modern higher education environment is changing rapidly. Academic mobility, the credit-module system and individual educational trajectories make the composition of study groups less stable. Blended and online learning and the widespread use of messengers and social networks change the channels and forms of communication. The growing cultural and linguistic diversity of the student body creates both opportunities for intercultural learning and risks of misunderstanding and isolation. Under these conditions, interpersonal relationships among students can no longer be studied by a single method or at a single level: a systemic approach is needed that captures their multi-component and multi-level nature, together with a diagnostic toolkit that allows university psychologists and curators to assess them reliably.

The aim of the article is to identify the systemic-psychological characteristics of interpersonal relationships among students in the modern higher education environment

and to substantiate a comprehensive approach to their diagnostics. The tasks are: to analyse the theoretical foundations of the study of interpersonal relationships; to describe their structure as a psychological system; to identify the factors of the modern university environment that influence them; and to propose a diagnostic battery and algorithm, demonstrating the use of sociometric indices on an illustrative example.

Literature review

The systemic approach in psychology, developed in particular by B. F. Lomov, requires that psychological phenomena be considered as multi-level, multi-dimensional systems whose properties cannot be reduced to the sum of their elements and which exist in a network of relations with other systems (Lomov, 1984). Applied to interpersonal relationships, this means that the relationships of a student cannot be understood only through his or her personal traits, nor only through the structure of the group: they arise at the intersection of individual, group and institutional levels.

N. N. Obozov defined interpersonal relationships as subjectively experienced connections between people, objectively manifested in the character and methods of mutual influence in joint activity and communication. He distinguished three components in their structure: cognitive (gnostic), which includes the perception and understanding of the other person; affective, which includes emotional attitudes of sympathy and antipathy; and behavioural (practical), which includes real actions towards the partner. A. V. Petrovsky, in his stratometric concept, argued that relationships in a group are mediated by the content and values of joint activity: the deeper the level of activity mediation, the more the relationships acquire the character of a collective.

In Western psychology, T. Leary developed the interpersonal circle, in which interpersonal behaviour is described by two basic dimensions – dominance versus submission and friendliness versus hostility – whose combinations form eight interpersonal styles. W. Schutz proposed the theory of fundamental interpersonal relations orientation (FIRO), according to which interpersonal behaviour is determined by three needs – inclusion, control and affection – each of which may be expressed towards others and wanted from others. J. L. Moreno founded sociometry as a method for measuring the structure of preferences and rejections in a group. K. W. Thomas and R. H. Kilmann described five conflict-handling modes, which make it possible to assess the regulatory side of relationships. U. Bronfenbrenner's ecological model of human development explains how microsystems such as the study group are embedded in the wider institutional and cultural context.

Among the instruments widely used in research on students' relationships are the UCLA Loneliness Scale and the Multidimensional Scale of Perceived Social Support. However, a comprehensive, systemic approach to diagnosing interpersonal relationships among students in the conditions of the modern, increasingly digital and mobile university remains insufficiently developed, particularly in Uzbek higher education.

Methodology

The study is theoretical and methodological. It is based on the systemic, activity and ecological approaches, on the analysis and synthesis of psychological research

on interpersonal relationships and small groups, and on the comparative analysis of diagnostic instruments. Structural-functional modelling was used to construct the model of students' interpersonal relationships and the diagnostic algorithm. To demonstrate the application of sociometric indices, an illustrative example of a student group of twelve members was constructed; its data are hypothetical and serve only to show how the indices are calculated and interpreted.

Results and discussion

Interpersonal relationships of students as a psychological system. The analysis of theoretical approaches makes it possible to consider students' interpersonal relationships as a system of six interrelated components (Figure 1). The **cognitive** component includes the perception, understanding and evaluation of fellow students, social stereotypes and expectations. The **emotional** component includes sympathy and antipathy, attraction, trust and the feeling of belonging. The **behavioural** component includes real forms of interaction: cooperation in study, mutual help and joint leisure, as well as avoidance or rivalry. The **communicative** component includes communication skills, style and channels of communication, both face-to-face and digital. The **regulatory** component covers the ways students manage conflicts and regulate their own emotions in relationships. The **motivational-value** component includes the needs for affiliation, recognition and achievement, as well as the values and goals that determine with whom and why students build relationships. Obozov's three components form the core of the system, while the communicative, regulatory and motivational-value components reflect the specific conditions of student life.

