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ABSTRACT

This dissertation address concerns the distribution of influence in decision-making groups. One general hypothesis of the study was that influence perceptions of group members depend upon the phases of decision-making in which they participate. Another was that the effects of participation would vary with the nature of the decision task or with issues to be resolved. Referencing the size of the "influence pie", total intragroup influence was predicted to be greater in facilitative than in contrastive conditions. Finally, the relationships between perceived influence and satisfaction, and between participation and satisfaction, were seen to be dependent on individual differences in power and affiliation motivation. The summary includes that (1) a viable theory of power in organizations must take into account differences in organizational situations and the characteristics of individuals who perform organizational roles. For example, sex was found to determine perceptions of influence in varying participative settings; and (2) interpersonal power in a group or organizational setting is conceived of as an intervening process outcome, rather than a structural given or a terminal effect. (TA)

SOME DETERMINANTS AND CONSEQUENCES OF POWER DISTRIBUTION IN DECISION-MAKING GROUPS

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Prior to delving into a presentation and either running out of time or allowing my absent-mindedness to take control, I would like at the outset to acknowledge those people without whose help we would not have this hour together. I publicly extend my sincere gratitude to Stan Nealey, who played an integral role in developing the research, to my committee chairman, Harry Triandis, who did a great deal to make the dissertation worthy of the Division 14 award, and to Wayne Kirchner and the Committee on Scientific Affairs for surviving their reading of my tome and inviting me to speak with you.

The research I have been asked to summarize for you today is characterized by such complexity as to dictate my selectively attending to its highlights as I see them.

The topical area of inquiry concerned the distribution of influence in decision-making groups. For several years, many researchers, holding to one or another humanistic theory of organization, have related participative leadership approaches to beneficial group outcomes such as organizational commitment, group productivity, and individual satisfaction. Such approaches comprise part of the broad power-equalization thesis, in that participation is presumed to generate the exercise of influence by subordinate group members, thereby fulfilling their "higher-level" motives, and increasing their acceptance of the leader. Any student of organization will recognize such an assumption as being anathema to classical bureaucratic or scientific management theories, which argued for the vesting of decision-making power in top management positions. From the '30s to the '60s, such classical positions tended, by and large, to fade from the mainstream, due to the realization that members without formally legitimated power can in fact wield it, and to the development of normative theories stressing the value of power decentralization. Early studies of the informal organization, democratic leadership, and group decision-making, coupled with emerging theories of multiple power bases and self-actualizing motivational tendencies (viz. Maslow's need hierarchy, McGregor's Theory Y), brought the issue of power equalization to the fore in organizational psychology.

Although interest in power-equalization is widespread and no one controls the research market, the thesis is particularly represented in the contemporary work of Likert, Tannenbaum, and their colleagues at Michigan's Institute for Social Research. Their participative management approach to organization attempts to maximize levels of control exercised at all hierarchical levels. Rather than the total amount of group influence being presumed constant, and its interposition distribution involving give-and-take, or gain-and-loss, Tannenbaum has argued that the total can vary and, depending upon the decision-making approach, all members can share in a gain (or loss) of influence. That is, through participation, overlapping group structures, and the like, the "influence pie" can expand, rather than simply being cut differently. Moreover, Tannenbaum's data suggests that the more effective organizational units are characterized by higher levels of total influence.

The power-equalization model has not passed without critical comment. Questions have been raised about the assumptions it entails concerning the nature of man, about the equivocality of its empirical support, and about its neglect of cost implications in terms of implementation and possible dysfunctional consequences. I refer you to papers by Leavitt and Strauss and my introductory chapter for detailed critiques.

Our future efforts in research of decision-making influence and the application of participative styles necessitates dealing with many such issues, four of which were explored in the dissertation research. These may be summarily stated as follows:

(1) Differential influence outcomes of varying participative processes.

(2) Differential effects of participation in varying decision task situations.

(3) Differential effects of participation on individuals with different values and motives.

(4) Problems in the conceptualization and measurement of influence. The present report will focus primarily on the process and situation issues, and I shall briefly note results pertinent to the question of individual differences.

Let us first consider the nature of the decision process as it may affect the influence of decision-making group personnel. Group decision making may be considered as a multiphased process of varying activities. While several descriptions of such a process have previously been suggested, little attention has been paid to consequences of participative involvement in the various phases. Drawing from previous research and theory, for example, Bales' interaction analyses of discussion groups, Bass' description of executive decision making, and Cyert and March's description of rational decision processes, decision making was conceptualized in this study as a three-phased process. Given a specific decision problem or task, the first phase is posited to involve the generation of alternative resolutions to the problem; phase two then focuses on an evaluation of those alternatives; and the final phase consists of choosing one alternative resolution to recommend or implement. For convenient reference, we can mnemonically label the successive phases G (Generation), E (Evaluation), and C (Choice).

If one views the decision process in this manner, and further considers the possibility of participation (or opportunity to take part) in various phase-combinations, the relation of participation to influence then becomes an empirical question rather than a definitional tautology. While definitions of participation vary in the literature, it has in some cases been presumed equivalent to influence, or at least concomitant with influence to the extent that decision or leadership styles are assumed to vary along a continuum of influence. It is debatable, as our data will later show, whether for participation to be "meaningful," i.e., to have effects on role attitudes or performance, it must be associated with influence. It seems even more hazardous to assume that a leader's intended delegation of influence through participation enjoys a one-to-one relation with followers' influence perceptions.

