
Mechanic's (1962) conceptual model of power of lower participants was empirically tested, with a focus on the relationship between chairpersons and departmental secretaries of academic units. Power was defined as the ability of a person to have access to and control over information and individuals. A questionnaire was developed that covered the following factors: expert knowledge of lower participants, effort and interest in attaining complex work skills, dependency of superordinates on subordinates to do routine and nonroutine tasks, and control over access to persons, information, and instrumental equipment. Questionnaires completed by 50 chairpersons and 50 departmental secretaries at a major public research institution resulted in 94 usable responses. The results partially support Mechanic's model. The longer on the job, the more control the secretary had over access to persons, information, and instrumentalities. Expert knowledge and perceived power were also linked. It is recommended that a combination of quantitative and qualitative methods be used to better understand these power relationships. Questionnaire development, achievement of construct and content validity, and test reliability are briefly described.
THE POWER OF LOWER PARTICIPANTS IN
EDUCATIONAL ORGANIZATIONS

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Abstract of the Study

This study empirically tested Mechanic's (1962) conceptual model of power of lower participants. Accordingly, power was defined as the ability of a person to have access to and control over information and individuals. Time spent in the organization and replaceability of lower participants were manipulated to study their relationship to the concept of power.

Survey methodology was used to obtain data; a questionnaire based on Mechanic's conceptual model was developed and tested for internal consistency. One hundred departmental chairpersons and secretaries were selected at random from a public research university. Correlation techniques were used to determine the degree of association of some variables with the concept of power. Moreover, the Wilks' lambda test was used to test group mean differences.

Mechanic's model was partially supported.
It is generally conceded that the effectiveness of any type of organization stems partly from the quality of the social composition of the organization. That is, the quality of its members and their interrelationships form the basic foundation of any organization. Management on one hand, and employees on the other, interact and thereby carry out the goals of the organization. In this process, however, power relationships develop that impact upon organizational life. Dependence relationships become routinized because subordinates perform tasks that superordinates would not be able to do themselves. Thus, reciprocal power relationships develop between management and workers. Pfeffer (1981) noted that certain beliefs and practices are usually legitimatized in any social setting. Therefore, the acceptance of these practices and beliefs may include the distribution of influence which also may become legitimatized over time.

It is necessary, therefore, to distinguish legitimate forms of power (authority) versus power itself. Weber (1947) underscored the critical role of legitimization in the exercise of power. By legitimizing power into authority, the exercise of power is seldom questioned by the members of the organization. Power, on the other hand, includes "enforcing one's way over others. This requires expenditure of resources, the making of commitments, and a level of effort which can be undertaken only when issues at hand are relatively important" (Pfeffer, 1981:4).

As far as power is concerned, institutions of higher education are not all that different from other organizations. A very well established administrative academic structure exists with rules and regulations that constrain organizational behavior. Also, an implicit hierarchy of authority is present within these academic organizations; for example, tenured senior professors usually do have a different authority status than nontenured
assistant professors. Furthermore, power relationships are evident at colleges and universities; all things being equal, in the research institution, the nationally known scholar would be expected to have more potential decision making power over key issues than a less productive scholar. Expertise, in academe, is a form of power. This is, however, only one side of the organization: the academic side.

The second organizational structure in the typical college or university is designed to organize and control its non-academic personnel. This group involves clerical and other staff members that complement the academic side. These individuals perform services that contribute to the well being of the collegiate organization but their civil service designation or ambivalent non-academic status brands them as “the lower participants” of colleges and universities. Social scientists, moreover, have paid little attention to their power within educational organizations.

Dahl (1957) noted that the concept of power is as ancient and ubiquitous as any that social theory can boast. Nevertheless, power as a topic of research is notoriously absent in the literature about higher education. This lack of attention is most noticeable, in part, because the socialization process of college administrators neglects the concept of power, inducing most researchers in this field to neglect the complexities involved with this elusive concept. Moreover, the concept itself is not clearly understood in the social science literature.

Definitions of Power

Power as a concept has different meanings to different people. In fact, there is a human tendency to apply the concept to those outcomes which cannot be explained by other ideas as an explanation for actions (March, 1966). Thus, two persons, at a particular point in time, may
evidence the same action and outcome and have two different sets of attributes ascribed to the outcome. Even though one encounters this ambiguity in its conception, power can be defined with some precision.

