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Types of Interpersonal Contradictions and Conflicts in Work Groups

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Abstract: This study contains the results of a study of six types of interpersonal contradictions and two types of interpersonal conflict in small groups. Two corresponding questionnaires were developed for the study. We questioned 172 employees from 17 groups in different areas of activity. It was found that within a group as a whole all types of interpersonal contradictions and conflicts are manifested stronger, than within informal subgroups. Groups may greatly differ in terms of manifestation of the types of contradictions and conflicts. At the group level, we observed a greater correlation among many types of contradictions, on one hand and types of conflicts, on the other hand, than at the level of informal subgroups.

Key words: Small group, informal subgroup, group structure, contradictions, conflicts

INTRODUCTION

Conflicts are known play a positive and negative role in the life of the individual, groups and organizations. Thus, a conflict may be useful collaboration, for example, for the manifestation of creativity and innovation-improve the quality of decisions (Dreu, 1997). However, conflict can create difficulties in communication between people and lead-rupture of personal and professional relationships, distract from the members of the group tasks. Ultimately, conflicts can reduce individual and group effectiveness. Many authors point out that the conflicts are contradictions. In particular, a large number of definitions of conflict involve the concept of "contradiction". They can be classified as follows: conflict is a form of communication based on contradictions (Dmitriev, 2002) or conflict is the acutest form of contradictions (Zaitsev, 1993) or conflict is a way-resolve a contradiction in a certain form of communication (Antsupov and Shipilov, 1999). Moreover, social psychology acknowledges an important and independent role of contradictions in group processes (Kahn, 1991; Sabelli and Sabelli, 2000; Zhuravlev, 1990), regard them as the universal source of group self-modification (Sidorenkov, 2010). Such view is connected with the effect of contradictions on the level and intensity of cognitive processes (comparison, categorization, identification) and affective reactions (joy, anger, anxiety, etc.), intra-and intergroup interactions and relations (cooperation or competition, collaboration or conflict, trust or identity). In particular, many researchers notethat contradictions underlie conflicts.

An important task is understand the contradictions and how they influence the development of constructive (productive) and destructive (unproductive) conflicts in the group. On this basis, one can purposefully manage contradictions and conflict. For example, to create constructive conflict, providing a more successful functioning and development of the group, one should reasonably initiate various contradictions. Prevention or mitigation of destructive conflicts must be conducted by removing the contradictions that give rise-such conflicts. However, many questions about the contradictions and conflicts remain unanswered. For example what are the common and distinctive features of the contradictions and conflict? What types of contradictions exist? How are certain types of contradictions associated with various types of interpersonal conflict? What are features of the contradictions and conflicts in a small group and informal subgroups within a group?

Relationship between contradiction and conflict: Study of contradictions and conflicts requires a clear definition of these concepts. Philosophy and general science methodology view contradictions as the motive force of system development. This takes root in Hegel's dialectic (Hegel, 1977) dominated by the law of 'unity and conflict of mutually exclusive and at the same time, mutually interdependent opposite's. Modern philosophers do not agree on a uniform understanding of the nature of contradictions and different authors offer differing versions of the relationship between dialectical and logical contradictions, at different levels of manifestation of contradictions, etc. Summing up the definitions,

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contradiction is interaction of opposites (aspects, properties) which are mutually interdependent and, at the same time, mutually negating (Vyakkerev, 1979). This presupposes that a system contains its opposite which creates permanent unrest and instability in the system. As a result, the system is in the state of self-modification and self-motion.

There are numerous definitions of conflict. For instance (Deutsch, 1973) regards conflict as incompatibility between two or more interrelated parties. In the opinion by Rubin *et al*. (1994), conflict is perceived difference of interests or conviction of the parties that their objectives cannot be attained simultaneously. The first definition is not as much about the essence of the conflict as about one of the possible reasons of its occurrence. Many acquaintances, colleagues and even friends, may have incompatibilities but they are often not the cause of the conflict or even less so the manifestation of the conflict. The second definition transfers the essence of conflict the cognitive plane (what the parties perceive and how they do it). This fails-reflect the attitudes and behavior of the parties characteristic of a conflict. In our opinion, conflict is a form of disintegrative interaction and interrelation between subjects generated by aggravation of a contradiction and expressed in active negative attitude between the subjects. Negative activity is expressed in the form of quarrels, anger, reproaches, insults, etc.

Clarification of the nature of contradiction and conflict should be followed by study of their relationship and identification of their common and distinctive features. Thus (Erbert, 2000) notes that contradiction and conflict are similar in that they both include opposition and interdependence. Conflict, however, also includes critical connotations of fight and collision between the parties in the management of incompatibility of their requirements. We propose another understanding of the relationship between contradiction and conflict. First of all, contradiction is the inner and essential property of an individual. The difference between the opposites in a contradiction is most evident at the subjective (cognitive and affective) level of individuals. Conflict is a form of activity expressing itself in the partie's external collision or counteraction. Secondly, contradiction underlies any emerging conflict. Its emergence, however is not the only consequence of the contradiction. Contradiction may generate various forms of disintegrative and even integrative interrelation or interaction between the parties. Conflict is a form of disintegrative relationship between the parties, along with competition, avoidance and inaction. Thus, the basis of any conflict is aggravation of contradictions but not all contradictions generate a conflict relationship between the parties. For example, the employee does not like his colleague in the department constantly discussing and criticizing other people. In his/her opinion, there is a contradiction: a complete mismatch between his moral principles and the fact that he constantly hears. There is no conflict. If one correctly draws attention-the inappropriateness of his colleague's statements-there is no conflict either. If he makes rude remarks and a colleague responds rudely in return, then there is a conflict.