Thus, one general hypothesis of this study was that influence perceptions of group members depend upon the phases of decision making in which they can participate. In terms of the three-phase process, four participation variants were manipulated and examined for their effects on influence. Condition GEC implies full participation by both the group leader and his subordinates throughout the process. Member influence in this condition

was predicted to be greater than in any form of partial participation. The partial conditions, where members participate in only two stages, involved the following combinations: G'EC, GE'C, and GEC', where the prime notation following the letter indicates that member participation was prohibited in that phase of the generation-evaluation-choice process. In addition to contrasting the effects of complete and partial participation, comparisons were also made between partial conditions, the somewhat intuitive hypothesis being that lack of involvement in contributing alternative ideas (G'EC) and in making a terminal choice (GEC') would be most detrimental to members' influence. It might be noted, at this point, that most classically cited participation programs (Scanlon plans, Harwood plans, Autonomy programs) conform most closely to one of the partial phase descriptions or to situations where participation occurs in only one phase; the recent Lawler-Hackman study of maintenance personnel bonus systems and attendance rates seems to reflect most closely a full participation scheme.

Turning from process to situational differences, and considering them independently for the time being, I also argued that the effects of participation would vary with the nature of the decision task, or issues to be resolved. While advocates of power-sharing (e.g., Maier, Blake, & Mouton, Argyris) have noted the possibility of situational constraints, little research has been devoted to this problem. Heller and Yukl recently demonstrated that a manager's use of a particular decision-making approach depends on situational variables, including whether the decision issue is of a task or maintenance nature. Further, the structure of tasks has been shown by Fiedler to moderate the effectiveness of leadership styles.

My concern with decision tasks and how they might affect influence in a participative system focused on the degree of compatibility of task goals and the possibility of individual conflicts of interest. One can imagine situations where group members may work together toward a solution which benefits the goal-attainment of each member. However, cases may also arise where the situation permits only solutions, or means of resolution, which will have aversive consequences for some members--consider cabinet members meeting to participatively distribute federal budget cutbacks! In developing a concept of task dimensions, I borrowed from the early theoretical work of Deutsch, who studied cooperation and competition in terms of promotively interdependent and contriently interdependent goal structures. In a promotive situation a group member can obtain his goal only if the other members obtain theirs, while a contrient situation prohibits the person from obtaining his goal if any other members' goals are fulfilled. This distinction was generalized in the present study to differences between leaders' and members' perceptions of the influence they think they should exercise in resolving different task issues. This situational dimension is referred to as facilitative versus contrastive decision tasks. In a facilitative task, compatible leader and member reference group norms for shared power facilitate their mutual exercise of influence; all members can obtain their respective influence goals without obviating others' acquisition of power. A contrastive situation is defined by differing pretask influence distribution preferences of leaders and members (generally, though not necessarily, such that each prefers influence at his own group level to exceed that at other levels). Contrastive tasks imply competition and resemble McGrath's concept of a negotiation group, as opposed to a standard decision-making group. The situation involves explicit role structures with members belonging to reference groups with conflicting views. Forces to comply with referent norms and to reach a constructive decision tend to be in conflict.

Hypotheses can now be formulated in terms of task effects on influence. With reference to the size of the influence pie, total intragroup influence was predicted to be greater in facilitative than in contrastive conditions. Using Deutsch's original terminology, Aaron Lowin has also argued that the influence pie should more readily expand, and participation should have more beneficial effects on attitudes, when group members are not contriently related. Considering the leader-member distribution of influence, participation was also predicted to show different effects in the two task situations. The complete versus partial participation, and facilitative versus contrastive task variables can be integrated in a simple two-way design, as shown in the first slide.

Slide 1

The hypotheses predict main effects, in analysis of variance terms, for both the participation and task variables, with subordinate and group influence as dependent variables. We can also consider the effects of participation separately in the task conditions. In facilitative situations, both leader and member influence should be greater with complete, than partial, participation. In contrastive situations, where member participation is partial, leaders' influence should exceed members'; and, with complete participation, leader and member influence were predicted to differ in magnitude; that is, an increase in members' influence would detract from the influence of the leader, the amount of group influence being constant.

