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ABSTRACT

COMMUNICATION GROUP MEMBERSHIP: DETERMINANT OF CLIMATE PERCEPTIONS AND WORK SATISFACTION IN ORGANIZATIONS

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The study was conducted to determine the effect of membership in communication groups on perceptions of the organization's climate and employees' attitudes toward work. Salancik and Pfeffer's (1978) Social Information Processing (SIP) model was used to test hypothesized relationships.

Data for the study was obtained from the Michigan Department of Education which at the time of data collection employed a total of 1060 individuals and was in the process of moving its separate offices to a central location. Respondents included employees belonging to service areas that were sampled as intact groups. A two-part survey instrument was administered to approximately 500 employees. A communication network instrument containing a roster of employees from the sampled service areas was used to determine patterns of communication. Perceptions of the work environment and attitudes toward work were measured using Likert-type scales.

NEGOPY, a computer-based network analysis program was used to identify communication groups in which the

basis of clustering was the frequency of interaction. A link was specified whenever communication occurred between individuals at least a few times a week. Multiple regression analysis was used to test hypothesized relationships among social information influence, work environment, work attitude and behavior variables as specified in the SIP model. The social influence variable, represented by membership in communication groups, was included as an indicator variable; work environment characteristics were represented by scales measuring perceptions of the physical environment, social environment, autonomy and trust; work attitude was measured using a work satisfaction scale derived from the Michigan Organization Assessment Questionnaire and the behavior variable was operationalized as the number of years one has been in the organization.

Results indicated general support for the SIP model. Moreover, the data provided some support for the influence of membership in communication groups on work environment perceptions and work attitudes. However, the low effect sizes and differential effects of certain communication groups suggest that much of the variation in climate perceptions and work satisfaction remains unaccounted for by the predictor variables. Further, the study established that gender, job tenure, group size and group density could not be shown to account for the remaining variance.

To Isaias who insisted that I persist

and

To Roi the reason for my persistence

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CHAPTER I

INTRODUCTION AND RATIONALE

Importance of the Study

Previous reviews of the organizational climate literature (Poole, 1985; Jones & James, 1979; Joyce & Slocum, 1979; Powell & Butterfield, 1978; Woodman & King, 1978; Payne & Pugh, 1976; Schneider, 1975; Hellriegel & Slocum, 1974; James & Jones, 1974; Campbell, Dunntette, Lawler & Weick, 1970) point to the need for better conceptual clarity and more appropriate operationalization of the climate construct. While significant theoretical and methodological advances have been made in the recent past (Poole, 1985; Schneider & Reichers, 1983), the issues relating to the aggregation problem (Joyce & Slocum, 1984; Schneider & Reichers, 1983; Payne, Fineman & Wall, 1976) have been less than adequately investigated.

The aggregation issue concerns the assessment of a valid basis for pooling individual psychological perceptions to produce a composite or aggregated perception. It assumes that a distinction between individual psychological and organizational climates exists. Joyce and Slocum (1979) presented the aggregation problem by posing the

question, "How can we meaningfully aggregate individuals' descriptions of their work environment so as to represent larger social units?" (p.32).

Jones and James (1979) suggested aggregating individual climate scores if the following criteria can be satisfied: (1) significant differences in aggregated or mean perceptions across different organizations or subunits; (2) interperceiver reliability or agreement; (3) homogenous situational characteristics (e.g., similarity of context, structure, job type, etc.); and (4) meaningful relationships between the aggregated score and various organizational, subunit or individual criteria. Joyce and Slocum (1984) reviewed the different bases of aggregation and concluded that most studies use one or a combination of these criteria. However, they suggested that validity necessitates satisfying all the conditions of discrimination or demonstrable difference between mean perceptions, predictable relationships to organizational or individual criteria and internal consistency or agreement in perceptions within aggregate climates.

Joyce and Slocum (1984) propose agreement of psychological perceptions as a valid basis for aggregating individual climate scores. These climates are identified through clustering techniques based on profile similarity on climate dimensions. In the past, other bases for aggregation have included formal organizational units,

divisions, work groups, or geographical location. The use of such aggregate units, however, necessitates the demonstration of homogeneity in perceptions among individuals composing the units. Unless such agreement is established, the validity of the aggregated scores becomes less than satisfactory.

As Joyce and Slocum (1984) observe, inconclusive results in aggregate climate research may be attributable to the hypothesis-testing approach often used in research. These approaches assume homogeneity of psychological perceptions for social aggregates and then proceed to test differences in mean climate perception among these groups. As an alternative to the hypothesis-testing approach, Joyce and Slocum (1984) propose the use of numerical taxonomic methods. These approaches first search for similarities in climate perceptions and then use the discrimination and significant relationship criteria. By using agreement as a basis for aggregation, Joyce and Slocum (1984) argue that climates obtained automatically meet the consistency and discrimination criteria.

The climate in an organization could be researched by using communication network groups as units of analysis. Communication networks provide a way of identifying groups whose members are in communicative interaction with each other. The interaction patterns produce a map of individuals and their communication linkages. As such, the

resulting communication groups may be hypothesized as possible units of aggregation, its main advantage being that individuals who are in interaction with each other tend to develop similar perceptions responding to, defining and integrating elements of the situation in particular ways (Schneider & Reichers, 1983).

The need to establish, a priori, the validity of aggregating individual perceptions has received attention from various scholars (Joyce & Slocum, 1984; Jones, & James, 1979; James & Jones, 1974). Even before correlating climate variables with organizational or individual outcome variables such as work satisfaction, commitment or performance, there is a need to determine the validity of aggregating climate scores. Jones and James (1979) clearly articulate the rationale for aggregation

> the argument for aggregating perceptually based climate scores (i.e., psychological climate scores) appears to rest heavily on three basic assumptions: first, that psychological climate scores describe perceived situations; second, that individuals exposed to the same set of situational conditions will describe these conditions in similar ways; and third, that aggregation will emphasize perceptual similarities and minimize individual differences (Jones & James, 1979, p.206).

Joyce and Slocum (1984) suggest that psychological agreement be used as a basis for pooling individual scores. The authors specifically propose a numerical taxonomic approach in which similarities are first searched for and then only would dissimilarities and relationship criteria

be utilized. Hence, clustering methods can be used to establish similarity.

In the field of organizational communication, the use of communication networks for the study of communication climates has been proposed by several authors (Glick, 1985; Jablin, 1980). Moreover, Schneider and Reichers (1983) suggest that "if researchers could show, through a clustering procedure perhaps, that the major differences in subsystem climates correspond to the different interaction groups of which individuals are members, empirical support for the construct validity of the approach to climate could have been demonstrated" (pp. 35-36). Jablin (1980), after reviewing the research issues in the climate and network research fields, concludes that there are advantages to integrating these separate research areas. He points out that in addition to the conceptual reasons for studying communication climates and networks together, there are methodological advantages to an integrated approach.

A theoretical framework that integrates communication, work environment perceptions, work attitudes and behavioral variables is Salancik and Pfeffer's (1978) Social Information Processing (SIP) Model. Essentially, the SIP perspective posits that the social context has important influences on employees' perceptions and attitudes. Communication groups are then seen as important social units that may impact on perceptions of the

organization's climate as well as on their expressed satisfaction with work. It is the purpose of this research, therefore, to determine the effect of membership in communication groups on perceptions of the work environment and attitudes toward work. It is proposed that communication network groups be used as a basis for aggregating individuals' perceptions of organizational climate and work satisfaction.

Organization of the Manuscript

The dissertation consists of the following major sections:

Organizational Climate:

This chapter traces the conceptual and operational development of the climate construct. Various theoretical and research issues are discussed. Finally, it synthesizes the major theoretical issues and presents the statement of the problem.

Theoretical Framework and Research Hypotheses:

This chapter discusses Social Information Processing Theory as the organizing framework for the development of the research proposition and specific research hypotheses. It specifically focuses on the role of communication in the creation of similar perceptions about work attitudes.

Methodology:

This chapter discusses network analysis as a method of clustering individuals on the basis of communication interaction patterns. NEGOPY, a computer network analysis program, is presented as a method of producing communication groups. The research site, sampling procedures and instrumentation are presented.

Results:

This chapter presents the results of data analysis. Network analysis results are first presented. Adequacy of the resulting clusters is established. Finally, predictors of perceptions of the work environment and predictors of work satisfaction are presented.

