Research Note 87-30

Enhancing Small Group Cohesion and Effectiveness in Long Range Reconnaissance Teams

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Research was conducted to evaluate whether small group cohesion and team mission effectiveness could be enhanced by creating teams that are initially compatible on relevant interpersonal qualities. Four 6-man Special Forces reconnaissance teams were observed over a 10-day reconnaissance field exercise. After the exercise, the teams were administered the Fundamental Interpersonal Relations Orientation - Behavior (FIRO-B) questionnaire to assess team compatibility in specific need areas. Measures of team cohesion and performance

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were also obtained. While the evidence was not conclusive, the pattern of results suggest that the construct of compatibility, as assessed by the FIRO-B, may be an important mediator of both team cohesion and performance. Moreover, the FIRO-B may offer a cost-effective means of assembling small groups with the capacity for rapidly developing into cohesive and effective units.

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ENHANCING SMALL GROUP COHESION AND EFFECTIVENESS IN LONG RANGE RECONNAISSANCE TEAMS

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ENHANCING SMALL GROUP COHESION AND EFFECTIVENESS IN LONG RANGE RECONNAISSANCE TEAMS

INTRODUCTION

The stresses imposed by combat and other exotic environments (e.g., polar, space, underwater) on small (3-6 individual) groups require that group members function as a cohesive unit if they are to successfully complete their mission. While effective strategies exist for molding cohesive units (see Henderson, 1985), they generally take time to implement. It may, however, be possible to speed the cohesion building process by carefully selecting and matching individuals on the basis of certain interpersonal qualities and individual needs, and assigning those individuals who "match up" to the same unit. The underlying assumption is that groups who are initially compatible on relevant qualities will develop more readily into cohesive and effective units.

A preliminary review of existing measures of personality and general interpersonal styles produced three candidate instruments for initial evaluation. These instruments included the California Psychological Inventory or CPI (Gough, 1968); Myers-Briggs Type Indicator or MBTI (Myers, 1962); and the Fundamental Interpersonal Relations Orientation-Behavior or FIRO-B (Shutz, 1958). The objective of the present research was to examine the potential utility of the FIRO-B as a means of enhancing the development of cohesion and team mission effectiveness in U.S. Army long range reconnaissance teams.

Reconnaissance teams, cohesion, and performance

Long range reconnaissance teams are frequently forced to spend long periods of time deep within enemy territory while remaining undetected. While certain aspects of the mission can be boring or tedious, there is, nevertheless, the constant element of stress involved as the team tries to carry out its mission unnoticed, with team members often in close physical proximity for extended periods of time. Clearly, the team members must have compatible interpersonal styles if they are to work together effectively under these conditions. For these reasons, reconnaissance teams were selected as the target population for further study.

Rationale and background for the use of the FIRO-B

The FIRO-B was selected since it focuses on behaviors believed to significantly impact on compatibility, which Shutz (1958) views as being a critical mediator of small group cohesion and productivity. A summary of the major aspects of FIRO-B is provided below.

The basic premise of the FIRO-B as explained in Shutz' 1958 book, FIRO: A three dimensional theory of interpersonal behavior, is that every individual has three interpersonal needs: inclusion, control, and affection. Together, these needs constitute a sufficient set of areas of interpersonal behavior for the prediction and explanation of interpersonal phenomena.

Shutz defines the need for inclusion as the need to establish and maintain a satisfactory relation with people with respect to interaction and association. The need to be included is manifested in behavior designed to attract attention or interest to oneself, for example, joining an elite organization, striving for fame, recognition, or prestige.

The interpersonal need for control is defined as the need to establish and maintain a satisfactory relation with people with respect to control and power. It is manifested as the drive for power, authority, and control over others and therefore over others' futures, by acquisition of money or political power, or expressions of independence (Shutz, 1958).

Shutz defines the interpersonal need for affection as the need to establish and maintain a satisfactory relation with others with respect to love and affection. The need for affection leads to behavior related to becoming emotionally close, such as establishing friendships, dating, and marriage.

According to Shutz, inclusion is always concerned with whether or not a relation exists. Within existent relations, control is the area concerned with who gives orders and makes decisions for whom, while affection is concerned with how emotionally close or distant the relationship becomes.

The central concept used in the theoretical explanation of the interaction between individuals is compatibility. Shutz views compatibility as "... a property of a relation between two or more persons, between an individual and a role, or between an individual and a task situation, that leads to mutual satisfaction of interpersonal needs and harmonious coexistence" (Shutz 1958, p. 106).