Dahl (1957), for instance, defined power as a relation among social actors in which one social actor, X, can get another social actor, Y, to do something that Y would not otherwise have done. Similarly, Emerson (1962) defined the concept as "the power of actor A over actor B is the amount of resistance on the part of B which can be potentially overcome by A" (p. 32). Accordingly, power resides implicitly in the other's dependency. Therefore, power is not a characteristic possessed by an individual but rather a social relationship between two or more people. This relationship, however, is moderated by the characteristics of both the superordinate and subordinate. According to Scott (1981), "the power of superordinates is based on their ability and willingness to sanction others--to provide or withhold rewards and penalties" (p. 276). On the other hand, Salancik and Pfeffer (1977) noted that power is the ability of persons to bring about the outcomes they desire. These definitions imply that power is a social relationship which necessitates at least two persons engaged in a social transaction. Pfeffer (1981) noted "A person is not 'powerful' or 'powerless' in general, but only with respect to other social actors in a specific social relationship" (p. 3).

Rational theorists emphasized that formal power structures are essential to the functioning of organizations (Gulick and Urwick, 1937; Weber, 1947; Hall, 1977). Their argument was that power can be structured to maximize organizational coordination and control of the members' contributions. Thus, a supervisory position is defined as being more powerful than that of an employee. A hierarchy is structured within a formalized process which removes the "personal" element from the power of the office.
On the other hand, natural theorists argued that no organization fully succeeds in controlling all sources of power (Selznick, 1948; Gouldner, 1959; Mayo, 1945). Their point of view indicated that organizations are filled by persons who possess different characteristics some of which may become sources for all sorts of informal power. Consequently, these individual characteristics may disturb the formal distribution of power within organizations.

Selected Studies

Studies on power have been mostly conceptualized within the superordinate-subordinate frame of reference. For instance, Tannenbaum et al (1974) provided evidence that the amount of control or influence is positively associated with position in the formal hierarchy. Mintzberg (1973) indicated that those in command such as managers, superintendents, and the like, would be in a position to wield some power. Likewise, Pettigrew (1972) advanced the same notion that powerful persons are those who have access to and control over particular resources, such as information. Ziegler, Jennings, and Peak (1974) also used the superordinate-subordinate frame of reference to analyze power relationships of school superintendents.

On the other hand, it has been documented that power has many side effects concerning organizational outcomes. For instance, the allocation of budgets to university departments is very much influenced by the reputational power of each subunit (Pfeffer and Salancik, 1974; Salancik and Pfeffer, 1974, Pfeffer and More, 1980). Their studies indicated that those university departments which had more prestige were given first consideration budgetarily. Zald (1970), on the other hand, documented that power affects the succession to executive and administrative positions. Finally, Pfeffer (1978) indicated that power affects the outcomes of design and re-design of
formal organizational structures, implying that those social actors who have the power have the final say when it comes to organizational development. The point is important in that organizational control (thus social control) is manipulated in some "rational" way to attain the goals of the organization. Even though the concept of power remains elusive, many other social scientists have pursued, researched, and studied power (Lasswell and Kaplan, 1950; Perrow, 1970; Hinings, et. al., 1974; French and Raven, 1977). Emanating out of this research is the theme that power is a unilateral phenomena. The assumption is that only people in top positions have the organizational power. Those with subordinate status are just not in a position to generate power.

The other view of this type of research stresses a more "democratic" philosophy of power. For instance, Pfeffer (1977) indicated that those who are in some kind of dependency relationship (including people in top positions) may obtain more critical and scarce resources to strengthen their power. Following the same line of reasoning, for instance, Etzioni (1961), Cyert and March (1963), and Thompson (1967) indicated that those subordinates helping superordinates to solve organizational problems can increase their power over these people in top positions. Using this dependency model, Barnett (1984) proposed that the subordinate is able to alter the superordinate behavior if the subordinate obtains resources which are needed by superordinates.

This study inquired into the second line of argument. That is, the study investigated the power of lower participants in educational organizations. It focused on the relationship between chairpersons and departmental secretaries of academic units. Departmental secretaries were chosen because they occupy critical positions in the organization and they enjoy the
possibility of considerable discretion and the opportunity to become de
facto policy makers depending upon circumstance and the attitude of the
department chairperson.

Theoretical Framework

The theoretical frame of reference used in this study was presented by
Mechanic (1962). Mechanic's basic assumption is that lower participants in
organizations can often assume and wield considerable power which is not
associated with their positions as formally defined within these organiza-
tions.

Based on this premise, then, Mechanic proposed that lower participants
obtain power by controlling access to information, persons, and instrumen-
talities. That is, if a superordinate or anybody else is dependent on the
lower participant for access to important information, the lower participant
increases his/her power over such a person. Furthermore, as the participant's
length of time in the organization increases, his/her power base is broadened.

