

The Effect of Group Structure on the Success of Athletic Teams

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Social scientists have long noted that the characteristics of the members of a group will have an effect on how the group performs. James Davis (1963) has noted the theoretical importance of similarities and/or differences among group members in the writings of Durkheim (1947), Homans (1950; 1961), Berelson, Lazarsfeld and McPhee (1954), Coleman (1957), Lazarsfeld and Merton (1954), Lipset, Trow, and Coleman (1956), and others. Drawing on these works, Davis developed a number of propositions on the general topic of group homogeneity. On recurrent theme in Davis' paper was the assumption that positive bonds follow from similarity. He stated,

...where there is internal differentiation mutual bonds will tend to develop among subsets, and liking will be greater within cliques than between clique members and the rest of the group. Thus, a group composed of members of one religion cannot form cliques differentiated in religion; a group composed of members of two religions will tend to form two cliques based on religion; a group composed of members of N religions will tend to form N cliques based on religion (1963: 86).

The following hypothesis was derived from the proposition, and tested in the study reported here: *the greater the homogeneity of a group on selected social characteristics, the smaller the probability of cliques being present.*

A second and related hypothesis was: *the greater the homogeneity of a group on selected social characteristics, the greater the probability of goal attainment by the group.* This hypothesis was based on the assumption that groups without cliques will have greater member cooperation on group tasks than groups with cliques.

Some writers have been critical of research that focuses exclusively on the goals of groups and organizations (Cf. Etzioni, 1960; Selznick, 1943). They have contended that several factors operate to make the findings of such studies questionable. They have noted, for example, that: 1) the explicit goals of an organization may not be the actual goals being pursued; 2) all organizations are in fact multifunctional units, i.e. only part of the activities of an organization will focus directly on

goal attainment (other activities must, for example, focus on maintenance of the structure) and 3) individual members often vary in their conception of what the organizational goals are.

Clearly, using the attainment of organizational goals as a dependent variable presents problems for the researcher. It is possible, however, that some types of organizations may be more amenable to goal-attainment studies than others. Organizations may differ with respect to the specificity of their goals (Clark, 1956). Also, organizations can vary with respect to the amount of consensus among members as to the objectives of the organization (Scott, 1964:493).

Amateur athletic teams are one type of organization where goals are specific and the members are in agreement on the goals, yet they remain relatively untapped as sources of data for goal attainment studies. Clearly, athletic teams have a single objective which overrides all other considerations — they are organized to win games.¹ Not only is the goal of an athletic team clear, but there is also a convenient and appropriate measure of that goal — the winning percentage for the season.

This study examines the effects of homogeneity on selected social characteristics on the success of athletic teams. However, several non-sociological variables could be expected to influence an athletic team's performance. Some of these variables would be: athletic skills, injuries, coaching ability, the length of time the players have worked together as a unit, and "tradition".

All of these factors plus others should operate against the hypothesis that the more homogeneous a team's composition on salient social characteristic, the greater the success in goal attainment. Consequently, it may be expected that the relationships between the various types of social homogeneity and winning percentage, if present, will be relatively low.

The sample. High school basketball teams in Kansas were selected as the units of analysis for the present study. Basketball teams were chosen because the number of members is small enough and generally stable enough to be manageable. Moreover, the number of teams is sufficient to permit a fairly large sample.

Soon after the completion of the 1968-69 basketball season, questionnaires were mailed to the head basketball coaches in the 366 Kansas public high schools with enrollments of less than 700. Within one month, and after one follow-up letter, 288 coaches had returned usable questionnaires — a return rate of 78.7 per cent. Since the data were to be secured from the coaches, the sample was limited to relatively small schools. Presumably the smaller the school the more the coach will know his

¹ Of course, athletic teams and their members may have other goals as well, e.g., physical fitness, personal aggrandizement, and the "building of character". Such goals, however, will generally be secondary to the primary goal of winning games.

athletes, their families and the community. The exclusion of large schools therefore will enhance the probability that coaches will make reasonably accurate assessments of their players' religion, family prestige, etc.

