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AUTHOR Johnson, J. David
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ABSTRACT

A study examined the interrelationships among communicative response satisfaction (positive affective tone associated with an information source), communicative work dependency (the degree to which individuals perceive that they rely on others for the accomplishment of tasks), and physical structure (aspects of design that regulate social interaction in organizations). Data were gathered from 86 workers in a large retail store by means of a newtork analysis instrument, a battery of dyadic communication questions, and a proximity questionnaire. In general, the results demonstrated the complex nature of the interrelationships among the variables and suggested implications for the development of a concrete understanding of organizational communication. (FL)

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AN EXPLORATORY INVESTIGATION OF THE INTERRELATIONSHIPS BETWEEN PHYSICAL STRUCTURE, RESPONSE SATISFACTION, AND WORK DEPENDENCY

J. David Johnson
Department of Communication
Arizona State University
Tempe, Arizona 85287
(602) 965-5559

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ABSTRACT

AN EXPLORATORY INVESTIGATION OF THE
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RESPONSE SATISFACTION, AND WORK DEPENDENCY

This study examines the interrelationships between communicative response satisfaction, communicative work dependency, and physical structure. The data used here were gathered from a large retail store (n = 86) which was particularly well suited to isolate the affects of the major variables examined in this study. Three different data gathering strategies were used to generate the indicators of the major variables. In general, the results demonstrated the complex nature of the interrelationships between these variables and suggested their rich implications for the development of a concrete understanding of organizational communication.

AN EXPLORATORY INVESTIGATION OF THE INTERRELATIONSHIPS BETWEEN PHYSICAL STRUCTURE, RESPONSE SATISFACTION, AND WORK DEPENDENCY

> The internal physical environment within offices has been given very little attention and is one of the most vaguely understood aspects of management and organizational behavior. (Davis, 1984, pp. 271)

Davis goes on to say that climate and structure usually are the sole explanatory variables used in studies of organizational behavior, and that they are often viewed in such broad terms that it is difficult to relate them to specific concrete factors which generate actual behaviors. In general, the effects of physical surroundings on organizational behavior have been slighted in the literature (Sundstrom, Burt, & Kamp, 1980); this study seeks to redress this deficiency by conducting an exploratory investigation of the interrelationships between physical structure and communicative response satisfaction and work dependency.

Physical structure represents those aspects of architectural design and placement of semifixed features, such as furnishings, which regulate social interaction in organizations (Davis, 1984). In this research the variable which underlies most of the research findings concerning physical structure, proximity, will be our primary focus. The classic work of Caplow (1947), Gullahorn (1952), and Festinger, Schacter, & Back (1950),

all identified a relationship between increasing physical proximity and increasing levels of communication. Indeed Guetskow (1965) refers to this empirical generalization as one of most common found in the literature and Steele (1973) summarized this literature by stating that the physical setting generally acts as a moderator of interaction in organizations.

Indeed it has been more generally suggested that spatial relationships affect communication in organizations, small groups, and different cultural settings in a variety of ways (Sommer, 1967; Steele, 1973; Monge & Kirste, 1980; Rogers & Kincaid, 1981). In this study we will be particularly concerned with the relationship between physical structures and two concrete aspects of communication: response satisfaction and work dependency.

Response satisfaction reflects an interactant's subjective perceptions of a positive affective tone associated with an information source. This concept is similar to Thayer's (1968) notion of communication satisfaction which he defines as the personal satisfaction inherent in successfully communicating to someone or in successfully being communicated with. Thus response satisfaction refers to the quality of communication links and represents a more purely relational or climatic factor, although at a much more concrete level of analysis.

Naturally the variables of response satisfaction and proximity are closely tied, as revealed in studies of open office landscaping. These studies have found greater job satisfaction with open office landscaping (McCarrey, Peterson, Edwards, & von Kulmiz, 1974), especially when proximity is linked to increased interpersonal communication (Oldham & Brass, 1979). The number of socio-preferential choices made by individuals also steadily decreases with distance (Wells, 1965). Thus the physical

structure of an organization may encourage greater interaction and closer relationships which result in greater satisfaction.

