

Perceived Cohesiveness and Sociometric Choice in Ongoing Groups

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ABSTRACT. The authors evaluated the relationship between sociometric choice and group cohesiveness in 6 ongoing learning groups and examined the reliability of the Group Cohesiveness Scale (V. Veeraraghavan, H. Kellar, M. Gawlick, & N. Morein, 1996). The Group Cohesiveness Scale and a sociometric instrument were administered to students during the 3rd and final weeks of classes. The reliability values of the Group Cohesiveness Scale were acceptable for use in research. The hypothesis that more popular students perceive the group to be more cohesive received only limited support on either the attraction or task-related dimensions. The authors, however, deem the Group Cohesiveness Scale to be sensitive to idiosyncratic group dynamics in the different learning groups.

THE MAIN PURPOSE OF OUR STUDY was to examine whether sociometric choices are related to cohesiveness within the context of an ongoing learning group. Furthermore, because the cohesiveness scale used in the study is a relatively new one, another purpose of the study was to examine the scale's reliability and its sensitivity to detect changes in group cohesiveness as a function of group maturity.

Although a number of studies exist on group cohesiveness, very few researchers have examined whether sociometric choices are related to a group's cohesiveness at various points of maturity within the context of an ongoing group. That is surprising because many investigators allude to sociometric concepts while evaluating the concept of cohesiveness.

One of the earlier definitions of *cohesiveness* came from Moreno and Jen-

nings (1937), who defined the concept as “the forces holding the individuals within the groupings in which they are” (p. 30). In the most often quoted definition, Festinger, Schacter, and Back (1950) stated that *cohesion* is “the total field of forces that act on members to remain in the group” (p. 164). According to Festinger et al., the various putative field of forces for members to remain in the group are (a) member attraction to the group goals and (b) the group’s ability to mediate important goals for its members—what Festinger has termed as “needs control.” Although Festinger et al.’s definition has often been criticized as vague, particularly the notion “total field of forces,” it has served as a guide for many investigators looking for ways to refine the concept (see Murdack, 1989).

Commenting on Festinger et al.’s (1950) definition, N. Gross and Martin (1952) stated that “[h]euristicly, it is highly improbable that an investigator could ever define adequately the multitudinous and heterogeneous field of forces as perceived consciously and unconsciously by all members” (p. 550). Gross and Martin noted that even in Festinger et al.’s study, only three sociometric indices were used to examine cohesiveness: (a) an in-out group ratio of intimate friends, (b) a dislike ratio, and (c) an isolate ratio. It was assumed that although a greater proportion of in-group choices reflects greater cohesiveness, greater proportions of members disliking each other and isolated from the group reflect less cohesiveness. Implicit to all three indices, however, is the concept of members’ attractiveness to each other, although that was not directly measured in the Festinger et al. study.

According to Murdack (1989), a number of prominent researchers (e.g., Libo, 1953; Pepitone & Kleiner, 1957; Van Bergen & Koekebeakker, 1959) have simply defined *cohesiveness* in terms of “attraction-to-group” (Murdack, 1989, pp. 41–42). Reviewing other definitions, Murdack noted that investigators have equated cohesiveness with other concepts such as “group spirit,” “bonds of interpersonal attraction,” “affective bonds,” “sense of belongingness,” “sticking together,” and “sense of we-ness” (pp. 39–43). Evans and Dion (1991) interpreted *cohesiveness* to imply “an individual’s desire to remain a member in the group” (p. 175) and his or her motivation to “advance the group’s objectives and participate in its activities” (p. 173).

Bollen and Hoyle (1990) expressed reservations about defining cohesiveness in terms of “attraction to the group” in the sense that attraction may be seen as a cause of cohesiveness, rather than an effect of membership. That is, it is an antecedent, rather than a consequent, condition for cohesiveness. They defined *cohesion* in phenomenological terms as perceived belongingness (feeling part of a group) and perceived morale (feelings of morale, enthusiasm to be part of a group). Consistent with their definition, they developed a Perceived Cohesion Scale to measure the two aspects of belongingness and morale. Interestingly, the two dimensions correlated at .90 in their study, lead-

ing them to argue that although the two dimensions are measuring similar phenomena empirically, they in fact are different conceptually, much in the sense that height and weight tend to be correlated but reflect different measurement concepts. The authors noted that although “belongingness emphasizes cognition, . . . morale captures affect” (p. 497). For example, in some situations, such as an earthquake, people may have a high sense of belongingness but a low morale.