Discussion:

This chapter discusses regression results in light of the issues of low effect size and of the differential effects of membership in communication groups.

Conclusions and Recommendations:

This chapter discusses the conclusions and presents suggestions for the improvement of future research utilizing the Social Information Processing (SIP) approach in the analysis of organizational climate and work satisfaction.

CHAPTER II

ORGANIZATIONAL CLIMATE

Overview

This chapter reviews the conceptual development of the organizational climate construct. Various conceptualizations are presented, and theoretical and measurement issues are discussed. The issue of the appropriate unit of aggregation of individual perceptions is focused on and the research purpose is presented.

Organizational-Individual Attributes Perspectives

The organizational climate construct is one of the more thoroughly studied constructs in organizational theory and research. It has been conceptualized and operationalized in various ways. In an extensive review of the climate literature, James and Jones (1974) differentiate three approaches to the study of organizational climate: (1) the multiple measurement-organizational attributes approach; (2) the perceptual measurement-organizational approach; and (3) the perceptual measurement-individual attributes approach.

The first perspective treats climate as an attribute or set of attributes belonging to an organization which are independent of the perceptions or attributions of the members of the organization. Organizational climate is viewed as a

> set of characteristics that describe an organization and that (a) distinguishes the organization from other organizations, (b) are relatively enduring over time, and (c) influence the behavior of people in the organization (Forehand & Gilmer, 1964, p. 362).

Organizational climate, therefore, is seen to include organizational components such as size, structure, systems complexity, leadership style, and goal directions (James & Jones, 1974). The global inclusion of organizational characteristics in the definition of organizational climate using this approach has led to criticisms for this perspective. James and Jones (1974) argue that such conceptualization "is so encompassing that it is difficult to see how their description of organizational climate is other than a rather broad-spectrum approach to those organizational attributes" (p. 1097) refered to as structure or organizational context.

Falcione and Kaplan (1984) summarize the assumptions underlying this perspective. These include: (1) organizations exist and persist despite fluctuations in membership; (2) organizations develop a set of characteristics that may be specified; (3) these specified

characteristics are relatively enduring; (4) the specification of these organizational characteristics may be accomplished objectively; that is, once the set of characteristics is specified, the levels or values of these characteristics may be found independent of individual members' idiosyncratic perceptions of the organization; (5) consensus across observers as to the levels of the characteristics, and thus the climate, would be expected to obtain (p.287).

The second perspective treats climate as an interaction of an organization's traits and the individual's perceptions of these traits (Falcione & Kaplan, 1984). The definition offered by Campbell et al. (1970) represents the concept of organizational climate from this perspective. It is viewed as

> a set of attributes specific to a particular organization that may be induced from the way the organization deals with its members and its environment. For the individual member within an organization, climate takes the form of a set of attitudes and expectancies which describe the organization in terms of both static characteristics (such as degree of autonomy) and behavior-outcome and outcome-outcome contingencies (Campbell et al., 1970, p.390).

Falcione and Kaplan (1984) suggest that, from this perpsective, climate is a consensual perception of an organization's attributes. This perspective's distinctive features are as follows: (1) climate is considered as a perceptual variable, dependent on the reports of individual

members; (2) the perceptions of climate are descriptive, rather than evaluative; (3) reports of the individual members are expected to exhibit considerable congruence (p.287).

In this perspective, consensual agreement about organizational attributes is crucial to understanding the organization's climate. Joyce and Slocum (1984) suggest that similarity in psychological perceptions be used as a basis for such agreement. They refer to these climates as collective climates.

In summarizing this approach, James and Jones (1974) point out that "if perceived organizational climate is to be used to measure an organizational attribute, the accuracy of the perception should be considered" (p.1104). In a review of research on aggregate climates, Joyce and Slocum (1984) observe that researchers have used a number of criteria in addressing the validity of various types of aggregate climates. These include: demonstrable differences in mean perceptions between climates; predictable relationships to organizational or individual criteria; and internal consistency, or agreement in perceptions within aggregate climates.

The third approach treats climate as an individual's summary perceptions of his or her encounters with the organization. Most climate research employing this perspective is based on the assumptions of either Gestalt

Psychology or that of Functionalism. Schneider (1975) distinguishes between these schools of thought in that the main assumption of Gestalt Psychology is that humans apprehend order in their environment and attempt to create order through thought while Functionalism assumes that humans apprehend and/or attempt to create order in their environment so they can effectively adapt their behavior to the work environment (Schneider, 1975).

> Gestaltists define climate perception as a meaningful apprehension of order in the perceiver's world based on cues in that world and inferences (or attributions) regarding the presence of psychologically equivalent cues (Schneider, 1975, p. 448).

Gestalt theory stresses the desire of individuals to behave on the basis of the apprehended order. Hence, the Gestalt perspective proposes that people not only apprehend and create order but also respond to the perceived order in behaviors that are seen as congruent with the perceived or created order.

On the other hand, Functionalism suggests that order is apprehended in the perceiver's environment so that people can function adaptively in their world. Research providing support for the perspective that adaptation is an explanatory concept for the impact of climate perceptions on behavior have been summarized by Schneider (1975). This body of research views peoples' need to obtain information from its environment as a means of determining appropriate

behaviors to allow them to function in a homeostatic way in the organization. Hence, organizational climate is viewed as a

> set of summary or global perceptions held by individuals about their organizational environment. These summary perceptions are reflected in interaction between personal and organizational characteristics, in which the individual by forming climate perceptions, acts as an information processor (James & Jones, 1974, p. 1105).

To summarize, the multiple measurement-organizational attribute perspective predicts that organizational outcome variables can be influenced by organizational attributes such as structure, type, and leadership independent of members' perceptions. The perceptual measurement-organizational attribute approach emphasizes the importance of a consensual view of organizational traits as a determinant of individual or organizational outcome variables. The perceptual measurement-individual attribute view focusses on individual, as opposed to a consensual, perception of the organization's overall "personality".

Structuration Approach

While the above classification of approaches to the study of organizational climate has traditionally been the most widely-accepted classification system, other scholars (Ashforth, 1985; Poole, 1985; Schneider & Reichers, 1983) choose to make a distinction between objectivist

(structuralist) and subjectivist (Selection-Attraction-Attrition) perspectives. Schneider and Reichers (1983) summarize the basic differences between these approaches as follows:

> The structuralist approach places the meaning that individuals attach to events, practices and procedures primarily within the events themselves. According to this view, climates differ across organizations as a function of the differences in organizational structures.... In contrast to the structuralists, the selection-attraction-attrition perspective places the meaning that individuals attach to events primarily within the individual. This view suggests that climates differ across organizations as a function of the different types of people that become members of those organizations (p.32).

A third view is forwarded by Schneider and Reichers (1983). Based on symbolic interactionism, the interactionist perspective

> places the locus of meanings that arise within the interaction between people. This view places primary importance on the interactions that occur during the newcomer's socialization period, and stresses the importance of group membership as a determinant of climates that vary from group to group (Schneider & Reichers, p.32).

It is seen as a reconciliation between the objectivism of the structuralist approach and the subjectivism of the Selection-Attraction-Attrition approach. The interactionist perspective argues that climate perceptions are a result of individuals' efforts to understand the

organization and their roles within it. As such, it draws on symbolic interactionism in general and new-comer socialization in particular (Ashforth, 1985). It "maintains that people in communicative interaction with each other, respond to, define, and interpret elements of the situation in particular ways. These characteristic modes of interpretation and definition form distinct subgroup climates within organizations" (Schneider & Reichers, 1983, p.33).

The Multiple Climate Perspective

Early research on the climate construct conceptualized organizational climate as a global, all-encompassing perception of individuals' general "feel" of the work place. Consequently, omnibus measures were developed to operationalize this construct. Other scholars (Schneider & Reichers, 1983; Powell & Butterfield, 1978; Johnston, 1976), however, have suggested that organizations may have more than one climate. Powell and Butterfield (1978) argue that an organization is considered to have subsystem climates whenever at least one group of employees has different perceptions of the organization's climate than those of another subsystem. Hence, climate is a property of the separate subsystems than of the organization as a whole. Powell and Butterfield (1978) present evidence from past studies supporting the existence of subgroup climates.