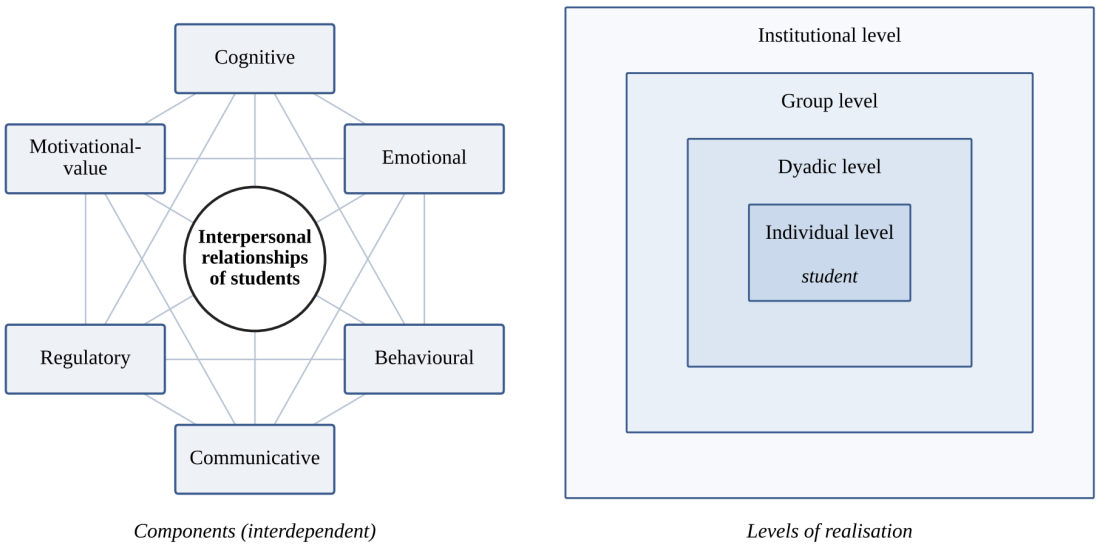


Figure 1. *Structural model of students' interpersonal relationships: six interdependent components and four levels of realisation*

The system-forming property of these components is their interdependence. A negative perception of a fellow student (cognitive component) produces antipathy (emotional component), which leads to avoidance (behavioural component); avoidance, in turn, deprives students of information that could correct the initial perception.

Conversely, successful joint work in a project group can change perceptions and emotional attitudes, which is consistent with Petrovsky's idea that relationships in a group are mediated by joint activity.

Levels of the system. Interpersonal relationships of students are realised at four levels. At the **individual** level they depend on personal characteristics: interpersonal style, needs for inclusion, control and affection, social skills and vulnerability to loneliness. At the **dyadic** level they take the form of friendships, study partnerships, rivalries and conflicts between particular students. At the **group** level they form the structure of the academic group: its status hierarchy, subgroups, leaders and isolated members, and its socio-psychological climate. At the **institutional** level they are shaped by the organisation of the educational process, the work of curators, student organisations, dormitory life and university culture as a whole. In Bronfenbrenner's terms, the study group is a microsystem embedded in the meso- and exosystems of the university; a systemic diagnostic approach must therefore cover all four levels.

Factors of the modern higher education environment. Several factors transform students' interpersonal relationships today. The first is the instability of group composition: under the credit-module system students increasingly choose individual courses and study with different peers in different classes, so the traditional academic group loses part of its integrating function. The second is the digitalisation of communication: much interaction takes place in messengers and social networks, which facilitates contact but may reduce the depth of relationships and create new forms of conflict and exclusion, such as exclusion from group chats. The third is blended and online learning, which reduces opportunities for spontaneous face-to-face contact. The fourth is the growing diversity of the student body, which requires intercultural competence. The fifth is increasing academic and financial pressure, which may lead students to prioritise competition over cooperation. These factors do not determine relationships directly; they act through the components of the system, for example by changing communication channels (communicative component) or the value of cooperation (motivational-value component).

