

Review Article

Social Intelligence and Significant Others Representations

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Abstract

Despite the large number of publications devoted to this issue, modern psychology lacks valid methods for measuring social intelligence. We have developed a methodology for measuring social intelligence based on the assumption that social intelligence is reflected in the process of selecting an optimal strategy for overcoming conflict situations. A positive role of social intelligence in the structure of predictors of the professional activity of plant employees and learning activity of university students as well as negative correlations of social intelligence with the level of disharmony of interpersonal relationships was discovered. The level of social intelligence did not form significant correlations with the scales of the NEO-FFI questionnaire and also with the level of intelligence according to Raven's test. The main purpose of our investigation was to explore the correlations between social intelligence and significant others representations. For this purpose, we have used a questionnaire that was developed by Markey, Funder and Ozer and was designed for the investigation of dyadic interpersonal relations. The list of significant others included father, mother, classmate, professor and course leader. Significant positive correlation was obtained between the accuracy of assessments of significant others in terms of friendliness and the level of social intelligence of students. In addition to observation by octants, the degree of compliance of the scores on the interpersonal behavior questionnaire was calculated separately for each element from the list of significant others. The regression equation was calculated, the predictor of which is the level of social intelligence, and the regressor is the degree of observation accuracy of the professor estimates.

Introduction

As a result of the review of various approaches to the study of social intelligence, it is possible to state a kind of theoretical pluralism in understanding the specifics of social intelligence. In particular, we note the absence of clear dividing lines between social and practical intelligence [1], attempts to integrate social and emotional intelligence [2], the identification of social and academic intelligence [3,4]. In the processes of social thinking and intelligence perceptions of oneself and others are of paramount importance. Namely: the "internal working model" according to Bowlby [5], representations of "generalized other" according to Cronbach and of "significant others" according to Chen, etc. [6,7]. Unlike scientific concepts, social representations can be fuzzy and based on episodic memories and specific examples. For example, Ford assigns an important role to "significant episodes of behavior". These are representations of episodes related to the implementation of certain goals in a certain context. Coordination and optimization of goals (win-win fashion) is the most important condition for achieving success both in interpersonal relationships and in professional activities [8]. In fact, the choice of an effective strategy for overcoming a conflict situation is based on taking into account the already established features of the relationships between the parties of the conflict, involves assessing the nature of future relationships depending on the status, role and other characteristics of the opponents.

We assumed that the best response choice of the subjects in the selected episodes reflects the level of conflict competence and social

intelligence of plant employees and university students and is an effective predictor of their professional and learning competence. We have made a suggestion that social intelligence as an important factor of social and communicative competence plays a significant role in the process of making decisions in conflict situations. In order to verify this assumption, we have worked out a method of strategies evaluation in conflict situations. Each experimental situation provided seven variants of answer. Every type of answers corresponded to certain conflict strategies and should be evaluated from one point up to seven points. In addition to the well-known strategies, such as "giving up", "confrontation", "compromise", "cooperation", "making concessions" and "consulting" we added "caustic remark" possibility. Every type of answers should be evaluated from one point up to seven points.

Social Intelligence Indexes

We used a correspondence degree of every subject answer with the so called "medians group profile". A median of every test answer was computed. Euclid metrics as a measure of the correspondence of every respondent with the median group profile was used. The results of measuring social intelligence were compared with personality traits, the level of psychometric intelligence, indicators of the harmony of relationships, and a structural assessment of the professional competence of Ufa distillery plant employees and educational performance of the students of Ufa University of Science and Technology. Several assumptions put forward in our previous research work were confirmed based on the performed correlation studies, namely: 1. negative relationship between social intelligence and the

level of disharmony in interpersonal relationships; 2. the important positive role of social intelligence in the structure of predictors of the efficiency of students and engineers; 3. the proposed assumption on the independent conceptual status of social intelligence has also found its partial empirical support. A total of 35 engineers and 100 students participated in the correlation study.

Social Intelligence: Cognitive Ability or Personal Feature?

However, the level of social intelligence did not form significant correlations either with the scales of the NEO-FFI questionnaire or with the level of psychometric intelligence (Table 1). As a result, the assumption put forward by us about the independent conceptual status of social intelligence also found its empirical confirmation [9,10].

Materials and Methods

Theoretical Assumptions and Methods of Investigation

Emphasizing the importance of ‘mental organization’ in the structure of personality and pointing out the significance of reckoning the life context of the particular individual, Allport endows the individual with such abilities that are inherent in social intelligence: the ability to quickly and adequately assess a person, to predict possible behavior, etc. [11]. As for Vernon [12] one of the characteristics of a socially intelligent person was that he or she was an outstanding judge of personality, whereas the implicit theories of personality also lie at the basis of such perception. Cronbach has argued that one’s implicit theory of personality consisted on his or her knowledge of “generalized other”: a mental list of important personality dimensions [13]. Kosmitski and John have marked out the main components of social intelligence. These are cognitive elements (forecasting, men comprehension, knowledge of social rules, openness in human relations) and behavioral abilities (social adjustment, warm-heartedness and etc.) [14].

