ABSTRACT
A critical review of the small group literature is undertaken in an attempt to identify those characteristics which distinguish the dyad, the two-person group, from larger groups. Comparisons of dyads to larger groups are made in five categories of major small group variables: influence processes, affiliation processes, role differentiation and variability, task factors, and communication patterns. Ten important empirical and conceptual distinctions are analyzed, and the major limitations in the research are noted. Three implications of the unique nature of the dyad are suggested: results of research based on large groups may not be generalized to dyads; results based on dyads may not be generalized to larger groups; and in spite of several similarities between dyads and larger groups, the distinctive features of several major dyadic components serve to distinguish the dyad as a unique communication system. (Author/RB)
Dyadic Communication From The Perspective
Of Small Group Research

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Abstract

A critical review of the small group literature is undertaken in an attempt to identify those characteristics which distinguish the dyad from larger groups. Comparisons of dyads to larger groups are made in five categories of major small group variables: 1) Influence processes; 2) affiliation processes; 3) Role differentiation and variability; 4) task factors; and, 4) Communication patterns.

Ten potentially important empirical and conceptual distinctions emerged: 1) Leadership functions are least defined or identifiable in dyads; 2) Coalitions or subsystems are not possible in dyads; 3) Exercise of power and authority is most constrained in dyads; 4) Dyadic communication is characterized by minimal use of messages indicative of disagreement and a maximal use of messages indicative of a concern for ascertaining and responding to the views of the other; 5) Activity and intensity of involvement are greatest in dyads; 6) Satisfaction with other participants is greatest in dyads; 7) Variability of behavior is greatest in dyads; 8) Communication networks are not possible in dyads; 9) Feedback processes appear to involve greater degrees of self-disclosure and intimacy in dyads; and, 10) Amount of participation by any given member is greatest in dyads.

Major limitations in the research are noted. Three implications of the uniqueness of the dyad are suggested: 1) Results based on large groups may not be generalized to dyads; 2) Results based on dyads may not be generalized to larger groups; 3) Inspite of several similarities between dyads and larger groups, the distinctive features of several major dyadic components serve to distinguish the dyad as a unique communication system.
I. Introduction

The dyad, the two-person group, is the most frequent of all social groupings (12, 15, 25, 26). It is also probably the most important of all social groups (52, 63). Ruesch (44) points out that the dyadic relationship between mother and infant is the first relationship experienced in life, at least in our culture, and is essential for individual survival. In his study of boys' gangs, Thrasher (58) found that the two- or three-boy relationship was often more highly valued by members than the relationship to the larger gang as a whole. It is to the dyadic institution of marriage that most persons turn to find emotional and physical fulfillment. The dyad is the simplest of all social structures. In Simmel's words (48) it "contains the scheme, germ, and materials of innumerable more complex forms." The significance of the dyad, both in terms of numerical frequency and importance, can not be overstated.

The present work represents an attempt to critically review the small group literature in a search for those aspects of behavior which are unique to the dyad. The focus of the paper is on those experimental studies in which group size serves as an independent variable and in which some major small group variable functions as the dependent variable. In addition to examining empirical results, the paper will note several basic, conceptual or definitional distinctions between dyads and larger groups.

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Group size will be examined in terms of five selected classes of variables: 1) Influence processes--including leadership, coalition formation, power, and authority; 2) Affiliation processes--including the issues of cohesion and conformity; 3) Role differentiation and variability; 4) Task factors--including the topics of performance and problem-solving; and, 5) Communication patterns--including communication networks, feedback processes, and the distribution of participation. An examination of several general works on small group communication and interaction (11, 22, 23, 39, 45) indicates that these categories of variables are among the most frequently discussed in the small group literature. In examining the relationship of various sized groups (including the dyad) to these variables, the central question will be: "Do dyads function in any unique ways in terms of these variables?"

The paper proceeds by: 1) outlining a basic perspective for examining small groups in general; 2) examining each of the above classes of variables in turn; and, 3) attempting to evaluate the question of dyadic uniqueness both in terms of the quality of research and the results and implications of that research.