Such support consist of studies demonstrating differences in perceived climate and differences in relationship between perceived climate and other variables within the organization. Schneider (1975) likewise suggests that each work organization creates a number of different types of climates which may lead to different outcome behaviors or may result from differences in units of analysis.

Johnston (1976) points out that variations in situational or environmental factors can result in more than one climate within an organization, hence, challenging the concept of organizational climate as a molar or macro concept. Johnston (1976) argues that climate, perceived by the individual as being relevant to his job performance, is a product of the interacting effects of situational variables and the personality-based actions. "As such, climate is molar or macro from the point of view of the individual, not of the overall organization" (Johnston, 1976, p.102).

When the objective is to find significant links between the climate that an employee perceives and job performance, it is important to make a distinction between individual and organizational climate perceptions. Johnston (1976) takes issue with Hellriegel and Slocum's (1974) definition of overall climate as a perceptual summation of all the individuals in the organization. "If an important objective is to find significant links between

the climate that an employee perceives and job performance then research should first be aimed at isolation of both the structural and personality variables that give rise to the perceptions of different climates" (Johnston, 1976, p.102).

Communication Climate

The organization's climate for communication can best be viewed from a multiple-climate perspective. This approach suggests that organizations can seldom be described as having a single, pervasive climate. Rather, organizations are more likely to have different climates arising from situational, geographical and environmental factors. Aside from talking of subsystem climates based on hierarchical levels such as managerial and non-managerial climates, one can talk of an organization's climate describing its environment such as its climate for safety, climate for innovation and indeed, climate for communication.

The organization's communication climate has been defined in several ways. It is seen as

> a molar description of communication practices and procedures in an organization or sub-unit. It consists of collective beliefs, expectations, and values regarding communication and is generated in interaction around organizational practices via a continuous process of structuration (Poole, 1985, p.107).

Poole (1985) suggests that descriptions of communication climates fall into two categories--the dimensional strategy and the typological strategy. In the first strategy, climates are described in terms of a set of distinct dimensions (e.g. degree of structure, warmth, etc.); the second strategy identifies types of climates (e.g., democratic, authoritarian, etc.). In the dimensional strategy, situational variation in climates is reflected in different values on the various dimensions while the typological strategy characterizes climates as "integrated configurations of properties." (Poole, 1985, p.86). While these types can be rated on dimensions, they are not reducible to dimensions because they are "wholes" (Poole, 1985).

Poole (1985) identifies three distinct approaches to dimensional descriptions of climate. The first approach specifies dimensions that hold across organizations and describe climate in general. Communication, in particular, is encompassed in several of these dimensions. For instance, warmth, conflict, and identity in the Litwin & Stringer (1968) measure, and factors 2 and 4 in Campbell et al.'s (1970) scheme tap the communication dimension.

The second approach identifies climates for specific organizational practices. Inasmuch as communication is also an organizational practice, a communication climate exists for the organization. "This approach assumes that

organizations have a number of different climates, the contents of which are specific to particular practices" (Poole, 1985, p.88).

The third approach relies on interviews and/or observations to identify the dimensions of climate unique to the organization. While more complex and time-consuming, this approach allows the researcher to identify aspects of climate that are salient and meaningful to organizational members.

In the typological strategy, attributes are used to describe climates. Poole (1985) cites Lewin et al.'s (1939) characterization of climates as democratic, autocratic and laissez faire; Gibb's (1961) as supportive, defensive; and Johnston's (1976) as organic-adaptive, stultifying.

Jablin (1980) differentiates between objective and subjective communication climates as follows:

> Objective communication climates are comprised of physically verifiable and/or independently derived (relative to the participants) quantitative and qualitative descriptions of the types, frequency, content, mode, media, context, etc. of messages sent and received in the organizational setting... Subjective communication climates represent a general cluster of inferred predispositions, identifiable through reports of members' perceptions of messages and message-related events occurring in the organization (Jablin, 1980, p.342).

Falcione and Kaplan (1984) summarized research efforts to operationalize communication climates in the

past. According to Falcione and Kaplan (1984) among the first to postulate an ideal communication climate was Redding (1972) who talked of dimenisons of (1) supportiveness; (2) participative decision-making; (3) trust, confidence and credibility; (4) openness and candor; (5) high performance goals. Dennis (1975) similarly postulated communication climate to include Redding's (1972) five components plus two other dimensions, namely, information adequacy/satisfaction and semantic information distance. When factor analyzed, five factors were produced, namely, (1) superior-subordinate communication; (2) perceived quality and accuracy of downward communication; (3) perceived openness of superior-subordinate relationship; (4) opportunities and degree of influence of upward communication; and (5) perceived reliability of information from subordinates and co-workers. Roberts and O'Reilly's (1974) instrument consisted of 36 items that measure 16 dimensions of organizational communication. Sixteen dimensions were produced: (1) trust, (2) influence, (3) mobility, (4) desire for interaction, (5) accuracy, (6) summarization, (7) gate-keeping, (8) overload, (9) directionality-upward, (10) directionality-downward, (11) directionality-lateral, (12) percentage of time used for written communication, (13) face-to-face communication, (14) telephone, (15) other communication modes, (16) communication satisfaction.

Falcione (1978) developed a 26-item communication climate instrument producing 5 dimensions: (1) communication receptivity, (2) decision-making, (3) organizational commitment, (4) coordination, (5) communication satisfaction/expectations. Finally, the ICA Communication Audit is a multi-method procedure that employs (1) questionnaire, (2) interviews, (3) network analysis, (4) communication experiences instrument and (5) communication diary. It purports to measure the communication climate from micro and macro perspectives. The communication dimensions assessed are: (1) amount of communication sent and received by an individual to others in the organization (in terms of discrepancy scores between what respondents perceived as needed and what was reported as sent and received), (2) the discrepancy in the amount of follow-up perceived necessary and completed by organization sources, (3) the timeliness of responses, (4) the degree of discrepancy between the information sent and perceived as needed by different levels of personnel.

Research Issues

Various major reviews of the literature on organizational climate have been conducted (Poole, 1985; Jablin, 1980; Payne & Pugh, 1976; James & Jones, 1974; Campbell, et al., 1970) in recent years. In these reviews, several theoretical and measurement issues have been identified.

At the conceptual level, James and Jones (1974) provide a critique of the climate construct with respect to each of the approaches. They conclude that there has been far more concern with measurement issues than with conceptual definitions in the research they reviewed. While concerns with measurement issues are of major importance in organizational research, operationalization of the climate construct should be guided by the conceptual definition of the construct. Hence, they propose that the first step in reconceptualization should be to distinguish between organizational climate and psychological climate:

> When regarded as an organizational attribute, the term organizational climate appears appropriate. When regarded as an individual attribute, it is recommended that a new designation such as 'psychological climate' be employed (James & Jones, 1974, p.1108).

A related problem has to do with distinguishing between the physical climate of the organization and the perceived climate. Jablin (1980) refers to these as actual or objective and conceptual or perceptual climates, respectively, and offers the following distinction in terms of an organization's communication climate

> it is suggested that an organization's 'objective' communication climate should include physically verifiable as well as independently derived measures of relevant communication variables. In turn, 'subjective' measures of climate tap the perceptions of the participants (i.e., organizational members) about communication phenomena (Jablin, 1980, p. 330).

At the conceptual level, Tagiuri and Litwin (1968) summarized the important conceptual problems as: (1) distinguishing between the objective and subjective environment; (2) distinguishing between the person and the situation; (3) determining what aspects of the environment need to be specified; and (4) identifying the structures and dynamics of the environment.

James and Jones (1974) point out that the literature on organizational climate research reveals that researchers have generally been more concerned with measurement issues than with conceptual issues. These methodological concerns are seen to generally revolve around the issues of measurement and analysis. The measurement of organizational climate issue involves the problems relating to identification of climate dimensions and overlap and redundancy of measurement scales while the analysis issue deals with problems of level of measurement vis-a-vis aggregation of individual perceptual measures to produce organizational climate perceptions.

A review of climate research reveals that varied organizational climate dimensions have been used. Campbell et al. (1970), in examining the different climate instruments, suggested that the four most commonly used dimensions of climate are: (1) individual autonomy; (2) degree of structure; (3) reward orientation; and (4) consideration, warmth, and support.