Social Intelligence, the PAP Paradigm and Significant Other Representations

The principal-agent paradigm (PAP) assesses the ability of an agent to evaluate the preferences of a principal, based on known values that the principal holds for different features of the decision event. The PAP originated in the economics literature to assess how well an agent can learn how much value the principal attaches to different attributes of a set of objects. The agent observes several examples of the principal’s choices between exemplars of the set of objects in complex situations, and then must decide what the principal’s preferences would be in a new complex situation. Today such paradigm is widely used in emotional intelligence investigations [15]. We think that PAP is also important for the research in the social intelligence domain because this paradigm is connected with the concept of “significant other”. Significant other is a person that is important for an individual.

Table 1: Coefficients of Spearman rank correlation between indicators of social and psychometric intelligence and personality traits of engineers.

	Psychometric intelligence	N	E	O	A	C
Social intelligence	0.01	-0.05	-0.01	-0.02	-0.13	-0.16

According to Sullivan, personality is inextricably tied to social situations; to understand personality, it is important to examine reoccurring patterns of social relations in real social contexts.

Methods of Investigation

The main purpose of our investigation was to explore the correlations between social intelligence and significant others representations. We made an assumption that there is a significant correlation between social intelligence and the power of observation of the significant others. For this purpose, we have used a questionnaire that was developed by Markey, Funder and Ozer [16] for the investigation of dyadic interpersonal relations. As we know, Leary introduced a circular ordering of interpersonal variables known as the interpersonal circumplex. This circumplex structure implies that variables that measure interpersonal relations are arranged on the circumference of a circle orientated by the primary dominant-submissive and hostile-friendly dimensions [17]. We translated this test into Russian and used it for the measuring of student’s power of observation of the list of the significant others: father, mother, classmate, professor and course leader. We used a correspondence degree of every answer with the medians group profile as a measure of student’s observational ability of the assessment of the whole list of the significant others.

Results

The interpersonal behaviors questionnaire consists of 24 items and has 8 scales: (PA) Assured-Dominant, (BC) Arrogant-Calculating, (DE) Cold-Hearted, (FG) Aloof-Introverted, (HI) Unassured-Submissive, (JK) Unassuming-Ingenuous, (LM) Warm-Agreeable, (NO) Gregarious-Extraverted. 123 undergraduate students (74 girls and 49 boys, average age – 21.3 years) of the psychology department of the Ufa University of Science and Technology took part in our investigation. The subjects evaluated the above characters on all scales of this questionnaire. In Table 2 the results of averaging the scores for all five significant others by octants are presented. As a result, it can be concluded that the FG (M=5.24), BC (M=5.77) and HI (M=5.78) scales received the lowest scores, and the LM (M=9.96) and NO (M=9.54) scales received the highest score. In addition, the results of diagnostics on the PA scale (SD=1.55) turned out to be the most stable, and the LM scale (SD=2.14) is characterized by the greatest variability. Table 3 shows the Spearman correlation coefficients between the level of

Table 2: Means and standard deviations of averaging the scores for all five significant others by octants.

	M	SD
PA	8.34	1.55
BC	5.77	1.91
DE	6.15	1.89
FG	5.24	2.09
HI	5.78	2.00
JK	8.39	2.04
LM	9.96	2.14
NO	9.54	1.85

Table 3: Spearman rank coefficients between the level of social intelligence and the accuracy of the assessments by octants.

	PA	BC	DE	FG	HI	JK	LM	NO
Social intelligence	0.14	0.09	0.16	0.11	-0.01	0.10	0.31*	0.02

*Correlation is significant at .01 level (2-tailed).

social intelligence and the indicators of students' general accuracy of assessment, calculated by octants. As we can easily see the significant correlation between social intelligence and LM (Warm-Agreeable) has been discovered.

In addition to observation by octants, the degree of compliance of the scores of the interpersonal behavior questionnaire was calculated separately for each element from the list of significant others. Table 4 shows the coefficients of Spearman's rank correlation between the level of social intelligence and the accuracy of assessments of the significant others. Despite the absence of significant correlations at least at the five percent level, we can state three correlation coefficients, highlighted in italics, the significance of which is close to critical. However, the normality of the distribution of observation indices allowed us to use linear regression analysis in addition to nonparametric correlations. Figure 1 shows a diagram of the regression equation that is significant at the level of $p=0.05$, the predictor of which is the level of social intelligence, and the regressor is the degree of accuracy of professor estimates. Thus, social intelligence turns out to be a predictor of the second indicator of observation accuracy.