Social density has also been found to be associated with increased worker satisfaction (Szilagyi & Holland, 1980), although some would suggest that individuals try to maintain an optimal range of social contacts and that when this is violated, as it can be in modern office landscaping, worker satisfaction decreases (Sundstrom et al., 1980). Indeed open office environments are often viewed as a threat to privacy (Bennett, 1977), with attendant negative associations with job satisfaction and performance.

These conflicting views can also be embedded in the context of the larger debate over whether density contributes to a number of pathological features of urban environments or whether it is essential to diversity, stimulation, and optimal fulfillment of individuals. Generally, one crucial factor which apparently mitigates the negative consequences of social density is the extent to which an individual perceives they can control unwanted contacts. If they cannot, then stress and withdrawal oriented coping mechanisms may result (Baum & Valens, 1977; Brower, 1980; McCarrey et al., 1974).

In general, communication variables have been found to relate both to organizational climate and to job satisfaction (Downs, 1977; Muchinsky, 1977; Goldhaber, Yates, Porter, & Lesniak, 1978; Daly, Falcione, & Damhorst, 1979; Wheeless, Wheeless, & Howard, 1982), with recent investigations also relating proximity to communicative involvement in organizations (Monge, Edwards, & Kirste, 1978). Indeed participation in communication networks has been found to be associated with greater overall satisfaction with communication and with positive affective responses to others

(Goldhaber et al., 1978; Roberts & O'Reilly, 1979). Indeed, Rice (1982) found that the first goal of members in newly constructed networks is to locate rewarding information sources. This leads to the first research question to be examined in this study:

RQ 1: What is the relationship between physical structure and response satisfaction?

Work dependency refers to the degree to which individuals perceive they rely on others in the organization for the accomplishment of their assigned tasks. It is thus directly related to the systemic concerns of the organization and the basis for work dependency become access to needed task related information. Atkin (1973) has suggested that individual information seeking strategies generally are based in part on the utility of the information for fulfilling specific needs. Thompson (1967) asserts that work dependency determines communication channels in an organization to a greater degree than such factors as affiliation, influence, and status. Indeed physical location can influence the information that one is privy to and the involvement of individuals in organizational events (Davis, 1984). Thus work dependency promotes certain crucial interdependent relationships, especially communication relationships (Form, 1972), which serve to reduce task related uncertainty.

While most of the studies on open office landscaping suggest a relationship between work dependency and physical structure, the effect of these variables on increased productivity is more problematic (Davis, 1984). For example, while McCarrey et al. (1974) found greater productivity, others have found a more tenuous relationship (Allen & Gerstberger,

1973; Oldham & Brass, 1979). One reason for these negative findings could be the distracting nature of open-office environments which are characterized by the excess 'noise' of conversations being held by others (Bennet, 1977). Generally, however, it has been argued that proximity relates to work accomplishment through such factors as increasing information exchange, increasing task facilitation, increasing coordination linkages, job feedback, and decreasing role stress (Allen and Gerstberger, 1973; Korzenny, 1978; Szilagy & Holland, 1980).

RQ 2: What is the relationship between physical structure and work dependency?

Naturally work dependency and response satisfaction may be positively associated with each other, since the more crucial the work related information provided, the more satisfied an individual should be with a particular source. However, unlike work dependency which focuses on the content of information transmitted, response satisfaction focuses on a receiver's perception of the manner in which a source delivers a message. Not only will individuals seek out work related information, they will also be concerned with the manner in which information is given to them. Thus they will tend to develop relationships with individuals who provide them with positive affective responses which promote their self esteem (Roberts & O'Reilly, 1979), as well as developing relationships with individuals who provide needed work related information. On the other hand information distortion has been found to be significantly inversely related with job satisfaction (O'Reilly, 1978). Indeed, Daly et al. (1979) found an inverse

relationship between the need for certain types of information and organizational, job, and relational satisfaction.

RQ 3: What is the relationship between work dependency and response satisfaction?