Interpersonal styles. At the individual level, Leary's interpersonal circle provides a framework for diagnosing the characteristic style of a student's relationships (Figure 2). The two axes – dominance versus submission and friendliness versus hostility – define eight octants, from authoritarian and selfish to dependent and altruistic styles. Moderate expression of each style is adaptive, while extreme expression indicates rigidity and may predict difficulties in relationships. For example, a student with a strongly expressed authoritarian style may become an informal leader but also provoke conflicts, while a student with a strongly expressed dependent style may be at risk of manipulation and loss of autonomy.

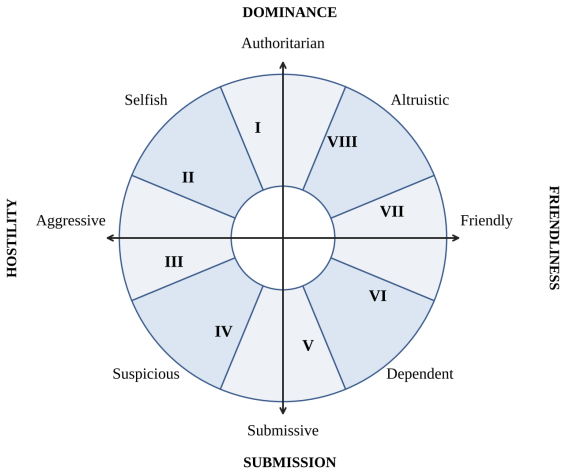


Figure 2. *Leary's interpersonal circle: two axes and eight interpersonal styles (after Leary, 1957)*

Diagnostic battery. On the basis of the systemic model, a diagnostic battery is proposed in which each component and level of interpersonal relationships is assessed by appropriate methods (Tables 1 and 2). The battery combines group-level methods, which reveal the structure of relationships in the academic group, with personality-level instruments, which reveal the individual characteristics underlying a student's position in the group.

Table 1

Components of students' interpersonal relationships, indicators and diagnostic methods

Component	Indicators	Diagnostic methods
Cognitive	Accuracy of social perception, stereotypes, attributions	Sociometric perception (expected choices), interview
Emotional	Sympathy and antipathy, trust, belonging, loneliness	Sociometry (Moreno, 1934), UCLA Loneliness Scale (Russell, 1996)
Behavioural	Cooperation, mutual help, avoidance, rivalry	Structured observation, peer nomination
Communicative	Communication style, channels, digital communication	Leary's Interpersonal Diagnosis (Leary, 1957), interview on online interaction
Regulatory	Conflict-handling modes, emotion regulation	Thomas–Kilmann Conflict Mode Instrument (Thomas & Kilmann, 1974)
Motivational-value	Needs for inclusion, control, affection; perceived support	FIRO-B (Schutz, 1958), MSPSS (Zimet et al., 1988)

Table 2

Main instruments of the proposed diagnostic battery

Instrument	Level	What it measures	Reference
Sociometric test	Group	Preferences and rejections, status structure, cohesion	Moreno, 1934
Interpersonal Diagnosis	Individual	Eight interpersonal styles on the dominance and friendliness axes	Leary, 1957
FIRO-B	Individual	Expressed and wanted inclusion, control and affection	Schutz, 1958
Thomas–Kilmann Conflict Mode Instrument	Individual / dyadic	Competing, collaborating, compromising, avoiding, accommodating	Thomas Kilmann, 1974
UCLA Loneliness Scale (Version 3)	Individual	Subjective loneliness and social isolation	Russell, 1996
MSPSS	Individual	Perceived support from family, friends and significant others	Zimet et al., 1988

Diagnostic algorithm. The diagnostic process is organised in five stages (Figure 3). At the **preparatory** stage, the aims of the diagnostics are defined, the instruments are adapted to the language and cultural context of the students, and informed consent and confidentiality are ensured. At the second stage, the structure of relationships in the group is studied by sociometry and assessment of the group climate. At the third stage, students' individual characteristics are assessed with personality-level instruments. At the fourth stage, data from the different levels are integrated: the sociometric status of a student is compared with his or her interpersonal style, conflict-handling mode and level of loneliness, which makes it possible to identify risk profiles. At the fifth stage, the results are communicated to students, curators and teachers in an appropriate form, and a plan of psychological support and correction is drawn up.