Expertise of lower participants also contributes to their power because
other members, including those in top positions, are dependent upon them
for special skills and access to certain information. Furthermore, this
particular expertise makes them to some extent irreplaceable.

Finally, Mechanic also stated that the extent to which lower participants
may exercise power depends in part on their willingness to exert effort in
areas where higher-ranking participants are often reluctant to participate.

The following questions were derived from Mechanic's conceptual model
and used for the purposes of this study.

1. As a participant's length of time in the organization increases,
   he/she has increased control over access to persons, information, and
   instrumentalities.
2. To the extent that a lower participant has important expert knowledge not available to high-ranking participants, he/she is likely to have power over them.

3. A person difficult to replace will have greater power than a person who is easily replaced.

4. The willingness of lower participants to exert effort and interest in areas where superordinates are reluctant to engage in will increase the power of lower participants.

Method

Participants

This research project was carried out at a major public research institution in the Midwest. The participants were 50 chairpersons and 50 departmental secretaries from different academic units. All of the chairpersons had one or more years of experience, and all but one of the secretaries had more than 3 years of experience in their present position. All participants were surveyed.

A sample of 100 participants was randomly selected from an approximate total of 250 potential participants. The table of random numbers developed by the Rand Corporation was used to select the sample for this study. Ninety-four usable questionnaires were returned.

Instrumentation

A major aspect of this study was the development of an instrument that could test the propositions noted by Mechanic (1962). A careful study of this theoretical frame of reference was done to identify the concepts that needed to be operationalized. These concepts included:
1) control over access to persons, information, and instrumental equipment, 2) expert knowledge of lower participants, 3) effort and interest in attaining complex work skills, and 4) dependency of superordinates on subordinates to do routine and non-routine tasks.

Each of the above four factors was operationalized by developing a set of questions that tested the degree of dependency on the part of chairpersons. For instance, a question drafted was "how frequently do you let your secretaries respond to routine departmental mail?" The degree of dependency was measured on a Likert-type of scale. Each factor, then has a subset of questions that as a group operationalized and measured each concept.

Furthermore, five departmental secretaries were interviewed to generate specific situations to frame the questions. Likewise, five chairpersons were interviewed. These individuals interviewed were not part of the final sample.

To establish construct validity, the instrument was factor analyzed. Four factors were extracted using the oblique rotation method. Most of the beta weights associated with each of the factors were equal or greater than .60 as revealed by the pattern and structure matrices.

To establish content validity, the questionnaire was presented to a panel of three professors whose background was in psychometrics and sociology. Concomitantly, those who were interviewed to obtain the first draft of questions were asked to assess the questionnaire for clarity purposes.

The reliability of test was assessed using Cronbach's alpha coefficient of internal consistency. Cronbach's alpha for factor 1 was .80 (n = 94), factor 2 = .78 (n = 94), factor 3 = .75 (n = 94), and factor 4 = .82 (n = 94).

One brief open-ended question was added to the instrument.
procedure

Starting in April, 1985, chairpersons and secretaries were selected and informed that the purpose of the study was "to identify the working relationships and processes between the chairperson and the departmental secretary. Both groups were not made aware that the specific focus of the study was on their perceptions of the power of power participants. Their participation in the study was voluntary.

The selection of these groups was independent of each other. That is, those chairpersons responding to the instrument were not associated with the secretaries who answered the questionnaire. The same procedure was followed with the selection of departmental secretaries.

Data analyses. The scores of each participant were key-punched and placed in computer files. All statistical analyses were performed using SPSS: Statistical package for the Social Science (Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975). Specifically, correlation techniques and the Wilks' lambda procedure were utilized.

Results

Question 1: As a participant's length of time in the organization increases he/she has increased control over access to persons, information and instrumentalities.

To test this particular relationship, the data set concerning the secretaries was partitioned into two groups: those secretaries with 7 or less years of experience (n = 26) and those with equal or greater than 8 years of experience (n = 22). An analysis of variance (ANOVA) indicated significant differences with respect to their perceived power ($F(1, 46) = 2.83, p < .10$).

On the other hand, chairpersons were also divided into two groups: those who had spent 2 years or less (n = 18) at that position and those who
had 3 or more years of experience (n = 28). No significant differences 
were detected when a one-way ANOVA was applied.

