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COMMUNICATION ROLES IN ORGANIZATIONS:
SOME POTENTIAL ANTECEDENTS AND CONSEQUENCES

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Abstract

This paper expands on one part of a large scale research program concerned with organizational communication and discussed by Roberts and O'Reilly (1975). The purpose here is to examine a set of potential antecedent (demographic and personality) and consequent (perceived communication, job satisfaction, organizational commitment, and job performance) variables possibly associated with the communication roles (isolate or participant) people occupy at work. The findings indicate that communication isolates and participants are differentiable in terms of affective and behavioral responses to work. Suggestions for future research are offered.

COMMUNICATION ROLES IN ORGANIZATIONS:
SOME POTENTIAL ANTECEDENTS AND CONSEQUENCES

In a recent paper Roberts and O'Reilly (1975) describe a research strategy and a lengthy research program based on that strategy and concerned with organizational communication. They mention investigations in the program which have examined interpersonal communication in organizations, and provide data (individual, group, and organizational) which describe organizations in terms of their communication structures. The relative stability of these structural characteristics over time is demonstrated and the authors postulate a number of potential antecedents to and consequences of communication structure as it is manifested at the individual, group, and organizational levels of analyses.

A purpose of this paper is to examine some of the suggestions made in the earlier paper. More specifically, sets of demographic and intrinsic characteristics people bring with them to their jobs are related to communication role occupancy (isolation or participation) in three communication content defined networks (expertise, social, and formal authority). Role occupancy is also examined in relation to a set of individual outcome responses thought to be important in terms of organizational viability.

GROUPS AND ROLES

To understand the meaning of the concept of role brief attention must be given to defining groups because roles cannot exist apart from groups. The term role implies that other persons act in a complementary or noncomplementary way to the focal role occupant, and that group and network structures result from these interactions.

A number of definitions of groups exist, some of which are discussed in more detail in O'Reilly and Roberts (1975a). A group might be a collection of people bound together by a distinctive set of social relations (Broom & Selznick, 1968), a set of people who take each other into account and view themselves as having significant commonality (Olmstead, 1959), a collection of individuals who regularly communicate with one another (Homans, 1950), etc. Prerequisites of "groupness" within organizations may include recurring interaction, some degree of permanence, and a relatively small number of persons.

The historical development of the term role is particularly interesting when we think about roles defined in terms of communication in organizations. Sarbin and Allen state:

Role, a term borrowed directly from the theater, is a metaphor intended to denote that conduct adheres to certain 'parts' (or positions) rather than to players who read or recite them...The antecedents to the writing, and later reciting and acting, of such parts was (and is) the conduct of real life men and women struggling to make their way imperfectly in organized societies (Sarbin & Allen, 1968, p. 489).

Clearly, people can and do enact many roles in a single day and even in a single location. These roles can be enacted successively or simultaneously (for example, see Linton, 1942; 1945). A number of role taxonomies have been proposed to bring some order to discussion of complex role systems. For example, roles might be specified by task assignment, power relations, liking, ascription, etc. One kind of taxonomy is a

communication content based classification. That is, an individual's roles in his organization can be defined in terms of who he regularly talks to and about what sort of matters.

Almost every organizational writer discusses organizations in terms of formal authority and informal social information transmission systems. Some writers add to this a consideration of expertise systems. Two general assumptions are that these systems overlay one another in organizations and that individuals experience stress because of conflicting simultaneous demands of the several systems. A large number of studies deal with role conflict and ambiguity in organizations (Johnson & Stinson, 1975; Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964; Rizzo, House & Lirtzman, 1970; etc.). Since this paper does not focus on conflict emanating from simultaneous role occupancy, that literature is not reviewed here. Until recently there existed no research which specifically examined the extent to which expertise, social, and formal authority systems in fact simultaneously exist in real organizations. Nor was there any research on the degree to which they overlap if they do exist. It is fruitless to discuss role occupancy within each of these frequently mentioned systems without first demonstrating empirically their existence.

Roberts and O'Reilly (1975) provide empirical evidence for the existence of expertise, social, and formal authority networks in three organizations, and demonstrate that these systems are relatively stable over time. They also show that individuals assume participant or isolate roles in these communication systems. Finally, these authors show that individuals frequently occupy the same roles in different communication content based systems.

