

Team Performance Outcome and the Cohesiveness of Competitive Coaching Groups¹

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A question often plaguing investigators is why some competitive teams achieve consistently successful performance outcomes and why others do not. Obviously, the resources, in terms of skills and abilities, that group members bring to the contest are extremely important. This perceived importance has often led to a neglect of other important determinants of team performance outcome, namely group structure and task demands.

The concept of group structure refers to patterned regularities in feeling, perceptions, and actions that characterize aspects of the interactions between members of a group. The structure of task-oriented groups can be described in terms of patterned regularities among group members in regard to interpersonal attraction for one another, as well as communication between group members, power relations, and member perceived contribution to the task. Of these components of group structure only one, interpersonal attraction, has received attention in investigations of sport, primarily as an important force contributing to group cohesiveness (Lott and Lott, 1965). According to Festinger, Schachter and Back (1950) group cohesiveness is defined as the resultant of all forces influencing members to remain in the group. These forces are dependent upon the relative degree of attractiveness of members of the group (social cohesiveness) and activities in which the group engages (task cohesiveness). Since sport performance is voluntary and generally of high salience to the performer, primary attention has focused upon the contribution of social cohesiveness to team per-

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formance. In the present study all four structural components were investigated. However, greater theoretical emphasis was attached to the structural component of interpersonal attraction because of its frequent use by investigators of team performance.

On a group structural level, it has generally been held that groups whose members indicate high interpersonal attraction and cohesiveness are more effective (Hare, 1964). Although this assumed relationship between group performance outcome and cohesiveness of group members is commonly cited, the empirical findings, underlying such an inductive statement, have been equivocal. In competitive sport settings, for example, a number of investigators have found a positive relationship between performance outcome and team cohesiveness, thus rendering support for the Hare (1964) assertion. Equally provocative, however, are other studies showing the opposite or no relationship, and as a result a state of confusion has persisted. Although the literature on sport is replete with studies examining the association of cohesiveness and team performance outcome, few investigators have attempted to explain the underlying mechanisms for their relationship and then predict *a priori* a specific outcome.

The present investigation sought: (1) to utilize a social psychological model of task demands and explicate its relationship to the contradictory cohesiveness-performance outcome results; and (2) to provide an empirical test of one of the hypotheses derived from an analysis of task demands. Thus conceived, the present investigation represents a radical departure from previous empirical examinations of cohesiveness and team performance outcome.

TASK DEMANDS OF GROUP TASKS

The utilization of sport groups has been a popular avenue for testing group performance, perhaps, because sport provides a natural competitive setting in which members of several teams share similar goals. Investigators have restricted their investigations to teams within a given sport, but have at times stated their conclusions as if to encompass different types of competitive team sports. To do this is to overlook the task structure of differing sports as well as processes whereby members adapt in patterned ways to differing task-imposed demands. Without the elucidation of important task requirements among differing team sports, the generality of findings as well as the perusal of scientific explanations is greatly curtailed. Fortunately, recent refinements in the conceptual analysis of the requirements of group tasks have been advanced (Altman and McGrath, 1959; Fiedler, 1967; Glanzer and Glaser, 1959; Shaw, 1963).

Although a profusion of differing terms² have been employed in these conceptual analyses of the task demands (i.e., implicit rules) of group tasks, a commonly termed distinction is that of interacting and coacting type groups. The difference between interacting and coacting groups is the way in which group members' efforts are pooled. Interacting groups are dependent on each member's contribution for the completion of the task. For example, in interacting groups with high division-of-labor, the group result is not derivable from the individual efforts by simple summation. Rather the group outcome results from a more complex combination of several individuals' performances since task activities must not only be performed, but also performed at a time, and in a fashion, which are appropriate to the task actions of other members. This latter characteristic has been termed means-interdependence (Thomas, 1957) and, together with the division-of-labor of team members, constitute the essential characteristics found in interacting groups.