II. A Perspective: Group Size and Relationships

Small groups are more than aggregations of individuals. They represent aggregations of relationships and interrelationships. An essential first-step in the examination of small groups is in terms of the number of possible relationships that exist for any given number of persons (5). Increments in group size imply that more persons are available for acquiring and processing information and for developing more complex sets of interpersonal relationships (13). Probably the first investigator to formulate this view in mathematical terms was Bossard (9). This formula for determining the number of potential relationships
among a given number of persons, however, did not account for the development of relationships between individual group members and subgroups of two or more other members. Kephart (28) presented a more sensitive formulation which shows the ever-accelerating increase in the number of potential relationships brought on by increments in group size:

\[ P.R. = \frac{3^N - 2^{N+1} + 1}{2} \]

Where:

- \( P.R. \) = Number of Potential Relationships
- \( N \) = Number of Persons in a Group.

Application of Kephart's formula yields the following table:

<table>
<thead>
<tr>
<th>( N )</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>( P.R. )</td>
<td>1</td>
<td>6</td>
<td>25</td>
<td>90</td>
<td>301</td>
<td>966</td>
</tr>
</tbody>
</table>

Any group of a given size possesses a potentially unique number of possible relationships. The dyad, however, is distinct in that only one possible relationship may exist within it. All larger groups offer some number of multiple relationships. It is with this realization that we may proceed to examine the relationship between group size and other small group variables.

### III. Influence Processes

The general category of influence processes includes three of the more widely researched small group variables: 1) leadership; 2) coalition formation and functioning; and, 3) power and authority. In examining each variable, the dyad will be compared to larger groups in an effort to isolate its distinguishing characteristics.

Despite the variety of approaches taken to leadership, a central notion to nearly all discussions of leadership is that a leader exerts more influence on
the group than does the average group member. (11). However, in dyads it may be more difficult to identify the relative contributions made by members. Simmel (48) suggests that the delegation of responsibilities and obligations which characterizes all larger groups is less defined, and perhaps absent, in the dyad. As a result, clear indicators of influence may not be present in the dyad. The existing research appears to support this view. In examining groups of two to twelve members, Bass and Norton (7) report that observer-judges were least able to isolate behaviors indicative of leadership in dyads. Hare (23) points out that in groups of less than six members, observers have great difficulty identifying leaders. It appears that in dyads influence abilities are less attributable to one person than in larger groups.

Since the dyad is composed of a single relationship, subsystems or coalitions are not possible by definition (41). An additional member creates a fundamental conceptual and behavioral change in the social unit (8, 46, 47, 48, 60). Triadic relations are typically characterized by a "two-against-one" coalition (10, 17). The addition of new members to a triad, however, does not yield the same kind of alteration in transaction as the addition of one member to a dyad (35, 47, 60). Mills (36) found that over time triads represented a fluid set of power relations which usually resolved itself by the development of a supporting coalition of two stronger individuals against a weaker third. Taylor's (55) research indicates that triads are less stable over time than dyads. In triads and larger groups, subsystems and coalitions become central aspects of the overall group structure. This is a fundamental structural and conceptual distinction between dyads and larger groups.

The fact that dyads lack subsystems or coalitions profoundly influences the use of power and authority. The withdrawal of a single member ends the life of
the dyadic group—but not of larger groups. Simmel (48) succinctly observes: "A dyad depends...on each of its two elements...for its life, it needs both, but for its death, only one." This characteristic serves to distinguish the dyad from other groups in several ways. First, in terms of decision-making, it means that there is no "public opinion," audience, or majority pressure in a dyad. (4, 23, 48). There is no majority except unanimity (6). The dyadic group, unlike larger groups, is maintained only by the mutual willingness of all its members.

Second, this implies that power, or the ability to exert influence (11), is equally shared within the dyad. Since the continued existence of the dyad relies on the mutual willingness of all its members, each member has the power to destroy the group. The demands of one member can be blunted by the veto or withdrawal of the other (6, 48). While participants may be differentially influential, an attempt to influence the dyadic group by one person will ultimately be only as successful as the other allows it to be. In larger groups, however, this complete interdependency does not exist. An individual may successfully influence the group without necessarily successfully influencing all its members. Thus, as group size increases, the consequences of offending, countering, or alienating a given member decrease in severity (49). In larger groups, individuals can exercise power and authority with much less attention to the consequences for other individuals (23).

