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Self-Perception and Cognitive Features of Students with Different Sociometric Status

Dmitriy V. Miroshkin [1*], Tatiana I. Shulga [2], Marina R. Melamud [3], Valentina M. Maslova [4], Olga D. Lazareva [1], Alexander S. Vrublevskiy [3], Igor G. Kochetkov [5]

[1] Sechenov First Moscow State Medical University, Moscow, RUSSIA
[2] Moscow Region State University, Moscow, RUSSIA
[3] Plekhanov Russian University of Economics, Moscow, RUSSIA
[4] Financial University under the Government of the Russian Federation, Moscow, RUSSIA
[5] Ulyanovsk State University, Ulyanovsk, RUSSIA

ABSTRACT

The article contains the results of an empirical study on self-perception and cognitive style of students. The issue of what psychological variables accompany the process of interpersonal interaction in small groups is considered from a viewpoint of cognitive structures of individual members that comprise such groups. The article also presents a theoretical and methodological analysis of personal and cognitive features of students with different sociometric status. The novelty of this work consists in studying self-perception of group members with different sociometric status, and personal and cognitive characteristics and features given to group members through a system of their opinions about each other. It was concluded from the results of the study that the subjects with different sociometric status are perceived differently by the group: leaders appear to be more aggressive and authoritarian than outsiders. The subjects-leaders when coming across the circumstances that subjectively experienced as unpleasant ones, are able to minimize negative experience and find positive moments in such situations. The outsiders are unable to see the positive aspects of situations they subjectively experience as unpleasant. The cognitive space of the subjects-leaders includes the binary opposition construct "optimistic – pessimistic" what can be determined as cognitive complexity. While the subjects-outsiders perceive the cognitive field of the construct as a one-sided structure, and in unpleasant situations they see the surrounding reality not from the positive side, but only from the negative one. The results presented in this article can be useful to optimize interpersonal relations in student groups, as well as to be a source of additional information to develop measures of a psychological impact.

Keywords: self-perception, sociometric status, personal characteristics of students, interpersonal interaction, internal personal constructs

INTRODUCTION

In the middle of the last century, Western psychology enriched itself with a concept of cognitive style, which refers to stable individual-specific ways of receiving and processing information. The works of "new view" theorists served as a prerequisite for the emergence of cognitive style studies. They proved a personal approach to be promising in studying cognitive processes, prompting the search for individual characteristics that influence their course. At present in scientific literature, the number of described cognitive styles exceeds the mark of 20 types, identified independently by psychologists of different schools [1-3].

A major part of cognitive styles (cognitive complexity, conceptual differentiation, smoothing-sharpening, etc.) are associated with the degree of analytic-synthetic perception of objects or, in other words, with the rigidity of the criterion in assessing the similarity or difference of objects. The processing of information received by a person is based on the mechanisms of comparing objects and determining the degree of their similarity.

At present in scientific literature, the number of described cognitive styles exceeds the mark of 20 types [4]. But no more than 10-15 styles are studied intensively in the theory and practice of psychological research that have a correlation between each other [5]. As it turned out the concept of "cognitive style" combines the pluralism of approaches to the identification and explanation of operational differences among people. Among which there are: differences in the methods of obtaining, reproducing and processing information; methods of control; features and forms of intellectual activity, as higher-order ones than the traditionally described features of cognitive processes.

The cognitive style of field dependence – field independence is the most popular from the view point of coverage in literature and a number of studies dedicated to it.

Field dependence-field independence, revealed by H. Witkin [1], provides the distinction between the I-space and the outer world, as well as the preferential choice either to make decisions for other people or for oneself. Field independent people have a more structured system of ideas about the environment, which helps them to succeed in their activities. But they are less successful in communication, because they are indifferent to other opinions and assessments, and tend to distance themselves from other people. Field dependent people find difficulty in decision-making, as they rely more on other people's opinions and assessments than their own. These differences can be traced from their childhood to an old age and affect all kinds of activity.

The cognitive style impulsiveness-self-analysis determines the speed of decision-making and consideration of alternatives. It is assumed that to be impulsive means to make decisions quickly and with a lot of mistakes, while to be reflective means to adhere to the opposite model. This style is also a stable personal feature, revealing itself in different activities, determining primarily their speed and quality.

The cognitive style simplicity-complexity is based on a system of personal constructs with the degree of differentiation which is able to vary the poles of this cognitive style with regard to individuals demonstrating them. If an individual steadily tends to neglect the differences between objects, which is typical of people with low cognitive complexity or low conceptual differentiation, he sees the world more homogeneous and simpler. On the one hand, it gives him an advantage to ascertain common features among classes of objects. For instance, such people are easier to identify themselves with others from their surrounding environments. But, on the other hand, the same kind of individuals are insensitive to less obvious differences or changes in the object. On the contrary, individuals with high cognitive complexity and high conceptual differentiation have a more complex world view based on numerous distinctive features, but they suffer from excessive information and demonstrate their inability to synthesize their ideas.