These structural demands can have profound effects on components of group structure (e.g., interpersonal attraction). For example, in order to be effective, members of interacting groups must combine their different specialized skills, through interdependent action, to achieve the performance output of the team — a process commonly referred to in sport as team-work. The crucial intervening variable linking the interacting and coacting task dimensions with cohesiveness in *rate of interaction* among team members. Such a relationship is suggested by the findings of Sherif, Harvey, White, Hood, and Sherif (1961) where means-interdependent tasks produced an enhanced rate of interaction and ultimately greater cohesiveness. It is argued here that interacting task groups, which require means-interdependence among team members, facilitate rate of interaction, leading to greater cohesiveness and task performance. Indeed, a perusal of the sport literature indicates that investigations of interacting sport groups, such as basketball teams³ (Klein and

² In addition to the use of the terms interacting versus coacting groups (Allport, 1924; Fiedler, 1967) to describe group task types, other investigators have made similar distinctions by describing the poles of the group task dimension as high or low means-interdependence (Thomas, 1957), independent and dependent tasks (Grusky, 1963), high and low autonomy (Lanzetta and Roby, 1957), additive versus complimentary groups (Steiner, 1966), and competitive versus superordinate goal-oriented groups (Sherif *et al.*, 1961).

³ Other studies of basketball teams (Fiedler, 1952, 1953; Grace, 1954) have used measures of assumed similarity of personality traits between leader and team members and have found results opposite to those cited above. Assumed similarity measures are of doubtful relation to sociometric measures of group structure and cohesiveness (particularly interpersonal attraction) as used in other studies of sport groups. Too great a similarity in personalities among selected team members in fact may be detrimental to team performance since Eitzen

Christiansen, 1966; Martens and Peterson, 1971; Peterson, 1970) football teams (Stogdill, 1963), flag football teams (McIntyre, 1970), and volleyball teams (Vos, Koos and Brinkman, 1967), have shown that successful teams evidenced greater cohesiveness than unsuccessful teams.

In contrast to these interacting groups, the literature on coacting groups has consistently failed to show a positive relationship between cohesiveness and performance outcome for competitive groups in which members independently perform essentially identical task functions. McGrath (1962) and Myers (1962)⁴, for instance, have shown no significant relationship between team success and the cohesiveness of coating rifle teams. In addition, Lenk (1966) has found an inverse relationship between team success and cohesiveness of world-class German Olympic rowing teams. These shooting and rowing⁵ tasks require every member of the group to perform exactly the same function, and although coordination is necessary as in rowing, group members are less reliant on the functions carried out by others for successful completion of their own sub-task.

The foregoing conceptual analysis of important task demands and the empirical evidence reviewed lead to the following hypotheses: (1) for interacting-type teams, a successful team performance outcome effects a greater enhancement of group cohesiveness than unsuccessful team performance outcome; and (2) for coacting-type teams, an unsuccessful team performance outcome effects a greater heightening of cohesiveness than successful performance outcome teams. Using several measures of group structure components and cohesiveness as well as multivariate data analysis techniques similar to those used in other studies (Peterson, 1970; Martens and Peterson, 1971), a test of the

(1973) has shown that homogeneity of social characteristics (e.g., socio-economic status, religion, and place of residence, etc.) among particular basketball team members leads to greater clique formation, and as a result, poorer overall team performance outcome.

⁴ The data described here is from a five-item questionnaire response assessing respondents perception of his dyadic relationship between himself and his team. A perusal of the analysis of Myers' results, which are summarized in Table 5 on page 329, reveals that the team success effect and its interaction with the competitive condition was clearly nonsignificant. Thus, this particular measure provided no reliable support for Myers' second hypothesis that competitive teams of high success would have more favorable adjustment scores than the noncompetitive teams of high success.

⁵ Although rowing and rifle shooting are, by their nature, coacting-type tasks, they are different in that the former involves simultaneous performance by team members and the latter involves sequential task performance. Overt coordination of team members' efforts are notably more evident in rowing, but it is also more difficult to evaluate and attribute individual responsibility for subtle errors in crew members coordination.

second hypothesis⁶ for the effects of coaching team performance outcome was examined for four types of sociometric questions which were designed to serve as indicators of group structure (interpersonal attraction, task communication and power relations).

METHOD

Subjects

The members of fifty-two bowling teams (4—7 members each) participating in an intramural bowling league at the University of Illinois volunteered as participants in the study. Team members bowled without handicaps and knew each other previously since they represented various residential organizations (e.g., fraternities, men's residence halls, and men's independent associations). The teams bowled two-out-of-three games in order to score a victory and competed twice each week for approximately one hour. In spite of an occasional weak opponent, it was necessary for team members to bowl their best since only 16 fraternity and 10 independent bowling teams with the highest total pins could bowl in the final tournament. Teams were motivated to achieve victory in order to obtain trophies and to have their standing in bowling count toward an all sport award given to the residence hall, association, or fraternity achieving the highest cumulative total in all sports during the 1969—1970 school year.