Third, dyads may be unique in terms of their characteristic exchange relations. Because of the interdependency of outcomes, individuals in dyads can not exercise their power as freely as they might in larger groups (56). As a result, members of dyads may more frequently orient their exchanges with greater deference to the other person. In larger groups, however, participants encounter more indirect and ambiguous exchange comparisons. As a result, they may not need to
so completely account for the actions or orientations of other members. They experience fewer constraints and may act in a relatively more independent fashion. This might imply that members of dyads more frequently function in a "relative" mode of profit orientation than members of larger groups (42).

These constraints give the communication in dyads a distinctive composition. Messages of disagreement are far less frequent in dyadic transactions than in larger group transactions. Zimet and Schneider (65), in examining groups of two to five persons, found that the frequency of expressions of disagreement was positively related to group size. Porter (40) reports that in dyads "each man was more conscious of the other man and was less eager to contradict the other man..." Dyadic transactions were more likely to experience the tension of a "strained politeness" than larger groups. Participants had to be more concerned with ascertaining and responding to the view of others in dyads than in larger groups. This conclusion is clearly indicated by the findings of Bales and Borgatta (4) who examined groups of two to seven members using the Interaction Process Analysis scheme. Dyads were exhibited the highest rates of: 1) showing tension; 2) asking for orientation; and, 3) asking for opinion. Conversely, they were found to display the lowest rates of: 1) showing disagreement; and, 2) showing antagonism. Utilizing adult subjects and a larger sample size, O'Dell (38) was able to replicate these findings.

The influence processes in dyads appear to be somewhat different, then, than those found in larger groups. Leadership functions are not as clearly delineated. Coalitions or subsystems are impossible by definition. Power is equally shared and as a result each individual experiences severe constraints on his or her ability to exercise power or authority. Further, this interdependency of power or "outcome control" results in unique communication patterns within the dyad.
IV. Affiliation Processes

Affiliation processes function to bind individuals more closely together in groups. Cohesion and conformity are the affiliation variables most frequently discussed in small group literature.

Most frequently, cohesion is conceptualized as the desire of members to remain in the group (11). Little direct research relating group size to cohesion has been conducted—at least with respect to dyads. Some tangential evidence, however, emerges from research on group performance and problem solving. Hackman and Vidmar (21) observed groups of two to seven members in a problem solving situation. In comparison to members of the larger groups, members of dyads were found to be: 1) more satisfied with their performance; and, 2) more intensely involved or "invested" in the performance process. In comparison with groups of three, five, and eight, Frank and Anderson (16) report that members of dyads were the most satisfied in terms of liking of the other members. In a study dealing only with dyads, Murdoch and Rosen found a strong tendency toward the formation of normative agreements to protect against disruptions (37).

In their review of small group literature relating to size, Thomas and Fink (57) suggest that "group size is an important factor in determining the amount of yielding to conformity pressures." However, at least with small groups, this conclusion is not well supported. In an early study by Asch (3) a negative linear relationship was found between group size and the amount of yielding. The least amount of yielding was reported in dyads. However, Goldberg (19) found no difference in the amount of conforming behavior from groups of two and four in an exercise involving the judgment of intelligence from photographs. Similar results were obtained by Kidd (29) in a study of groups of two, four, and six members who made judgments of flicker frequency. On the other hand, Rosenberg (43) examined
conformity pressures and yielding in a length-judging exercise with groups of two to five. His results indicated a curvilinear relationship between group size and conformity with the most yielding occurring in groups of four. Undoubtedly the heterogeneity of judgment tasks and the limited range of sizes examined has contributed to the inconclusiveness of these results. In any case, the relationship between group size and conformity is not a clear one—especially with respect to comparisons of dyads to larger groups.

It must be stressed that the above findings relate primarily to ad hoc experimental groups. In "real" groups, different dynamics might well apply. Simmel (47) and Bales, Hare, and Borgatta (5) suggest that transactions in dyads will tend to conform to an area within which both participants can agree. That is, the conformity variable functions to ensure that transactions remain with bounds of agreement or consensus. This limitation appears to be more clearly evident in dyads than in larger groups (47).