The variables. Each coach was asked on the questionnaire to give the following information for each of the five boys who were his regular players for at least most of the season: father's occupation, family prestige in the community, race, religion, and place of residence. These five social characteristics were considered important enough to lead to the formation of cliques.

"Father's occupation" was coded according to Hollingshead's seven category scale (1957). Team homogeneity with respect to this variable was determined by finding the mean occupational score and summing the five boys' differences from this mean. The teams were then divided into homogeneous and heterogeneous categories by using as the cutting point the whole number nearest the median. With this technique, 56 per cent of the teams were classified as homogeneous in terms of father's occupation.

Another indicator of social class used in this study was "family prestige". This was determined by asking each coach to note for each of his five players whether the boy's family was considered in the upper or lower half of the community's prestige hierarchy. If at least four of the five players were in the same half of the prestige hierarchy, the team was classified as homogeneous (55 per cent of the 288 teams were so designated).

Another dimension was place of residence. The coach was asked to note whether the player lived in town, on the fringe, or in the country. If at least four of the five starters lived in the same general location as defined by these three designations, the team was classified as homogeneous on this dimension. Approximately 52 per cent (149 teams) of the 288 teams were considered as "homogeneous" on the residence dimension.

The coach was also asked to note the religion of each of his five starting players. Although the specific denomination was requested, many coaches noted instead the more general classification (e.g., "Protestant"). It had been assumed that in some communities different denominations within Protestantism could lead to cliques. Because many coaches left out the specific denomination, we were forced to use the general religious classifications: "Protestant" and "Catholic". If all five regulars were in the same general religious classification, the team was considered to be "homogeneous". One hundred and twenty-four of the 288 teams were "homogeneous" with respect to religion (43 per cent).

The racial composition of a team was an important variable to consider since this characteristic is virtually always used as a criterion for social differentiation. Unfortunately only 16 teams out of the 288 in the sample had any non-white players (a total of 21 non-white players out of 1440).

Therefore, since there were too few cases for statistical analysis, this important dimension had to be omitted from the present study.

The presence or absence of cliques on each team was determined by asking the coach in an open-ended question, whether or not he felt cliques were present on his team. The answers were divided into those teams where the coach was definite in his opinion that there were no cliques and those teams where the coach felt cliques were present, at least to some degree.

Admittedly, a sociometric test administered to the players would have been a better measure of whether cliques were present in each of the teams in the sample. Klein and Christiansen (1969), for example, in a study of 35 basketball teams found that the sociometric structure of a team had an immediate influence upon communication patterns and, most significantly, the frequency with which players passed the ball to other players during games. Both of these activities were found to have at least an indirect influence on the outcome of games. Because of time and money limitations, however, the present study used the coaches' assessments to determine the presence or absence of cliques.

One possible difficulty with using coaches' perception of cliques is that they were asked for this judgment following the completion of the basketball season. Some coaches of winning teams might tend to gloss over the presence of cliques whereas losing coaches might be more willing to note cliques because they could help explain a team's losing record without reflecting upon their own coaching ability. There is reason to believe, however, that this is not the case. One finding reported in detail below is the positive relationship between heterogeneity and the coaches' perception of the presence of cliques. This finding provides support for assuming that winning and losing coaches tend to correctly perceive and report the presence or absence of cliques.

The findings. The first hypothesis was suggested by Davis (1963): the greater the homogeneity of a team on certain social characteristics, the less the probability of subgroup formation (cliques). It was assumed that this hypothesis would hold for the social characteristics selected: father's occupation, family prestige, religion, and residence. Table 1 summarizes the findings for each of these characteristics and whether or not cliques were present.