Types of contradictions in a group context: Researchers mostly refer- contradiction of objectives, requirements, interests and views. Various types of contradictions are proposed for small groups. Thus. Erbert (2000) identifies six contradictory relations in diads: three of these are internal (autonomy-connectedness, predictability-novelty, openness-closedness) and three are external (revelation concealment, inclusion-seclusion, conventionality uniqueness). In this approach each contradiction is actually reduced-the opposite forms of interaction between two connected individuals and correlates with their opposite requirements. Later, the author investigated six dialectical contradictions for organizational team development: autonomy versus connection, predictability-novelty, openness-closedness, team individual, dominance-submission and competence incompetence (Erbert *et al*., 2005; Kirpichnik, 1980) identified two types of contradictions: between the growing potential of a group and the requirements for its activities, between the growing need of the group members for self-realization and the simultaneous tendency for integration of an individual with the group. For typology of contradictions in small group Sidorenkov (Sidorenkov, 2003; Sidorenkov, 2010) used two types of relation: 'subject-subject' (and 'individual-individual', 'individual-subgroup', 'individual-group', etc.) and 'subject-job/condition'. In accordance with these criteria, the following types of socio-psychological contradictions have been identified: interpersonal, intermicrogroup and intergroup, individual-microgroup and individual-group, status, motivation-job and job-organizational.

As can be noted, there is nothing close-a uniform classification of contradictions in a small group, including contradictions in the interpersonal relations. Moreover, the specific features of interpersonal contradictions are not clear. For example, some researchers pay attention the contradiction between the basic needs that generate social and personal change (Baxter and Montgomery, 1996). We can offer two similar in content interpretations of interpersonal contradictions. First, interpersonal contradiction is on the one hand, an

individual's feeling of connection (personal, professional, ethnic, etc.) with another person and on the other hand, the perception of discrepancy (difference) or incompatibility with him/her on some important features (e.g., different basic interest's, career aspirations are incompatible). Second, interpersonal contradiction is the realization by the individual difference or incompatibility in some matters in himself/herself and in another person. In this sense, the opposite parties are not so much individuals as points of differences (incompatibilities) between them.

There are different aspects of interpersonal relations in the group. Some of them are related-shared work (joint external organization of work, incentives for employees, solving problems), the other aspects are concerned with the personal characteristics of group members (their interests and goals, personality and behavior, moral behavior, stereotypes). In particular issues of interpersonal relationships may cause specific contradictions.

Job-Organizational Contradictions (JOCD): Perception of the difference or nonconformity between the expectations of the group members concerning their role positions and functionality, on one hand and organization by the managers of their joint activities on the other hand.

Job-Ssanctioning Contradictions (JSCD): Negative perception and evaluation by the group members of one another because of the rewards or punishment on the part of the management (disproportionate distribution of benefits among the group members, unfair rewards or punishment for work).

Contradictions of Opinions and ideas (CDO): Perception of the difference or opposite perception and evaluation of the group situations and methods of achievement of the group objectives and targets.

Contradictions of Interests (CDI): Perception of the difference or incompatibility of the objectives, requirements and interests of the group members, competition for authority, material benefits, etc., which causes negative feelings concerning realization of their own objectives and satisfaction of their requirements, etc.

Personal-Behavioral Contradictions (PBCD): Perception of the nonconformity or antithesis between the expectations and the behavioral reactions (imbalance, aggressiveness, intolerance, etc.) of the group members.

Value-Normative Contradictions (VNCd): Perception of the nonconformity or antithesis between the expectations and the moral action (squealing, blackmail, etc.,) of the group members. It can be assumed that certain types of contradictions may, more or less, cause interpersonal conflicts in particular groups.

Types of conflicts in groups: Interpersonal conflicts in workgroups have been traditionally perceived as multidimensional constructs. The widely popular two-factor model includes two types of conflict (sometimes differently designated): the task conflict and the relationship conflict (Jehn, 1995; Medina *et al*., 2005; Yang and Mossholder, 2004), cognitive conflict and affective conflict (Kotlyar and Karakowsky, 2006), personal-pragmatic conflict and-pical-business conflict, functional relations-based conflict and psychological relations-based conflict (Grishina, 2000. Despite the varying terminology, many definitions of both types of conflict have much in common. In addition-the task conflict and the relationship conflict, some authors identify the process conflict (Jehn, 1997; Jehn *et al*., 2008).