Assessment of Group Structure and Cohesiveness

Team members rated every other teammate on a 9-choice alternative between two polarities for each of six questions designed to determine interpersonal attraction, task, communication, and power interpersonal team relations. For example, to assess interpersonal attraction the following question was asked:

On how much a friendship basis are you with each of your teammates? Record the names of each team member and beneath their names rate the degree to which you like each of them.

John Doe

:	:	:	:	:	:	:	:	:
Not at								Very
all								Much

⁶ A more complete test of the entire model of task demands would, of course necessitate testing both an interacting team and a coaching team. In a field study of this type, a number of variables, such as length of season, number of team members, and the social status of the sport, are difficult to equate. A partial test of only coaching teams was therefore used in order to control for these potentially confounding factors which, in a between-sport analysis may mask coaching and interacting task dimension effects on group structure and forces contributing to cohesiveness of the group.

Other sociometric questions used to assess task, power, and communication relations among team members were as follows: a) teammates contribution to bowling performance; b) the influence (power) that each team member has on the team as a whole (i.e., decision making, organization, etc.); c) each member's influence (power) on you; d) your amount of verbal communication with each team member on the bowling alley; and e) amount of verbal communication with teammates between bowling sessions.

Measures and Design

From the fifty-two teams, 15 teams highest in total pins with the most wins, and 15 teams lowest in total pins with the fewest wins, were used for comparison. The group mean, derived from each team member's rating of his teammates on each of the six questions, were used as one measure. Although commonly used, these group means many times conceal individual variation within a group (Hollander, 1967, p. 363). Therefore, a second measure, group standard deviations, was also used in order to determine if the group homogeneity on the various sociometric measures differed between the performance outcomes of successful and unsuccessful teams. In addition, this measure provided a check on the equal between-group variance assumption to the analyses performed on the group structure means. One-way univariate analysis of variance (ANOVA) and multivariate ANOVA, step-down F tests, chi square tests of the canonical variate, and discriminant function analyses were the statistical tests used.

Procedure

Through the cooperation of the Division of intramurals, University of Illinois, graduate students under the direction of the investigators administered the questionnaire to all team members in a classroom setting. The testing took place toward the end of the league season before the final tournament.

The win-loss record and the bowling scores for each team were tabulated by the Division of intramurals. The questionnaire data were transferred to IBM cards for analysis.

RESULTS

Correlation Among Group Structure Measures

As would be expected, all correlations among the means of the various group structure measures were significant at the .05 level and 10 were significant at the .01 level. With the exception of how much

power the team member thought he had on the team as a whole, all other measures had moderately high (explaining from 34% to 46% of the variance) correlations with interpersonal attraction. The two questions used to assess power were also moderately correlated ($r = 0.75$), while the two communication questions, on the bowling alley versus between bowling sessions, were correlated ($p < .01$), but to a much lower degree ($r = 0.48$).

Multivariate Results

In order to test the hypothesis of this study, a single probability, which cannot be obtained from the univariate ANOVA's needed to be obtained. Since the same subjects' rated the several measures, separate univariate ANOVA's are not statistically independent. With several univariate ANOVA's, therefore, no exact probability that at least one of them will exceed some critical level of the null hypothesis can be calculated. Multivariate ANOVA, on the other hand, is based on sample statistics which take into account the correlations between the dependent variables, and have known sampling distributions from which the required probabilities can be obtained (Bock and Haggard, 1968). Significant differences in multivariate ANOVA are considered important primarily as an incentive to further investigate: a) the difference between several levels of the independent variable; and b) the source of the differences in terms of the relative contribution of the six dependent variables.

Summarized in Table I are the results of the multivariate ANOVA. The multivariate ANOVA on group structure standard deviations was not significant. The multivariate ANOVA on the group structure means, however, was significant. In contrast to the results found with inter-

TABLE I
Results of Multivariate Analysis of Variance

	Effect	
	Group Means	Group Standard Deviations
<i>F</i>	3.16	0.49
<i>df</i>	6/23	6/23
<i>p</i>	0.02	0.81
<i>df_h</i>	1	1
<i>df_e</i>	28	28
1	0.83*	0.13

Discriminant function for group structure means: $V_m = 1.08$ (task) -0.95 (interpersonal attraction) -0.33 (power on team) -0.10 (power of team on individual) -0.32 (communication while bowling) $+0.74$ (communication between bowling sessions).