Perhaps the issue of redundancy is one that has generated the greatest controversy in the organizational climate literature. It concerns the debate over whether a large portion of organizational climate measuring instruments are redundant with satisfaction dimensions. Johannesson (1973), after cluster analyzing climate factors and work attitude factors, found substantial overlap and concluded that "job satisfaction and perceptually measured organizational climate are, to a large degree, redundant" (p. 122). Redundancy and overlap, it is argued, results from the use of climate items which have been adopted from job attitude and job satisfaction scales and from the unavoidable psychological problem of divorcing description from feelings.

Guion (1973) noted the ambiguousness in the idea of a "perceived organizational climate" claiming that

> one can not be sure whether it implies an attribute of the organization or of the perceiving individual. If it refers to the organization, then measures of perceived organizational climate should be evaluated in terms of the accuracy of the perceptions. If it refers to the individual, then perceived organizational climate may simply be a different name for job satisfaction or employee attitudes (p. 120).

Other researchers, however, have arrived at a different conclusion. Schneider and Snyder (1975) concluded that there is evidence that organizational climate and satisfaction data are not equivalent. They argued that

a logical and empirical distinction between these two concepts is possible if

> organizational climate is conceptualized as a characteristic of organizations which is reflected in the descriptions employees make of the policies, practices and conditions which exist in the work environment [and if] job satisfaction is conceptualized as an affective response of individuals which is reflected in evaluations employees make of all the individually salient aspects of their job and the organization for which they work (p. 326).

LaFollette and Sims (1975) also investigated the redundancy hypothesis forwarded by Johannesson (1973). Conducting a research in a medical organization, they came to the conclusion that while there is evidence that climate and satisfaction are correlated, these related differently to performance, hence, casting serious doubts on the redundancy issue. Further, it was argued that while a strong correlation exists, it does not by itself, prove redundancy or causality. Downey et al. (1974, 1975) similarly concluded that their data provided some basis for the argument that organizational climate and job satisfaction are not one and the same. In more recent years, researchers have maintained the descriptive-affective distinction in organizational climate measures.

The level of analysis issue deals with the distinction being made in terms of climate as an organizational or individual attribute as reflected in James and Jones' (1974) typology of climate perspectives. Central to this issue is the problem of aggregating individual perceptions

of organizational attributes. As pointed out by Joyce and Slocum (1984), the usefulness of an aggregate climate concept is that it allows the description of organizational settings in psychological terms" (p. 722). Specifically, these authors (James, Joyce & Slocum, 1988; Joyce & Slocum, 1984) define organizational climate as aggregated psychological climate whenever perceptual agreement has been demonstrated.

Glick (1988), however, takes issue with this conceptualization arguing that organizational climate is a "broad class of organizational, rather than psychological, variables that describe the organizational context for individuals' actions" (Glick, 1985, p.613). Further, Glick (1988) suggests the use of the term organizational climate when a macro, realist perspective is used. When one takes an individualist approach (James et al., 1988), Glick suggests the term aggregated psychological climate.

Jablin (1980) summarized Jones and James' (1979) suggested criteria before data aggregation. Prior to data aggregation, the following considerations should be taken into account: (1) significant differences in aggregate or mean perceptions across different organizations or subunits; (2) interperceiver reliability or agreement; (3) homogenous situational characteristics (e.g., similarity of context, structure, job type); and (4) meaningful relationships between the aggregate scores and various

organizational, subunit, or individual criteria.

With respect to the validity of aggregate climates, Joyce and Slocum (1984) noted that a number of methodological criteria have been employed. These include discrimination, predictable relationships to organizational or individual criteria, and internal consistency. The findings of their study provided support for the validity of collective climates. They suggested that "to the extent that these climates provide a common frame of reference for participants, they would be expected to exert potent influences on individual performance and satisfaction" (Joyce & Slocum, 1984, p. 736).

Summary of Perspectives and Issues

In attempts to explicate the climate construct, various climate definitions have been offered by researchers. Poole (1985) summarized the points of agreement and disagreement among the various conceptualizations of the climate construct. First, there is agreement among organizational scholars that climate is a molar concept meaning that it characterizes the properties of the organization as a whole. While there has been confusion in early climate research concerning individual (psychological) and organizational climates, much of this has been clarified as researchers heeded James and Jones' (1974) distinction between the two. When regarded as an organizational

attribute, the term organizational climate appears appropriate; when referring to individual attributes, the use of the term psychological climate is suggested.

A second point of agreement is that climate is descriptive and not evaluative. The consensus regarding this aspect of climate research came about as a result of the debate on the redundancy hypothesis forwarded by Johanesson (1973). In brief, after cluster analyzing climate factors and work attitude factors, Johanesson (1973) concluded that there was substantial overlap in these two measures. Other researcher, however, came to a different conclusion. LaFollette and Sims (1975) showed the transitivity principle did not apply when correlations were examined between climate and performance and satisfaction and performance. Consensus on this issue came about when researchers agreed that whenever the characteristics of the organization are reflected in descriptions made by the employees regarding conditions of the work environment, it would refer to climate; whenever these characteristics are reflected in evaluations it would refer to satisfaction.

Thirdly, there is general acceptance that the environment affects behaviors of organizational members. In general, it is widely assumed that individuals perceive cues from the environment and make attributions regarding apprehended order in their environment. Moreover, they

behave in ways to be consistent with the apprehended order. In climate research, what this means is that individual and/or organizational outcome variables are affected by the perceived organizational climate.

There are also points of disagreement. First, there is disagreement concerning the generality of the climate construct. Early research conceptualized organizational climate as a generalized description of the environment. It was assumed that the climate of the organization could be measured by omnibus climate measures. Some researchers agree, however, that an organization could conceivably have sub-climates and for that matter multiple climates. Empirically, multiple climates were shown to exist (Powell & Butterfield, 1978). It is argued that if climates are seen to arise from organizational practices, there will be a climate associated with these practices.

Second, there is disagreement on whether climate is objective or subjective. The point of debate concerns the use of objective and subjective measures. By objective measures Jablin (1980) refers to physically verifiable artifacts obtained independently of the organizational members (e.g. quantitative and qualitative descriptions of types, frequency, content, etc., of messages received and sent). By subjective measures he refers to members' perceptions of communication-related events occurring in the organization (e.g. perceived openness of communication with

superiors). The disagreement arises when it is argued that objectivity is lost once the researcher's own interpretation of organizational meanings is imposed.

Third, a methodological problem associated with the distinction between psychological and organizational climate is the units of measurement vis-a-vis units of analysis issue. In brief, the problem concerns the confounding effect of measuring individual perceptions and then analyzing at a level other than that of the individual. It has been argued that if measurement is done at the individual level, analysis should be done at that level, too.

If concern is with measuring organizational climate, there is a need to determine an appropriate unit of aggregation. In the past, bases of aggregation included formal organizational units, departmental divisions or work groups. Joyce and Slocum (1984) observed inconclusive results in this research area and argued that such could be attributed to the hypothesis-testing approach often used in climate research. These approaches assume homogeneity of perceptions and then proceed to test differences among groups. As an alternative, Joyce and Slocum (1984) propose the use of numerical taxonomic approaches which first search for similarities before applying such criteria as discrimination or significant relationships.

Statement of Research Purpose

The purpose of this research is to determine the influence of membership in communication network groups on individuals' perceptions of the organization's climate and on attitudes toward work. The rationale for using communication groups, as opposed to other bases of aggregation is that individuals in communicative interaction tend to develop similar perceptions and ways of responding to the work environment. The communication group, therefore, may be considered a more homogenous social unit and can be hypothesized to exert important influences on climate perceptions and work satisfaction.

CHAPTER III

THEORETICAL FRAMEWORK AND RESEARCH HYPOTHESES

Overview

This chapter discusses Social Information Processing (SIP) as an organizing framework for the study of organizational climate and work satisfaction. Based on the premises of SIP, specific research hypotheses are formulated. Specifically, it is posited that membership in communication groups is significantly related to individuals' degree of agreement on climate perceptions. Moreover, the degree of agreement or unanimity in perceptions significantly influences individual's attitudes toward work and the individual's subsequent behavior.

Social Information Processing Approach

Salancik and Pfeffer's (1978) Social Information Processing (SIP) approach to job attitudes is a theoretical perspective that emphasizes informational processes in a social context. While not widely used in organizational communication research, it is a "theoretical framework that makes an important link between communication and

individual and organizational outcomes" (Miller & Monge, 1985, p. 365). Specifically, Salancik and Pfeffer (1978) argue that

> the social context binds people to behavior through a process of commitment, affects the saliency of information about their past activities, and provides norms and expectations that constrain their realization or justification of those activities. The social context, through informational social influence processes, can affect beliefs about the nature of jobs and work, about what attitudes are appropriate, and, indeed, about what needs people ought to possess (p. 233).