Conclusions, Suppositions and Future Research

Thus, we have proved the importance of the adequate cognitive significant others representations in the structure of social intelligence. Social intelligence as an important factor of social and communicative competence turned out to be a predictor of the power of observation of the significant others. We believe that these results can be considered as a confirmation of the ideas of Kihlstrom and Cantor, who offer a "knowledge view of social intelligence" and indicate the need to take into account the contexts in which certain life tasks are solved [18]. Thus, the solution of conflict situations in educational settings involves an assessment of the interpersonal characteristics of university students and lecturers. We need further investigations in order to understand why the only one LM index of the eight octants of the interpersonal circumplex is correlated with social intelligence. In this regard, it should be noted the work of Scandinavian researchers, who put forward and confirmed an interesting assumption about the positive relationship between social intelligence and the so-called "indirect" aggression. It turns out that socially intelligent individuals choose the safest behaviors. Along with a peace-loving

Table 4: Spearman rank coefficients between the level of social intelligence and the accuracy of the assessments of significant others.

	Observation accuracy of mother	Observation accuracy of father	Observation accuracy of classmate	Observation accuracy of course leader	Observation accuracy of professor
Social intelligence	0.07	0.03	<i>0.21</i>	<i>0.21</i>	<i>0.21</i>
p-value	0.56	0.79	<i>0.07</i>	<i>0.07</i>	<i>0.07</i>

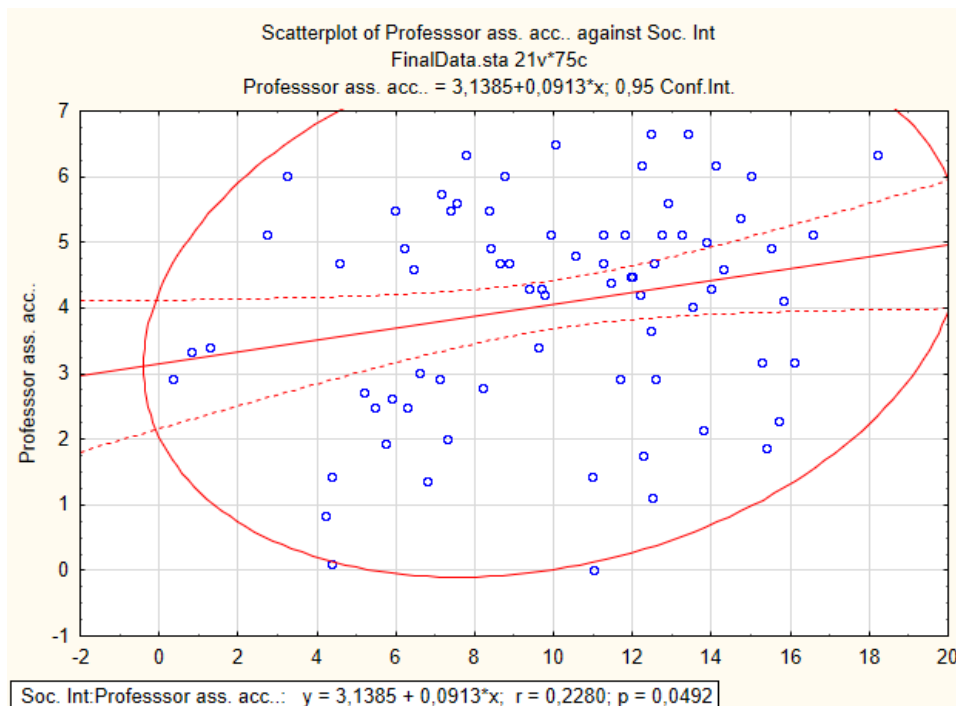


Figure 1: Graph of the regression equation between the level of social intelligence and the accuracy of professor assessments.

strategy, indirect aggression is the best way to respond to conflicts [19]. Besides, we may consider these results as the confirmation of Riggio [20] suppositions about the tight connection between social intelligence and the “cognitive empathy” level. The important role of cognitive empathy in the structure of social intelligence is also noted by Rahim [21].

In this regard, the study of the psychological mechanisms of complementarity as a factor in the effectiveness of interpersonal communication is very promising [22,23]. In particular, we have developed a methodology for predicting relationships in conflict situations in the human-computer dialogue in the Dolphin Smalltalk programming system for Windows. The choice of one or another variant of relations in the dyad, made with the help of a computer mouse, was accompanied by appropriate graphic and sound illustrations demonstrating various gradations of dominance-submission and cooperation-alienation. Statistically significant positive correlations between the level of social intelligence of students and complementarity in affiliation in the «student - assistant lecturer” and “student - assistant professor” dyads were obtained [24].

Our study of imaginary interactions and situational patterns of complementarity with the help of human-computer dialogue found that classical complementary patterns of interaction turned out to be correlates of social intelligence only for interpersonal situations with assistant lecturers and assistant professors. The selective nature of the correlations between social intelligence and situational patterns of complementary relationships allows us to assume that classical complementarity models do not always sufficiently describe the picture of interpersonal interaction. For example, Schaefer noted that investigations of both parent-child and marital dyads consistently revealed two fundamental dimensions that were labeled autonomy and relatedness [25]. Moreover, the SASB model proposed by Benjamin describes both interpersonal (an individual relating to another) and intrapsychic (an individual relating to him or herself) behaviors [26]. Nevertheless, we believe that the development of methods for researching interpersonal communication through human-computer dialogue opens up the prospect of a broader and more systematic approach to the study of social and emotional intelligence.

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