In Russian psychology, the concept of cognitive complexity was developed within the framework of psychosemantics under the guidance of V.F. Petrenko [6]. Here cognitive complexity refers to the system of "categorical disintegration of the individual's consciousness" [6]. Cognitive complexity is only one position in the dichotomy, with cognitive simplicity on its reverse side. If complexity denotes the variety of semantic space and highly structured systems of constructs, then simplicity, on the contrary, is characterized by a scarcity of semantic space and low structured systems of constructs. The degree of cognitive space differentiation is stated on the basis of the factor analysis.

The sociometric status is considered as a system of mutual evaluations by group members, with a hierarchy of intra-group relations built upon where each group member is assigned one of three possible positions: high, average or low sociometric status. Research in the field was carried out by M.E. Sachkova, R.A. Zolotovitsky and others [7-9].

The sociometric status regulates the position of members of a small group whithin the structure of intra-group relations. thereby providing a researcher with opportunity to focus scientific interest on the bi-polar components of group activity, defined by a high (positive) or low (negative) sociometric status. Currently, in psychology and pedagogy the scientific research about sociometric status mostly deals with only two categories above-mentioned in the system of intra-group relations: leaders and outsiders respectively. But the interest of researchers of small groups is wider than this range of phenomena. A less popular area of scientific research, but, according to other opinion, equally significant, is the study of the intermediate position in intra-group functioning, represented by the average-status members.

In the structure of interpersonal relations within a small group, not only the sociometric status plays a part, but also sociability, the participants' sense of affiliation to a group and personal identity, the I-concept.

METHODOLOGICAL FRAMEWORK AND METHODS

Our research aims to study self-perception and cognitive characteristics of students with different sociometric status. The objectives of the study included: to analyze scientific literature on self-perception and cognitive characteristics of students with different sociometric status; to develop and conduct a research based on the analyzed literature; to manipulate statistical data of the results; to interpret the data and formulate conclusions on the results of the study.

The hypothesis of the study: we assume the differences in self-perception, as well as in the internal personal constructs of students with different positions in the group.

Methods used in the study:

1) theoretical (analysis of literature).
2) psychodiagnostic:
    – the technique of sociometric measurements (J. Moreno.) [10].
    – Leary's technique of interpersonal diagnosis.
    – Dembo-Rubinstein's technique of self-diagnosis modified by A.M. Prikhozhan [11].
    – a modified version of J.Kelly`s method of repertoire grids [12].
3) content analysis.
4) mathematical data processing (Mann-Whitney U-test).

Characteristics of the base and sample: the study was conducted at Ulyanovsk State University. The sample of the study consisted of 130 students.

Among them, 33 were identified as having the status of the leader and 32 with the status of the outsider in their respective groups.

Self-perception consists of stable ideas of the individual about oneself and forms the "I-image" (or, according modern researchers, more correctly an "idea of oneself" [12], which, in turn, is integrated into a self-analysis system of attitudes aimed at oneself, called the "I-concept" of personality [13]. The "I-image" represents the cognitive component of "self-concept" and is associated with emotional-evaluative attitude to oneself [13].

According to the Role-theory, the "I-image" consists of the individual's representation of himself from the viewpoint of another person. The child, as he grows up, introjects the roles of significant others and the role of the "generalized other", which is the embodiment of impersonal group norms. Remaining a subject, the child at the same time becomes a control object of its own.

In line with the symbolic interactionism developed the idea that the self-image of an individual is formed on the basis of individual representations of each individual member of the group and later combines in one crystallized opinion – the setting of "generalized other". Expectations and requirements of the "generalized other" includes the self-analysis component of personality (me), which is responsible for the normative control upon impulsive motivations emanating from another component in the structure of personality – impulsive I. They form the third component in the structure of personality – the personal "I" and consolidate in active interaction with each other, prompting the person to design its own behavior, to form and interpret the values [14].

At first, the problem of "I-image" and its structural components was brought up for discussion by representatives of the functional research direction in the second half of the 19th century. In particular, William James introduced the concept of a global personal "I", which has a dual nature and is the subject of cognition on the one hand and its object on the other: "I - cognizing" as pure experience and "I -cognizable" as the content of this experience. Both sides of the "I" cannot exist in isolation from each other, since they are complementary parts of one whole, which the identity of the personality is constructed on [15]. "I-cognizable" (empirical "I") is represented by emotions, feelings and actions of a person and integrates several dimensions of "I": physical "I", material "I", social "I" and spiritual "I" [16].