The third problem investigated here, which I shall mention briefly, was that of individual differences in motivation and their relation to participative decision making attitudes. Here we must extend the linkages of the power-equalization model to consider influence as an intervening variable and role attitudes, or satisfaction, as the organizational outcome. An assumption underlying much previous work on group decision making is that the influence of subordinates derived from such a procedure is instrumental to their work satisfaction. However, just as I have postulated process and situational mediators of participation-influence relationships, one might similarly suggest motivational mediators of influence-satisfaction associations. Specifically, an individual's perceived influence is hypothesized to be related to his satisfaction to the extent that he is motivated to exercise power. Such an hypothesis follows from previous research on motivational moderators of the effects of participation and other power equalization programs. Vroom, for example, found the effects of participation to be moderated by needs for independence and authoritarianism, and Hulin and Blood have attributed differential responses to job enrichment programs to different value systems of urban blue collar and rural or middle-class workers. Thus, I have postulated influence as a mediating mechanism for the generation of positive affect in participative systems, a mechanism appropriate when individuals view power as an attractive, or valent, outcome. In addition, one might expect participation to be related to satisfaction, in the absence of any exercise of influence, for people motivated toward social belongingness, i.e., those for whom affiliation is an attractive outcome. Participation is theoretically postulated to enhance satisfaction through different motivational mechanisms; individual influence may fulfill power motives, and the group decision interaction process may be associated with affiliation motive attainment. Moreover, we may hypothesize this process to be more conducive to satisfying affiliation motivated people when the decision task is facilitative.

To predict satisfaction, then, we have a fairly complex interaction of participation processes, decision tasks, individual motives, and intervening influence outcomes.

To summarize the general research hypotheses: The perceived influence of group members, and the group as a unit, in participative decision making, depends on the participation process, in terms of phases where participation occurs, and on the facilitative-contrastive nature of the decision situation. The relationships between perceived influence and satisfaction, and between participation and satisfaction, depend on individual differences in power and affiliation motivation.

Method

The nature of the effects of participation and decision-making tasks on influence perceptions and satisfaction was examined in a small-group laboratory experiment. Eighty groups, each consisting of a leader and two members (all of the same sex), discussed specific sets of decision issues. Experimental manipulations varied the conditions of phase-participation and facilitation-contrast under which the groups functioned in generating their decisions. Post-task measures of influence perceptions and satisfaction were obtained through questionnaire responses.

Group members were 160 students in introductory psychology at the University of Illinois. The leaders were 10 graduate teaching assistants in the same course. Leaders were voluntary, paid subjects. Members were randomly sampled and assigned to treatment groups, except that members had to be of the same sex as their leader, and were not in sections of the course regularly taught by the leader. In each of the 80 groups, the two members were new students, while each leader participated eight times, once for each treatment condition. The leader-member distinction was established by the following: (1) Leaders were formally designated by the experimenter and structured the group task by instructions to the members and recorded the decision resolutions; (2) leaders also varied participation conditions upon E's instruction; (3) leaders were older with higher education levels and greater experience with the decision issues at hand than were members; and (4) leaders and members had different organizational roles, as teachers and students, presumably with differential degrees of legitimacy and expertise favoring the designated leader.

The group and individual sample sizes can be summarized by referring to Slide 2.

Slide 2

Groups resolved one of two sets of decision issues, depending on the facilitation-contrast manipulation. The task was developed in accord with the following criteria: (1) the task should represent organizational decision-making tasks, (2) it should be relevant to the participants, (3) it should be of a discussion nature, specifying no best outcomes, (4) it should permit a multiplicity of alternative resolutions, as required by the participation-phasing treatment, and (5) it should permit the manipulation of facilitation without changing the general task.

The derived task focused on recommending ways to design the psychology course in which Ss were involved. The task was developed in consultation with departmental faculty, and Ss were informed at the outset that their decisions would be used for planning by the administration; Ss acted as advisory groups to the planners of the psychology curriculum. In the contrastive task conditions, the exercise of influence by the leader was incompatible with influence by the members; a second set of issues, defining the task as facilitative, was such that reference groups of teachers and students were in agreement that both parties should influence their resolution.

The issues were selected from a set of 14 issues presented to 206 students and 10 teachers in a preliminary experiment six weeks prior to the major study. In the pilot study, the two groups of Ss indicated the relative influence students and teachers should have over the issues. Issues retained for contrastive tasks showed significant mean differences on this pretest, such that students responded, to a great degree than did teachers, that students should exercise more influence in resolving those issues. The facilitative issues were those where student-teacher differences were smallest, and both sets of respondents preferred power-equalization. The issue composition of the two task conditions can be seen in the third slide. Forty groups discussed the facilitative issues, and 40 discussed the contrastive issues. The resulting decision for each group involved their selection of a recommendation to be made for each specific question presented to them.

Slide 3

The issues were resolved in one of four participation formats in accord with the participation-phasing treatment. Treatments involved experimenter instructions to the leader, and the leader's relaying these instructions to his members. Prior to meeting their groups, leaders were given a typewritten set of instructions relevant to the conditions to be imposed on the given group. The instructions, which were also pretested in pilot groups, consisted of a description of the purpose and task of the group, specification of the issues to be discussed, the extent to which the leader was to encourage or dissuade participation in the decision phases, and specific instructions on procedure to be transmitted to the members, indicating also how the leader was to behave throughout the meeting. The meeting was divided into alternative generation (10 min.), evaluation (10 min.), and choice (5 min.) phases. The leader informed his members that, for each stage, either he retained sole responsibility for that aspect of the process, or that the group was to work together with everyone taking part.