* Bartlett's chi square test for significance of successive canonical variates for root 1 is 15.05, $df = 6$, $p < .02$.

acting-type sport groups (Peterson, 1970; Martens and Peterson, 1971), the group structure means (Table II) do not show consistently higher group means for successful teams. In fact, four of the mean differences — interpersonal attractions, individual's power on the team, members' power over the individual, and communication between group members on the bowling alley — favored unsuccessful teams. Group members'

TABLE II

Means and Group Standard Deviation for Successful and Unsuccessful Team Performance Outcome for Each Dependent Variable

Team Performance Outcome	Group Structure Measures						Total Mean
	Interpersonal Attraction	Task	Power on Team	Power of Team on Individual	Comm. While Bowling	Comm. Between Bowling Sessions	
Successful Teams							
Group Means	7.04	6.78	5.64	5.05	6.54	5.36	6.07
Group Standard Deviations	1.69	1.58	2.51	3.25	2.33	3.93	2.55
Unsuccessful Teams							
Group Means	7.34	6.47	5.78	5.47	6.92	5.12	6.18
Group Standard Deviations	1.45	1.41	1.96	3.10	2.22	4.14	2.38

mean differences for perception of members' task ability and communication among group members between bowling sessions favored the successful teams. These six mean differences, however, do not equally reflect the major source(s) responsible for the significant multivariate F found between successful and unsuccessful teams. To locate the major source(s) of the significant difference between groups in terms of the variates which contribute to it, a discriminant function analysis was performed.

A discriminant function analysis determines the linear combination of dependent variables which maximally discriminates, in a least-square sense, between members of teams having either a successful or unsuccessful performance outcome. The discriminant coefficients are re-

presented by the latent vector associated with the significant latent root for the successful-unsuccessful group effect (Table I). These coefficients are in standard score form which was obtained by multiplying each discriminant coefficient by the within-group standard deviation of the corresponding variate. The standard scores for the largest coefficient indicate that the task and interpersonal attraction structures primarily contributed to the differences between successful and unsuccessful teams. Although the arithmetic signs associated with the task and interpersonal attractions coefficients differ, these signs are arbitrary (Bock and Haggard, 1968).

To further clarify the relationship of the differences between groups on task and interpersonal attraction structure means a step-down F test was used. Step down F analysis is a sequence of univariate tests of significance on each variable after covarying all preceding variables. The ordering of the variables for the step-down analysis is important since the order in which variables are arranged affects the outcome. The arrangement must be determined *a priori* with the variables believed to be the most discriminating between the performance outcome of successful and unsuccessful teams appearing first. The task variable was ordered first in this study since it was believed that it would be relatively easy for respondents (especially for members of successful teams) to objectively rate teammates' contributions to team effectiveness. Since the member's rating of interpersonal attraction was sometimes of more obvious perceivability among team members than power and communication measures, interpersonal attraction was placed second in the ordering. This variable was then followed by power on the team, power of the team over the individual, communication while bowling, and communication between bowling sessions.

Table III summarizes the results of the step-down F tests with the univariate F tests also included for comparison. As would be expected from the discriminant function analysis, the step-down F tests for task

TABLE III
Results of Step-Down F Tests for Group Structure Means

Source	Group Structure Means					
	Univariate			Step-Down		
	F	df	p	F	df	p
Task	4.00	1/28	0.05	4.00	1/28	0.05
Interpersonal Attraction	1.97	1/28	0.17	3.38	1/27	0.007
Power on Team	0.38	1/28	0.54	1.17	1/26	0.29
Power of Team on Individual	1.53	1/28	0.22	0.23	1/25	0.64
Communication White Bowling	2.40	1/28	0.13	0.49	1/24	0.49
Communication Between Sessions	0.51	1/28	0.48	3.06	1/23	0.09

and interpersonal attraction measures were significant. The first variable (task) in a step-down analysis is always the same as that found in the univariate analysis. The second variable, interpersonal attraction, and succeeding step-down variables, however, differ from their univariate counterparts since the preceding dependent variables have been covaried out. When the task variable was covaried out, the adjusted interpersonal attraction means for teams having an unsuccessful performance outcome ($X = 7.46$) was significantly higher than for successful teams ($X = 6.92$). Since the task variables were positively correlated ($p < .01$), the adjustment of the interpersonal attraction means, when the task variable was used as a covariate, produced an even greater mean interpersonal attraction difference than was found in the univariate ANOVA. The marginal significance for communication between bowling sessions when all other variables were used as covariates must be regarded with caution due to the high group standard deviations for this particular variable.