The data from Table 1 reveal a moderate but consistent relationship between homogeneity and the absence of cliques. The percentages for each of the four homogeneity-heterogeneity dimensions are in the direction predicted by the hypothesis. Having found this for these dimensions taken one at a time, we should expect to find this same relationship when the variables are examined collectively. In Table 2 the 288 teams have been divided into five categories in order to examine to combined effects

TABLE 1

*Team Homogeneity on Selected Characteristics and the Presence of Cliques
(in percentages)*

A. Occupation of Father			
	Cliques absent	Cliques present	Totals
Homogeneous	56,87	43,13	100 (160)
Heterogeneous	43,75	56,25	100 (128)
$x^2 = 4.90; P < .05; Q = .26$			
B. Family Prestige			
	Cliques absent	Cliques present	Totals
Homogeneous	56,10	43,90	100 (164)
Heterogeneous	44,35	55,65	100 (124)
$x^2 = 3.90; P < .05; Q = .23$			
C. Place of Residence			
	Cliques absent	Cliques present	Totals
Homogeneous	57,05	42,95	100 (149)
Heterogeneous	44,60	55,40	100 (139)
$x^2 = 4.46; P < .05; Q = .25$			
D. Religion			
	Cliques absent	Cliques present	Totals
Homogeneous	58,06	41,94	100 (124)
Heterogeneous	45,73	54,27	100 (164)
$x^2 = 4.30; P < .05; Q = .24$			

of the four factors on the presence or absence of cliques. Category I includes all teams that are homogeneous on all four of the variables. Category II includes all teams that are homogeneous on three of the four variables. Category III is composed of those teams homogeneous on two of the variables, while Category IV has teams homogeneous on only one of the factors. Finally, Category V is made up of teams lacking in homogeneity on all of the variables. If the hypothesis is correct, we would expect that the percentage of teams with cliques will increase linearly as we move from Category I through Category V.

Table 2 shows clearly that there is a monotonic relationship between team homogeneity and the absence of cliques. The percentage of teams without cliques drops progressively from a high of 67 per cent in Category I to a low of 29 per cent in Category V. These data support the proposition that positive bonds follow from similarity. The hypothesis of Davis that "...where there is internal differentiation mutual bonds will tend to develop among subsets..." (1963:86) is substantiated.

A second and related problem for this study was to explore whether

TABLE 2

The Distribution of Teams with or without Cliques on the Basis of Homogeneity on Selected Characteristics

Categories based on homogeneity	Cliques		
	Absent	Present	Totals
Category I: teams homogeneous on father's occupation, family prestige, religion, and place of residence	67.74 (21)	32.26 (10)	100.00 (31)
Category II: teams homogeneous on three of the four characteristics	61.64 (45)	38.36 (28)	100.00 (73)
Category III: teams homogeneous on two of the four characteristics	50.55 (46)	49.45 (45)	100.00 (91)
Category IV: teams homogeneous on only one of the four characteristics	40.28 (29)	59.72 (43)	100.00 (72)
Category V: teams not homogeneous on any of the four characteristics	28.57 (6)	71.43 (15)	100.00 (21)
$\chi^2 = 14.33; P < .01; \text{Gamma} = .32$			

there was also a relationship between the absence of cliques and goal attainment (i.e., winning percentage). We hypothesized that teams without cliques would tend to have better won-lost records than teams with cliques. Table 3 shows these variables cross-classified.

The data from Table 3 show a definite relationship between the existence of cliques and winning percentage. These data alone are not

TABLE 3

The Presence or Absence of Cliques and Goal Attainment (in percentages)

Cliques	Winning record ^a	Losing record	Totals
Absent	65.31	34.69	100.00 (147)
Present	45.39	54.61	100.00 (141)
$\chi^2 = 11.56; P < .001; Q = .39$			

^a This category includes teams winning fifty per cent or more of their games.

very informative, however, because there is no indication of the direction of the causation. We do not know whether the presence of cliques on a basketball team causes a team to lose games or losing itself increases the probability of subgrouping on a team. It is probable that both of these possibilities operate to produce the relationship shown in Table 3. If, however, team homogeneity is also related to goal attainment, then it would be possible to say the the absence of cliques is an intervening variable helping to explain the relationship.

The final hypothesis was: the more homogeneous the composition of a team in selected social characteristics, the greater the probability of being successful in attaining the group goal of winning games. Table 4 shows the relationship between each of the independent variables (types of homogeneity) and the dependent variable (goal attainment).