The social information processing approach to job attitudes was developed by Salancik and Pfeffer (1978) in response to the inadequacies of the need-satisfaction perspective. In an examination of need-satisfaction models, Salancik and Pfeffer (1977) concluded that there are problems with the basic theoretical structure and methodological aspects of these models. Miller and Monge (1985) summarized Salancik and Pfeffer's (1977) criticisms

> First, needs are conceptualized as stable characteristics of persons. However, theories attempting to delineate the structure of human needs (e.g. Maslow, 1943), have received little empirical support. Second, the definition of job characteristics in need theories has been largely incumbent on the researcher, and characteristics identified in early research have become the only ones used in more recent research. Third, the survey methods typically used in studies of job attitudes may be plagued by problems of consistency effects and priming effects. Finally, despite the possible artifactual results of consistency and priming, relatively small effect sizes have been obtained for the relationship between job characteristics

> and absenteeism, productivity, and attitudes such as job satisfaction and organizational commitment (p. 366).

Essentially, the need-satisfaction models posit that individuals have basic, stable and identifiable attributes, including needs; that jobs have a stable, identifiable set of characteristics that are relevant to the needs of individuals. Work attitudes are developed from the correspondence between individual needs and job characteristics (Salancik & Pfeffer, 1977). From this perspective then, work satisfaction results from job characteristics that satisfy the individual's needs. Conversely, work characteristics that are not compatible with an individual's needs are seen as resulting in work dissatisfaction.

Salancik and Pfeffer (1978) take issue with this position stating that this approach appear to deny individuals' capacities to provide their own satisfaction by cognitively reconstructing situations. They offer social information processing as an alternative perspective which focuses on the social context of work. Specifically, their proposed model "emphasizes the effects of context and the consequences of past choices, rather than individual predispositions and rational decision-making processes" (p. 224).

The social information processing approach is premised on the fundamental belief that individuals adapt their attitudes, behaviors and beliefs to their social

context and to the reality of their own past and present behavior and situation. Thomas and Griffin (1983) specifically summarize Pfeffer's four basic premises:

> First, the individual's social environment may provide cues as to which dimensions might be used to characterize the work environment....Second, the social environment may provide information concerning how the individual should weight the various dimensions-whether autonomy is more or less important than variety of skill, whether pay is more or less important than social usefulness or worth. Third, the social context provides cues concerning how others come to evaluate the work environment on each of the selected dimensions.... And fourth, it is possible that the social context provides direct evaluation of the work setting along positive or negative dimensions, leaving it to the individual to construct a rationale to make sense of the generally shared affective reactions (p. 672).

As such, the informational and social environment in which such behaviors occur becomes an important consideration in the study of work attitudes and behaviors. Salancik and Pfeffer (1978) argue that "individuals develop attitude and need statements as a function of the information available to them at the time they express the attitude or need" (p.226). Such information is available in the individual's social environment.

The social context also provides important cues the individual uses in the construction and interpretation of events, what attitudes and needs are appropriate and norms and expectations used in rationalizing previous actions. The social environment, then, has two general effects on

attitudes and need statements: (1) it provides a direct construction of meaning through guides to socially acceptable beliefs, attitudes and needs, and acceptable reasons for action; and (2) it focuses an individual's attention on certain information, making that information more salient, and provides expectations concerning individual behavior and the logical consequences of such behavior (Salancik & Pfeffer, 1978).

According to the social information processing approach attitudes and need statements result from (1) the individual's cognitive evaluation of the work environment; (2) the individual's relevant past actions; and (3) the information available in the social context (Figure 1). Modelled in this way, work attitudes are seen to be largely determined by all relevant information in the social environment available to the individual rather than compatibility in individual needs and job characteristics alone.

As Thomas and Griffin (1983) articulate, "a fundamental difference between the task attributes approach and the SIP viewpoints, then, appears to be a disagreement regarding the influence of objective task characteristics and social cues provided to the individuals" (p. 679). Specifically, social information is seen to affect attitude and need statements through: (1) overt statements about worker attitudes; (2) the process of making aspects of the

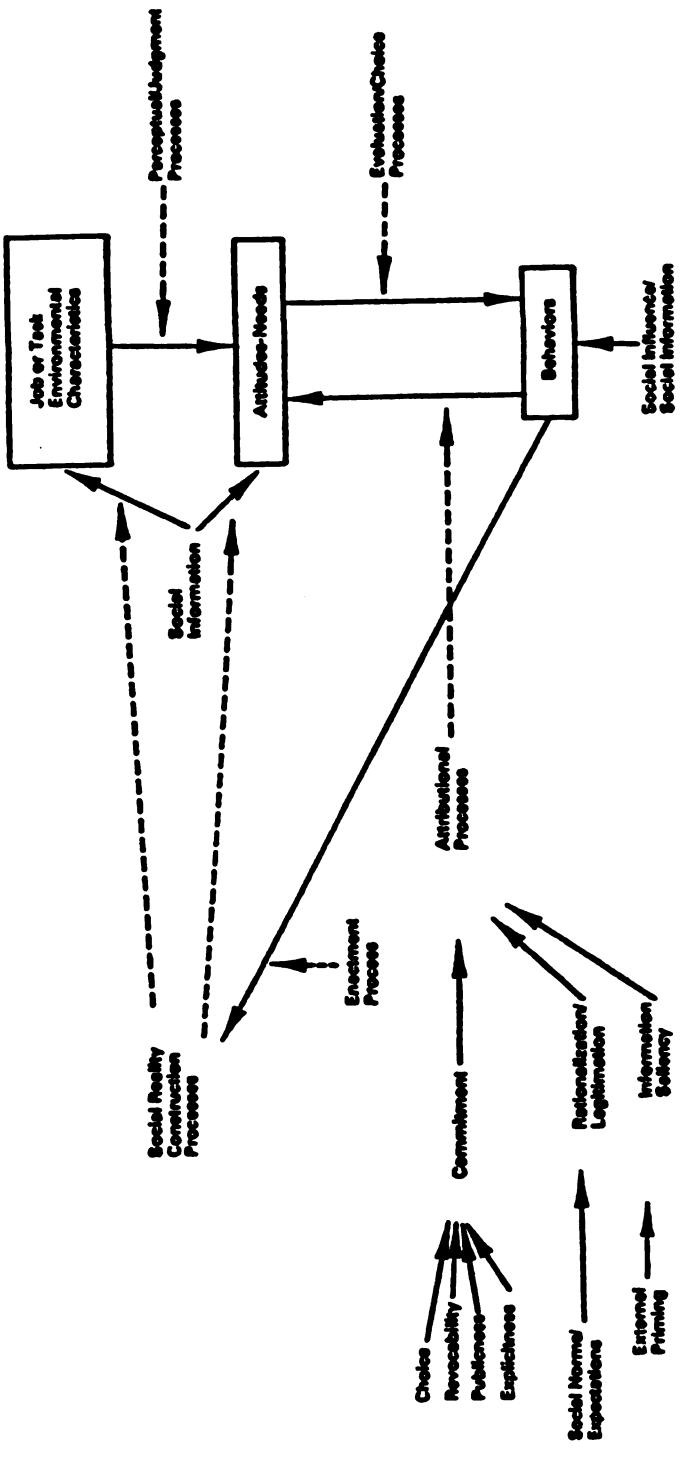


Figure 1. Salancik & Pfeffer's (1978) Social Information Processing Model

environment salient; (3) interpretation of environmental cues; and (4) influential interpretation of one's needs.

Tests of the SIP Model

Several research studies have been done to test the social information processing approach to job attitudes. Thomas and Griffin (1983) reviewed and meta-analyzed ten studies dealing with the effects of social cues in the work place on employee task perceptions, evaluations and reactions. Their review suggests that social information appears to play an important role in shaping employee perceptions. Specifically, in studies which manipulated social information cues, perceived job satisfaction was significantly influenced. Moreover, Salancik and Pfeffer (1978) reported that the effect of social information has been demonstrated to hold across different research settings (lab, survey, field experiment), different sources (coworkers, leaders), and different channels (oral, written, role models). Blau and Katerberg (1982) similarly concluded that research results to date have generally been shown to be supportive of Salancik and Pfeffer's (1978) social information processing theory.