In sum, this study seeks to investigate the contingent relationships between the concrete organizational variables of response satisfaction, work dependency, and physical structure. As such it is also embedded in the overarching perspectives of systems and human relations, relating them to the relatively unexplored area of physical structure; thus it represents an attempt to synthesize critical areas in such a way as to contribute to the growth of our understanding of organizational communication processes (Indik, 1965; Redding, 1979; Jablin, 1980; Reynolds & Johnson, 1982).

METHOD

Background and Study Design

This study was conducted in the first several months of operation of a retail outlet of a large nationwide chain of discount merchandise stores located in a midwestern metropolitan area. At the regional and store level this organization is divided into five functional departments: merchandising, hardlines, softlines, operations, and personnel. The composition of the work force includes line management, line workers, and operations. Since this is a retail organization, with less formally directed coordination links, and less routine, directed tasks, organizational members have

more latitude in developing functional relationships, thus increasing the importance of the variables examined here.

Rather typically management put several constraints on the researchers which primarily affected questionnaire administration and response rates. Management limited survey administration to 20 minutes per employee in a designated area. Unfortunately some middle managers were uncertain of this policy and were unwilling to release employees, in spite of organizational directives to the contrary. Even with this difficulty there was a response rate of 73 percent among the organizational members who were regularly employed.

The average age of respondents was thirty years and they had five years of work experience in retail stores on average. Most respondents had a high school education (60%), although a substantial number of them (20%) had at least some college education. As in most retail organizations the majority of respondents were female (63%).

Observed Indicants

The indicants in this study are drawn from three primary sources contained within the same general questionnaire: a network analysis instrument, a battery of dyadic communication questions, and a proximity questionnaire. This multiple measurement approach should enhance the validity of the results of this study.

Network analysis instrument. The network analysis instrument used here is derived from the format used in the International Communication Association communication audit (see Goldhaber et al., 1978). It uses a structured approach which provides a roster of the entire population under

study. In a modified version of this instrument respondents were asked to report on three variables for each link: work dependency, response satisfaction, and frequency.

The instructions for response satisfaction were read aloud to the respondents and its average score across all links was used as the AVSAT indicant of response satisfaction.

> RESPONSE SATISFACTION asks you to think about how satisfied you feel about the conversation. You are being asked to evaluate how satisfied you feel with the way in which a person responds to you during a conversation. Does the person appear interested, helpful or responsive to your questions? These behaviors would suggest positive RESPONSE SATISFACTION (VERY SATISFIED). Does the person appear disinterested, not very helpful or unresponsive to your questions? These behaviors would suggest dissatisfaction with the response (VERY DISSATISFIED). Place an X in the box which most accurately reflects your feelings about how satisfied you were with the response.

The variable work dependency was operationalized as to its importance on the questionnaire and its average score across all reported links was then used to calculate AVIMP indicant of work dependency. The instructions, which were again read aloud, follow:

> We want you to rate on a scale from 1 to 9 how critical the information you receive is to the completion of your job. A '1' indicates the information you received has minimal importance to the completion of your job. A '5' indicates the information is somewhat important and a '9' indicates the information is

critical in completing your job. Place the appropriate rating in the space provided under the column IMPORTANCE.

For each of the network analysis indicants respondents were directed to look at a worked example provided for them on the bottom of the questionnaire.[1]

Dyadic communication battery. A separate instrument based on a battery of five point scale dyadic communication questions developed by Jablin (1978) was modified to include relationships with co-workers and associates as well as supervisors. Five of these questions will be used as additional indicants of work dependency and five are used as additional indicants of response satisfaction in this study (see Tables 1 and 2 respectively for more precise descriptions of these indicants). An index was also calculated for each of these five indicant batteries by simply adding their scores and dividing by five.

Physical structure measures. While it would appear to be a relatively straightforward procedure to measure proximity, there are a number of conceptual difficulties and measurement problems that need to be considered (see Korzenny, 1978; Monge & Kirste, 1980), which are reflected in the variety of indicators used here. While three general measures will be used

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[1] The layout of this questionnaire was designed to facilitate its completion, while minimizing some problems with multicollinearity detected in a pretest of the instrument. It was found in the pretest that when the same scale was used and the work dependency and response satisfaction items were in adjacent columns there was a tendency for respondents to develop a response set of giving the same score for both items. These procedures were successful in minimizing this problem in the current study as revealed by the low intracorrelation among these items.

for physical structure (work zone, social density, and average distance) all are derived from the same paper and pencil task.