ANTECEDENTS OF COMMUNICATION ROLES IN ORGANIZATIONS

A considerable amount of research concerned with who communicates with whom and who does not communicate, who communicates about what kinds of content, etc., exists in personality and social psychology. Excellent reviews of the major bodies of this work are available in Bales (1958), Collins and Raven (1969), McGuire (1969), Parsons and Bales (1955), etc. Both Guetzkow (1965) and Porter and Roberts (1975) indicate that generalizing results of these studies to communication in organizations is dangerous. Most of these investigations were not conducted in organizations; situations in which total size, status and hierarchical differences, the necessity to complete work tasks, goals, differential job functions, systems of coordination, continuity through time, etc., may all simultaneously impinge on communication processes. Hence, there exists considerable suggestive evidence about antecedent conditions to communication role occupancy but little demonstration of external validity.

From the interpersonal literature two sets of research interests seem important in suggesting antecedents to communication role occupancy which should be examined in complex organizations. First, a number of investigators find that people may communicate more with one another when they like each other (for example, Lott & Lott, 1961). Liking, in part, seems based on perceptions of interpersonal similarity (for example, Marlowe & Gergen, 1968; Rogers & Bhomik, 1971; Triandis, 1959; 1960), and some research shows that perceptions of interpersonal similarity reflect objective measures of similarity (for example, Berscheid & Walster, 1969; Rogers, 1973). Thus, participants in communication networks should be describable by a larger number of similar characteristics than are

isolates. Perhaps they are more similar to one another than are isolates in a larger number of demographic characteristics they bring with them to work or in more personality attributes.

Extrapolation of findings from some of the research concerned with motivation offers yet another set of antecedents which might be related profitably to communication role occupancy in organizations. The achievement motivation literature suggests that individuals high in the need to achieve may not be as interested in social communication as low need achievers (McClelland, Atkinson, Clark, & Lowell, 1953). From Maslow's (1954) work on a need based system of motivation comes the possibility that people who seek security and self-actualization may not be as high volume communicators as are those who seek social and ego gratification.

Two other lines of interpersonal research are somewhat helpful in suggesting antecedent factors which may be related to communication role occupancy in organizations. One set of investigations is concerned with organizational grapevines and the other with innovation diffusion. Sutton and Porter (1968) in their grapevine investigation show no differences in personality characteristics between people who pass information and those who do not in the grapevine. This finding conflicts some with the notion that people communicate with those who are similar to them and choose not to communicate with those who are dissimilar. However, both Sutton and Porter (1968) and Davis (1953) find that those people who know a piece of information are likely to be higher in the organizational hierarchy than are non-knowers, suggesting that communication may be more frequent among personnel in high than in low status jobs. Other studies of management communication confirm the high communication activity of managers (Kelly, 1964; Wickesberg, 1968).

A number of research findings from the innovation diffusion literature concerned with characteristics of opinion leaders are consonant with the grapevine literature in suggesting characteristics of participants which might differentiate them from isolates. Rogers and Shoemaker (1971) and Rogers (1973) review this work. Rogers summarizes characteristics of communicators of innovations as having:

1) more formal education, 2) higher social status and wealth, 3) greater innovativeness in the adoption of new ideas...They are accessible to their followers, more competent...than their followers (Rogers, 1973, p. 298).

Although little of the innovation diffusion research has been done in organizations, a recent innovation diffusion study (Baldrige and Burnham, 1975) in organizations indicates that while administrative position and roles appear to be important contributors to innovation, individual sex, age, and personal attitudes are not. These somewhat conflicting conclusions from the innovation literature point to the importance of examining simultaneously demographic and intrinsic characteristics related to participation (a probable precursor to innovation adoption) in organizational communication.

Taken together these findings suggest some specific demographic and personality characteristics which might differentiate communicators and non-communicators in organizations. Generally, participants in organizational communication networks should be of higher rank or status, have more education, and have different personality or motivational characteristics than isolates. There is no research which indicates whether

one set of characteristics is more descriptive of communicators in a specific content defined communication system (for example, expertise versus social).