On the open-ended question, which was designed to identify the key 
factors that contribute to the power of departmental secretaries, revealing 
information was obtained. A secretary from the engineering department 
testified the following:

My longevity with the department is probably why I have so much in-
fluence in the department. All 16.5 years of being a clerk have been 
with this department. I have been the department's secretary since it 
got departmental status—only one professor is still here from the 
starting group. Knowing the history of all the facets of the department 
contributes most to the amount of power or influence I might have if I 
wish to use it.

Another astute secretary was quick to point out that time was not the 
only factor contributing to power or influence. In no uncertain terms, she 
stated:

I believe the attitude the department chairperson has about the impor-
tance of the department secretary is the key factor in the amount of 
power and influence any department secretary can achieve within a 
department. The department chairperson openly displays his respect 
for me as a person and my capabilities as a department secretary as 
well as offers his support in my endeavors. He overtly conveys the 
message that we are working together to achieve the department’s 
mission rather than that I am working for him.

A veteran chairperson from the humanities area reinforced what was indicated 
by the previous subject. He concluded:

The influence depends on the individual; we are fortunate to have a 
conscientious, competent person in this position. Also, the chair 
affects the level of influence. Whenever appropriate I have the 
secretary do the job. This increases the influence of the secretary.

In sum, most of the chairpersons and secretaries referred to time on the 
job as contributing to the power of departmental secretaries. While other 
factors were mentioned longevity was estimated to be the most often referred to by 
the two groups.
Question 2: To the extent that a lower participant has important expert knowledge not available to high-ranking participants, he/she is likely to have power over them.

In testing this relationship, the researchers opted to use a measure of association to assess the strength of the above relationship. Again, it was assumed that time on the job was a key factor contributing to expert knowledge. The measure on expert knowledge was correlated with the measure on perceived power controlled by group affiliation. That is, those secretaries who had less time on the job were assigned to a group. The rest were assigned to the other group. For group 1 secretaries (less time on the job) the score on expert knowledge was positively related ($r = .34$) to their perceived power score. In contrast, for group 2 (more time on the job) the same type of relationship was positively correlated ($r = .61$). These relationships imply that the longer one holds a position the more influential the secretary perceives him/her self to be.

Furthermore, the open-ended question revealed some very powerful descriptions of the expert knowledge factor. This thoughtful chairperson rightly indicated:

The secretary has tools and skills that are not mine. The P.C. (personal computer) has just been introduced. This will increase the disparity between our access to useful tools. More importantly, our secretary has a real interest and skill in making our scarce budgets function in an optimal fashion.

Another chairperson, who had at least 15 years as a departmental head, was most insightful regarding the expert knowledge factor. He said:

Essential decision making is outside our secretary's field of activity, but with changing chairs, she is the only person who knows all the ins and outs of our daily activities, particularly our relationship with deans. Like a 19th century housewife, she has no vote, and yet really runs the family household. We are blessed with an ideal secretary.

Nonetheless, there were some secretaries who were mindful that the secretary's influence was moderated by the chairperson's personality. For instance, this respondent volunteered the following information:
To a great extent the secretary's power and influence levels are directly proportioned to the extent the chairman is willing to delegate responsibilities. The current chairman has delegated enormous responsibilities.

Finally, a chairperson from the social sciences further confirmed that the secretary's expert knowledge is a powerful tool to be contended with; he noted:

She has knowledge of almost all of the business aspects of the department—grants, timetable, personnel actions. She knows the university regulations and is familiar with channels of communication. Furthermore, she is an expert nag.

Question 3: A person difficult to replace will have greater power than a person who is easily replaced.

These authors artificially created two groups based on their scores on a replaceability scale. The mean score was 5. Those with scores below the mean were assigned to group 1; and those with scores above the mean were assigned to group 2. The scores of both groups on the perceived power scale were tested using an F-test. However, no significant differences were detected ($F/1,46/ = 2.31, p < .13$). Apparently, the degree of replaceability has no effect on secretaries' perceptions of power.

Question 4: The willingness of lower participants to exert effort and interest in areas where superordinates are reluctant to engage in will increase the power of lower participants.

The data base was partitioned into two groups based on their scores on this factor. Those who were less willing to engage in difficult tasks formed group 1. Those who were more willing to do it constituted group 2. Both groups were analyzed based on the score on perceived power. No statistical differences were detected. However, an analysis of the open-ended question revealed very interesting insights. For instance, this well-seasoned veteran (18 years of experience) noted:

Beyond my position I have "responsibility without authority" that has resulted from: a) a belief by others in my abilities and judgement to perform tasks unassigned. b) a necessity to handle matters due to the
absence of the chairman or other authority (or even if another authority exists, that authority does not know procedures to handle the matter). and c) a willingness and an internal desire to accept challenges and excel in them, yet knowing limits. However, there still is a point where one's opinions, judgements, etc. cannot influence, though they may be accurate. Why? Because faculty governance is dominant in the U---- System. And we, the classified personnel, are not part of that factor, and seem to be held in a "fringe area" that permit us to be moved in and out of this fringe area when needed.