Respondents were provided with a map of the store which blocked out and identified the major sections into which the store was divided (e.g., main office, lounge, sporting goods, etc.). They were then asked, "Please place a small x as close as possible to where you spend most of your working time on the map on the following page." These instructions were repeated verbally by an experimenter who was there to assist the respondents if necessary. These procedures had been refined in pretests. The placement of the x was then used to derive the measures of physical structure used here. All of the physical structure variables were coded so that high values would indicate increasing proximity.

The first measure was that of social density (SOCDENS) which is similar to that used by Szilagyi and Holland (1980) and Form (1972), and which Wells (1965) has argued is important in determining socio-preferential choice. The score for this measure reflects all respondents who fell within a fifty foot radius of any one respondent. Since physical barriers in this store were few, it was felt that this straightforward procedure was the most elegant. This measure provides an indication of the number of available communication contacts an individual has in his immediate physical location.

The next measure, average distance (AVDIST), was computed by calculating the distance between the individual and all those s/he reported contacting in the network analysis instrument. This measure provides a relatively direct indication of proximate communication relationships, although the averaging process can serve to reduce variability.

The next measure used for physical structure was work zone (ZONE). Eight work zones were identified in the store and arranged on a continuum of perceived centrality of respondents' work stations based on over three months of intermittent observation and interviews with management concerning the ongoing activities of the store. Placement on the continuum was based on a weighing of three factors: location of work station in the work activities of the store, proximity to the formal authority (e.g., main office), and proximity to the environment (e.g., customers). The more central the individual's work station, the higher the probability that an individual would engage in important work related communication events. The most central location was identified as the checkout area near the front of the store and the least central location was the stock area located in the rear of the store. Respondents were assigned to work zones based on where their x fell on a map of the store.

RESULTS

Table 1 reports the Pearson correlations related to Research Question 1. Most of the significant correlations are associated with the AVDIST indicator of proximity and the FREEIDEA, INFOPOS, and CLIIND indicators of response satisfaction. Generally it appeared from the pattern of correlations that the further an individual was from others, the more negative the response satisfaction dimensions, and that there was a general, positive association between SOCDENS and response satisfaction.

Table 1

Pearson Correlations for Research Question 1

Climate Indicants	Proximity Indicants		
	AVDIST	SOCDENS	Zone
Average Response Satisfaction (AVSAT)	-.25**	.10	-.12
Associates Friendly (ASSFRND)	-.13	.10	-.08
Communication with Supervisor Satisfying (SUPSAT	-.27**	.17*	-.13
Free to Discuss Job Related Ideas (FREEIDEA)	-.36**	.21**	-.22**
Free to Discuss Feelings about Job with Associates (FREEFEEL)	-.29**	.15	.02
Information Given in Positive Manner (INFOPOS)	-.28**	.28**	-.28**
Climate Index (CLIIND)	-.35**	.23**	-.16*

* p < .10
** p < .05

Table 2 reports the results of a discriminant analysis comparing the loadings of the variables on two physical structure groupings; whether somebody falls into a central or peripheral geographical position in the store.[2] The canonical correlation and Wilk's lambda indicate that the functions relate significantly to the 'group' variable. Four of the

[2]Work zones 1, 2, 3, and 4, which include the cash registers and manager's office, were determined to be the most central, while zones 5, 6, 7, and 8, which include the stockroom and less central sales areas, were determined to be peripheral.

indicators, in the following rank order, appeared to be most useful in distinguishing between central and peripheral groups: FREEFEEL, SOCDENS, INFOPOS, and FREEIDEA. Finally, the classification analysis revealed that an exceptionally high number, 85.71 percent, of the 'grouped" cases were correctly classified.