Shutz breaks down compatibility into three major types: reciprocal, originator, and interchange. Each type of compatibility is based on the individual's expressed behavior (E) and behavior wanted (W) from others for inclusion, control, and affection as indexed by the FIRO-B scale. The scaled responses obtained from the FIRO-B are then entered into Shutz' formulas yielding separate measures of reciprocal, originator, or interchange compatibilities for a set of individuals for each need area (inclusion, control and affection). These measures are described briefly in the following sections.

Reciprocal compatibility is defined as the degree to which members of a dyad reciprocally satisfy each other's behavioral preferences: does j express the behavior wanted by i, and does j respond favorably to the type of behavior i characteristically expresses. It can be expressed mathematically using the formula below:

$$rKij = |ei - wj| + |ej - wi|$$

According to Shutz (1958), the smaller the sum of the absolute discrepancy between each pair of scores, the better will each person satisfy the needs of the other, and the more compatible the relationship.

Originator compatibility is defined as the extent to which two individuals complement each other based on their tendencies to originate or initiate behavior: do those who wish to dominate and control the activities of others work with those who want to be controlled? The formula for originator compatibility is shown below:

$$oKij = (ei - wi) + (ej - wj)$$

Two people will be most compatible, according to Shutz and the forumula above, the closer the obtained value comes to 0.

Interchange compatibility is defined as the extent to which individuals prefer similar amounts of exchange for a specific commodity (interaction, power, love). Individuals should be most compatible the more similar their scores are for a particular dimension (e.g., uniformly high preferences for close personal relations both toward people and from them toward the self). The formula for interchange compatibility is given as:

$$xKij = (ei + wi) - (ej + wj)$$

For Shutz, the smaller the value obtained, the more compatible the relationship.

Both reciprocal and originator compatibility are viewed as being primarily applicable for dyads whereas interchange compatibility is more meaningfully applied to groups (Shutz, 1958).

Empirical support for the FIRO-B

The empirical evidence supporting the FIRO-B model with regard to unit performance was summarized by Kahan, Webb, Shavelson, and Stolzenberg (1985). Overall, the studies reported by Kahan et al (1985), support Shutz' (1958) contention that compatibility serves as a critical mediator of small group performance. Compatible groups were found to be more productive than incompatible groups on discussion tasks, intellectual games, building projects, creative writing, symbol matching, management problems in industry, and children's games.

Although the relationship between compatibility and cohesion was not a primary concern for the studies reviewed by Kahan et al. (1985), Shutz (1958), does report earlier studies which show a positive relationship between compatibility and cohesion.

METHOD

Subjects

Subjects were 24 white male soldiers (four 6 - man Special Forces teams) enrolled in the nine week Advanced Land Reconnaissance Course (ALRC) at Fort Bragg, North Carolina, who were monitored over a 10 day field exercise during

the period 27 July - 7 August 1985. The average age of the soldiers was 27.9 years. Of the 24 soldiers, 3 were officers, 19 were NCOs, and 2 were enlisted men.

Materials

Six instruments were employed and are listed below.

1) Myers - Briggs Type Indicator (MBTI)
2) California Psychological Inventory (CPI)
3) Fundamental Interpersonal Relations Orientation - Behavior (FIRO-B)
4) Biographical Questionnaire (BQ)
5) Evaluator Debriefing Questionnaire (EDBQ)
6) Subject Debriefing Questionnaire (SDBQ)

Since the focus of this study is on the FIRO-B, the MBTI and CPI will not be discussed in this report.

The FIRO-B scale is a 54-item inventory consisting of statements designed to tap the subject's expressed and wanted behaviors for inclusion ("I try to be with people"), control ("I let other people decide what to do"), and affection ("I try to have close relationships with people"). Each item is rated on a 6-point scale (usually, often, sometimes, occasionally, rarely, never) and is then combined into one of six subscales (expressed inclusion, wanted inclusion, expressed control, wanted control, expressed affection, wanted affection) consisting of nine items.

The BQ is a 41-item multiple choice - short answer instrument developed to provide background information on subjects' socioeconomic status, family life, career choice, army experience, social history, general mood state, and disposition.

The EDBQ is an 8-item instrument consisting of 7-point rating scales and short answer questions designed for the evaluators to assess team effectiveness, cohesion and specific shortcomings demonstrated by the team during the exercise.

The SDBQ is an 11-item instrument consisting of 7-point rating scales and short answer questions designed to probe team members' perceptions of how well their team performed, level of cohesion, leadership style/effectiveness, individual skill deficiencies, and suggestions for improved training.