Pfeffer (1980) tested the SIP model specifically focusing on the effects of social influence, as represented by work-group membership, on perceptions of job dimensions, needs and attitudes. He found evidence for the effect of

group membership on needs and job dimensions. Also, he found support for the effect of job dimensions, group membership and job behaviors on the development of work attitudes. The study focused particularly on the relative effects of the social context on attitude development.

Recently, Miller and Monge (1985) extended the social information model to employee anxiety in organizational change. They posited that anxiety is a function of individual needs, job characteristics and social information. Results indicated that the proposed model showed a good fit to the data and was significantly different from the null model. Furthermore, it was shown that information, needs and job level influence anxiety (attitude), hence, providing partial support for the theory. Results of this study also point out that previous information rather than information recency and saliency had a greater impact as a determinant of the need for privacy. Miller and Monge (1985) suggest that the theory be further tested with other outcome variables such as job satisfaction, commitment and involvement and that accumulation of information rather than saliency and recency be further examined in the context of its effect on strongly-held needs.

Zalesny and Farace (1986) utilized Social Information Processing in the study of employee attitudes before and after they moved from a traditional office design to an open office set-up. They proposed that social information

through its attention-focusing effects should result in unequal response variance among groups. They found support for the prediction of smaller within-group variance for employees given relevant information.

Research Hypotheses

The role of communication in influencing individuals' perceptions of the work place has received much attention and is well documented in the literature. Eisenberg (1984) observes that while past conceptions of organizations have generally paid little attention to the role of cognition in organizations and treated communication as an epiphenomenon, recent work have focused on the communication process itself and have emphasized the view that organizational members are thinking individuals with identifiable goals. This perspective assumes that communicators often have multiple goals and engage in strategic use of symbols to satisfy rather than maximize attainment of any one goal. As Eisenberg (1984) argues it is the ambiguity in the statement of core values that allows individuals to "maintain individual interpretations while at the same time believing that they are in agreement" (p.231).

Salancik and Pfeffer (1978) suggested that the concept of social information may be useful in climate research as a means of conceptually advancing the climate construct. Particularly, they offer a definition of

organizational climate "in terms of the shared perceptions of what attitudes and needs are appropriate, the shared definitions of jobs and work environments, and the definitions of how people should relate to that environment" (p. 240). Moreover, the social information processing approach suggests that the crucial issue is not the correspondence between shared social perceptions and other nonbehavioral indicators of situational characteristics but rather the consistency or unanimity with which persons define the situation, and the forcefulness with which they maintain such shared meanings (Salancik & Pfeffer, 1978). Hence, it can be posited that

> H1: Individuals belonging to groups formed on the basis of communicative interaction will tend to have more similar climate perceptions than would individuals not belonging to communication groups.

Similarly, by the SIP model, it can be posited that attitudes toward work is influenced by the social context. Therefore,

> H2: Individuals belonging to groups formed on the basis of communicative interaction tend to have greater similarity in their degree of satisfaction than would individuals not belonging to communication groups.

The main purpose of this investigation is to study the effect of social influence, as represented by membership in communication groups, on the development of

perceptions of the work environment and work attitudes. Communication network groups are used as aggregation units in testing hypothesized relationships. Social information processing theory provides a framework that allows the specification of relationships among work environment characteristics, attitudes, social context and behaviors (Figure 2). Specifically, these relationships can be stated in terms of: (1) predictors of work environment characteristics and (2) predictors of attitude.

Predictors of Work Environment Perceptions

Perceived work environment characteristics are individuals' descriptions of the conditions, policies and practices in the work place. By the SIP model, such perceptions are influenced by social information and by behavior.

The first link specified in the SIP model posits that the social context has important influences on perceptions of group members concerning the work environment. The role of communication in influencing individual's perceptions of the work place has received much attention and is well documented in the literature. As Schneider and Reichers (1983) point out, individuals who are in interaction with each other tend to develop similar perceptions responding to, defining and integrating elements of the environment in particular ways.

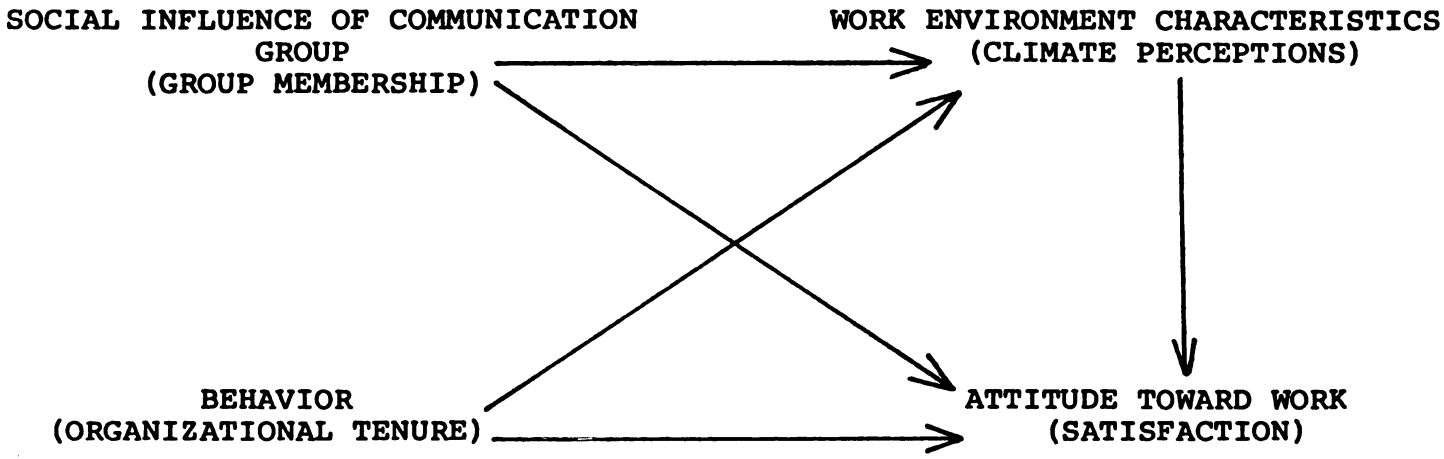


Figure 2. Hypothesized relationships among the communication, climate, work satisfaction and organizational tenure variables based on a partial SIP model

Hence, it is hypothesized that

H3: Membership in communication groups is significantly related to perceptions of the work environment.

Pfeffer (1980) argued that one of the more important behaviors of organizational members is the length of time the employee has remained with the organization. Johnston (1976) studied the relationship between the individual and the organization as a function of longevity of employment. First generation employees (those who have been with the organization for three or more years) and second generation employees (those who have been with the organization from six months to two years) were compared with respect to their perceptions of the relationship between the individual and the organization. Results showed that first generation subjects expressed significantly more positive perceptions than did the second generation subjects. Hence, it could be hypothesized that climate perceptions could be influenced by one's length of service in the organization. Specifically, employees who have been with the organization for a longer period of time will perceive the climate more positively than those who have served for a shorter period of time. Hence,

H4: The length of time one has spent in the organization is significantly related to one's perceptions of the organization's climate.

Predictors of Attitudes toward Work

Figure 2 shows that one's attitude toward work is influenced by the information in the social context, climate perceptions, and organizational tenure. The influence of social information on work satisfaction is both direct and mediated. In the direct relationship, the social context influences work attitude in the same manner as it affects perceptions. Hence, it can be posited that

> H5: Membership in communication groups is significantly related to work satisfaction.

In the mediated relationship, the influence of the social context is through perceptions of the organization's climate. The climate-satisfaction literature presents evidence to suggest that perceived climate influences satisfaction with one's job. Hence, another hypothesis of this study is

> H6: Climate perception is significantly related to an individual's degree of reported satisfaction with the job.

Pfeffer (1980) posited that organizational tenure will positively affect the individual's attitudes toward the organization and his or her intention to remain in the organization. He cited support for the predicted relationship in the studies of Steven, Beyer and Trice (1972), Sheldon (1971), and Hrebiniak and Alutto (1972) which

showed a positive effect of organizational tenure on commitment to and satisfaction with the organization. Similarly, it can be posited that

> H7: The length of time one has spent in the organization is significantly related to the reported degree of satisfaction with one's job.