More contemporary views of cohesiveness recognize cohesiveness as a multidimensional concept in which attraction is just one factor (N. Gross & Martin, 1952; Murdack, 1989; Stokes, 1983). Members may be attracted to a group for a variety of reasons, only one of which may be the attractiveness of the group goals. Also, it cannot be assumed that in cohesive groups, members always like each other. It is entirely possible that the group goals may be sufficiently strong to hold the group together to act as one, even in the absence of mutual attraction (Frank, 1957). On the other hand, members may act cohesively, even though they may not generally agree on the group goals. In that regard, Johnson and Fortman’s (1988) differentiation between *task cohesion* and *social cohesion* makes good sense. They used E. F. Gross’s (1957) 8-item Group Cohesiveness Scale, subjected it to a principal component analysis, and found evidence for two components: affective or social cohesion and cognitive cohesion.

Stokes (1983) differentiated between three components of group cohesion: (a) interpersonal attraction, (b) instrumental value (meeting of needs, or in Festinger et al.’s, 1950, terms “means control”), and (c) risk taking (as evidenced by higher self-disclosure, open expression of hostility, and conflicts). Carron, Widmayer, and Brawley (1985) differentiated between the *task-social* and *individual-group dimensions*. The former refers to the idea that members may be interested in group goals or social relationships, and the latter to commitment to other members or the group itself. Griffith (1988) differentiated between horizontal (peer relation) and vertical dimensions (superior–subordinate relations) of cohesion.

Piper, Marrache, Lacroix, Richardson, and Jones (1983) delineated three group concepts in their discussion of cohesion: (a) mutual stimulation and effect—the extent to which a “group stimulates, excites, and arouses the participant and the degree to which he perceives that he has a potent reciprocal influence;” (b) commitment to the group—participant’s “allegiance to the group” as “reflected in preserving and strengthening the basic structure of the group;” and (c) compatibility of the group—“perceived fit of participants in terms of suitability” for the group (p. 103). Piper et al. observed that of the above three concepts, commitment (both subjective and behavioral) is most basic to their view of cohesiveness because it describes the “bond between the participant and his/her conception of the group as a whole” (p. 104). In a

cohesive group, according to Piper et al., “the various bonds in the group are strong, e.g., where a majority of the participants possess a commitment to the group, to each other, to the leader” (p. 106). An earlier study by Yalom and Rand (1966) observed that compatibility (as measured by FIRO-B questionnaire) was related positively to cohesiveness in five outpatient therapy groups (p. 268). The other findings of interest were as follows: (a) members who were extremely incompatible with at least one other member tended to be less satisfied with their groups (p. 272) and (b) members who dropped out prematurely were less compatible with the rest of the group (p. 271).

Evaluating both unidimensional and multidimensional models of cohesiveness, Cota, Evans, Dion, Kilik, and Longman (1995) identified a new heuristic for cohesion. They described cohesion in terms of primary and secondary dimensions. Primary dimensions apply in all or most types of groups to describe cohesiveness, whereas secondary dimensions are only applicable in specific groups. Examples of primary dimensions include Carron et al.’s (1985) individual–group and task–social dimensions, group values and behavioral rules, and resistance to disruptive forces. Examples of secondary dimensions include risk taking (Stokes, 1983), vertical dimension (Griffith, 1988), and valued roles (Yukelson, Weinberg, & Jackson, 1984). These dimensions may be applicable in some groups but not in others. For example, risk taking may be more relevant in clinical groups, vertical dimensions in hierarchical organizational settings, and valued roles in sports in which roles are not easily interchangeable (Cota et al., 1995).

Cohesiveness may be thought of as an outcome of an intervention or as a process by which the group comes to “stick together” and “resist disruptive forces,” to use N. Gross and Martin’s (1952) terms. Separating process from outcome might be extremely difficult in any study. In fact, Carron (1982) defined *group cohesiveness* as “a dynamic process which is reflected in the tendency for a group to stick together and remain united in the pursuit of its goals and objectives” (p. 124).