Table 2

Discriminant Analysis for
Research Question 1

Statistics	Result
Standardized Discriminant Function Coefficients	
AVDIST	-.196
SOCDENS	.832
AVSAT	.165
ASSFRND	-.161
SUPSAT	-.127
FREEIDEA	.242
FREEFEEL	-.878
INFOPOS	.545
Canonical Correlation	.741
Wilk's Lambda	.452
Chi-Squared	42.141
Significance (p <)	.001

Table 3 reports the Pearson correlations related to Research Question 2. Again the clearest relationships found in this table are those between AVDIST and work dependency indicators. Somewhat more tenuous, although similar in absolute value relationships, are revealed between the work dependency indicators, especially ASSUND and NEEDJOB, and SOCDENS and ZONE.

Table 3

Pearson Correlations for Research Question 2

Climate Indicants	Proximity Indicants		
	AVDIST	SOCDENS	ZONE
Average Importance (AVIMP)	.14	.05	.05
Free Exchange with Associates of Task Information (FREEEX)	-.19*	.02	.00
Co-workers Share Information (COSHARE)	-.09	.05	-.00
Associates Understand Job Needs (ASSUND)	-.32**	.26**	-.20*
Supervisor Understands Job Needs (SUPUND)	-.16*	.15	-.11
Obtain Information Needed for Job (NEEDJOB)	-.40**	.36**	-.25**
Work Dependency Index (WDIND)	-.35**	.21**	-.15

* $p < .10$
** $p < .05$

Table 4 reports the results for the discriminant analysis relating to ZONE for Research Question 2. The canonical correlation and Wilk's lambda

indicated that the conjoint effect of function 1 was significant. Three of the indicators, in the following rank order, appeared to be most useful in distinguishing between central and peripheral work zones: SOCDENS, AVDIST, and FREEEX. Finally; the classification analysis revealed that 80.95 percent of the 'grouped' cases were correctly classified.

Table 4

Discriminant Analysis for
Research Question 2

Statistics	Result
Standardized Discriminant Function Coefficients	
AVDIST	-.227
SOCDENS	.946
AVIMP	.119
FREEEX	.225
COSHARE	-.043
ASSUND	-.030
SUPUND	-.085
NEEDJOB	-.089
Canonical Correlation	.652
Wilk's Lambda	.575
Chi-Squared	29.355
Significance (p <)	.001

Table 5 reports the Pearson correlations related to Research Question 5. There was a remarkably high pattern of correlations between all of the indicators contained in the climate battery of questions, with all being significant ($p < .05$), and 11 of the 24 correlations being greater than .5.

Table 5

.Pearson Correlations for Research Question 3

Work Dependency Indicants	Climate Indicants					
	AVSAT	ASSFRND	SUPSAT	FREEIDEA	FREEFEEL	INFOPOS
AVIMP	.22**	.08	-.05	-.01	-.03	.17*
FREEEX	.28**	.52**	.32**	.48**	.29**	.42**
COSHARE	.40**	.50**	.44**	.44**	.29**	.55**
ASSUND	.42**	.38**	.39**	.67**	.53**	.52**
SUPUND	.42**	.27**	.78**	.45**	.49**	.63**
NEEDJOB	.23**	.37**	.41**	.56**	.53**	.62**

* $p < .10$
** $p < .05$

Table 6 reports the canonical correlation results for the work dependency and response satisfaction indicators. This analysis resulted in four significant canonical variates with the loading of the respective indicators on each reported in the table. The eigenvalues represent the amount of variance accounted for in one canonical variate by the other set of variables and the canonical correlation is roughly equivalent to a Pearson's correlation between the respective sets (McLaughlin, 1980).

Table 6

Canonical Correlation for Response Satisfaction and Work Dependency

	Canonical Variates			
	1	2	3	4
Coefficients for First Set:				
AVSAT	.049	.151	.189	-1.141
ASSFRND	-.099	.312	.734	.538
SUPSAT	-.456	-.876	-.326	.265
FREEIDEA	-.148	1.022	-.691	-.346
FREEFEEL	-.229	-.010	-.545	.226
INFOPOS	-.353	-.339	.824	.260
Coefficients for Second Set:				
AVIMP	.140	-.143	.665	-.555
FREEEX	-.172	.438	.281	.332
COSHARE	-.188	.108	.648	.254
ASSUND	-.097	.763	-.545	-1.054
SUPUND	-.547	-.999	-.295	-.187
NEEDJOB	-.344	-.049	.043	.791
Statistics:				
Eigenvalue	.787	.497	.274	.150
Canonical Correlation	.887	.705	.523	.388
Significance (p<)	.001	.001	.002	.038