V. Role Differentiation and Variability

Simmel (47) and Becker and Useem (8) have hypothesized that dyads will experience a greater variability or individuality than larger groups. The investigations of Bales and Borgatta (4) appear to provide some support for this view. In a comparison with groups of three to seven members, dyads showed a greater variability in nearly all categories of the Interaction Process Analysis scheme. Dyads appear to be more varied in terms of the types of transactions they engage in than do larger groups. Becker and Useem (8) contend that the interdependency of the dyad allows the development of idiosyncratic modes of behavior.

This variability may result from the development of complementary roles in dyadic transactions. Bales, Hare, and Borgatta (5) report:
...there is a strong tendency for two asymmetric roles to develop, that is, for the members to specialize in different types of overt behavior. The differences appear in practically all categories of behavior. Apparently, there is a tendency for one member to gravitate toward a more active role and exercise the power of initiative, while the other tends toward a more passive role and holds the power of veto.

In larger groups, while roles may become quite specialized, several members may function in relatively similar roles. Apparently, such a situation is less characteristic in dyads.

The relationship of role differentiation and variability to the issues of leadership is not clear. It does appear, however, that the role differentiation characterizing dyads does not necessarily imply that one participant becomes the "leader." Bales, Hare, and Borgatta seem to imply only that one member is more active than the other. Whether we would call this more active participant a "leader" can not be ascertained from the literature.

VI. Task Factors

By task factors we refer to those variables associated with individual and group performance on a variety of problem-solving tasks. This topic is one of the more confusing and vague in small group research. The heterogeneity of tasks and measurement procedures reduces the comparability of findings, which in turn precludes precise empirical generalizations (57). In general problem-solving performance by groups and individuals is dependent not only upon group size but upon a variety of other variables as well. As a result, distinctions on the basis of size must be viewed as tentative at best.

As was noted earlier, members of dyads tend to be more intensely involved and more satisfied with other group members than are members of larger groups (16, 21). There is some evidence that this relationship is influenced by the
type of task. Frank and Anderson (16) draw a distinction between "conjunctive" and "disjunctive" tasks. Conjunctive tasks are those whose solution is a function of the weakest group members; while disjunctive tasks are those whose solution is a function of the best group member. In comparing dyads with groups of three, five, and eight, these investigators discovered that: 1) dyads tended to be the most satisfied with the group's performance when the task was conjunctive; but least satisfied when the task was disjunctive; 2) dyads tended to like disjunctive tasks less and conjunctive tasks more than other groups; and, 3) dyads tended to be the most satisfied in terms of liking of other members--regardless of task type.

In examining groups of two to seven members, Slater (49) reports that members of dyads were far more likely than members of larger groups to feel that the group was too small to carry out the assigned tasks in an optimum fashion. Hackman and Vidmar (21) report a similar finding. These latter investigators, do note though, that dyads experienced fewer difficulties in organizing and co-ordinating their problem-solving activities than larger groups.

While dyads appear to outperform individuals both in terms of the number of problems solved and the adequacy of those solutions (24, 30), there is some evidence to indicate that dyads take more time per problem than individuals (30). On the other hand, dyads were faster than four person groups in an experiment involving finding the correct response to the "twenty-questions" game (54).

The evidence comparing dyads to larger groups has been inconclusive--although the tendency is for dyads to perform less effectively or efficiently than larger groups. Porter (40) found the performance of dyads inferior to that of groups of four or eight. In a study of groups ranging from two to six members, Ziller (64) found that dyads neither performed particularly well or particularly poorly in
comparison to larger groups in a dot judging exercise. However, there is limited evidence to indicate that dyads generate more ideas in their transactions than do larger groups. Gibb (18) found that "the number of ideas produced was found to increase in a negatively accelerated function of size of group." Lorge & Solomon (31) found that dyads performed somewhat better than groups of five in terms of finding the solution to the Tartaglia transportation problem regardless of whether members had previous experience with the problem.