Difficulties in defining the concept have not hindered researchers from investigating the importance of cohesiveness in group work. Yalom and Rand (1966) defined *cohesiveness* very broadly as “solidarity or esprit de corps of a group” (p. 267) and noted that it is very influential in a group’s outcome. After reviewing studies, they stated in a summary that in highly cohesive groups, productivity tends to be better and that members tend to participate readily, defend the group norms, express hostility, feel a sense of security, influence others and be influenced, and stay with the group.

Evans and Dion (1991) conducted a meta-analysis of studies on group cohesion and performance and located 27 published and unpublished studies that related group cohesion with performance. However, they could only include 16 studies done in a variety of contexts (sports teams, experimental

groups, and military units) in their meta-analysis. Cohesiveness measures also varied from questionnaires (attitude scales) to sociometric questions to behavioral observations. A variety of performance measures were used in those studies, such as the percentage of time members engaged in work activities, the win-or-lose record of ice hockey and basketball teams, the number of original ideas generated, gains in stock prices, and ratings of bombing crews by a supervisor.

In each of the studies, Evans and Dion (1991) found cohesion was related to performance or productivity. They described that relationship as “moderately strong and in a positive direction ($r = +.419$)” (p. 179). However, although they did not look for evidence in their meta-analysis, they noted that there may be an optimum level of cohesiveness, in the sense of the Yerkes Dodson Law of an inverted U function between cohesiveness and performance. They cited Kelly and Duran (1985), who found that “very high cohesiveness was associated with poor performance” (Evans & Dion, 1989, p. 181). More recently, Smith et al. (1994) found a positive correlation between a cohesiveness-like measure of top management teams in small technology firms and its financial performance. In a study with military groups, Zaccaro, Gualtieri, and Minionis (1995) reported that group cohesiveness can improve decision making under time pressure.

Yalom (1985) declared group cohesiveness to be an important “curative factor in therapy” (p. 36) and a “necessary precondition for effective group therapy” (p. 50). After reviewing several studies, Yalom (1975) noted that group cohesion is related to important therapeutic outcomes. He observed that perceived cohesiveness is related to contact with other members (Dickoff & Larkin, 1963) and in itself has therapeutic value for promoting personality change. Yalom, Houts, Zimberberg, and Rand (1967) found a positive significant correlation between self-rated improvement and cohesion data collected on two different occasions but did not find correlations between cohesion and ratings of improvement on the basis of those interviews to be significant. Stokes (1983), however, observed that Yalom et al.’s results may be of dubious value. Stokes noted that although Yalom’s study contained 140 correlations, only 7 of them were significant, making the probability of Type 1 error very high. In another study, Kapp et al. (1964) found a significant positive correlation between self-reported measures of personality change and cohesion scores. Clark and Culbert (1965) found that improvement as measured by rating speech samples from group members on the Problem Expression Scale (PES; van der Veen & Tomlinson, 1962) correlated significantly with the number of mutually therapeutic relationships (measured by the Barrett–Lennard Relationship Inventory) formed with the group members.

Yalom (1985) considered cohesiveness in group therapy as the “analogue of ‘relationship’ in individual therapy” (p. 36). One might assume that Yalom

was referring not only to the group leader's relationship with the group members but also, and perhaps more importantly, to the intermember relationships in the group. Roark and Sarah (1989) found evidence for the interdependence of cohesiveness with empathy, self-disclosure, acceptance, and trust. They also hypothesized that increases in empathy, self-disclosure, acceptance, and trust lead to an increase in cohesiveness.

Given the significance of interpersonal relations among group members in determining cohesiveness in groups, it is surprising that not many studies have examined the relationship between sociometric choices and cohesiveness. Festinger et al.'s (1950) study, as noted before, contained three sociometrically based indices of cohesion: in-out group ratio of intimate friends, dislike ratio, and an isolate ratio. These indices were based on the assumption that they reflected the attractiveness of the group to its members, a major component of Festinger et al.'s definition of cohesiveness. Deep, Bass, and Vaughn (1967) asked group members to pick five individuals with whom they would like to form a company, and Hemphill and Sechrest (1952) asked group members to list those with whom they preferred to work.