The term "sociometric status" was introduced into use by the American psychiatrist and social psychologist J.L. Moreno [10]. In the framework of sociometry, it is used to designate one of the parameters of a small group responsible for the position occupied by each member of the group in the hierarchy of intragroup relations. Sociometry allows a researcher to register the fact of preference or attitude expressed by an individual in relation to interaction with other individuals in certain situations [17]. For the purpose of modifying the social and psychological microclimate of a small group, taking account of the greatest number of reciprocal choices of participants, in order to achieve the highest possible reciprocity and satisfaction. Such group optimization is called a democratic sociogram [18].

The overwhelming majority of socio-psychological studies based on the sociometric method focus interest on the intragroup poles — conditional leaders of small groups — those who receive the most positive choices and

rejected conditional outsiders [19]. There are several ways to identify the leaders and outsiders of the group. The first consists in calculating the sociometric status index for each group member, which can be either positive or negative (leaders and outsiders, respectively) [20]. The second one consists in counting the number of positive choices with the acceptance criteria and negative choices for each group member with the rejection criteria. Where there is a relatively large number of positive choices with the acceptance criteria it reveals possible leaders, and the largest number of choices when using the rejection criterion, it identifies possible outsiders. The grounds also differ, on the basis of which the leaders are chosen. The requirements of the moment and the way these requirements are reflected in the internal plan of the selecting person play an important role [21-26].

RESULTS AND DISCUSSION

The study was carried out in 2 stages. The first stage is subdivided into 2 parts. The first part was that the group of subjects was asked to answer sociometry questions, which made it possible to detect their likes and dislikes towards each other. The choice of subjects was limited to the names of three members of the group who were present at the time of filling out the study forms.

Next Dembo-Rubinstein's technique was proposed for the diagnosis of self-assessment that was modified by A.M. Prikhozhan [11] and T. Leary's [27] technique, used to get an idea of the self-perception of the subjects.

When conditional leaders (members of a group with a positive sociometric status) and conditional outsiders (members of a group with a negative sociometric status) of the studied groups became known after processing the results of sociometry, the second part of the first stage of collecting primary empirical data for our study began. The subjects were offered forms with T. Leary's [27] technique indicating the names of conditional leaders and outsiders of the group. This time the technique was used to study the interpersonal perception of the subjects. Each subject was asked, in accordance with his own ideas, to point to the qualities that existed, in their opinion, among the members of the group proposed for discussion (two leaders and one outsider or two outsiders and one leader).

Finally, the second stage of collecting empirical data was that the subjects had to make a triadic choice when each person was asked to go through a modified version of J. Kelly's [12] repertory grid technique. For this, the subjects were given out forms with situations prepared in advance:

1) a situation that greatly pleased;
2) a situation that aroused alarm;
3) a situation of rivalry;
4) a situation that made people united;
5) a noisy company;
6) loneliness;
7) close friends;
8) fellows.

On the form, the subjects needed to mark two similar situations with the sign "+", leaving in the next column marked with the corresponding symbol, a clarification showing their similarities. Then they had to choose another situation that differs from the two previous ones, marking it with the sign "-", and writing down a clarification in the corresponding column, revealing its difference from the first two. At this stage, the collection of primary empirical data was completed.

Description and Analysis of the Main Results of the Study

To identify differences between the compared groups of subjects, we used the Mann-Whitney U-test for independent samples.

Considering the results obtained after processing the data of T. Leary's technique, chosen to study self-perception and interpersonal perception of the subjects, we came to the following results. The most reliable were the differences between the group's ideas about the subjects with a positive sociometric status (leaders) and the group's ideas about the subjects with a negative sociometric status (outsiders). These are ($p < 0.01$) results for 1 octant of T. Leary's technique - "Authoritarian" (leaders - 9.26, outsiders - 6.11) and 3 octant - "Aggression" (leaders - 7.37, outsiders - 5.83). This indicates the reliability of the fact that the group sees leaders and outsiders in different ways. Namely, the group perceives the leaders as more authoritarian than outsiders, as well as more aggressive.

When comparing the characteristics of the leaders' self-perception (L) and outsiders' (A) according to Leary's technique, it is indeed possible to notice that it differs in the "Authoritarian" octants (L– 9.44, A - 8.56), "Aggression" (L - 8, A - 6.56). That is, the leaders' self-perception is close to the image of the group. It means that the leaders also see themselves as more authoritarian and aggressive. And, since the search for reliable differences between the

leaders' self-perception and the established image of the leaders of the group did not produce results, we can say that, in general, the leaders' self-perception coincides with the image of the leaders established by the group, according to all octants of Leary's technique.