Lorge and Solomon (33) also have developed two mathematical models describing the probability that a group of a given size will find the solution. These models were derived from data concerning mathematical puzzles involving the transportation of objects or persons. One model applies to the situation in which solution is a function of the abilities of one or a very few members; while the other applies to the situation in which solution is a function of the pooled abilities of all members. In both models, increases in group size bring an exponential increase in the probability of solution. This would suggest that dyads would be less likely than other groups to solve such problems. Davis (13) contends that these models probably over-predict group performance. How this would relate to the relative effectiveness of dyads in comparison to larger groups is unknown.

In summary, it appears that dyads: 1) are likely to be more satisfied with group members and more involved than larger groups in general; 2) will be either more or less satisfied with their performance than other groups depending on the nature of the task; and, 3) are somewhat inferior to larger groups in terms of the quality and speed of solution. Such conclusions, of course, must be tempered by the generally low degree of comparability among investigations in this area and by the large number of confusing or contradictory results.
VII. Communication Patterns

Under this category, variables relating to communication networks, feedback processes, and the distribution of participation will be examined.

Broadly, a communication network may be viewed as the patterns and channels of communication among members and subgroups of some larger group (5). A consideration of communication networks is becoming increasingly frequent in the communication literature dealing with groups and organizations. Despite the growing theoretic and practical interest in networks, it is essential to note that dyads by definition cannot have a "network" of communication channels. As noted previously, the dyad is the only group in which only one possible relationship exists. This precludes the development of subgroups (23, 41). As a result, a network of communication channels cannot develop in a dyad because there are no subsystems to be interrelated by means of a communication network. It is for this reason that Weick (61) chooses the triad, not the dyad, as the basic unit of analysis in organizational theory.

A substantial portion of the research on feedback patterns in small groups has been conducted in the context of network studies. The absence of these potentially more complex patterns may be viewed as a distinguishing characteristic of dyads. Beyond this relatively little research of a comparative nature has been initiated. Nonetheless, some evidence indicates that group size is inversely related to the amount of feedback (20). Simmel (48) contends that feedback in dyads as opposed to larger groups is more likely to be: 1) immediate; and, 2) intimate. Rogers (41) points out that with additional members, the "relational reciprocity" of dyadic communication is lost. These views seem to be partially supported by Zimit and Schneider (65), who found an inverse function between group size and the frequency of personal messages about other participants.
There is evidence that feedback in dyads is characterized by a matching of responses. Messages at one level of intimacy tend to elicit feedback at that same level of intimacy (14, 53, 59). It is not clear, however, that this is unique to dyads. Worthy, Gary, and Kahn (62) obtained a similar result in four-person groups.

Simmel (48) has observed that the dyad may be unique in terms of forcing individual members to more actively participate. This hypothesis is consistent with the results of Hackman and Vidmar (21) indicating that members of dyads tended to become more intensely involved in a problem-solving exercise than did members of larger groups. Moreover, as group size increases the amount of participation by any given number decreases (11, 27).

VIII. Evaluation

Obviously, the importance of the differences between dyads and larger groups depends upon the nature and quality of the research upon which such distinctions are based. Unfortunately, the small group literature suffers from a number of conceptual and methodological faults. McGrath and Altman (34) describe it as an "...unabated race toward more empirical knowledge and the comparative absence of integrating theory..." Golembiewski (20) cites "substantial limitations on the reliability and validity of existing results" as a stumbling block to the development of theory. Rogers (41) notes the lack of a "unifying descriptive frame."

Since these weaknesses detract from the significance of the distinctions drawn above, it is necessary we explore them in somewhat greater detail. Three general weaknesses of the research seem important to note.

First, small group research has been characterized by a lack of consensus among investigators as to the conceptual or operational meanings of major
constructs. Investigators have developed new terminology rather than clarifying existing constructs. As a result, a large number of conceptually similar constructs remain inadequately related in the research (20, 23, 41). An example of this would be the previously noted difficulties in relating role differentiation and leadership. Concepts and operationalizations are frequently vague and ill-specified (5, 50). The heterogeneity of approaches has precluded the development of cumulative results which would ultimately lead to theoretical advances (20, 57). The relative ease with which small group research may often be conducted (50) and the limited use of multivariate techniques (57) have only served to exacerbate this general difficulty.