In line with many specialists, we also identify two types of interpersonal conflict. The Job Conflict (JC) is a conflict where the actively negative attitude of the parties-wards each other is connected with the key aspects of the joint (professional) work of the group members. This may include the understanding by the members of the essence of their tasks, the methods and resources for their performance, the distribution of the roles and responsibilities in the process of work, etc. The JC is manifested in interpersonal relations which are mediated by the objectives, tasks and content of the joint work. The causes of such conflict may be various, e.g., different point of view of the parties on something, incompatible career interests, different levels of professional skills of the employees, particular organization of the group work, etc. The JC actually involves the task conflict and the process conflict. Such amalgamation is due the fact that it is not always possible-draw a distinguishing line between the task conflict and the process conflict. As a result, many researchers focus only on the task conflict. The Subject Conflict (SC) is negative activity of the parties (subjects) relative-one another in the communication domain, not directly related with the tasks and the content of their joint work. The subject-matter of such conflict is rooted in the non-professional characteristics of the parties and in their behavior. This is-say, certain personal and behavioral aspects of the subjects may generate negative emotional relations among them (antipathy, hate,

etc). These relations may remain latent or become manifested in a conflict. The SC is its essence, similar, e.g., the relationship conflict. Any conflict (relationship, task or process conflict, etc.), however is not always concerned with the member's relations. Therefore, the term 'the relationship conflict' transcends the boundaries of its semantic field and acquires a very wide sense.

Contradictions, conflicts and the group structure: Interpersonal contradictions and conflicts in small groups are traditionally considered in a whole group context. Still, manifestation of the conflict and contradictions is more complicated. This is because the groups consisting of three or more persons contain situational or relatively stable informal subgroups. It must be noted that informal subgroups are formed in small groups of different types-in formal small groups (e.g., production groups, project teams, sport teams, the families consisting of three and more persons) and informal small groups (the company of friends on rest). For example, in work groups and groups of office workers of 5-15 persons the number of informal subgroups varies from one-four (Sidorenkov, 2010). In such groups informal diads and triads are met much more often and the ones consisting of 5 persons are met very seldom. On the average, more than half of group members are included in informal subgroups. Informal subgroups perform certain functions in relation-its members and the group as a whole in which they are included. Therefore, interpersonal contradictions and conflicts should be studied not only in a group as a whole but also in the socio-psychological structure of the group, i.e., within informal subgroups in the relations among representatives of different subgroups, between members of the subgroups and group members not included in the subgroups. In particular, it has been shown that the different types of contradictions (interpersonal, individual-group, status, job-organizational, etc.,) may be differently manifested within various informal subgroups and in the external activity of subgroups in a group (Sidorenkov, 2010).

Thus, the purpose of this research is-develop a questionnaire of interpersonal contradiction types and a questionnaire of interpersonal conflicts types and explore the relationship between the types of interpersonal contradictions and conflicts in work groups, including the socio-psychological structure of the groups. We put forward the following hypotheses:

- H_1: All types of interpersonal contradictions and conflicts are manifested in a group as a whole stronger than in its informal subgroups
- H_2: Different types of interpersonal contradictions and conflicts have in comparison with one another, different degrees of manifestation within a group as a whole and within informal subgroups; in particular, among the types of conflicts are more pronounced contradictions of opinions and ideas and contradictions of interests and among the types of conflicts-job conflict
- H_3: There are different correlations between the types of contradictions, on one part and the types of conflict, on the other part, at the level of the group as a whole and at the level of informal subgroups
- H_4: Some types of contradictions act in the interaction (in the combination) with each another-the job and-the subject conflict in a group as a whole and within informal subgroups

MATERIALS AND METHODS

Participants: We questioned 172 employees in 17 primary structural units (small groups) in the Russian organizations operating in various business areas such as motor vehicle sales and road haulage, banking services, cultural services, design of products, industrial production. All groups were organizationally and psychologically established. These small groups had been in existence for at least one year. The numerical composition of the group varied from 6-21 persons, 10 on the average. Broken down by gender, the population was 57% male and 43% female while the age of the employees varied from 19-46 year.

Tools

Method of determination of informal groups: The method of identification of informal subgroups and outside members is tied with the other questionnaires which extends the capabilities of the technique. A sociometric poll of the group members is conducted-the non-specific criterion: 'select the group members with whom you maintain the closest relation's. A non-parametric procedure is used. The data are processed by means of the formalized algorithm developed by (Gorbatenko and Gorbatenko (1984) identify informal groups and members not included in them. This algorithm consists of the following actions compilation of the 'description' matrix-characterize the concrete status of the grouped variables, determination of the numerical value of the links (similarity) among the grouped members and construction of the similarity factors matrix, arrangement of individuals into subgroups and identification of the index which characterizes the quality of these subgroups and selection of the 'densest' subgroups. On the basis of comparison

of the formalized algorithm data and the expert's assessments, it was found that the empirical indices of the algorithm accuracy (by the quantity and composition of the subgroups) in different groups vary from 78-100%.

The method of identification of informal subgroups and outside members is tied with the questionnaire of types of interpersonal conflicts in a group and the questionnaire of types of interpersonal contradictions in a group.