Furthermore, she pointed out other interesting insights about the departmental internal dynamics. The secretary noted:

In my years of service, one thing that has always been important to chairmen is to keep "trouble" out of their offices. Have the "buck" stop at the departmental secretary's desk. Of if they have a problem--i.e., late with documents for the dean etc.--you are the one who should try to solve the problem or do what you can to smooth the rough waters with the Dean thru the secretaries' channels.

Finally, to ascertain that one group wasn't overrating itself, the group means were compared. A multivariate analysis procedure was used to test the group mean differences across the 4 factors for the entire sample. Table I presents the means and standard deviations of chairpersons and secretaries.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Chairs Mean</th>
<th>SD</th>
<th>Secretaries Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependence</td>
<td>12.1</td>
<td>3.4</td>
<td>13.5</td>
<td>4.2</td>
</tr>
<tr>
<td>Expert Knowledge</td>
<td>13.3</td>
<td>3.2</td>
<td>12.8</td>
<td>3.4</td>
</tr>
<tr>
<td>Effort &amp; Interest</td>
<td>8.4</td>
<td>2.3</td>
<td>10.8</td>
<td>2.7</td>
</tr>
<tr>
<td>Access &amp; Control</td>
<td>11.9</td>
<td>3.2</td>
<td>12.9</td>
<td>2.9</td>
</tr>
</tbody>
</table>

The Wilks' lambda revealed a significant departure from zero between the sample centeroids /L .78, Rao's F approx. = 6.29 (89 df.) p < .01/. This
finding implies that 44 percent of the variance between the group centroids is explained, while the other 56 percent corresponds to the proportion of unexplained variance.

Because the hypothesis of equal group centroids was rejected, it was decided to follow up with post hoc comparisons. Univariate F-tests were performed. It was discovered that the factor effort and interest was statistically significant ($F_{1, 92} = 21.1, p < .01$). The chairpersons did not attribute the same weight to this factor that secretaries did (see table 1). That is, the secretaries tended to overrate themselves on this particular factor. On the other hand, both chairs and secretaries had similar scores on the other factors.

DISCUSSION

This paper reports on four questions concerning Mechanic's conceptual model of power of lower participants. Taken together, the results partially support Mechanic's model. It was demonstrated that the longer the secretary stays on the job he/she has increased control over access to persons, information, and instrumentalities. Secretaries do perceive themselves as more influential than those who have spent less time in the organization.

Furthermore, it was noted that a positive relationship exists between expert knowledge and perceived power controlling by time in the organization. The longer the person works with the organization contributes to his/her expertise, which in turn increases his/her perception of power.

The third relationship tested concerned itself with replaceability of the lower participant. This hypothesis predicted that a person difficult to replace would have greater power than a person who is easily replaced. No significant relationship was found. This could be due to the difficulty in measuring one's own degree of replaceability. That is, in a self-reporting
instrument one tends to exaggerate these responses. On the other hand, secretaries are thought to be easily replaceable because the majority of their skills are not highly technical or unique. However, their knowledge of how things work in a particular department is lost forever once they leave; it may be that their command of information and access and command over organizational tasks is not fully appreciated until they are gone.

This research demonstrates that chairpersons, in general, have the same views about departmental secretaries as secretaries do. The respondents differ, however, on the factor of effort and interest. Chairpersons attributed less weight to this factor as contributing to the power of lower participants.

Finally, this investigation was an exploratory study which prompted a number of additional research questions. For instance, it would be of interest to replicate this study using cross-sectional data from more institutions. This would prove useful in counteracting the problems associated with a single-institution research design. Moreover, other studies may control for the age variable. This is important because age might be an intervening variable that could make a difference.

Furthermore, studies using the observational method should be conducted to understand more fully the complexity of the concept of power. A questionnaire is a good device to obtain information; however, it is difficult to operationalize the concept of power using scales. Power is a difficult concept to reduce to a set of questions.

In sum, Mechanic's theoretical model while simple and straightforward is difficult to measure. A combination of quantitative and qualitative methods is needed to understand this complex and interesting sociological phenomenon.
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