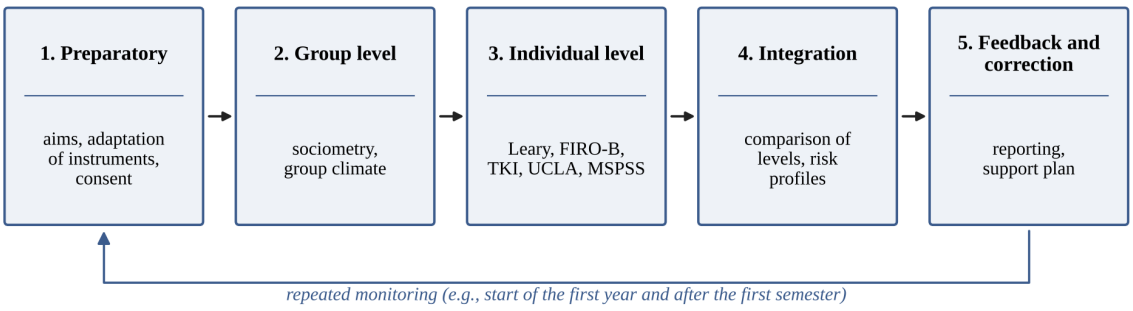


Figure 3. *Five-stage algorithm for the diagnostics of interpersonal relationships in a student group*

Illustrative example of sociometric analysis. To demonstrate the group

level of diagnostics, consider a hypothetical academic group of twelve students (S1–S12), each of whom named three classmates with whom they would like to work on a joint project (Figure 4). Student S1 received eight choices and occupies the position of a sociometric "star", whereas S12 received no choices and is isolated; S7 and S11 received one choice each. Students S9, S10 and S11 form a relatively separate subgroup connected with the rest of the group mainly through S8 and S1. Thirteen pairs of mutual choices were recorded.

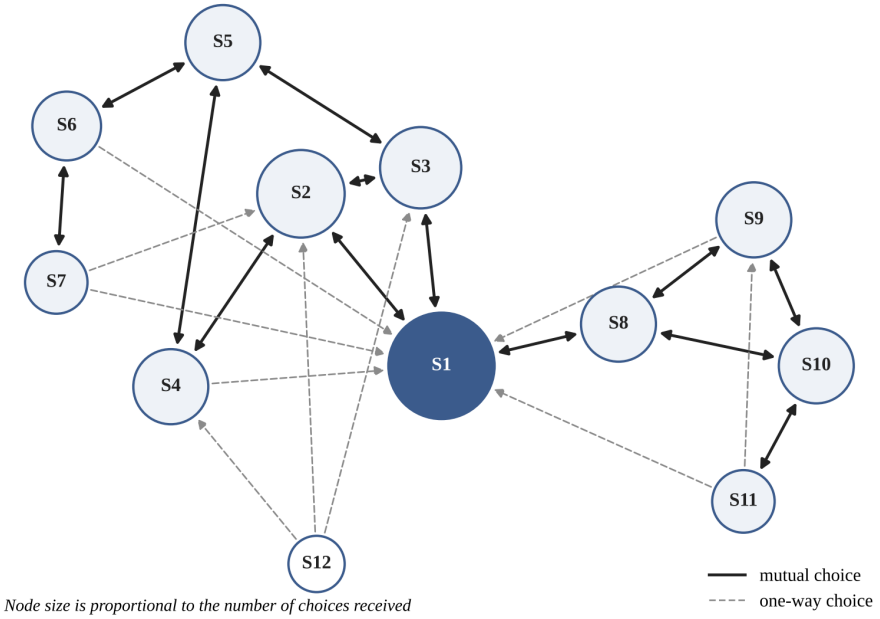


Figure 4. *Sociogram of an illustrative student group (hypothetical data, N = 12, three choices per student)*

The index of sociometric status is calculated as the number of choices received divided by N − 1; the group cohesion index as the number of mutual pairs divided by the number of possible pairs, N(N − 1)/2; and the reciprocity index as the share of all choices that were reciprocated (Table 3).