Conflict and contradiction questionnaires: The Intragroup Conflict Scale, ICS (Jehn, 1995) has been widely used-study the types of conflict. In its original version, this scale contained two subscales (the relationship conflict and the task conflict), each if which included four items. The respondents had-provide answers on the 5-point Likert Scale. This technique was then expanded by adding the process conflict subscale (Jehn, 1997) and ten years later the whole scale was reworked-exclude the emotional terms (Jehn *et al*., 2008). In the latest version the relationship conflict and the process conflict subscales include four items each while the task conflict subscale consists of six items. Despite the obvious boost for research through the use of the ICS, this scale has certain shortcomings. It uses mixed-form items (as questions and statements) which prevents this scale from being uniform by this attribute. Some items focus on controversies among the group members on something which is not necessarily a manifestation of conflict. People may have controversies and arguments but this form of interaction does not always become a conflict. Besides, certain items of the same subscales are practically identical in their form and content and, therefore, duplicate each other. In the third version the scale items are formulated in the past tense and in this way the conflicts are studied relative-the past, rather than the present period in the group life. The term "conflict" as used in certain items may, in the first place, differently interpreted by the respondents and secondly, makes the purpose of this-ol-o obvious for them. Another, limitation of this scale consists in that it cannot be used-study interpersonal conflicts in the socio psychological structure of the group, i.e. within informal subgroups, among members of different subgroups, etc. In addition-the ICS, there is the organizational conflict Scale developed by Cox (Friedman *et al*., 2000; Medina *et al*., 2005). This scale is sometimes used-study the relationship conflict and is not designed for research concerning the task or process conflicts.

We have developed the Questionnaire of Types of Interpersonal Conflicts in a Group (QTICf) and the Questionnaire of Types of Interpersonal Contradictions in a group (QTICd). The stimulus material of the QTICf (Appendix A) and of the QTICd (Appendix B) initially included 15 and 36 items, respectively. In its final version the first questionnaire had 8 items-four in each of the two subscales: JC and SC while the second one contained 24 items-four in each of the six subscales: CdI, JOCd, JSCd, CdO, PBCd and VNCd. In the development of the questionnaires we used the above definitions of the types of contradictions and conflicts. In addition, the QTICf items reflected certain external attributes of the conflict: quarrels, temper and anger, reproaches and criticism, insults and humiliation, open antagonism, threats and blackmail or physical violence.

Both questionnaires consist of two parts: 'In the group as a whole' (part 1) and 'Among those with whom I maintain close relation's (part 2). The first part is intended for the study of the types of interpersonal contradictions and conflicts in the group as a whole while the second part is concerned with such contradictions and conflicts within each informal subgroup. Evaluation by the subjects of the severity of the attribute reflected by each item is on the basis of a 7-point scale (from 1-completely disagree'- 7-'completely agree'). The values of the coefficients for each subscale may vary from 4-28.

Analytical plan: To create questionnaires of types of interpersonal differences and conflicts the following methods were used: factor analysis by the method of principal components and Promax rotation (the structural matrix values were used), the correlation between the factors, Cronbach's alpha. In order-identify relationships between the types of contradictions, on the one hand and the types of conflict, on the other hand, correlation analysis and multiple regression analysis were used. The latter method allowed us-estimate the combination of types of contradictions that make significant contributions- a particular type of conflict.

The substantive validity of questionnaires estimated by experts who were three specialists in the area of small groups. Experts estimated by 5th-point scale (from the 1-'doesn't fit at all'-the 5-'fully correspond') each item on its compliance with a type of controversy or a type of conflict based on the specification. The apparent validity was estimated by 18 employees from the six working groups who were randomly selected. Employees-experts estimated by 5th-point scale (from the 1-'not clear at all'-the 5-'completely clear') each item from both questionnaires as-how well its meaning is clear-them.

RESULTS AND DISCUSSION

Questionnaire of the Types of Interpersonal Conflicts in a Group (QTICf): The mean values of assessment by experts (on a five-point scale) of the substantive validity of the items varied from 4.0-4.66 and of the apparent validity-from 4.7-4.9 (Table 1). Factor analysis and calculation of the Cronbach's alpha were performed

Table 1: Validity and factor analysis values of the questionnaire of types of interpersonal conflicts in a group

	Job conflict (F1)			Subject conflict (F2)		
Items	SV	AV	FL	SV	AV	FL
Execution of the tasks set by the manager often leads to disputes and rows among the colleagues	4.00	4.9	0.752/0.918	-	-	0.082/-0.161
In the joint performance of their duties, the colleagues often reproach and criticize one another	4.33	4.8	0.849/0.799	-	-	0.071/-0.068
In the process of organization of the work time and space, or distribution of duties, etc., the colleagues often insult one another	4.33	4.9	0.977/0.642	-	-	-0.094/0.205
Discussion of the methods of execution of the tasks set by the manager is often accompanied by open antagonism among the colleagues	4.00	4.8	0.766/0.579	-	-	0.012/0.223
Colleagues often make offensive personal remarks	-	-	0.043/-0.043	5.00	4.9	0.837/0.764
Personal relations among the colleagues are often marred by discontent and bad temper	-	-	0.010/0.104	4.66	4.8	0.877/0.786
Informal communication among the colleagues often gives rise to quarrels	-	-	0.124/0.070	4.66	4.8	0.742/0.750
Colleagues are unfriendly to one another	-	-	-0.031/-0.123	4.00	4.7	0.940/0.920