The perception of the subjects-leaders and the subjects-outsiders by the group differs by the octants "Egoism", "Friendliness" and "Altruism", but since they are in the zone of uncertainty ($p < 0.05$) when checking for reliability, we cannot confidently refer the results to reliable ones.

When examining the "I-image" of the subjects-outsiders and the image that has developed about the subjects-outsiders of the group, we encountered the fact that the present differences between the compared parameters were in the zone of uncertainty ($p < 0.05$). This gives grounds to believe that the "I-image" of outsiders may differ from the image of the outsiders that has developed in the group at a significance level of $p < 0.05$ in two octants of T. Leary's technique of diagnosing interpersonal relations "Authoritarianism and Altruism", i.e. for some reason, outsiders see themselves as more altruistic (10.33) and authoritarian (8.56) than the group agrees with it (6.98 and 6.11).

Thus, if we take the image that has developed about the outsiders of the group as a kind of mirror "I-image" and compare it with such a mirror-like image "I" of the leaders, we get differences at the significance level $p < 0.01$ by octants "Authoritarian" and "Aggression" and differences at the level of significance $p < 0.05$ for octants "Friendliness" and "Altruism".

Summarizing the results of the statistical data analysis that passed the reliability threshold, it should be noted that we could not find significant differences in the self-perception of the subjects, which the diagnostic resources of T. Leary's technique would help to reveal. Nevertheless, there were differences in the interpersonal perception of leaders and outsiders by the group. Consequently, there are reasons the reliance on which allows the group to attribute its positive sociometric status to one of its members, and negative to the other. On this basis, we assumed that the differences fall not on the self-perception of the subjects, but on their cognitive sphere.

To study the cognitive sphere of leaders and outsiders, we used the modified technique of J. Kelly's repertory grids and conducted a content analysis of the cognitive constructs of the subjects. We came to the conclusion that the subjects-leaders and the subjects-outsiders perceive the surrounding reality through different categories of constructs, which can be explained differently [12]. Most often among the answers are constructs associated with emotions (positive and negative), interpersonal relationships (rivalry, friendship, joint activities, communication), loneliness, anxiety and trust. The number of constructs in both groups of subjects, which we identified by simple recalculation, has insignificant differences. This is also confirmed by the Fisher's criterion, having resorted to the use of which, we also did not manage to find significant differences in their number.

However, it should be noted that the constructs identified by the subjects with negative and positive sociometric status differ in their meaning content. For example, subjects-outsiders are more often focused on the negative sides of a situation of loneliness, a situation that aroused great anxiety, and a situation of rivalry. The first two situations are more often counterbalanced by them to the rest as experienced negatively ("anxiety", "depression", "fear", "pain", "anxiety", "sadness"), which is explained by the lack of emotional support from close friends, acquaintances ("nobody to rely on, "no support", "no back-up", "nobody by one's side"), i.e. it is important for them to be part of a group. At the same time, the situation of rivalry is experienced no less hard and is also more often opposed to other situations: "nervous shock", "extremely difficult to steel oneself", "I don't like being against friends", "anxiety", "discomfort", "discord", "negative events", "negative emotions", "no support".

Similarly, the subjects-leaders counterbalance the situation of loneliness, the situation of rivalry and the situation that aroused great anxiety to the other situations, which is logical, but along with negative experiences ("sadness", "yearning", "indifference", "fear", "despondency", "negative emotions") they note the positive aspects of the proposed situations. For instance, "I feel anxiety more often during exams, I don't experience anxiety when getting acquainted with someone", "I don't feel loneliness while in the company", "I'm feeling all alone", "primacy", "atmospheric", "took 4th place", "with my friends, I never feel alone," "stayed alone at home."

CONCLUSION AND RECOMMENDATIONS

Thus, we came to the conclusion that the subjects with different sociometric status are perceived by the group in different ways: leaders appear to be more aggressive and authoritarian than outsiders. In addition, the subjects, when confronted with circumstances subjectively experienced as uncomfortable, were able to minimize negative experiences, revealing positive moments in such situations. Outsiders were unable to find the positive aspects of situations that they subjectively experience as unpleasant. The cognitive space of the subjects-leaders includes the binary-opposition construct "optimistic - pessimistic", which can be determined as the cognitive complexity. While for subjects-outsiders, the cognitive field of the construct has a one-sided structure, and the surrounding reality in uncomfortable situations is not considered by them from positive sides, only from negative ones.

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