In the studies in which sociometric indices were used, the indices were measures of cohesion. In other studies (e.g., Back, 1951), level of cohesiveness was manipulated by creating dyads that differed on high and low attractiveness. However, there appear to be no studies that have correlated sociometric data with perceived cohesiveness in groups. For example, it might be hypothesized that the more popular members in a group are likely to perceive their group as more cohesive than do the less popular members. This hypothesis arises from the assumption that a group member's popularity may reflect the extent to which the popular member meets the social needs or perhaps the task needs of other members of the group.

In the present study, we examined the relationships between perceived group cohesiveness and various sociometric indices. By using separate measures of cohesiveness and sociometry, we avoided the circumvention of confounding that tends to occur when one defines cohesiveness in terms of sociometric indices (see N. Gross & Martin, 1952). Specifically, in the present study, we examined (a) the reliability of the Group Cohesiveness Scale, (b) the differences in cohesion as a function of class activities, (c) the correlation between cohesion and sociometric status (popularity), and (d) correlations between the pre- and postcohesion scores and pre- and postpopularity scores. Another purpose of this study was to determine whether the number of isolates correlated with group cohesiveness across the groups. Because of the small number of groups included in the study, that type of analysis was not feasible.

Given the lack of previous studies, no specific hypotheses were advanced. However, one might reasonably expect that students perceive greater cohe-

siveness toward the end of the course than at the beginning and that more popular students are more likely to see their groups as more cohesive. It is not easy to determine the extent to which pre-cohesion scores predict post-cohesion scores because the idiosyncratic nature of group dynamics is likely to be quite influential in bringing about dramatic changes in cohesiveness. Furthermore, for the same reasons, it is not easy to predict the correlation between initial sociometric status and the final cohesion scores.

Method

Participants

Participants in the study were students enrolled in six experiential training classes in the use of psychodramatic and other group methods taught by two different instructors who are licensed psychologists and trained in psychodrama. Four classes (PD1, PD2, PD3, and PD4) were specifically concerned with learning psychodrama techniques, and two others (IN1 and IN2) applied psychodrama and other group techniques in the exploration of interpersonal issues relating to intimacy. PD1 ($n = 19$) and PD2 ($n = 16$) were taught during a regular semester (14-week course, spring). PD3 ($n = 11$) and PD4 ($n = 11$) were taught for 8 hr each day over a 1-week period.

The intimacy classes were taught as regular semester-long courses (spring). The psychodrama classes were experiential in the sense that students, with the assistance of the instructor, worked on real-life issues experienced by the students in an effort to demonstrate a variety of sociometric and psychodramatic techniques. In the intimacy classes (IN1, $n = 15$; IN2, $n = 17$), a broad range of group techniques were used, including sociometry, psychodrama, group discussion, problem-solving activities (e.g., for promoting team work), and group exercises (e.g., related to trust, exploring attitudes based on questionnaires).

The psychodrama and intimacy classes met once a week during the evening hours. A majority of the students in those classes were majoring in psychology. Others were majoring in nursing, education, business, and communication. Students responded to the questionnaires voluntarily after they had signed informed consent forms.

Materials

Perceived group cohesiveness was measured by using the Group Cohesiveness Scale devised by Veeraraghavan, Kellar, Gawlick, and Morein (1996). The instrument consists of 26 items for assessing various dimensions of cohesion, such as member retention, interaction among group members, and compati-

bility of individual and group goals. The items are rated on a 4-point Likert-type scale (1 = *low*, 2 = *moderately low*, 3 = *moderately high*, and 4 = *high*), along with a not-applicable category. According to Veeraraghvan et al., the scale had shown acceptable reliability for use in research.

A 6-item sociometric instrument was designed to assess students' preferences on attraction and task-related dimensions. The sociometric statements, which were general enough to be used in all groups, are as follows:

1. The group member that I think is most like me is _____.
2. The person to whom I was initially attracted in this class is _____.
3. My first choice for a person who can express thoughts and feelings I have but cannot articulate is _____.
4. The class size has exceeded its limit. The person I would choose to be transferred to another group is _____.
5. The person I would most like to see do some psychodramatic work in this class is _____.
6. The class member who could most comfortably encourage me to do some meaningful work in this class is _____.