DISCUSSION

The results of the multivariate F test, which simultaneously considers mean differences in several measures of group structure and cohesiveness, supported the hypothesis of the present study. Discriminant function analysis indicated that the task and interpersonal attraction measures were the greatest contributors to the differences between the performance outcome of successful and unsuccessful teams. The mean differences showed support for the hypothesis of this study in that unsuccessful teams had higher interpersonal attraction ratings than successful teams, particularly when task means are covaried out. The task means, which were a measure of group structure, were in the opposite direction with successful teams rating teammates significantly higher than unsuccessful teams on their contribution to task effectiveness. This task difference, however, was not a test of the cohesiveness hypothesis posed. Furthermore, the findings for the task effect were of lesser theoretical importance since it simply demonstrates a team member's ability to objectively perceive the bowling contributions (e.g., skill ability) of their teammates. It is therefore apparent that members of more successful, as opposed to unsuccessful teams, would give their more highly skilled teammates higher ratings.

The significant differences for the interpersonal attraction measure when task differences are covaried out is of central importance to the hypothesis of the present study. In any field study of the type with its inherent inability to control many relevant variables, a number of readily apparent explanations could be advanced to contest the initially

proposed task demands explanation. Three competing explanations which could be forwarded include: (1) the possibility that the results may be an artifact derived from sampling inadequacies or to the specific group structure and cohesiveness measures used; (2) members of unsuccessful bowling teams may have been less task-oriented and more oriented toward affiliation with teammates; and (3) in successful teams greater within group competition may occur leading to less liking among teammates. The plausibility of these explanations are difficult to dispute unless one examines their consistency with other findings. If we are to accept the findings of other investigators, these explanations would perhaps support some findings, but conflict with others. For example, Peterson (1970) and Martens and Peterson (1971) found strikingly dissimilar results utilizing measures and a subject population congruent to those used in the present study. For the second and third explanations to be amenable with the Peterson and Martens data, teams achieving a highly successful, as opposed to unsuccessful performance outcome, should have been less cohesive; however, just the opposite was found. Barring the possibility of sampling inadequacies in either of these studies, the second and third explanations only become consistent with existing literature, and thus more plausible, when the characteristics of task demands are considered.

As noted previously, rate of interaction among team members is greatly enhanced in interacting-type team sports since the task is such that it requires members reliance upon others in order to complete their sub-task (e.g., play, score, etc.). Although such a means-interdependence among team members may facilitate higher levels of cohesiveness among teams whose performance outcome is successful, the potential mechanisms underlying findings for coacting-type teams are conceivably quite different when rate of interaction is relatively unspecified by task demands. Coacting group performance not unlike individual sport competition, is seen only as a setting or environment which is influenced by many social situational factors that are extrinsic to the task, Fiedler (1967, p. 19), for example, maintains that the coacting team situation many times leads to rivalry and competition among group members, which serves as a motivating force for better individual performance. If such a process was evident, it would tend to increase overall bowling team performance at the expense of developing friendships with teammates.

Since the bowling setting provided an opportunity for relatively unobtrusive data gathering, an attempt was made to conduct a few controlled observations in order to shed additional light on actual group processes. This was done toward the end of the season with two teams that were achieving a successful performance outcome and two other teams that were on their way to having an unsuccessful performance

outcome. Of the several group structure measures, communication among members in the bowling setting was the group structure measure chosen for observational rating since it was the easiest to objectively quantify and this measure also had the highest correlation with interpersonal attraction ($r = .68$, $p < .01$). These observations were independently conducted by two trained assistants who observed the same teams three times in three successive weeks. Verbal and nonverbal communications between members, team members and spectators, and team members and apponents were recorded. The observational findings for actual communication was found to parallel self-ratings, and also were of some relevance to the present discussion. Members of successful teams more often communicated with spectators rather than with one another. On the other hand, teammates comprising teams, which were eventually unsuccessful, were more communicative to one another while on the bowling alley. Although these observations of team communication can be interpreted as supportive of the rivalry explanation for successful coacting-type teams, such an interpretation, based upon these very limited observations, must be regarded with caution. More research, offering considerably more control than obtained in field studies of this type, is needed before the interaction between task demands and group structure can be more fully comprehended.