As an example, the participation-phasing portions of the instructions for the GEC, or full participation were as follows:

Experimenter to Leader: "The discussion is to proceed in three stages. You will have a total of 25 minutes with the group. During the first 10 minutes, you and your group are to come up with as many alternative recommendations as you can, for each of the questions on the Recommendations form. In the following 10 minutes you may discuss these alternatives among the group members. Finally, five minutes will be allowed for you to reach a final decision and write out the recommendations of your group. Throughout the 25-minute session all three of the group members are encouraged to participate."

Leader to Members prior to Phase G:

"Let's try to work together as a group on this and come up with some good recommendations . . . . During the first 10 minutes let's try to get on paper all of the possible recommendations that we might make, regardless of what we think of each other's ideas, and without any discussion of the suggestions that come up. I'll write these suggestions down. Then we can spend another 10 minutes discussing the possible alternatives, noting their pros and cons, and perhaps eliminating some. Finally we will try to reach a concensus on one final set of recommendations, one for each question. If we are not unanimous, we will vote on the final decision, with each of us having an equal vote. All right, let's begin. Who has a suggestion for recommendations we might make on the first of these topics?"

Leader to members prior to Phase E:

"Let's stop now and look at what we have. We have made several suggestions. Now we can give our opinions on them, why each one might be a good plan or why it would not. What do you think about this first one?"

Leader to members prior to Phase C:

"Now it's time that we make up our minds on a final set of recommendations. Let's consider those we still have left, and take a vote of those in favor of each one."

The remainder of the participation conditions prohibited members from taking part in either the generation (G'EC), evaluation (GE'C), or choice (GEC') phase. Phasing instructions were similarly phrased across the four treatments, with the participation manipulation embedded in those instructions. Leaders' instructions included justification, based on the leader's status and knowledge, for following each of the partial participation processes. In addition, leaders were provided with parenthetical statements to guide their actions in each phase--for example, in the first phase of the G'EC condition--"Come up with as many alternatives as you can, alone, and write them down . . . . 'think out loud' letting the members hear what ideas you are getting. However, do not accept any comments from them at this time; if necessary cut off any attempts at discussion or questioning."

It should be reiterated here that group leaders were subjects, not experimenter confederates. However, the participation treatments are fairly transparent. To control for leader expectancies, practice effects, and demand characteristics the ordering of the eight treatments were different for each leader, the leader's eight groups were scheduled over a 7-week time span, leaders were not confronted with their own students as members, and leaders were debriefed and paid after their eighth session.

The dependent measures in the 4 x 2 design were leaders' and members' perceptions of influence and role satisfaction. These measures were included in posttask questionnaires, along with measures of the effectiveness of the experimental treatments. Four items measured the effectiveness of the participation manipulations. Ss responded on 9-point scales, with Completely true and Not at all true as anchors, to these statements: "I was able to offer suggestions for specific recommendations to the group," "I was able

to comment on and discuss the recommendations proposed," "I was able to play a direct part in the final decision (choice of alternatives) made by our group," and "In general I was able to participate in this discussion as much as the other two people in our group." This latter, overall perceived participation variable was used as a predictor of satisfaction in analyses to be reported later.

The effectiveness of the facilitation manipulation was measured in the same response format with a combination of items, including, "There was a good deal of competition in making our decision," "There was a good deal of disagreement about the best recommendation to make," "Each of us was able to get some of his ideas incorporated in the final recommendation of the group."

Satisfaction with several aspects of the group process was assessed with 9-interval descriptive graphic scales, with categories ranging from Completely dissatisfied through Neutral to Completely satisfied. Items measured overall satisfaction and satisfaction with the decision, the decision-making method, the leader, intermember relationships, the individual's own role in the group, and the accomplishments of the group.

In order to describe the measurement of influence, I must digress for a moment and return to the fourth basic problem in this research as outlined in my introduction--the concept and measurement of social influence. Without delving into theoretical issues of multiple power bases and distinctions between such terms of influence, power, and control, it is evident from previous research and notions of expanding influence pies, that the measurement of influence perceptions has been fairly restricted. That is, most studies have used what I would call ratings of absolute influence. Respondents may be asked to describe or evaluate the influence of people or groups independently and use typical Likert-type rating scales. The results I shall report today rely on this kind of measurement system. In addition, however, multiple measures were incorporated in this study, to examine the convergence between absolute and relative influence, and ratings and behavior-observation methods of assessment. These considerations gave rise to four influence measures: (1) the absolute behavioral measure involved Ss' indicating which among several pre-scaled behaviors the group members had exhibited, (2) the relative behavioral measure was similar, except that Ss could not assign the same behavior to more than one member; they had to determine which member exhibited each behavior, e.g., making suggestions, asking for opinions, frowning, to the greatest degree; (3) the relative rating asked S to distribute a hypothetical constant sum of 100 influence points among the group members, such that S would describe the influence of person A relative to B and C; (4) the absolute rating asked S to describe the influence of each member independently, by indicating on a 9-point scale, for 11 items, the degree to which it was true that the member "had a great deal of influence over the decision we made," "got the discussion to go the way he wanted it to go," "had other members agree with his ideas," and so forth.