TABLE 4
Team Homogeneity on Selected Characteristics and Goal Attainment (in percentages)

A. Occupation of Father			
	Winning record	Losing record	Totals
Homogeneous	58.75	41.25	100.00 (160)
Heterogeneous	51.56	48.44	100.00 (128)
$\chi^2 = 1.34; P < .30; Q = .14$			
B. Family Prestige			
	Winning record	Losing record	Totals
Homogeneous	63.41	36.59	100.00 (164)
Heterogeneous	45.16	54.84	100.00 (124)
$\chi^2 = 9.53; P < .01; Q = .36$			
C. Place of Residence			
	Winning record	Losing record	Totals
Homogeneous	56.38	43.62	100.00 (149)
Heterogeneous	54.68	45.32	100.00 (139)
$\chi^2 = .08; P < .80; Q = .03$			
D. Religion			
	Winning record	Losing record	Totals
Homogeneous	52.42	47.58	100.00 (124)
Heterogeneous	57.93	42.07	100.00 (164)
$\chi^2 = .87; P < .50; Q = -.11$			

The data in Table 4 confirm our suspicions that the relationship between team homogeneity and winning percentage would be low because of the strong effects of other factors on the dependent variable such as talent, experience, and coaching skill. Homogeneity on only one of the four social characteristics — family prestige — is found to be significantly related to goal attainment. The differences between homogeneous and heterogeneous teams on two of the remaining three characteristics, while in the direction predicted by the hypothesis are quite small. Religious homogeneity, however, was found to be negatively associated with winning. Thus, the data provide only limited support for the hypothesis, although it does appear that homogeneity with respect to social class characteristics (i.e., family prestige within the local community) is rather strongly related to the dependent variable.

In order to examine further the effects of homogeneity upon goal attainment. Table 5 examines the combined effect of the four social characteristics on goal attainment using the same categories as in Table 3. If the hypothesis that team homogeneity leads to goal attainment is a monotonic one we would expect the percentage of winning teams to decrease systematically from Category I to Category V.

TABLE 5

The Distribution of Winning and Losing Teams on the Basis of Homogeneity on Selected Characteristics

Categories based on homogeneity	Percentage of Teams			Mean Winning
	Winning record	Losing record	Totals	Percentage for each Category
Category I: teams homogeneous in all of the following: father's occupation, family prestige, religion, and place of residence	64.51 (20)	35.49 (11)	100.00 (31)	56.71
Category II: teams homogeneous on three of the four characteristics	57.53 (42)	42.47 (31)	100.00 (73)	51.71
Category III: teams homogeneous on two of the four characteristics	57.14 (52)	42.86 (39)	100.00 (91)	50.77
Category IV: teams homogeneous on one of the four characteristics	51.39 (37)	48.61 (35)	100.00 (72)	48.39
Category V: teams homogeneous on none of the four characteristics	42.86 (9)	57.14 (12)	100.00 (21)	44.86
$\chi^2 = 3.09$; $P < .70$; Gamma = .14	(160)	(128)	(228) Grand mean 50.77	

Table 5 gives additional support to the proposition that heterogeneity affects team performance (despite the low chi-square value). Regardless of whether one examines the progression from high to low in terms of percentage of teams with winning records or the mean winning percentage for each category, the conclusion is the same — the greater the number of social characteristics upon which a team is homogeneous, the greater the chances of goal attainment. This helps modify the inconclusive findings from Table 4 where only family prestige homogeneity was related to winning percentage.

The data presented in the first three tables of this paper suggested that the presence or absence of cliques was related to team homogeneity and team success. The exact nature of the relationship among these three variables can best be seen perhaps if the data from Table 5 are partialled on the basis of cliques presence or absence. Table 6 presents the data in this manner.