CONSEQUENCES OF COMMUNICATION ROLES IN ORGANIZATIONS

Most of what is known about the possible responses to or consequences of differential communication role occupancy in organizations comes from the communication network literature. This research is reviewed by Collins and Raven (1969), Shaw (1964), and Snadowsky (1972). Again, generalizing results from small group studies to complex organizations is of questionable value, a point demonstrated by Cohen, Robinson and Edwards (1969) in their investigation of the effects of embedding small groups in larger ones. Then too, from the communication-net literature "It is almost impossible to make a simple generalization about any variable without finding at least one study to contradict the generalization (Collins & Raven, 1969, p. 147)." The network studies do suggest some possible relationships of differential role occupancy and individual responses which should be examined in complex organizations.

The dependent variables investigated in the network studies of interest to us are those concerned with satisfaction, and measures of information processing such as the speed and accuracy of information transmission. These latter measures might be thought of as possible indicators of performance. Generally, the more centralized one is in the network the higher his satisfaction and in all channel networks participants are more satisfied than are peripherals in centralized networks. Centralized networks seem to be most effective when the problems to be solved are simple, and all channel networks are better

for more complex problem solving, suggesting the possibility that communication participants perform better than do isolates in real organizations where problem complexity probably varies across time for any unit.

There are no investigations which are very helpful in suggesting other affective or behavioral responses which should be related to communication role occupancy. It is logical that isolates and participants (even in different content defined communication networks) should perceive various aspects of the communication process differently. For example, one would think that participants more than isolates in expertise networks will perceive that a great deal of information is transmitted, will be more satisfied with organizational communication, etc.

A number of affective responses which could be measured probably overlap in content. For example, Roberts and O'Reilly (1974) show that some communication factors, such as desire for interaction with others, and degree to which information is perceived as accurate, are positively related to organizational commitment, while other perceptions about communication are not related to commitment. Though research support is generally lacking it seems as though communication network participation should be positively related to commitment to one's organization.

In sum, the available research suggests the existence of a positive relationship between communication participation in organizations and job satisfaction and performance, (e.g., O'Reilly and Roberts, 1975b). The available research is generally concerned with task groups and suggests little about participation or isolation in relation to these responses in social or authority networks. Logically, perceptions about various aspects of organizational communication and commitment to one's organizations

might be related to actual role occupancy.

HYPOTHESES

Intuitively it is reasonable to expect different antecedents and consequences to be associated with differential role occupancy across the various content defined communication networks. For the purposes of this study, however, the hypotheses do not consider role occupancy differences across content of the communication networks because of the Roberts and O'Reilly (1975) findings of considerable role overlap across content based networks.

Two sets of exploratory hypotheses are presented; one group specifies relationships of potential antecedents (demographics and personality characteristics) to role occupancy, the other is concerned with possible responses to role occupancy (perceived communication behavior, satisfaction, commitment, and performance). The general notion explored is that there exist significant demographic and personality differences between isolates and participants in organizational communication networks. Further, there are also significant differences between role occupants in their perceptions about communication, their affective responses to work, and their performance. It is felt that participation in communication activities has a positive effect on organizationally relevant outcomes while isolation has a negative effect.

More specific hypotheses are:

Antecedents

- H₁. Participants are higher in rank than are isolates.
- H₂. Participants have more education than do isolates.
- H₃. Participants have higher tenure in the specific

organization (the squadron) and in the Navy than do isolates.

Hy₄. Participants have higher needs for achievement than do isolates.

Hy₅. Participants have higher needs for power than do isolates.

Hy₆. Isolates have higher needs for self-actualization than do participants.

Consequences

Hy₇. Participants are higher in job satisfaction than are isolates.

Hy₈. Participants are better performers than are isolates.

Hy₉. Participants are more committed to the organization than are isolates.

Hy₁₀. Participants and isolates perceive various aspects of communication in their organizations differently.

METHOD

Subjects

The respondents were 579 officers and enlisted personnel in three high technology military organizations. Personnel were assessed three months after their units were organized. The response rate was 81% of the total available sample.