The behavioral influence measures are being refined and used in current research. The influence variable reported in this summary, in order to avoid sending you rushing to the Hilton bar to unboggle your minds, is a single overall score based on the absolute ratings. This measure showed the greatest interrater agreement and the greatest convergence with the other measures, is somewhat similar in conceptualization to previously used measures, and

permits examination of a variable amount of total group influence. The influence score was the sum of the 11 item responses. The items were highly intercorrelated with item-total correlations ranging from .40 to .74 for the 160 members. The following scores were derived from this measure: influence attributed to the leader, influence attributed to each member, and the mean member-level influence; influence attributed to oneself; and total influence of the group, a sum of the three individual influence scores. There influence attributions were obtained from both the group leaders and the members.

The posttask questionnaire consisted of these treatment effectiveness, perceived influence, and satisfaction indices. Prior to the task two other measures were taken. Leaders and members completed a paper-and-pencil measure of power and affiliation motivation, a description of which I shall defer for the moment. Leaders also completed, before their first, fifth, and eighth sessions, the course issues questionnaire used to pretest for task facilitation. Since the leaders were involved in repeated sessions with the same tasks, it was desirable to assess any changes in task-facilitation manipulations over time. None of their mean responses to the issues items differed significantly across sessions. Hence, leaders' attitudes toward influence distributions in resolving the issues remained stable throughout the experiment.

The experimental procedure, derived from pilot testing of instructions, manipulations and questionnaires, can be briefly summarized as follows: Each group session lasted one hour. Leaders arrived 15 minutes early, completed the facilitation and/or motivation questionnaires, and were given their experimental instructions with any needed clarification by E. E then conveyed instructions in another room to the two members, introducing the events to follow, delineating the task issues, and defining the status and function of their leader. The leader and members were then brought together, introduced, and seated, with identifying name cards at a conference table, on which had been placed pencils, scratch paper, and the final recommendations form to be filled out by the leader. E left the room, and the leader began the 25-minute decision process. E interrupted the 10- and 20-minutes-elapsed marks, which, by previous instruction, served as a cue to the leader to move on to phases E and C respectively. E returned at the end of the period, collected the recommendation forms, and administered the posttask questionnaires. Ss were then debriefed, thanked, and dismissed.

Results

Let us first deal with my first two sets of hypotheses concerning the effects of participation-phasing and decision tasks on influence perceptions. Analyses of the data were conducted for the attributions of influence by leaders and members to the leader, each member, and the total group. The basic design involved a 4 x 2 analysis of variance in members' responses, with the four participation and two task treatments comprising fixed factors. For leaders' responses the statistical design was expanded to a three-way ANOVA with leaders as a random factor; the completely crossed and balanced design effectively controls for repeated leader measurements.

Member analyses were conducted for the male and female groups separately, and for the sexes combined. The results you will see are based on the 56 male decision-making groups (within cell N=14). The analyses revealed several sex differences, and these will be noted as time permits.

Slide 4

Slide 4 shows the cell means for members' attribution of influence to members. Inspection of this table indicates the following: (1) perceived member influence tends to be greater in full participation than in the partial participation conditions; (2) although the weakest member influence occurred when they were unable to participate in the final choice phase, the magnitude of differences across the partial participation conditions was negligible; (3) influence was greater, across all participation conditions, when the task situation was facilitative than when it was contrastive.

Slide 5

Support for these inferences, in the form of tests of significance, can be found in the next slide (5). The F ratios indicate highly significant main effects of both the participation and task treatments, and no significant interaction effects. These variables were found to affect the influence of both subordinate members of the group (hence also the mean member-level influence), rather than that of a single individual. Orthogonal comparisons across partial participation conditions revealed no significant differences; the main effect was attributable to the full versus partial comparison.

Results from the 24 female groups differed from the foregoing in two basic respects. While participation affected their influence, the decision task had no effect. Moreover the participation-phasing differences were more distinct. Influence was lowest when female members were not allowed to take part in the generation phase; their influence was of similar (high) magnitude in the full participation and GE'C conditions, particularly in contrastive tasks. The participation effects were quite substantial, accounting for 30% of the influence variance.

Leaders' descriptions of members' influence failed to corroborate those of the members. Members' absolute influence was not affected by either treatment. When leaders reported relative influence distributions, however, (the distribution of 100 points) they described members' influence as significantly higher when they had participated in all decision phases.

Slide 6

A similar pattern of results held for the dependent variable of total group influence. The cell means in Slide 6, for males' descriptions of group influence, conform closely to their descriptions of member influence. The main participation and task effects were both significant at the .01 level, and each accounted for 21% of the group influence variance. Again for females there was no task effect, and for leaders' descriptions no effects of either treatment. Since member and group influence are not independent, we would expect the results to be similar. However, given the results supporting different magnitudes of group influence in different participative decision approaches and in differing task conditions, the interesting question remains concerning the variability of leaders' influence.

Slide 7

Descriptions of leader influence, made by members and leaders themselves across treatment conditions are shown in Slide 7. These data showed that (1) the task but not the form of participation affected members' descriptions; leader influence was significantly greater in facilitative conditions; and

(2) participation but not the task affected leaders' descriptions; leaders reported their own level of influence to be significantly lowest under conditions of full member participation.