Second, the heavy reliance on ad hoc experimental groups has raised questions as to: 1) the extent to which such aggregations can be considered real groups at all; and, 2) the extent to which one can generalize from experimental results to existing, real, or free-forming groups. In many experiments it is doubtful that the collectivities ever really function as a "group" (20). Kelley and Thibaut (27), for example, have pointed to the generally low levels of involvement and activity observed in many experimental problem-solving groups. The fact that most experimental groups have no prior history of interaction as a group and no expectation of any future interaction together may curtail the development of important features in the dynamics of interaction (32, 41). As a result, the validity of generalizations of experimental findings to groups outside the laboratory is frequently questionable (11, 20). Since most experiments have the "double artificiality" of the laboratory setting and the use of temporary groups, our knowledge of "real" groups is severely restricted (1, 2).

Third, the variable of group size has not received systematic treatment (20). Studies comparing different group sizes often cite little or no theoretical or
practical rationale for examining some group sizes and not others. A complete sequence of groups of varying sizes is rarely examined in a given investigation (57). In other investigations, the size variable is included only as an afterthought because of its clarity and availability (38).

Future research must proceed from a more clearly defined, theoretically based, and systematic orientation. A central initial challenge will be the identification of basic dimensions of group behavior. Groups differing in size may then be compared in terms of these dimensions. The present work is an attempt to do this within the existing category and dimension systems. Just as important, however, is the need to distinguish in a systematic fashion between different types of groups of the same size. We would not expect a student-teacher dyad, for example, to function in the same way as a husband-wife dyad. The central need here is to identify some descriptive frame by which we may classify all of the different types of group relationships (41).

Keeping these limitations in mind, it seems appropriate to summarize what appear to be the major empirical and conceptual factors distinguishing dyadic transactions from transactions in larger groups. The following list presents what appear to be the strongest and most important of these:

1. Leadership functions are least defined or identifiable in dyads.
2. Coalitions or subsystems are not possible in dyads.
3. Exercise of power and authority is most constrained in dyads as a result of the equality of power relations.
4. Dyadic communication minimizes messages of disagreement, while maximizing the use of messages serving to ascertain and respond to the views of the other.
5. Activity and intensity of involvement of members is greatest in dyads.
6. Satisfaction with other participants is greatest in dyads.
7. Variability of behavior is greatest in dyads.
8. Communication networks are not possible in dyads.
10. Amount of participation by any given member is greatest in dyads.

In terms of several variables which appear central to small group analysis, then, the dyad seems to emerge as a distinct and unique social unit. As Zimit and Schneider (65) conclude: "the dyad is the group size which shows the most discrepancy from the other group sizes with respect to the behavior of the members." In their discussion of size, Cartwright and Zander (11) comment:

...on the basis of available findings one would have more reasons to draw a boundary between groups of two and groups of three than at any other critical size.

The investigator or theorist must interpret the implications of such a boundary with care. There are two important limitations for theory construction on small groups in general. First, these distinctions imply that the investigator must account for the potential uniqueness of the dyad. Many generalizations based on larger groups might not apply to dyads.

Second, these distinctions between dyads and larger groups imply that the investigator must be wary of generalizing results based on dyads to larger groups. Frequently, investigators assume that a knowledge of dyads will provide a basis for understanding other social groupings. Thibaut and Kelley's (56) viewpoint is typical in this regard:

...we assume that if we can achieve a clear understanding of the dyad we can subsequently extend our understanding to encompass the problem of larger and more complex social relationships.

While an understanding of the dyad may be, and probably is, essential to the explanation of larger and more complex social phenomena, one must not confuse
an understanding of the dyad with an understanding of larger groups. They are not the same. As a result, the generalization of dyadic findings to larger groups is frequently inappropriate (51). This is an important point since large amounts of social psychological research are conducted with dyads and then generalized to larger social contexts.

In a broader view, the dyad emerges as a unique system. Certainly there are similarities between several of the components of dyadic systems and larger group systems. However, taken as a whole, the dyad represents a unique system as a result of the variation introduced by its distinctive components or functions. At this level, the dyadic system is quite different from the systems characterizing larger groups. The dyad is not simply another small group. The frequency with which dyadic systems occur and their individual and cultural importance underscore the necessity for further specification of the structure, functions, and operating characteristics of dyadic systems.
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