Procedure

Respondents were asked to complete a survey instrument containing

demographic questions, a series of questions concerned with their perceptions and feelings about various aspects of their work environments, and three sociometric questions. The raw data used to define one's communication role in his expertise, social, and formal authority networks were answers to the following three questions:

- 1- When you need technical advice in doing your job, who are the persons you are most likely to ask? (expertise)
- 2 - With which persons in this squadron are you most likely to have social conversations (not work related) in the course of a work day? (social)
- 3 - If you are upset about something related to the Navy or to your job, to whom in the squadron are you most likely to express your dissatisfaction (gripe) formally? (authority)

The large scale sociometric technique through which the raw data were transformed into role specifications (isolate or participant) for individuals in each network is discussed in Richards (1974a; 1974b; 1974c) and in Roberts and O'Reilly (1975). Participants are people with two or more links to other participants. In most cases these people comprise the bulk of the network and allow structure to develop. Isolates are people who are not connected at all or are only minimally connected to the rest of the network.

The demographic variables assessed were rank and tenure in the organization, population size of community in which the respondent was raised, amount of education, age, and tenure in the Navy. Assessment of

job related intrinsic characteristics was obtained from the Self Description Inventory a measure shown to be highly work related. Ghiselli (1971) provides reliability and validity data and groups his thirteen scales into three dimensions: 1) abilities (supervisory, intelligence, initiative); 2) personality (self-assurance, decisiveness, masculinity-femininity, working class affinity); and 3) motivation (needs for occupational status, self-actualization, power over others, high financial rewards, and job security).

The four sets of responses or possible consequences of communication role occupancy were assessed using the following instruments. The Job Descriptive Index (Smith, Kendall, & Hulin, 1969) was used to assess five facets of job satisfaction; satisfaction with work, co-workers, pay, supervision, and promotional opportunities. Kunin's (1955) GM Faces Scale measured overall job satisfaction.

Seventeen aspects of communication perceptions were measured using an extension of the questionnaire described in Roberts and O'Reilly (1974) Organizational commitment was measured using an instrument developed by Porter and Smith (1970). This instrument provides an overall index of the degree to which one is committed to his organization.

Performance assessments were obtained from annual supervisory ratings. Comparable evaluations were available for a sample of 405 enlisted personnel for five aspects of performance. However, a factor analysis of the ratings revealed only one dimension. Thus, overall ratings for each of the 405 respondents were used.

ANALYSES

Discriminant function analyses were used to differentiate isolates

and participants across the three substantive networks (expertise, social, and formal authority) for two sets of antecedent variables (demographics and intrinsic characteristics) and two sets of response variables (satisfaction and perceived communication). A total of six discriminant function analyses were computed. In addition t-tests were used to examine role occupancy differences in organizational commitment and individual performance.

RESULTS

Table 1 presents the discriminant function weights and group centroids for the six demographic variables. Tatsuoka (1970, p.3) suggests interpreting those weights whose absolute values are no less than one half of the absolute value of the largest weight.

Table 1 about here

Significant discriminant functions are shown for each of the three networks. First, discriminant weights for the authority network suggest that higher rank is positively associated with the isolate role while participants are distinguished by lower education and tenure in the Navy. This may reflect the tendency for people in high ranking authority positions to have little opportunity for interaction while lower ranking, less tenured members participate in formal authority groups. Interpretation of weights for the social network discriminant function suggests higher rank, higher education, longer tenure in the Navy, and larger size of community in which the respondent was raised, are descriptors of participants while isolates are characterized by younger age. The expertise network discriminant function shows that higher rank delineates participants

from isolates.

A general conclusion is that familiarity with the Navy, but not necessarily with the particular organization within the Navy is positively associated with participation in social and expertise networks. Hypotheses 1 and 2 are supported. Hypothesis 3, postulating increased tenure for participants is partially supported; participants have higher tenure in the Navy but interestingly not in the specific organization. The three month interval from the birth of the organizations to assessment of their personnel simply may have been too short to assess the relationship between organizational tenure and communication role occupancy.

Discriminant function weights for the relationship of personality characteristics to communication role occupancy across the three networks are shown in Table 2. Only the discriminant function for the authority network is statistically significant at the $p < .01$ level.