These data force an interpretation of partial support for the expanding influence pie hypothesis in terms of members' descriptions. The influence pie was largest with complete-process participation, but the size of the pie is attributable to variation in member influence. The use of extensive participation to heighten members influence did not undermine their perceptions of leader influence. However, a mutual heightening of both members' and leaders' influence was not evident here. Moreover, two constraints on the amount of group influence were found--the facilitative versus contrastive nature of the situation, and the hierarchical group level of the respondent assessing influence.

None of these results have indicated participation and task interactive effects on influence. Participation tended to affect influence in the same direction in both task conditions. Supplementary post-hoc contrasts of full versus partial participation within task conditions, however, revealed differences in the magnitude of effects. In facilitative situations, the F of 29 showed a participation effect significant at the .01 level; in contrastive tasks the F was about 10 and significant at the .05 level of confidence.

The effect of task differences on participation effects can also be seen in comparing the distributions of leader and member influence within treatment conditions. Recall that the hypotheses predicted that power-equalization would not prevail in contrastive situations due to the competition involved; influence at one group level would be gained at the expense of another level. Slide 8 shows the mean attributions of influence, by members, to the leader and member levels within each of the eight treatments. The influence of leaders and members were both high and were not significantly different only in facilitative situations where members participated throughout the decision process.

Slide 8

In all other conditions, members saw their leaders' influence as greater than that at their own level; in the contrastive GEC, and facilitative GE'C cases the leader-member differences were significant at the .05 level, while the remaining t's were significant at $p < .01$. Similar analyses performed on leaders' responses showed that leaders attributed significantly greater ($p < .01$) influence to themselves than to the member level in every experimental condition.

The final set of results I shall present focus on the relationships of members' influence perceptions to their role attitudes. The participation and task treatments were found to affect satisfaction; as suggested in the hypotheses, facilitative tasks were also more conducive to satisfaction among members with strong affiliation motives. The more interesting point I wish to make here, however, concerns the moderation of participation-satisfaction and influence-satisfaction relationships by differences in members' power and affiliation motivation. Correlational analyses were conducted with the role satisfaction items as one set of variables, and members' perceived overall

participation and self-attributed influence as the other variables; the participation variable had been included with the set of participation-treatment effectiveness measures.

To describe these results I must belatedly and briefly introduce our motivational measure. Prior to the decision-making portion of the experiment, Ss completed a Personal Values Questionnaire which yields ipsative indices of the perceived attractiveness of power and social affiliation, among other motive dimensions. This instrument was based on Ledyard Tucker's earlier work with a similar Goals of Life questionnaire. It consists simply of 12 items, within each of which S rank orders the attractiveness of statements representing the various motive dimensions; three items tap each of four dimensions, with each between-dimension statement comparison occurring once. A power motive score, for example, is derived by summing ranks assigned to each of the power items across the quadruplet comparisons. Preliminary analyses with pilot samples and PVQ data from subjects in the present study showed the measure to be internally consistent, stable over a two-month test-retest period and unaffected by social desirability biases.

The sample of male members was, then, trichotomized on the basis of power and affiliation motive scores, and the aforementioned correlations were compared across subsamples. The role of power motivation on influence-satisfaction relationships can be seen in the next slide (9). Perceived influence was significantly associated with overall satisfaction only for members with strong and moderate power motives. A similar pattern of relationships held for satisfaction with the decision outcome and the decision-making method. For the latter two items, correlations in the strong and weak motive groups were significantly different at the .05 level.

Slide 9

Accepting these results it would seem reasonable to argue that participation is related to role satisfaction only for a subgroup of the population motivated to exercise power. But this is not the whole story. For such a conclusion presumes influence-acquisition as the mediating mechanism responsible for enhanced attitudes. That this is not necessarily the case is demonstrated in the next slide (10). These results are for the subsamples with varying degrees of affiliation motivation. Correlations between influence and satisfaction with the decision, the method, the leader, and group accomplishments tended to be stronger among Ss with weak affiliation motives. However, in the strong affiliation motive group, perceived participation was significantly related to satisfaction, even though several influence-satisfaction correlations were negligible. With Hotelling's t criterion the difference between correlations of participation and influence with satisfaction with the decision itself was significant at $p < .01$. The comparison of participation versus influence relationships is also noteworthy on the attitude-toward-interpersonal-relations criterion, where the same pattern of correlations was observed.

Slide 10

These findings support the hypotheses of individual differences in the effects of participation and multiple mechanisms of motive fulfillment associated the group decision-making process. Rather than accepting global benefits of participative treatment packages, effective theory and practice demands that we isolate these mediating mechanisms. In addition to the intervening processes of

individual influence and group affiliation studied here, the argument might be extended to still other motives and incentives; for example, participation might be instrumental in attaining satisfaction with monetary rewards, if some payoff is associated with successful implementation of group-derived decisions. Returning to my work with the idea of participation-phasing, I might note finally that different phases of the decision process may offer differential opportunities for the fulfillment of different classes of motives; in this study, for example, participation in the final choice phase was related to satisfaction with the decision and intermember relations only for members with weak affiliation motives; for those with strong affiliation motives, participation in Phase C showed nil or negative relations to these satisfaction criteria.