For each statement, participants were asked to supply the names of three members from their group in the order of their preference.

Procedure

The questionnaires were administered twice during the semester—once during the 3rd week of classes and then once during the final week of classes. In the remainder of this article, the assessments are referred to as pretests and posttests. After the participants completed informed consent forms, the researchers administered the cohesion scale and the sociometric instrument. To assure anonymity of their responses after the data were collected, the participants received a list of the names of the students in the class with an identifying number that they used when completing the sociometric instrument.

Results and Discussion

Reliability

Cronbach alpha coefficients for the Group Cohesiveness Scale for both the pretests and posttest assessments were computed for the five classes and overall for the 89 students in the five classes. The alpha coefficients are shown in Table 1.

The internal consistency reliability values are consistent with those obtained by Veeraraghvan et al. (1996). Those values are also consistent with

TABLE 1
Coefficient Alphas for Cohesiveness Test
for Different Classes

Class	<i>n</i>	α	
		Pre	Post
PD1	19	.85	.81
PD2	16	.86	.90
PD3	11	.60	.77
PD4	11	.76	.90
IN1	15	.74	.51
IN2	17	.84	.86
Overall	89	.80	.86

Note: Classes focused either on psychodrama (PD) techniques or interpersonal (IN) issues. Pre = pretest assessment; post = posttest assessment.

those generally found for self-report type instruments used in personality research. The variability in the internal consistency values between different groups was expected, given that the cohesiveness instrument is a state, and not a trait, instrument. Thus, the instrument seemed to have adequate reliability for use in research.

Change in Cohesiveness as a Function of Participation in Class

As we noted previously, class attendance itself can be construed as an intervention, although at no point during the classes was there a specific intervention intended to increase the level of cohesiveness. Table 2 contains the mean scores for the pretest and posttest scores, along with *t* values and their significance.

Given the small sample sizes, the results of each of the *t* tests were evaluated at the .05 level of significance. As can be seen in Table 2, there was a significant increase in group cohesiveness in two classes (PD3 and PD4), and cohesiveness decreased significantly in one class (PD1).

The results are interesting, in the sense that they suggest that the group cohesiveness instrument was sensitive to the emergent group dynamics in the various classes. The two classes that showed an increase in group cohesiveness were the summer classes that met daily for a whole week for approximately 8 hr. The intense group interactions in the two summer classes may have facilitated the greater feeling of cohesiveness, compared to the regular

TABLE 2
Pretest and Posttest Cohesiveness Scores and Results of *t* Tests

Class	<i>n</i>	Pre		Post		<i>t</i>	<i>p</i>
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
PD1	19	3.96	.42	3.65	.42	2.44	.025
PD2	16	3.97	.38	3.79	.50	1.81	.090
PD3	11	3.49	.37	4.18	.37	-4.01	.002
PD4	11	3.64	.47	4.41	.43	-3.39	.007
IN1	15	3.95	.38	4.00	.27	-0.47	.642
IN2	17	3.84	.42	4.00	.42	-1.51	.150
Overall	89	3.84	.43	3.96	.47	1.78	.078

Note: Classes focused either on psychodrama (PD) techniques or interpersonal (IN) issues.

semester classes. In the other three (PD2, IN1, and IN2) semester-long courses, class sessions were 1 week apart, and consequently, the lack of interaction during the interim period may not have been conducive to sustaining cohesiveness. It is difficult to explain the decrease in cohesiveness scores in PD1, but the large size of the class may have been a factor.

Cohesiveness and Sociometric Status

A purpose of the study was to examine whether the perceived cohesiveness was related to a person's sociometric status. It was hypothesized that the more popular individuals would perceive their groups as more cohesive. The sociometric status or popularity score for each individual was computed by adding the number of choices (regardless of rank) received across all questions. For exploratory reasons, all correlations among the pre-cohesiveness, post-cohesiveness, pre-popularity, and post-popularity scores were also examined. Table 3 contains those correlations.