Table 2 about here

Again, noting the group centroid values, participants in the authority network are more decisive, masculine, and mature. Isolates have a high need for security. Although taken together they are only marginally significant ($p < .07$) the discriminant function weights for the expertise network reveal a similar personality cluster for participants plus needs for financial reward and self-actualization. Participants appear to have a stronger concept of self (for example, they are more mature and decisive) than do isolates.

The general hypotheses that there are personality differences between isolates and participants appears tenable. However, specific

hypotheses received little support. Only hypothesis 6 received some support. Generally, though, participants are describable by a number of antecedent variables, suggesting they are somewhat homogeneous.

Tables 3 and 4 present discriminant function weights for the isolate-participant groups for consequent or outcome variables. Table 3 shows the weights for the seventeen perceived communication variables.

Table 3 about here

The discriminant functions for the social and expertise networks are significant. The expertise network results show participants perceive that various communication modalities are used and that they receive redundant information. Isolates are described by an increased tendency to deliberately withhold information and lower satisfaction with communication in general.

In the social network participants are different from isolates in their perceptions about the directionality of communication contacts, they feel they receive redundant information and have a tendency to summarize to insure transmission of important information. Isolates perceive more use of written and telephone means of information exchange than do participants.

A general conclusion is that being a communication isolate is associated with increased use of telephone and written communication and a tendency to deliberately withhold information from others. Participation in communications is associated with perceptions of increased information flow of communication, more redundancy, and greater overall satisfaction with communication. Hypothesis 10 concerned with differences in perceptions

of communications between participants and isolates is confirmed.

Discriminant function weights for the six job satisfaction variables show overall satisfaction as the major factor differentiating communication role occupants in both the authority and social networks. No other weight was large enough to be interpreted. Hypothesis 7 is generally supported.

Table 4 about here

Finally, differences in organizational commitment and performance associated with communication role occupancy are shown in Table 5. There were no significant differences in commitment between isolates and participants for the social and authority networks. However, participants in the expertise network are significantly more committed to the Navy ($p < .05$), suggesting the importance of determining whether participation acts to increase organizational commitment or commitment leads to participation. Hypothesis 9 is weakly supported.

Table 5 about here

Differences in role occupancy and performance are clear. Participation in communication networks is associated with higher performance than is isolation. This difference is most striking for the expertise networks. These results suggest again the need to ascertain the causal relationships between performance and communication in organizations. Hypothesis 8 is clearly confirmed.

The general hypotheses underlying this study appear to be corroborated. Differential role occupancy is reflected in significant

differences in both antecedent and consequent conditions. Participation in communication is generally associated with positive outcomes.

DISCUSSION

While causal inferences cannot be drawn from these data, a number of significant findings emerge. First, an overview suggests that it is possible to differentiate individuals who occupy different communication roles on the basis of sets of antecedent and consequent variables. Further, some differences in communication role occupancy are similar across content based networks.

Recalling that this sample is composed of military personnel, in general, participants in the networks are different from isolates in antecedents which reflect their greater experience with the military, their similarity to each other in terms of rank, education, etc., and some similar personality attributes. Isolates tend to be less secure and not integrated into communication networks.

Participants in communication networks are also different from isolates in their reported communication perceptions. Isolates express greater tendency to use written and telephone modalities in social networks, suggesting they may have communication links outside the organization, while participants report greater communication activity (directionality) and ~~information~~ redundancy inside the organization. Isolates in the expertise networks report a greater tendency to deliberately withhold information and lower satisfaction with communication in general. Overall the picture is one of dysfunctional aspects for individuals who are not integrated into organizational communication networks.

This point is underscored when observing differences in satisfaction, commitment, and performance between occupants of different communication roles. Participants are generally more satisfied with their jobs, more committed to their organizations, and higher performers. Alternatively, communication isolation is associated with negative affective and performance characteristics.

The amount of variance explained in the association to communication role occupancy of either the antecedent or consequent variable sets is not large. Given the exploratory nature of this investigation, however, the results seem promising. They suggest that one's participation in communication activities is associated in a nonrandom manner with important organizational outcomes. The data are seen as supportive of the notion that communication is an important component of individual attitudes and behavior. Additional research should focus on causal relationships between participation in communication networks and role determinants and outcomes.