DISCUSSION

Research Question 1

Overall the results for Research Question 1 suggest a rich and interesting set of interrelationships among the indicants of response satisfaction and physical structure, that has a number of implications for organizational communication research. There was a negative association between AVDIST and response satisfaction, and a positive association between increasing SOCDENS and response satisfaction, suggesting these indicants of physical structure assume complementary roles.

The first trend is most clearly evidenced in the high negative relationship (-.35) between CLIIND and AVDIST. In fact, the only nonsignificant relationship found for this indicant was that with associates being friendly (ASSFRND). This may be a reflection of the relatively indirect measures of communication behaviors represented by this question as opposed to the others. Clearly then, in this organization, satisfaction with communication relationships decreased with distance.

The second trend, although not as strong as the preceding one, was for SOCDENS to be positively related with response satisfaction. This is most evident for the CLIIND, INFOPOS, and FREEIDEA indicants; which suggests increasing SOCDENS was related to the free and positive exchange of information. This is consonant with previous arguments by Davis (1984) and others which emphasize the importance of access to others for stimulation. Especially in this sort of retail store, which was characterized by relatively isolated work stations, individuals may desire, or feel a need for, higher levels of social contact. This is also evocative of the prior

literature suggesting interpersonal interaction can moderate large organizational size (Indik, 1965).

ZONE had the most tenuous association with response satisfaction, with a negative association between more central work ZONES and response satisfaction. This probably reflects the greater visibility of these positions and their more stressful nature; with employees occupying central positions constantly exposed to management and to customers.

To obtain a more complete picture of the relationships between these indicators and formal work positions a discriminant analysis was conducted. The discriminant analysis attempts to maximize the differences between central and peripheral work zones by examining functions created by the other indicants examined here. The results indicated that the most important factors distinguishing these groups from one another were SOCDENS and INFOPOS at one end of the continuum and FREEFEEL on the other. Thus it would appear that response satisfaction was somewhat dependent on a feeling of privacy, that others were not close enough to hear, and that, as we will see in other findings, the provision of positive information was somewhat dependent on understanding, which appeared to be associated with geographic proximity.

Research Question 2

The results for Research Question 2 indicated a more moderate general relationship between work dependency and physical structure than that found for response satisfaction; which reflects the more tenuous relationships generally found for productivity and these variables. The Pearson correlations generally revealed a strong relationship between work dependency

indicants and AVDIST. The only nonsignificant relationships were for the AVIMP and COSHARE indicators. The finding for the AVIMP indicator may be a reflection of the method of its calculation. Scores were averaged over all links for an individual, a process which reduces variance, this was especially true in the case of this measure, which exhibited a much greater range across individual links than did response satisfaction. The overall impact of all this might have been to dampen this indicant's relationship with the other variables contained in this study.

The COSHARE findings may be partially a reflection of management intervention, a factor which effects this variable more than any of the others examined here, in that the geographical distribution of workers and relatively isolated tasks made it relatively more difficult for COWORKERS to share needed information.[3]

The most noteworthy findings for the AVDIST indicator was its high negative association with ASSUND, NEEDJOB, and the WDIND. The correlations between ZONE and SOCDENS follow similar patterns, although their signs were reversed. Most important for all of the physical structure indicants was their relation with ASSUND and NEEDJOB. It appears that the more physically distant an associate was the less they were thought to understand what a worker was doing; which may in turn be related to their ability to provide

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[3]Some organizations pragmatically design their physical layout to enhance work relationships often working on the principle of 'closeness-desired' relationships (see Bennett, 1977): this strategy is supported by research findings which suggest that widespread and diverse patterns of oral interaction may not be as effective as focused communication directly related to interdependent tasks (Tushman, 1978).

a worker with information needed to perform their job. Thus physical structure may relate to understanding and the opportunity individuals have to secure needed work related information. Also from looking at the patterns of correlations between ASSUND and SUPUND, it appears that co-workers are more important in these processes than supervisors, reflecting the relatively low level of supervision and greater need for coordination in this sort of retail operation.