(a); SV-substantive validity (mean value), AV-apparent validity (mean value), FL-factor loading (the values are based on the results of part 1), F- factor; Figures (b); before the slash are values at the whole-group level (first part of the questionnaires) and figures after the slash are values at the level of informal subgroups (second part of the questionnaires)

separately for the two parts of the questionnaires ('in the group as a whole' and 'among those with whom I maintain close relation's). Two-factor analysis by the method of principal components and Promax rotation showed the following factor loading of the items in part 1 of subscale JC-G these varied from 0.752-0.977 and in subscale SC-G from 0.742-0.940 Table 1 in part 2 of subscale JC-S they varied from 0.579-0.918 and in subscale SC-S from 0.750-0.920. The eigenvalues of F1 (JC-G and JC-S) were 0.819 and 1.21 with the dispersion of 10.2 and 15.2%, respectively while the eigenvalues of F2 (SC-G and SC-S) were 5.28 and 3.82 with the dispersion of 66.0 and 47.7%. For comparison (above all with part 1 of the QTICf) see results of factor analysis with the intragroup conflict scale. The first version of the scale yielded the following factor loadings of the items: 0.878, 0.836, 0.539, -0.430 (task conflict) and 0.717, 0.694, 0.664, 0.642 (relationship conflict) (Jehn, 1995). In the third version the factor loadings were higher and varied from 0.77-0.91 (task conflict) and from 80-0.91 (relationship conflict) (Jehn *et al*., 2008).

The correlation between the two factors was 0.68 (part 1) and 0.49 (part 2). For example, the Intragroup conflict scale yielded different correlations between of the task conflict and the relationship conflict: 0.22 (Jehn, 1995), 0.35 (Medina *et al*., 2005), 0.49 (Jehn *et al*., 2008), 0.67 (Ayoko *et al*., 2008), 0.73 (Baxter *et al*., 2009). Almost all researchers have found a positive correlation between the two types of conflict.

The Cronbach's alpha values were 0.89 and 0.90 at the group level and 0.76 and 0.82 at the level of informal subgroups Table 2. Turning-comparison again, the first original version of the Intragroup Conflict Scale produced the following alpha values: 0.87 (task conflict and 0.92 (relationship conflict) (Balkundi *et al*., 2009) while the third version yielded 0.90 and 0.89, respectively (Jehn *et al*., 2008). In the studies of other researchers who used the original and the modified scale, the task conflict values varied from 0.70-0.86 and the relationship conflict values from 0.70-0.94 (Ayoko *et al*., 2008; Choi and Cho, 2011; Friedman *et al*., 2000; Greer *et al*., 2008; Hobman and Bordia, 2006; Medina *et al*., 2005; Yong *et al*., 2014).

Additionally, we decided-verify the idea of differentiation between the task conflict and the process conflict. In the original version of the JC subscale which included seven items, we identified four items which by virtue of their content, could be referred the task conflict (e.g., 'execution of the tasks set by the manager often leads-disputes and rows among the colleague's) and three items which could be referred-the process conflict ('Discussion of the methods of execution of the tasks set by the manager is often accompanied by open antagonism among the colleague's). Two-factor analysis of the questionnaire results (part 1) identified a factor which included four items with a high factor loading and internal consistency (α_=_0.913). Out of these, two items can be referred-the task conflict and the other two the process conflict. The second factor included two items with acceptable factor loading and consistency (α = 0.811) which hypothetically refer the task conflict. Therefore, our study did not confirm the idea that the JC should be divided into the task conflict and the process conflict, at least at the stage of development of the tools.

Table 2: Cronbach's alphas, means and standard deviations of the Questionnaire of Types of Interpersonal Conflicts in a Group (QTICf) and the Questionnaire of Types of Interpersonal Contradictions in a Group (QTICd)

	QTICf				QTICd			
Statistics	JC	SC	CdI	JOCd	JSCd	CdO	PBCd	VNCd
a	0.89/0.76	0.90/0.82	0.80/0.81	0.85/0.79	0.79/0.83	0.77/0.79	0.84/0.87	0.86/0.86
M	14.60/8.51	14.02/7.93	15.22/9.55	14.30/9.56	13.03/9.41	15.06/11.69	14.82/9.96	14.98/10.46
SD	5.56/3.47	5.56/3.55	5.02/4.73	5.58/4.30	5.10/4.39	5.02/5.10	5.14/5.14	4.70/5.01

a) Figures before the slash are values at the whole-group level (first part of the questionnaires) and figures after the slash are values at the level of informal subgroups (second part of the questionnaires); b) JC: Job Conflict, SC: Subject Conflict, CdI: Contradictions of Interests, JOCd-Job-Organizational Contradictions, JSCd: Job-Sanctioning Contradictions, CdO: Contradictions of opinions and ideas, PBCd: Personal-Behavioral Contradictions, VNCd: alue-normative contradictions

Questionnaire of the Types of Interpersonal Contradictions in a Group (QTICd): Examination by experts showed Table 3 that the mean values of the item's substantive validity vary from 4.0-5.0 and those of the apparent validity from 3.7-5.0. Based on the values of the items' factor loading Table 3, the following most valid subscales can be identified: for the first part of the questionnaire: CdI, JOCd, CdO, PBCd; for the second part of the questionnaire: CdI, JSCd, CdO, PBCd. Correlation between the QTICd factors showed that the coefficient's values vary from 0.003-.502 and from-0.06-0.210 (in part 1) and from 0.112-0.443 (in part 2). The values of the Cronbach's alpha across all subscales in the two parts of the questionnaire exceed 0.70 Table 2. Out of 12 coefficients, 8 have a value exceeding 0.80. It testifies-internal reliability and agreement of the QTICd subscales.