Table 3

Sociometric indices for the illustrative group (hypothetical data)

Index	Formula	Value
Sociometric status, S1 ("star")	Choices received / (N − 1) = 8 / 11	0.73
Sociometric status, S2	5 / 11	0.45
Sociometric status, S11 (neglected)	1 / 11	0.09
Sociometric status, S12 (isolated)	0 / 11	0.00
Group cohesion index	Mutual pairs / [N(N − 1)/2] = 13 / 66	0.20
Reciprocity index	(2 × mutual pairs) / all choices = 26 / 36	0.72

The interpretation of these indices illustrates the value of the systemic approach. A high reciprocity index (0.72) shows that most choices are mutual, indicating stable dyadic relationships; at the same time, an isolated member and a separate subgroup show that the group is not fully integrated. Sociometry alone, however, cannot explain why S12 is isolated. At the next stage, personality-level instruments are applied: if S12 shows a submissive interpersonal style, a high level of loneliness and an avoiding conflict-handling mode, the isolation is likely to be associated with social anxiety and a lack of social skills; if S12 is a newly arrived student from another region who studies in a blended format, the isolation is more likely to be associated with institutional factors. These cases require different interventions: individual psychological support and social-skills training in the first case, and organisational measures such as joint project work and peer mentoring in the second.

Practical implications. First, diagnostics of interpersonal relationships should be carried out regularly – for example, at the beginning of the first year and again after the first semester – so that changes in the group structure can be monitored. Second, the results should be used not to label students but to design support: group-building activities, project-based learning with deliberately mixed teams, peer mentoring and training in communication and conflict resolution. Third, curators and teachers need basic training in reading diagnostic results and in recognising signs of isolation, conflict and loneliness. Fourth, given the digitalisation of student communication, diagnostics should also cover relationships in online spaces, for example by including questions on participation in group chats and on experiences of online conflict. Fifth, all diagnostic work must observe ethical principles: voluntary participation, confidentiality of individual results and protection of vulnerable students from stigmatisation.

Conclusion

Interpersonal relationships among university students form a complex psychological system consisting of cognitive, emotional, behavioural, communicative, regulatory and motivational-value components and realised at the individual, dyadic, group and institutional levels. The components are interdependent, and the system as a whole is shaped by joint educational activity and by the institutional and cultural context of the university. In the modern higher education environment, unstable group composition, digitalised communication, blended learning, growing diversity and academic pressure transform these relationships and create new risks of isolation and conflict. A comprehensive diagnostic approach that combines sociometry with personality-level instruments – the interpersonal circle, FIRO-B, the Thomas–Kilmann instrument, the UCLA Loneliness Scale and the MSPSS – and follows a five-stage algorithm from preparation to correction allows university psychologists and curators to obtain a reliable picture of relationships in student groups and to design targeted interventions. Empirical testing of the model on student samples in Uzbekistan is the next step of the research.

References

1. Bales R. F. Interaction Process Analysis: A Method for the Study of Small Groups. Cambridge, MA: Addison-Wesley, 1950.
2. Baumeister R. F., Leary, M. R. The need to belong: Desire for interpersonal attachments as a fundamental human motivation. Psychological Bulletin, 1995.
3. Bronfenbrenner U. The Ecology of Human Development: Experiments by Nature and Design. Cambridge, MA: Harvard University Press, 1979.
4. Ğoziyev E. Ğ. Ontogenez psixologiyasi. Taşkent: Noşir, 2010.
5. Karimova V. M. Ijtimoiy psixologiya asoslari. Taşkent: Öqituvçi, 1994.
6. Kolominsky Ya. L. Психология взаимоотношений в малых группах. Минск, 1976.
7. Leary T. Interpersonal Diagnosis of Personality. New York: Ronald Press, 1957.
8. Ломов Б. Ф. Методологические и теоретические проблемы психологии. Москва: Наука, 1984.
9. Moreno J. L. Who Shall Survive? A New Approach to the Problem of Human Interrelations. Washington, DC: Nervous and Mental Disease Publishing, 1934.
10. Обозов Н. Н. Межличностные отношения. Ленинград: Издательство Ленинградского государственного университета, 1979.
11. Pascarella E. T., Terenzini P. T. How College Affects Students: A Third Decade of Research San Francisco: Jossey-Bass, 2005.
12. Петровский А. В. Личность. Деятельность. Коллектив. Москва: Политиздат, 1982.