A discriminant analysis was also conducted to determine the association of these variables to work ZONE. There was somewhat less of an impact for this combination of variables, when compared to the response satisfaction indicants. On one end of the continuum of the discriminant function were SOCDENS and FREEEX, again pointing out the relationship between density and the opportunity to obtain information. On the other end only AVDIST loaded on the function in an important way, again reflecting the complementary and often opposing nature of the physical structure indicants, which could account for some of the conflicting research findings in the literature noted earlier.

Research Question 3

The results associated with Research Question 3, except for the AVIMP indicators, which might have been affected by a measurement artifact, revealed a remarkable pattern of interrelationship between the response satisfaction and work dependency indicants. Of course, some of this may be attributable to their common measurement, with indicants drawn from the same battery of questions, but even given this, there were substantial correlations between their indicants. Again the strongest correlations, as

for the proximity indicators, were generally associated with the FREEIDEA and INFOPOS indicants, which reflects the importance generally of climate factors for the free exchange of information in organizations. The correlation between SUPUND and SUPSAT was remarkably high (.78), pointing to the importance of such characteristics as empathic understanding for building quality relationships between a supervisor and a subordinate.

A canonical correlation was conducted to more systematically assess the relationship between work dependency and response satisfaction. This type of analysis attempts to maximize the variance accounted for by various linear combinations of variates which systematically relate two different sets of variables. The canonical variates are essentially equivalent to principal components, except that they account for the maximum relationship between two sets of variables, with each subsequent variate accounting for the remaining variance (McLaughlin, 1980). The canonical analysis conducted here demonstrated the close conceptual relationship between these two sets of variables with significant canonical correlations for the first four sets of variates.

The first variate appeared to be primarily linked to satisfactory supervisory relationships and getting the information needed to perform one's job. The second variate was primarily related to understanding, and somewhat relatedly, to the free exchange of ideas. The third variate was primarily related to the sharing of information with co-workers and the quality of these relationships. Finally, and somewhat less importantly than the others, the fourth canonical variate, relates primarily to the average variables associated with all links and the associate's understanding of job-related needs. The relative importance of these variables

nicely conforms with what management would assume are their relative importance, with variables related to control and coordination by management coming first and second respectively, followed by variates which could typify more classic human relations concerns and horizontal relationships.

CONCLUSION

Naturally in any exploratory study of this sort there were certain crucial limitations which need to be corrected in future research. First, the type of work and coordination required in a retail store is considerably different than in other organizations. One would expect that the differing technologies involved in a typical assembly line operation, for example, would produce considerably different types of effects, with work relationships considerably constricted by physical factors associated with that technology (Form, 1972). The significance of this factor was further supported by studies which suggest that as task complexity increases, more intensive interaction was needed to arrive at high quality decisions (Tushman, 1978; Katz & Tushman, 1979). Second, other research has suggested that the relationships among the variables examined here may be affected by such temporally related problems as maturation (e.g., Barnlund & Harland, 1963). For example, Rice (1982) found that as job understanding increased, the need to seek out large numbers of others in the network decreased. Fortunately this study was conducted early enough in the stores development that this should have been somewhat ameliorated, but future research may need to be done to assess their impact over time.

In sum, this study represents an attempt to investigate the nature of the relationship between physical structure, response satisfaction, and work dependency. The results point to the richness of the interrelationships among these variables. For example, it appears that each of the indicants used here for physical structure taps into different dimensions of the construct and have distinct impacts on communication behavior. This was evidenced most clearly in the relationship between SOCDENS and AVDIST ($r = -.38$) and their mirror image relationship with other variables. On the other hand ZONE, which reflected both the formal authority and physical structure, had less important relationships with response satisfaction and work dependency. The different impacts of these physical structure variables may explain some of the conflicting findings in the literature noted earlier. Thus these results suggest a fecund ground for future studies which can hopefully link in more concrete ways than prior research these intimately related communication variables to concrete organizational outcomes.

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