Informal subgroups in group: Taken-gether, the groups surveyed (N = 17) revealed 31 informal subgroups. Five groups had one subgroup and the rest-from 23 subgroups. In different groups, the number of subgroups of people ranged from 28-89%. The dyads dominated in groups (54.8% subgroups) and there were triads (35.5%). Subgroups of four were formed rarely (9.7%). The results obtained provide a basis-study: the contradictions and conflicts , not only in the group as a whole but also within the informal subgroups the relationship between the types of contradictions and conflicts types in the group as a whole and within the informal subgroups as well as between representatives of different subgroups.

Types of interpersonal contradictions and conflicts in a group and in informal subgroups

Severity of the types of interpersonal contradictions and types of conflicts in a group and subgroups: The mean values (Table 2) and their significant differences by the W criterion (α = 0.001) have shown that JC and SC are stronger manifested in groups as a whole, than within informal subgroups. Similarly, the types of interpersonal contradictions are much stronger manifested (α = 0.001) in the whole-group context, than within informal subgroups. Thus, H_1 was supported. Comparison of the degree of manifestation of the types of conflict in groups and in informal subgroups shows that the JC is somewhat stronger manifested (α = 0.05) compared with the SC. Certain differences can also be seen between the types of contradictions, namely: at the level of the whole group the CdI and CdO are stronger manifested while the weakest of all contradictions is the JSCd (α = 0.001). At the level of informal subgroups the obviously predominant types are the CdO (α = 0.001) and the VNCd (α = 0.05) relative the other types of contradictions. Thus, H_2 was supported for two types of the conflict and some types of contradictions.

Note that the above results are generalized data received for the whole population. The study showed that groups may significantly differ by severity of the types of conflicts and contradictions. For example, the group values of the job conflict vary from 16.4-19.1 (SD = 1.96) and those of the subject conflict from 15.0-21.0 (SD = 5.80) while the values for informal subgroups vary from 5.4-14.9 (SD = 11.33) and from 5.4-17.6 (SD = 10.49), respectively. As can be seen, groups show greater differences in the level of manifestation of the subject conflict, compared with the job conflict. At the level of informal subgroups, there is an approximately similar spread of the job conflict and the subject conflict values which is a statistically significant prevalence over the spread of the whole-group values (α = 0.02) (Goldsmith, 1990).

Relationship between the types of interpersonal contradictions and the types of conflict in a group and subgroups: Correlation analysis Table 4 and multiple regression analysis Table 5 were performed separately for the JC and the types of contradictions and separately for the SC and contradictions at the level of the group and informal subgroups. In the whole-group context, there is a moderate correlation (r values not higher than 0.50 with

Table 3: Validity and factor analysis values the questionnaire of types of interpersonal contradictions in a group

	Values		
Items	SV	AV	FL
Contradictions of interests (CdI)			
Compete for career growth	4.33	4.9	0.774/0.834
Compete for material benefits (bonuses, extras, etc.,)	4.33	4.7	0.804/0.809
Compete for more favorable labor conditions	5.00	4.7	0.851/0.631
Strive to achieve their aims without regard for the other's interests	5.00	5.0	0.687/0.655
Job-Organizational Contradictions (JOCd)			
The manager fails to set clear-cut tasks	4.33	4.6	0.685/0.425
They have to perform the tasks set by the manager without the required conditions and means	4.66	4.4	0.814/0.527
The management unevenly distributes the work load among the team members	5.00	4.8	0.627/0.737
They have to discharge contradictory duties and missions	4.66	4.3	0.736/0.757
Job-Sanctioning Contradictions (JSCd)			
The management always rewards some members bypassing the others	4.66	4.5	0.467/0.728
The management ignores poor work of some members but stresses it with regard to other team members	5.00	4.5	0.688/0.846
The management is more loyal to some group members than to the others	4.66	4.7	0.704/0.902
Vacations, days off, etc., are unfairly distributed among the employees	4.66	4.8	0.336/0.344
Contradictions of opinions and ideas (CdO)			
They have different understandings of the situations within the team	4.33	3.7	0.726/0.763
They have different opinions on the methods of work performance	4.66	4.5	0.869/0.810
They have different opinions on the methods to resolve the problems within the team	4.00	4.7	0.756/0.905
They have opposing views on how to act in a specific situation	4.66	4.5	0.617/0.452
Personal-Behavioral Contradictions (PBCd)			
Assert themselves at the expense of the others	5.00	4.7	0.629/0.401
Show intolerance towards one another	4.66	4.8	0.748/0.654
Irascible, easily lose temper	4.33	4.7	0.760/0.793
Do not tolerate any disagreement	4.33	4.9	0.768/0.836
Value-Normative Contradictions (VNCd)			
Disregard the generally accepted rules of conduct	4.66	4.8	0.619/0.867
Live and act according to their own rules and concepts	4.66	4.5	0.734/0.768
Have different values and notions about life	4.00	4.4	0.367/0.448
Behave as they deem fit	4.33	4.9	0.302/0.378

Table 4: Correlation between the types of conflicts and the types of contradictions