Because of low sample sizes, an alpha of .10 was used to establish significance. Table 3 shows that (a) pre-cohesiveness scores significantly predicted post-cohesiveness in two of the five classes (PD2 and IN2), (b) pre-cohesiveness and pre-popularity correlated significantly in two of the five classes, (c) post-cohesion was correlated with both pre- and post-popularity in only one of the five classes, and (d) pre- and post-popularity were significantly correlated in all five classes. In terms of all classes combined, only the pre- and post-popularity scores were significantly correlated. Thus, the hypothesis that more popular individuals perceive their groups to be more cohesive was supported

TABLE 3
Correlations Among Pretest and Posttest Cohesiveness and Popularity Scores

Class	1	2	3	4
PD1 (<i>n</i> = 19)				
1. Precohesion	—	.121	.083	-.376
2. Postcohesion		—	-.001	.021
3. Prepopularity			—	.698****
4. Postpopularity				—
PD2 (<i>n</i> = 16)				
1. Precohesion	—	.611**	-.148	-.185
2. Postcohesion		—	.075	-.200
3. Prepopularity			—	.665***
4. Postpopularity				—
PD3 (<i>n</i> = 11)				
1. Precohesion	—	-.179	-.163	-.192
2. Postcohesion		—	.230	-.192
3. Prepopularity			—	.861****
4. Postpopularity				—
PD4 (<i>n</i> = 11)				
1. Precohesion	—	-.414	-.569*	-.350
2. Postcohesion		—	.181	.246
3. Prepopularity			—	.564*
4. Postpopularity				—
IN1 (<i>n</i> = 15)				
1. Precohesion	—	.370	.577**	.517*
2. Postcohesion		—	.610**	.629**
3. Prepopularity			—	.938****
4. Postpopularity				—
IN2 (<i>n</i> = 17)				
1. Precohesion	—	.443*	.051	-.022
2. Postcohesion		—	-.311	.192
3. Prepopularity			—	.491*
4. Postpopularity				—
Overall (<i>N</i> = 89)				
1. Precohesion	—	.003	-.053	-.062
2. Postcohesion		—	.154	.037
3. Prepopularity			—	.666****
4. Postpopularity				—

Note: Classes focused either on psychodrama (PD) techniques or interpersonal (IN) issues.

p* < .10; *p* < .05; ****p* < .01; *****p* < .001.

in only one class (IN1). What is interesting, however, is that the popularity status remained stable across the two instances of testing in all classes, suggesting that the leaders emerged early in the group's development and once they had emerged, retained their status, regardless of any group dynamics idiosyncratic to each class.

The present study related sociometric choices to group cohesiveness within the context of an ongoing learning group. A further purpose was to examine the reliability of the cohesiveness scale because that is a relatively new instrument. In this section, we discuss the reliability of the cohesiveness scale and then consider the results with regard to the relationship between sociometric choices and cohesion.

For each of the classes, coefficient alphas were assessed separately for the pretests and posttests and also overall across all classes. As shown in Table 1, the combined alpha values ranged between .60 and .85 for the pretest and between .51 and .90 for the posttest. The median reliability value was .80 for the pretest and .84 for the posttest. These reliability values seem acceptable for research purposes because they are in the range of what is typically found for self-report questionnaires (Borg & Gall, 1973). The reliability values are particularly impressive, given that the cohesiveness scale is a state, and not a trait, instrument.

Some revisions, however, might be considered for the cohesion scale to improve its reliability and perhaps its validity. The rating scale includes the response categories *low*, *medium low*, *medium high*, *high*, and *not applicable*. We suggest eliminating the catch-all category *not applicable* and replacing it with the category of *nonexistent* or *extremely low* at the lower end of the continuum. It is possible that some students used the not-applicable response to avoid making a choice.

Some items on the cohesiveness instrument were judged not applicable by many students. For example, statement 9 on the posttest, "I personally do not like to go to group meetings," was rated not applicable by 36.8% of the students. Likewise, statement 26, "If a group with the same goals were formed, I would prefer to be a member of that group," was rated not applicable by 26.3%. It is unclear what the not-applicable response means on those two questions.

The results of the present study do support the usefulness of the cohesion instrument in detecting changes in cohesiveness as a function of group maturity. In two classes, group cohesion increased; in one class, it decreased; and in three classes, the changes were not significant. That type of variation in results probably reflects the sensitivity of the cohesiveness scale to the idiosyncratic group dynamics in the different classes.