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РЕЗУЛЬТАТ КОМАНДНОГО ВЫСТУПЛЕНИЯ И СПЯЯННОСТЬ СОРЕВНУЮЩИХСЯ СОВМЕСТНО ДЕЙСТВУЮЩИХ ГРУПП

Резюме

Применяемая часто социологическо-психологическая модель для выяснения требований к выполняемым задачам в группах типа совместного действия и взаимодействия была использована при выяснении вопроса, почему в некоторых спортивных командах успех влечет за собой большую спаянность, а в других удача ведет к снижению сплоченности. Спортивные дисциплины типа взаимодействия характеризуются более четким разделением функции и специфицированной на основе правил взаимозависимостью членов команды, чем дисциплины типа совместного действия. В настоящей работе исследовались только группы типа совместного действия (30 внутривизуовских кегельных команд) — 15 с самым высоким и 15 с самым низким количеством выигранных очков. Результаты самооценки членов команды относительно межличностного взаимного притяжения и оценки избранных компонентов групповой структуры (общение, сила и задача) говорят в пользу гипотезы, что неудачное выступление команды типа совместного действия способствует большей спаянности членов команды, чем результаты удачной игры.

LEISTUNGSERGEBNISSE VON MANNschaften UND DIE KOHÄSION VON ZUSAMENWIRKENDEN IM WETTBEWERB STEHENDEN GRUPPEN

Zusammenfassung

Ein häufig angewandtes sozial-psychologisches Modell, das die differentiellen Aufgabenforderungen für Gruppen des Koaktions- und Interaktions-Typus erklärt, wurde verwendet, um zu erklären, warum in manchen Sportarten die Erfolge zu einer größeren Kohäsion der Mannschaft führen, während in anderen Sportarten Erfolg zu einer verringerten Kohäsion führte. Sportarten des Interaktionstyps verlangen eine eindeutig stärker definierte Arbeitsteilung und regelspezifische gegenseitige Abhängigkeit zwischen den Mannschaftsmitgliedern, als das bei Koaktions-Sportarten festgestellt werden konnte. Nur Mannschaften des Koaktionstypus (30 × Hallen-Bowling-Mannschaften) — 15 mit den besten und 15 mit den schwächsten Resultaten — wurden in dieser Arbeit untersucht. Resultate der Selbsteinschätzung von Mannschaftsmitgliedern, was die interpersonelle Anziehung zwischen ihnen betrifft, und Schätzung von ausgewählten Komponenten der Gruppenstruktur (Kommunikation, Leistung und Aufgabe) bestätigen die Hypothese, daß eine Mannschaft die relativ erfolglos zusammenwirkt von ihren Leistungen stärker im Sinne einer größeren Kohäsion beeinflußt wird, als eine Mannschaft die Erfolg in ihrem Spiel hat.

LES RÉSULTATS DES PERFORMANCES EN ÉQUIPES ET LA COHÉRENCE DES GROUPES DE CO-ACTION

Résumé

Le modèle socio-psychologique employé souvent à montrer les devoirs différents des groupes de co-action et d'inter-action a été utilisé pour expliquer, pourquoi dans certaines équipes sportives le succès résulte d'une plus grande cohérence, et dans

d'autres équipes il a conduit à une cohérence moindre. Les sports d'inter-action exigent une plus grande répartition des travaux dans l'équipe et une inter-dépendance parmi les membres de l'équipe, que les sports de co-action. Pour cette étude on a examiné 30 équipes du type de co-action (c'étaient les équipes des quilles; 15 les plus hautes et 15 les plus basses dans l'évaluation totale). Les résultats de l'évaluation (faite par les membres des équipes eux-mêmes) des inter-actions et l'évaluation des composants choisis de la structure de groupes (communication, pouvoir, devoir) ont soutenu l'hypothèse que les succès relatifs dans les compétitions des équipes de co-action causent une plus grande cohérence parmi les membres de l'équipe que ne le fait le succès.