	Types of contradiction					
Types of conflict	CdI	JOCd	JSCd	CdO	PBCd	VNCd
JC	0.50**/0.36**	0.39**/0.30**	0.41**/0.12	0.35**/0.24**	0.54**/0.26**	0.32**/0.27**
SC	0.45**/0.26**	0.46**/0.29**	0.52**/0.19*	0.40**/0.14	0.56**/0.27**	0.25**/0.12

a) JC: Job Conflict, SC: Subject Conflict, CdI: Contradictions of interests, JOCd: Job-Organizational Contradictions, JSCD: job-Sanctioning Contradictions, CdO: Contradictions of Opinions and Idea, PBCd: Personal-behavioral Contradictions, VNCd: value-normative contradictions; b) Figures Before the slash are values at the whole-group level (first part of the questionnaires) and figures after the slash are values at the level of informal subgroups (second part of the questionnaires); c; *0<0.05; **p<0.01

Table 5: Interaction of the types of contradictions and their contribution to the types of conflict (entries are not standardized multiple regressions coefficients)

	Independent variables			Dependent variables		
	Groups			Subgroups		
	JC		SC	JC		SC
Variables	1	2	1	2	1	1
CdI	0.34***		0.22**		0.22***	0.14*
JOCd				0.35***	0.15*	
JSCd		0.27***	0.29***			
CdO		0.18*		0.23*		
PBCd	0.40***		0.33***			0.15*
VNCd		0.11*				

a; *p<0.05; **p<0.01; ***p<0.0010

the exception of one) between, on one hand, the type of conflict (JC and SC) and on the other hand, all types of contradictions. The strongest relationship of the JC was with the PBCd and the CdI while the weakest was with the VNCd. In its turn, the SC had the strongest relations with the PBCd and the JSCd and the weakest relations with the VNCd. In informal subgroups as compared with the group as a whole, there is either a loose relationship between the types of conflict and the types of contradictions or no statistically significant relationship (e.g., between the JC and the JSCd, between the SC and the CdO or between the SC and the VNCd). Thus, H_3 was supported. We employed a multiple regression analysis to examine the

total relationships of all independent variables (types of contradictions) with the JC and the SC. The step-by-step method was used. (The terms 'dependent variable' and 'independent variable' indicate only mathematical relationship rather than actual cause-and-effect relationship). We were primarily interested in the combinations of contradictions which account for significant contributions-a particular type of conflict. At the group level we found two clusters of contradictions which have a combined effect on the JC and two clusters of contradictions which contribute- the SC Table 5. They differ in their content (i.e., in the composition of the types of contradictions) and have different regression coefficients. At the level of informal subgroups we found one cluster of contradictions for each JC and SC, these clusters being different in their compositions. Thus, H_4 was supported.

QTICf was created subject-certain limitations that have similar scale. In general, it has reliability and validity. There are some variations in the results for different parts of the questionnaire and subscales. In particular, the lower but acceptable values of the factor loadings were obtained in part 2 (informal subgroups) job conflict. In our study as in other studies, a significant direct correlation was found between two types of conflict. Some authors attempt-explain this relationship. They point, in particular,-several components which link two types of conflict (relationship conflict and task conflict, affective and cognitive conflict): emotionally based reactions of the group members-a conflict concerning the task, behavioral manifestations of negative emotions and mutual perception of animosity by the group members (Kotlyar and Karakowsky, 2006). We can add two assumptions-this explanation. First, the same causes (e.g., competition for career growth and authority in professional milieu) may simultaneously generate different types of conflicts in such a manner that they unroll at the same time and are interconnected. Incidentally, the assumption that the same contradictions (e.g., contradictions of interests, personal-behavioral contradictions) contribute-the job and subject conflict is confirmed by correlation and regression analysis in our study. Second, a type of conflict may transform into another type. Thus, a conflict that initially emerges as a job conflict, may evolve into a subject conflict, if the parties felt or currently feel personal enmity-each other. In this case the job conflict triggers the development of the subject conflict. The opposing parties may lose interest in the business problem that caused the job conflict and will focus on settling of their personal scores (subject conflict).

A designed QTICd represents a completely new questionnaire on the content and structure. Testing of this questionnaire provided acceptable results, the set of all parameters in the following subscales both part 1 and 2: contradictions of interests, job-organizational contradictions, contradictions of opinions and ideas, personal-behavioral contradictions part 2: job sanctioning contradictions, value-normative contradictions. However, without exception, all subscales have substantive validity and internal consistency. A designed QTICf and QTICd can be used-solve complex research and practical problems, to assess the level of expression of types of contradictions and conflicts in specific small groups and informal subgroups. Measuring types of contradictions and conflicts in the group gives you the opportunity-make better management decisions. For example, the absence of any controversy is a signal of strong exacerbation of ill corresponding aspects of relations in the group. If job-organizational and job-sanctioning contradictions are revealed in a group, the head is unlikely- effectively manage group.

Contradiction and conflict types are much weaker manifested within informal subgroups than in the group as a whole. Namely, people in informal subgroups have a higher correlation and they are combined on the basis of more meaningful and common traits than in the group as a whole. Integrative phenomena are more evident in subgroups compared with a group of (e.g., cohesion, trust, identity). Subgroups a greater extent than the group can implement functions in relation-its members (information assistance in the implementation of individual goals and social needs, security in group, etc.,) (Sidorenkov, 2010). Thus, informal subgroups are kind of stability in the heart of a small group. This does not exclude the fact that conflicts between subgroups in the group may destabilize intercompany activity. However, the important thing is that the very existence of informal subgroups is internally necessary condition of stability of the group. At the same time, the results show that contradictions and conflicts arise inside subgroups, too. It can be surmised that interpersonal conflicts inside stable subgroups are more transient and often have other significance and consequences for the members, than conflicts among representatives of different subgroups or among members outside such subgroups. The high intensity of interaction in a subgroup and the desire of its members-preserve positive relations create a favorable basis for a rapid and constructive 'showdown' and resolution of the conflict.