Summary and Outlook

In the few minutes I have remaining, I shall try to pull together in general terms what we have and what I think we need in this area of research. As a schematic integration of the research, we can use the last slide (11). Aside from the obvious complexity implied by the diagram, it illustrates two basic points.

Slide 11

First, a viable theory of power in organizations must take into account differences in organizational situations and the characteristics of individuals who perform organizational roles. In this study, at the individual differences level of analysis, sex was found to determine perceptions of influence in varying participative settings, and the organizational characteristics of intragroup level and the facilitative-contrastive dimension underlying decision tasks also affected outcomes of power manipulations. Sex, group level, and motivational differences also affected relationships between decision-making power outcomes and members' satisfaction. Inclusion of these variables would hardly constitute an exhaustive model of group decision making and power relationships; the portion of the slide outside the dashed lines indicates other facilitating or constraining variables which may play important theoretical roles in predicting outcomes of power-change programs.

Secondly, interpersonal power in a group or organizational setting is conceived of as an intervening process outcome, rather than a structural given or a terminal effect. Power relationships are suggested to be a result of decision-making approaches, along with additional means of manipulating power, as modified by the situational variables already discussed. Involvement of members in decision processes is predicted to depend at the outset on managerial philosophies and structural properties of organization. Further, additional programs of system change, such as job enrichment or leadership training may also change power relationships whether or not such change is a direct goal of the program. Moreover, power relationships are only one aspect of a set of intervening outcomes relating to organizational consequences. Intragroup affiliation, along with the quality of decisions, members' commitment to them, and rewards associated with them should also affect behavioral and affective organizational outcomes, and, in turn, the long-term use of a participative decision approach.

Within this general theoretical framework, more specific research problems may be suggested. Future research might encompass descriptive analyses of organizational decision processes. The phasing design used in the current study may be modified pending evidence on the utility of various strategies. Such evidence might point to differential distinguishability of process phases; for example, if as Bass has suggested, the choice of alternatives is simply an

extension of evaluating solutions, then group discussion of issues would imply a participative commitment for their final resolution.

A second basic problem, again requiring field studies, is to expand the meaning of task contrast and facilitation. Such a broad dimension may incorporate several variables contributing to the facilitation of mutual influence and goal attainment. These variables may include goal similarity or complementarity, the importance of decision consequences, power expectations, and the personal characteristics of decision makers. The definition of situational facilitation involves both specific decision issues and particpants' attitudes toward their ideal resolution. Research should examine relative degrees of invariance of contrast across issues with the same sample of decision makers and across different sets of individuals resolving the same issues. These analyses would assist in developing decision strategies where either the issues or participants' attitudes are subject to modification.

If the situational argument advanced in this thesis holds, either a practical strategy of adaptive decision-style treatments or one of situational change might be attempted. The former presumes a good deal of flexibility in organizational roles and an effective means of measuring task and individual parameters. On the other hand, consistent application of subordinate participation may require far-reaching organizational change, including perhaps the restructuring of task situations, attitude change, or reconstitution of decision-making groups. A strategy of situational change would require innovations in traditional ways of formulating tasks and developing people, and would necessitate extensive validation research. One could, for example, don his hypothesis-generation cap and consider possible change programs to incorporate any modification in power relationships and reward systems associated with conversion from a conscripted to an all-volunteer army.

A third research area concerns the notion of multiple bases of power and their role in decision making. Bachman and his colleagues have begun work on the relation of power types, in the French and Raven sense, to satisfaction and productivity. In conjunction with the present research, we might ask such questions as: (a) Do the moderating effects of situational and individual variables change with the use of different power bases? For instance, is the exercise of one kind of power a more effective path to the fulfillment of general power motives than another kind? (b) What are the organizational determinants of the development of different kinds of power relationships; in what instances is, say, expert power more likely to be used than legitimate power, and what are the effects of multiple power bases in decision making? (c) If a particular kind of power is found to have the most positive consequences how can decision-making procedures be developed to maximize the use of that power?

Such theoretical questions, as well as problems of measurement are of current concern to some of us at Ohio State. Research projects underway, which unfortunately are not so advanced as to permit conclusive inferences, are taking another look at the issue of influence measurement and the role of power motivation in decision making and negotiation. We are examining multiple methods of influence assessment in terms of the ratings employed in the present research, behavioral descriptions by group members and external observers, and convergence between individual goal preferences and group decision outcomes. Many of the theoretical questions I have posed await further research. In a recently completed study, Dr. Dennis Courtney found

that individual power motives, as well as power legitimated by rank in a military sample affect group interaction processes, particularly, the frequency and effectiveness of individual influence attempts in group decision making.

The general line of thinking represented in this research, and several of its empirical outcomes, present us with intriguing and researchable questions relevant to the process mechanisms of participation and influence-exchange and to practical implications for organizational control. I hope that in the past hour I have stimulated some of you to join in that task.