CHAPTER IV

METHODOLOGY

Overview

This chapter discusses the research approach used to achieve the stated objective. Communication networks and analytical methods are discussed. NEGOPY is presented as a clustering technique, specifically as a method of producing groups on the basis of communication interaction patterns. The research site, variables and methods are presented.

Communication Networks

Communication networks are patterns of interaction that emerge as people engage in information exchange (Monge & Contractor, 1987). Monge and Eisenberg, (1987) reviewed emergent communication structures by presenting the positional, relational, and cultural traditions. The positional tradition conceptualizes structure as a pattern of relationships among positions in the social unit; the relational tradition focuses on the role of human action in forging and maintaining communication linkages; the

cultural tradition emphasizes the importance of symbols, meanings and their transmission throughout social systems. While the positional tradition implies that roles and positions are seen as largely determining to whom people talk and the topics about which they talk, the relational tradition views structure as bottom-up, individually motivated and dynamic. The cultural tradition, on the other hand, emphasizes the importance of meanings and interpretations of communication and the relationships which are manifestations of deep structures (Monge & Eisenberg, 1987).

Network Analysis Methods

Network analysis is a topological approach to the study of interaction patterns in a social system. The goal is to "obtain from low-level or relational data higher level description of a system" (Rice & Richards, 1985, p.106). It is a multivariate concept that uses data reduction models with the goal of establishing simple structures which can parsimoniously represent the complexity in the data (Farace & Mabee, 1980). It allows the study of the system as a whole focusing on the relationship between and among people.

While network analysis found its first application in the interpretation of social networks, it was later adopted by communication research scholars in studying

small group behavior (Farace & Mabee, 1980). The technique used in these early studies was the sociogram. While it was a concrete way of spatially representing systems of interrelating individuals which at the same time seemed elegant and operationally simple, problems associated with larger group size became evident, specifically with respect to representation and interpretation of the network.

"Due probably to two factors--the recognition of the problems with the sociogram and the growing tendency to mathematize the social sciences--other approaches were developed" (Richards, 1976, p.22). Generally grouped as matrix methods, these methods include matrix manipulation, factor analysis, individual scaling and block modeling approaches. As the generic name suggests it utilizes network data represented in the form of a matrix.

Excellent reviews (Monge & Eisenberg, 1987; Rice & Richards, 1985; Richards, 1985, 1976; Farace & Mabee, 1980) of these methods have been written in recent years. In these reviews the different network analysis methods are compared and contrasted along conceptual, operational and pragmatic dimensions (Rice & Richards, 1985; Richards, 1985); differentiated according to mathematical paradigm, group-definition and group detection criteria (Richards, 1976; Farace & Mabee, 1980); and discussed from the positional, relational and cultural traditions (Monge & Eisenberg, 1987).

Rice and Richards (1985) discuss factor analysis, cluster analysis, multidimensional scaling, block modeling, graph-theoretical network methods and log-linear analysis. Factor analysis locates nodes in a relative manner--either as they relate to other individuals or as they relate to a set of underlying dimensions. Cluster analysis uses the presence or absence of a link between two nodes to indicate how members relate to all other members of a system. Multi-dimensional scaling uses several dimensions in finding the order and magnitude of relationships. Block modeling utilizes a matrix representing a set of networks having similar relations to nodes in other blocks. Graph-theoretical methods require maximal complete subgraphs and log-linear analysis involves multi-way contingency tables.

Group Detection and Identification Approaches

Of specific interest in this investigation is the group definition and detection procedures used in the various network analysis methods. Richards (1985, 1976) identifies four processes or algorithms for identifying groups: the methods of division, agglomeration, trial and error and overall pattern recognition. In the method of division, the entire network is divided into two parts; each part is further divided into two more parts and so on until the desired fitness is reached.

The method of agglomeration starts out with a single node and other nodes are identified according to some specified criteria, and added to the "seed" node. The process continues until no more nodes can be found. The result is a group.

In the method of trial and error, rows and columns of the adjacency matrix are simultaneously permuted until the "best" solution is obtained. On the other hand, the method of overall pattern recognition recognizes the adjacency or similarities matrix in some way that groups are readily identified, either by inspection or some process that is analogous to looking at the whole system (Richards, 1985, 1976).

Farace and Mabee (1980) identify two clique-detection procedures: nominal and spatial clique-detection. These are differentiated on the basis of the detection and clustering methods and the method of measuring links. Nominal clique detection procedures use the absence or presence of a link between nodes. By definition, a clique

> consists of three or more members of the subset and provided further that there can be found no element outside the subset that is in a symmetric relation to each of the elements of the subset (Perry, 1949, p. 97 as cited in Farace & Mabee, 1980).

Nodes are thus assigned to a clique or cliques on the basis of a symmetric link. This approach also allows the assignment of roles to nodes. A node may be considered

as a member of a clique, an isolate or a liaison. Spatial clique-detection procedures involve finding clusters of nodes in the "spatial" map of the network. Cluster analyses utilize this detection procedure by locating dense groups of nodes and identifies these as clusters (Farace & Mabee, 1980). The different clique detection methods are discussed and differentiated on the basis of whether the criteria are well defined and whether they appear to lead to interesting and potentially useful interpretation of cliques in terms of some research questions.

NEGOPY

NEGOPY is a linkage-based pattern recognition program which classifies nodes into role categories. The role categories include members, liaisons, bridges and isolates. The group is composed of at least three individuals who have more than half of their interaction with other members of the same group. Moreover, everyone is connected by some path to each and every other member of the group. There must be no node or link which, if removed, causes any of the conditions not to be met (Rice & Richards, 1985; Farace & Mabee, 1980; Farace, Monge & Russell, 1979; Richards, 1976).

The NEGOPY program involves matrix manipulation and multiplication, iterative searches and tests, graph-theory and combines pattern recognition and logical test routines

to determine whether definitional criteria are met (Rice & Richards, 1985). Specifically, the algorithm results in groups, members of which are close to other members of the same group and far from members of other groups. This is accomplished first by rearranging the data so that groups become visible. Groups are made apparent by examining the number of two-step links, an indicator of the probability that the link is a within-group link. The more within group links, the more likely the nodes would cluster together.

The process of representing nodes involves a vector averaging method. Richards (1975) describes the process as follows:

> Nodes are scattered at unit points along a line segment N units long, where N is the number of nodes. We then treat each link, from say Node A to Node B, as a vector, starting at A and pointing to B. We take all vectors for each person and compute the average, weighting the individual vectors for strength of the link and probability that the link is a within-group link. We then get a single point for each individual, that point being the mean of that person's vectors... After all the means have been computed, each node is moved to the point indicated by his or her mean... After this process is completed, nodes with links to each other will be closer to each other than they were before (p. 26).

The second step in the algorithm involves group identification. This is done by first forming tentative boundaries around clusters of nodes on the basis of specified cut-off points. To obtain an exact solution,

individual and group testing are conducted in which individuals are tested against the criterion set for each network role. Appropriate reclassification of individuals is made whenever the criteria are not met. The result is a map of interaction patterns showing different network roles.

NEGOPY involves several parameters that are user-definable, i.e., the researcher can set, within a specified range, the values of certain parameters. Because such decisions will affect the final assignment of individuals into one of the communication role categories, network researchers suggest that users of NEGOPY state a justification for setting parameter values (Stohl & Kakarigi, 1985).

In this investigation, NEGOPY was used to produce communication groups for work-related and nonwork-related communication. A link was specified when communication occurred at least a few times a week. On the 7-point scale used this corresponded to responses of sixes and sevens.

In addition to determining the highest and lowest legal values a link may have, reciprocation and directionality of the links may also be specified. Reciprocity is the degree to which two individuals agree on the nature of their relationship. A reciprocated link means that the linked individuals agree on the frequency of their interaction. When forced reiprocation is enforced, NEGOPY adds the missing half of the link everytime it encounters an

unreciprocated link. In this analysis, reciprocation was forced to ensure that as many of the links are preserved as possible.

Directionality is another link property that can be specified in NEGOPY. In this study, a non-directional or symmetrical relationship was enforced because interest was not in the flow of informational exchange but rather on who communicates with whom regardless of direction.