It has been found that different types of interpersonal conflicts and conflicts are compared with one another, they have a different measure of

severity. For example, the dominance of a small job conflict over the subject conflict associated with specific groups surveyed. In working groups, people's attention is more focused on work than on interpersonal relationships, not directly related-work. If we examined other types of groups (e.g, therapeutic or family), it is possible-obtain a different picture. In the group as a whole contradictions of interests and contradictions of opinions are shown. This means group mates compete with each other about their personal interests at work (career enhancement, wealth, favorable conditions of work) and they have clear differences with respect-group situations and tasks. Moreover, the job-sanctioning contradictions are less expressed. Thus, they are less concerned about fair or unfair attitude of the head-wards them.

A greater correlation between many types of contradictions, on one hand and types of conflicts, on the other hand is observed at the level of the group, compared with the level of informal subgroups (except job-organizational contradictions). Probably in the group as a whole influence of certain contradictions on conflicts in general has a relatively stable nature and within subgroups the connection between contradictions and conflicts is more situational. Besides, some types of contradictions form internally related complexes that contribute- this or that type of conflict. At the group level such, complex formations of contradictions are more numerous and variegated than at the level of subgroups. This shows a complex configuration of the causes of the job and subject conflict at the group level.

CONCLUSION

It should be noted that our study, like any other has certain limitations. For example, a number of points were not considered in the study: profile of the groups, a form of collaboration among team members organizational culture, etc. However, these variables can affect the intensity of the contradictions and conflicts in the group as well as being a moderator in the relation between contradictions and conflicts. General features of the conflict manifestation in the group as a whole and within the informal subgroups have not been fully disclosed.

SUGGESTIONS

Several prospects for further studies are possible. First of all, attention should be paid-such forms of interpersonal conflicts as personified and depersonified conflicts. In the first case, the conflict is based on the individual characteristics of the group members, e.g., polarity of the individual goals and requirements, personal antipathies, etc. The typical statement in this case is 'I have a conflict with this person because he (has) infringed on my interests or I dislike him (her)'. As a rule, this form of conflict is studied. In the second case, the conflict between individuals is mediated by a conflict between one of them and the group (subgroup). The typical statement in this case is 'I have a conflict with this person because my group (subgroup) is in conflict with him (her)'.

Secondly, the preferred subject of studies is interpersonal conflict in groups. There are, however, other levels of conflict: between an individual and the group, between an individual and an informal subgroup, between subgroups, between a subgroup and the group. These levels of conflict, just as the interpersonal conflict, may be of two types: job and subject conflict. Therefore, all levels of conflict manifestation should be studied as a complex, including the relations among all levels. Only in this case we can obtain the complete picture of the group conflicts and should be able-get a deeper understanding of the effect of conflicts on the performance and other characteristics of a group. We have a number of assumptions regarding the levels of conflicts, their relations and variation which should be verified empirically. In addition, we should study the types of contradictions that underlie the above levels of conflicts in a group.

Thirdly, when contradictions are considered as the cause of conflicts, a number of questions arises such as 'What are the dynamics of contradictions in a group?' 'What degree of exacerbation of a particular contradiction causes an intensive development of a particular type of conflict?' 'What is the reverse effect of a conflict on the contradictions which caused the conflict?', etc. Widening of our knowledge about contradictions and their relations with conflicts will allow us-advance in the field of management of in-group conflicts. This is because the principal strategy of any action is management of contradictions (prevention and mitigation or initiation and aggravation) and through these methods the processes of integration and disintegration in the external activity and structure of the group.

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APPENDIX

Appendix A: Instructions and a fragment of the questionnaire of types of interpersonal conflicts in a group stimulus material

Instructions: Read the statements and evaluate them relative to your group-department, board, shift (on the right side of the statements)) the persons in your group with whom you maintain the closest relations (on the left side of the statements). Evaluation shall be made on a seven-point scale, where 1 means 'completely disagree, 7-'completely agree' and '4' 'something in the middle'; the remaining scores expressing the intermediate measures of your agreement/disagreement. Only one numerical value can be chosen for each separate item.

Among those with whom I maintain close relation's							Statements	'In the group as a whole'						
1	2	3	4	5	6	7	Execution of the tasks set by the manager often leads to disputes and rows among the colleagues	1	2	3	4	5	6	7
1	2	3	4	5	6	7	In the joint performance of their duties, the colleagues often reproach and criticize one another.	1	2	3	4	5	6	7

Appendix B: Instructions and a fragment of the questionnaire of types of interpersonal contradictions in a group stimulus material

Instructions: The same as in Appendix A

Among those with whom I maintain close relation's							Statements	'In the group as a whole'						
							Communication problems (quarrels, reproaches, antagonism, etc.,) arise among the colleagues because they							
1	2		4	5	6	7	Compete for career growth	1	2	3	4	5	6	7
1	2	3	4	5	6	7	Compete for material benefits (bonuses, extras, etc.,)	1	2	3	4	5	6	7

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