TABLE 6

Team Homogeneity on Selected Characteristics and Winning Percentage, Controlling for Cliques

Categories based on homogeneity	Cliques absent			Cliques present		
	Winners	Losers	N	Winners	Losers	N
Category I: teams homogeneous on all four characteristics	71.43 (15)	28.57 (6)	(21)	50.00 (5)	50.00 (5)	(10)
Category II: teams homogeneous on three of the four characteristics	68.89 (31)	31.11 (14)	(45)	39.29 (11)	60.72 (17)	(28)
Category III: teams homogeneous on two of the four characteristics	65.22 (30)	34.78 (16)	(46)	48.89 (22)	51.11 (23)	(45)
Category IV: teams homogeneous on one of the four characteristics	65.52 (19)	34.48 (10)	(25)	41.86 (18)	58.14 (25)	(43)
Category V: teams homogeneous on none of the four characteristics	16.67 (1)	83.33 (5)	(6)	53.33 (8)	46.67 (7)	(15)
$\chi^2 = 6.87; P < .20; \text{Gamma} = .33$				$\chi^2 = 1.33; P < .70; \text{Gamma} = -.03$		

The data from Table 6 help to specify the relationship among the three variables. They show that if cliques are present on a team (as perceived by the coach), then homogeneity has no apparent effect on winning or losing. Secondly, the absence of cliques is found to be related to team success. Moreover, when cliques are absent, then homogeneity is somewhat related to winning athletic contests. Finally, if cliques are absent but the composition of the team is very heterogeneous (Category V), then the probability of having a winning team appears to be very low. This finding, however, is based on a very small number of cases and therefore should be examined further in subsequent studies.

Conclusion. This study has demonstrated that the social composition of athletic teams is related to their goal of winning games despite the many other factors which are generally assumed to affect the outcome of athletic contests. The data showed team homogeneity on selected social

characteristics was moderately related to goal attainment. The explanation for this relationship was found in the presence or absence of cliques. The general conclusion is that team heterogeneity increases the chances of clique formation. The presence of cliques on an athletic team reduces the chances of winning.

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ВЛИЯНИЕ ГРУППОВОЙ СТРУКТУРЫ НА УСПЕХ СПОРТИВНЫХ КОМАНД

Резюме

Исследование показывает, что социальный состав спортивных команд имеет отношение к их успехам, наряду со многими другими факторами, которые, согласно всеобщему мнению, оказывают воздействие на исход спортивных со-

реэнований. Данные свидетельствуют о том, что командная однородность в аспекте отобранных социальных характеристик имела известное отношение к достижению успеха. Эта связь объясняется наличием или отсутствием клик. Общим выводом является заключение, что командная разнородность увеличивает возможности формирования клик. Наличие клик в спортивной команде уменьшает шанс на победу.

WIRKUNG DER GRUPPENSTRUKTUR AUF DIE ERFOLGE VON SPORTMANNSCHAFTEN

Zusammenfassung

Die Untersuchung zeigt, daß die soziale Zusammensetzung von sportlichen Mannschaften einen Einfluß auf ihre Zielsetzung — das Gewinnen von Spielen — ausübt, ungeachtet der zahlreichen anderen Faktoren, die, wie allgemein angenommen wird, das Ergebnis des sportlichen Wettbewerbs bestimmen. Die angeführten Daten zeigten, daß der auf Grund ausgewählter sozialer Merkmale homogene Charakter der Mannschaft einen mäßig starken Einfluß auf die Ergebnisse der Mannschaft ausübte. Die Erklärung dieses Zusammenhangs findet sich in dem Auftreten oder Nichtauftreten von Cliques. Die allgemeine Schlußfolgerung lautet, daß der heterogene Charakter der Mannschaft die Wahrscheinlichkeit von Cliquesbildung vergrößert. Das Vorhandensein von Cliques innerhalb einer Sportmannschaft verringert ihre Gewinnchancen.

INFLUENCE DES STRUCTURES EN GROUPES SUR LES SUCCÈS DES ÉQUIPES SPORTIVES

Résumé

Cette étude montre que la composition sociale des équipes sportives reste en liaison avec le but de gagner les compétitions malgré beaucoup d'autres facteurs qui peuvent influencer le résultat des compétitions. Les données montrent que la compacité des équipes (sur les exemples choisis) est modérément liée avec le but à atteindre. L'explication de ce fait repose sur la présence ou l'absence de cliques. La conclusion générale est la suivante: l'hétérogénéité des équipes agrandit la possibilité de la formation des cliques. La présence des cliques dans une équipe sportive diminue la possibilité de la victoire.