Slide 1

Research Design

Participation

Task	GEC	G'EC	GE'C	GEC'
DV: Facilitative	Member influence Leader influence Group influence			
Contrastive				

Slide 2

Within-Cell Sample Sizes

Groups	-	10	
Male groups	-	7	
Female	-	3	
Individuals	-	30	
Male individuals	-	21	
Female individuals	-	9	
Subordinate members	-	20	
Male members	-	14	
Female members	-	6	
Leaders	-	10	Repeated Measures
Male leaders	-	7	
Female leaders	-	3	

Slide 3 (A)

Decision-Making Issues

A. Facilitative Tasks

1. Class procedures:

   a) To what extent should the teaching assistant lecture, hold general discussions, have question-answer sessions, etc?

      We recommend:

Lecture	_____ % of the time
Question-answer	_____ % of the time
Discussion	_____ % of the time
Other (specify)	_____ % of the time

   b) What kinds of special projects and new material might the teaching assistant assign or introduce? To what extent should he do this, and under what circumstances?

      We recommend:..

2. What is the relative emphasis that should be given by the teaching assistant to theoretical and applied aspects of the subject matter?

   We recommend giving the following weights to theory and application...

3. How often, and through what means, should performance feedback be given to the students?

   We recommend...

Slide 3 (B)

Decision-Making Issues

B. Contrastive Tasks

1. Grading procedures:

   a) What system should be used to determine students' grades?

   b) What aspects of performance should be considered, and how much weight should each aspect have in determining final grades?

2. Examination procedures:

   a) What kind of examinations should be given? What should the question format be?

   b) What is the ideal number of exams, and when in the term should they be given?

3. Reading load:

   What is the maximum reading load (pages per week) that should be required?

Slide 4

Mean Amounts of Influence Attributed to Members (by Members)

Task		Participation			
		GEC	G'EC	GE'C	GEC'
Facilitative	M_1	77.86	66.29	67.86	61.86
	M_2	80.14	63.86	64.57	63.36
Contrastive	M_1	63.79	57.93	57.36	56.14
	M_2	70.00	55.86	55.36	52.36

Slide 5

Summary of Treatment Effects on Members' Influence

		Treatment Effect		
		Participation	Task	Interaction
F-ratio	M_1	4.81	17.61	0.59
	M_2	10.63	15.34	0.07
p value	M_1	.01	.01	ns
	M_2	.01	.01	ns
eta-squared	M_1	.12	.15	--
	M_2	.24	.13	--

Slide 6

Mean Amounts of Influence Attributed to the Group (by Members)

	Participation			
Task	GEC	G'EC	GE'C	GEC'
Facilitative	244.29	209.71	209.00	210.79
Contrastive	211.71	188.07	190.14	182.21

Slide 7

Mean Influence Attributed to Leaders (by Members and Leaders)

		Participation			
Task		GEC	G'EC	GE'C	GEC'
Facilitative	Member	86.29	79.57	76.57	85.57
	Leader	84.50	83.80	86.50	88.90
Contrastive	Member	77.93	74.29	77.43	73.71
	Leader	78.40	84.50	88.60	86.69

Slide 8

Comparison of Leader and Member Influence

Within Treatments

	Leader Influence		Member Influence		
Treatment	Mean	Sigma	Mean	Sigma	t
GEC - Fac	82.75	21.69	79.60	11.80	<1
GEC - Con	78.00	15.52	68.70	8.67	2.28*
G'EC - Fac	74.95	14.51	63.80	10.94	2.69**
G'EC - Con	76.70	10.86	57.80	10.21	5.53**
GE'C - Fac	77.35	16.85	67.25	12.35	2.08*
GE'C - Con	75.15	12.82	61.85	13.89	3.06**
GEC' - Fac	83.45	11.60	54.55	11.96	4.97**
GEC' - Con	74.35	14.70	56.95	11.82	4.02**

*$p < .05$

**$p < .01$

Slide 9

Correlations Between Influence and Satisfaction for Individuals with Different Power Motivation

	Motive Strength[a]		
Satisfaction Dimension	Strong	Moderate	Weak
Decision outcome	.59**	.22	.26
Decision method	.63**	.58**	.31
Leader	.37*	.33*	.35*
Member relations	.21	.41*	.29
Own decision role	.26	.38*	.40*
Group accomplishments	.41*	.17	.53**
Overall satisfaction	.49**	.42**	.20

[a]N = 36, 36, and 38 in the strong, moderate, and weak subgroups.

*$p < .05$

**$p < .01$

Slide 10

Relationships of Satisfaction to Perceived Participation and Influence for Individuals with Different Levels of Affiliation Motivation

Satisfaction	Motive Strength[a]					
	Strong		Moderate		Weak	
Dimension	P[b]	I	P	I	P	I
Decision	.58**	.09	.31	.33*	.38*	.63**
Method	.48**	.28	.46**	.61**	.56**	.62**
Leader	.32*	.27	.23	.38*	.35*	.43*
Relations	.50**	.28	.04	.51**	.18	.16
Own role	.46**	.40*	.09	.39*	.30	.25
Accomplishments	.41**	.35*	.38*	.33*	.28	.51**
Overall	.53**	.35*	.28	.49**	.32	.27

[a]N = 38, 38, and 34 in the strong, moderate, and weak subgroups.

[b]Column heads P and I refer to Participation and Influence.

*$p < .05$

**$p < .01$

Slide 11

A Situational-Process Model of Power Relationships