Footnote

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Table 1

Discriminant Function Coefficients

For Isolate-Participant Groups:

Demographic Variables Across Three Communication Networks

Variable	Network		
	Authority	Social	Expertise
1. Rank	.45	-.22	.28
2. Tenure - Organization	-.03	-.07	.07
3. Community Population	-.06	-.15	.03
4. Education	-.21	-.23	-.09
5. Age	.12	.15	-.02
6. Tenure - Navy	-.27	-.15	.05
Significance	.01	.001	.001
Variance Explained	.05	.08	.07
Group Centroids:			
Isolates	.20	.70	-.80
Participants	-.26	-.11	.09

Table 2

Discriminant Function Coefficients

For Isolate-Participant Groups:

Personality Variables Across Three Communication Networks

Variable	Network		
	Authority	Social	Expertise
1. Supervisory Ability	.02	.02	.01
2. Intelligence	.04	-.04	-.06
3. Initiative	-.09	.05	.04
4. Self-Assurance	.03	-.06	.04
5. Decisiveness	.12	.12	-.08
6. Masculine - Feminine	.23	-.06	-.12
7. Maturity	.13	-.03	-.14
8. Working Class Affinity	-.03	.08	-.05
9. Need for Achievement	.08	.00	-.05
10. Need for Self-Actualization	.00	.17	-.09
11. Need for Power	-.09	-.16	-.06
12. Need for Financial Reward	.00	-.08	-.14
13. Need for Security	-.15	.11	.04
Significance	.01	.14	.07
Variance Explained	.08	.05	.06
Group Centroids:			
Isolates	-.24	.55	.72
Participants	.31	-.08	-.08

Table 3

Discriminant Function Coefficients
For Isolate-Participant Groups:
Perceived Communication Variables
Across Three Communication Networks

Variable	Network		
	Authority	Social	Expertise
1. Communication Content Upward	.07	-.13	-.03
2. Communication Content Downward	.10	-.22	-.07
3. Communication Content Lateral	.05	-.17	.00
4. Perceived Accuracy	.00	-.02	-.03
5. Desire for Interaction	-.15	-.05	-.03
6. Summarize Information	.06	-.12	-.08
7. Amount of Information Passed	-.05	.02	-.01
8. Deliberately Change Information	.06	.00	.06
9. Expand Information	.01	-.06	-.05
10. Modality Use - Written	-.20	.18	-.19
11. Modality Face-to-Face	-.10	.08	-.13
12. Modality Telephone	-.24	.23	-.17
13. <u>Receive Too Much</u> Information	.00	-.05	.00
14. <u>Receive Too Little</u> Information	-.13	.02	-.05
15. <u>Receive Redundant</u> Information	-.02	-.18	-.10
16. Deliberately Withhold Information	.00	-.04	.16
17. Satisfaction with Communication	.20	.07	.11
Significance	.17	.001	.05
Variance Explained	.06	.11	.07
Group Centroids:			
Isolates	-.21	.83	.79
Participants	.27	-.13	-.09

Table 4

Discriminant Function Coefficients

For Isolate-Participant Groups:

Job Satisfaction Variables

Across Three Communication Networks

Variable	Network		
	Authority	Social	Expertise
1. WJDI	.08	.03	.03
2. PRJDI	-.01	-.03	-.12
3. PAJDI	.05	.02	.03
4. SUJDI	-.02	-.04	-.05
5. COJDI	-.03	-.06	-.06
6. GM FACES	-.73	-.32	.03
Significance	.06	.04	.10
Variance Explained	.04	.04	.03
Group Centroids:			
Isolates	.17	.48	.51
Participants	-.21	-.07	-.06

Table 5

T-tests for Commitment and Performance

Across Three Communication Networks

Variable	Authority			Social			Expertise		
	Iso- late \bar{X}	Partic- ipant \bar{X}	Signif- icance	Iso- late \bar{X}	Partic- ipant \bar{X}	Signif- icance	Iso- late \bar{X}	Partic- ipant \bar{X}	Signif- icance
Commitment to the Navy	69.2	69.9	NS	69.1	69.4	NS	69.7	74.6	.04
Performance	148.3	150.1	.08	147.3	149.5	.07	146.7	148.2	.03