An interesting question was what contributed to the variation in cohesion in the different classes. The two classes in which cohesion increased were sum-

mer classes that spent 8 consecutive hr together for 5 successive days. Group members spent all their time as an assembly, even having lunch as a group. No concurrent classes interfered with the intensity of the focus. The majority of the limited time outside the group meetings was probably spent preparing for the next day's activities. It is conceivable that the elevated intensity of experience contributed to the feelings of increased cohesion in the two summer groups.

In contrast to the summer sessions, the classes offered during the regular semester met once a week for approximately 3 hr each week. There were probably few or no interactions between classmates during the intervening days. According to Cartwright and Zander (1968), close and frequent interaction with group members results in greater attraction to membership in the group. If the frequent interaction and elevated intensity of the two summer classes were possible reasons for increased cohesiveness in those groups, then the lack of close and intensive interaction may have contributed to the lack of change in cohesion in the two regular semester classes and to a decrease in cohesion in one class.

From the above results, we can articulate several questions. Do long sessions on successive days affect the group's cohesion? Did having lunch together make a difference in feelings of cohesion? A future study could isolate the lunch-together variable to see whether that alteration alone in a normal class schedule can make a difference in the cohesion ratings.

In the late 1960s and early 1970s, there was much interest in "marathon" groups. The extravagant claims made in the news media about their value were based largely on anecdotal records. The fad appeared and disappeared quickly, but the results of this study suggest that some elements of time-extended groups can be useful, especially in a learning-by-doing format of teaching. Yalom (1985) reported that the timing of the introduction of a marathon session may be a factor in the development of cohesiveness. Yalom explored the effects of a 6-hr meeting on the development of cohesiveness in six newly formed groups in a psychiatric outpatient department over a 16-week period. Three groups held a 6-hr initial meeting and 15 subsequent 90-min sessions. Three other groups had their regular 90-min meetings for the first 10 meetings; then at the 11th meeting, the three groups met for the extended 6 hr. In the three groups that held a 6-hr meeting initially, the trend was toward decreased cohesiveness in subsequent meetings. However, the use of the 6-hr group in the 11th session resulted in an increase in cohesiveness in the subsequent meetings that resumed the 90-min format. Thus, it appears that it is not the continuous time itself that affects cohesion, but rather the timing of the introduction of extended session that is important.

Moreover, in addition to the frequency and intensity of interactions, other possibilities could be related to the increased cohesion in summer classes.

Among students, summer psychodrama classes have a reputation for being more intense than those that meet weekly during regular session. That quality may well attract a special type of student who enjoys the group experience and the feeling of togetherness engendered by the group experiences. In other words, the students joined the group to be close to others in a group situation and to take the opportunity provided by various experiences and techniques to become closer to other members while they were also exploring the techniques used in psychodrama. Such students may evaluate both positive and negative experiences within a group as a formative type of experience and consequently feel less vulnerable to isolation.

The one class (PD1) in which the scale measured a decrease in cohesion was quite large. Because risk taking and cohesion affect each other in experiential groups (Yalom, 1985), it is possible that the large size of PD1 ($n = 21$) may have contributed to the lowered risk-taking effort (e.g., not taking initiative) to become acquainted with each other. The effect of group size is an area that merits further investigation.

Another purpose of the study was to examine perceived cohesion in relation to a person's sociometric status. It was hypothesized that the more popular students perceive their groups to be more cohesive. That hypothesis received only limited support; in only one class was the correlation between sociometric status and perceived cohesion significant. Interestingly, the researchers in this study observed that popularity status remained stable from the pretest to the posttest periods across all classes, suggesting that the leaders emerged early and retained their status through the two periods of assessment.

In one of the few systematic outcome studies demonstrating a relationship between patient trait and subsequent outcome in group therapy, Yalom et al. (1967) found that the only variables predicting success in group therapy were the patients' attraction to the group and the patients' general popularity in the group (both measured at the 6th and 12th meetings). Given those findings, one might expect a positive correlation between sociometric ratings of popularity and group cohesion. Thus, it is surprising that this study found so little correlation between the two. We suggest a follow-up study with the additions of a test of popularity that has been tested for reliability and more pointed sociometric questions.

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