Procedure

The ALRC was broken down into two parts. The first part was the classroom phase which lasted eight weeks. The second part was a 10-day end-of-course field exercise, designed to approximate an actual reconnaissance mission.

Prior to the actual start of the reconnaissance training mission, soldier subjects were given a general description of the nature of the research. This was followed by the administration of the BQ.

Shortly after the soldiers completed the BQ, they were isolated as team elements in specified areas where they remained removed from further outside contact for 48 hours. This time was used by the teams to prepare for the mission. The major objective of the mission was to gather information on any movement of equipment or personnel through a designated area of observation. The secondary objective was to complete the mission without being detected while moving into a designated (field testing) area, while operating in the area, and while moving out of the area toward a pick up point (which marked the end of the exercise).

The reconnaissance teams were monitored and evaluated by instructors who were highly skilled in reconnaissance techniques. The instructors moved in and out of the teams' observation locations undetected during all hours of the day and night, checking for any sign of the teams' presence in the area. The instructors also spent some planned contact time with the teams during the movement phases of the exercise noting any violations of noise and light discipline which might alert the target military units being observed. The exercise was designed to be nonstop in nature without resupply. Scheduled encoded radio contact was allowed to relay collected intelligence data.

The exercise officially terminated at 0500 on the 10th day. Subjects were then extracted from the exercise area to Fort Bragg for debriefing. The team leaders first briefed the principal instructor, providing detailed summaries of the events of the previous 10 days. At the conclusion of the leader's briefing, the instructor or evaluator who was assigned to each team presented separate critiques of the team's overall performance and of individual member performances.

On the following day the subjects were given the SDBQ and the FIRO-B while the evaluators completed the EDBQ. During this time subjects and evaluators were probed by the experimenters about specific aspects of the research.

RESULTS

Team compatibility was operationalized using Shutz' (1958) interchange measures for inclusion, control, and affection. The computed values obtained from the FIRO-B scale for expressed and wanted inclusion, control, and affection for each subject were paired with those from each of the subject's five remaining team members using the interchange formula. The compatibility scores for all dyads were averaged for each team for interchange inclusion, control, and affection. Teams were then ranked from least to most compatible for each measure.

Similarly, the relevant items from the SDBQ, questions 1 "How effective was your team in accomplishing its mission objectives?" and 2 "How well did your team work together?" and the EDBQ, questions 1 "How effective was the leader in making sure that both individual and group tasks were accomplished during the exercise?" and 3 "How well did the leader and team members work together during the exercise?" were scored and averaged for each team. Teams were then ranked from least to most effective/cohesive for each item.

Rank-order correlations were computed among all measures of compatibility and the four questionnaire items. Only the correlations between SDBQ 1 and the interchange inclusion and affection measures reached statistical significance. This was due primarily to the fact that with an n of 4, a correlation of 1.00 would be required to be statistically significant at the .05 level The remaining correlations were all positive, the more compatible the group the more cohesive/effective the group was rated. Seven of the 12 computed correlations were $\geq$ .95. See Table 1.

Table 1

Rank-Order Correlations Between the FIRO-B Interchange Measures of Compatibility and Team Cohesion/Effectiveness

	FIRO-B Interchange		
	Inclusion	Control	Affection
SDBQ 1	1.00*	.60	1.00*
SDBQ 2	.35	.95	.35
EDBQ 1	.95	.35	.95
EDBQ 3	.95	.75	.95

*p <.05, one tailed.

DISCUSSION

While not conclusive, the present results are, nevertheless, encouraging with regard to using the FIRO-B as part of an overall screening process geared to optimizing the selection and assignment of individuals to specified reconnaissance teams. As can be seen from Table 1, the small sample size had a substantial negative impact on statistical power which accounts, to a large extent, for the paucity of statistically significant correlations between the three measures of compatibility and the items tapping team cohesion and effectiveness. However, the size of the correlations (7 of the 12 correlations $\geq$ .95) and the fact that all the correlations were positive (the more compatible the group, the more cohesive and effective the group was rated) are noteworthy.

In general, the pattern of correlations suggest that interchange compatibility may be an important determinant of both small group cohesion and performance.

In-depth interpretation of the present data is difficult, however, because of the small n. Future research, employing a wider diversity of cohesion and performance measures (i.e., paper - pencil and behavioral) and larger samples should help clarify the interpersonal dynamics involved in cohesive/productive vs non-cohesive/non-productive small groups, and the subsequent role of the FIRO-B in the selection of long range reconnaissance teams.

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