Research Variables

Table 1 shows the variables and scale reliabilities used in this study. The climate dimensions in this study included: (1) Physical Environment; (2) Social Environment; (3) Freedom in Job (Autonomy); and (4) Trust in Higher Management. The satisfaction scale used was a general measure of satisfaction with the job or the degree to which the individual likes his or her job obtained from the Michigan Organizational Assessment Questionnaire.

Literature on the effects of physical environment have suggested that the perception of the physical environment affects attitudes toward the job. In this investigation, the physical environment variable includes items that assess the adequacy of lighting, work space and equipment; comfortableness of the temperature; and proximity to people and facilities. This scale consists of seven items.

TABLE 1

Scale Items and Reliabilities

SCALE/QUESTIONAIRE ITEM	RELIABILITY
PHYSICAL ENVIRONMENT	.73
Item 1: My work area is adequately lighted	
Item 2: My work area is large enough for my needs	
Item 3: My work area is adequately equipped for my work	
Item 4: My work area has enough storage for my work needs	
Item 5: My work area is at a comfortable temperature throughout the year	
Item 6: My work area is located close to people I need to talk with in my job	
Item 7: My work area is located near personal facilities (bathrooms, eating areas, etc.)	
SOCIAL ENVIRONMENT	.83
Item 1: In my service area/office it is easy to talk openly to all people	
Item 2: In my service area/office it is easy to ask advice from any person	
Item 3: I feel that I am really a part of my service area/office	

TABLE 1
(con't)

SCALE/QUESTIONNAIRE ITEM		RELIABILITY
Item 4:	I feel that there are feelings among people that tend to pull the service area/office apart	
Item 5:	I feel that I look forward to being with others in my service area/office each day	
Item 6:	I feel that there is too much bickering in my service area/office	
AUTONOMY		.85
Item 1:	I have freedom to decide what I want to do on my job	
Item 2:	It is basically my own responsibility to decide how my job gets done	
Item 3:	How much freedom do you have on your job?	
TRUST		.77
Item 1:	Employees here feel you can trust top management	
Item 2:	When top management here says something you can really believe that it is true	
Item 3:	People in this organization will do things behind your back	
SATISFACTION		.87
Item 1:	All in all, I am satisfied with my job	
Item 2:	In general, I don't like my job	
Item 3:	In general, I like working here	

The organizational behavior literature suggests that the social environment is an important consideration in resultant attitudes and behaviors of employees. In this investigation, the Social Environment variable includes such aspects as ease of communication, feelings of group membership and sentiments about the people in the service area. This scale consists of six items.

Freedom in Job or Autonomy is one dimension of organizational climate that has received much attention from researchers (Hackman & Lawler, 1971). In this research Autonomy consists of three items measuring one's perception of the degree of independence in decision-making concerning one's work in the organization.

In the organizational communication literature, research work on communication climate often include Trust as a variable that is seen to significantly affect organizational communication. In this investigation, Trust in Higher Management is used. It consists of three items derived from the Michigan Organizational Assessment Questionnaire which measure perceived believability and straightforwardness of higher level management.

The Job Satisfaction scale was derived from the Michigan Organizational Questionnaire consisting of three items measuring the degree of liking and one's enjoyment of his or her work.

Organizational tenure is the number of years of employment at the Michigan Department of Education.

Research Site

The Michigan Department of Education (MDE) was used as the site of the research (Figure 3). The organization is headed by the Superintendent and a Deputy Superintendent as Chief Executive Officers. Five Associate Superintendents administer fourteen service areas; two Assistant Superintendents direct two staff areas. There are four major offices that provide support services. At the time of data collection, a total of 1060 people were employed and the Department was preparing to move its offices to a central location which would involve a change from a traditional closed-office design to an open-office design. Employees were located in fifteen different Lansing locations.

The Superintendent is the Executive Officer assisted by the Deputy Superintendent. Reporting to the Superintendent are the Assistant Superintendents for School and Community Affairs and Public Affairs. The School and Community Affairs is a data-collection unit which deals with desegration and minority issues. The Public Affairs unit is charged with the function of providing reports, news release and press release information. All the

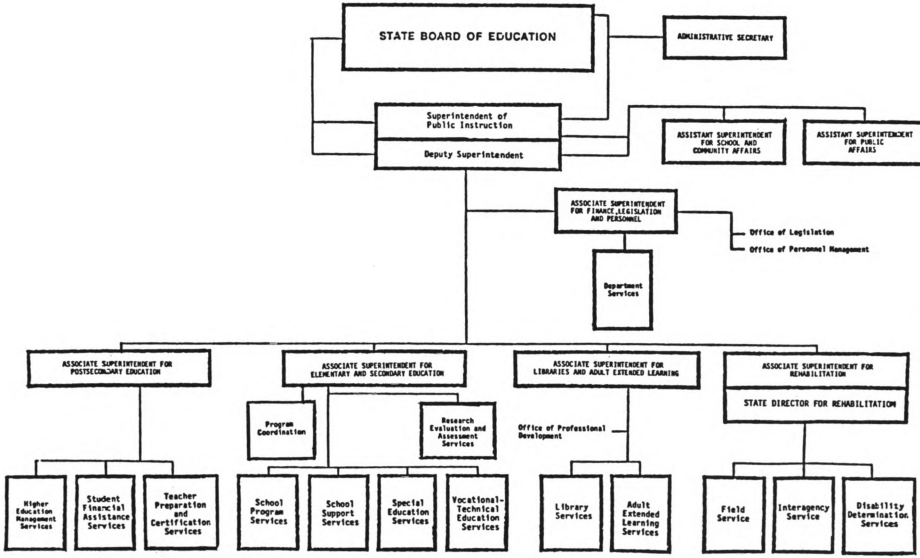


Figure 3. Michigan Department of Education Organizational Chart

supervisory units were housed in the Michigan National Towers.

The Bureau for Finance, Legislation and Personnel is another major division of MDE. While not directly dealing with education and training, this unit handles administrative matters such as personnel, legislation and finance. It subsumes the Department Services and the Office of Legislation and Personnel Management.

The Department Services was located in 1020 South Washington while the Office of Legislation and Personnel Management was housed in Michigan National Towers.

The Bureau for Post Secondary Education is a major division of the MDE that deals with matters related to education at the college and university level. It subsumes the service areas of Higher Education Management Services, Student Financial Assistance Services and Teacher Preparation and Certification Services. At the time of data collection, Higher Education and Student Financial Assistance Services were housed in the Leonard Building while Teacher Preparation and Certification and the Assistant Superintendent Office were located in the Michigan National Towers.

The Bureau for Elementary and Secondary Education is another major division of MDE. It deals with education from Kindergarten to High School. It consists of the following service areas: Program Coordination, Research

Evaluation and Assessment Services, School Program Services, School Support Services, Special Education Services, and Vocational-Technical Services.

Program Coordination is charged with the function of coordinating and managing programs directly related to elementary and secondary education. Research and Evaluation and Assessment Services is the testing and evaluation unit charged with evaluating school programs. School Program services is charged with special school programs like counseling for K-12. School Support Services takes charge of support systems like transportation, food and nutrition. The Special Education Services deals with special kids. Vocational-Technical Services deals with educating and preparing school children for industry/business workplace.

The service areas under this bureau were located in different buidings. Program Coordination and School Programs were housed in the Board of Water and Light Building; Research Evaluation and Assessment and Vocational-Technical Education Services were housed in the Leonard Building; Residential Education and Special Education were located in the Davenport Building; and the School Support Services were housed in 1020 South Washington.

The Bureau for Libraries and Adult Extended Learning is another major division. It deals with adult

education (Adult Extended Learning Services and Professional Development Services) as well as library services. The Adult Extended Learning Services is charged with education for elderly individuals returning to school. Professional Development Services trains teachers and administrators. Library Services, charged with the functions relating to libraries, also falls under this bureau.

These service areas were housed in separate locations. The Adult Extended Learning Services was housed in the Leonard Building while the Library Services was located in the Library on Michigan Avenue. The Office of Professional Development was in Michigan National Towers.

The Bureau for Rehabilitation is a special unit for adults with disabilities. It consists of Field Services, Interagency Services and Disability Determination Services. The Disability Determination Services is a federally-funded program which is involved in assessing eligibility of individuals who get hurt on the job for receiving federal aid. These units were all located in Olds Plaza except for Disability Determination Services which was by the Airport.

Data-gathering Procedures

Cost considerations did not allow for a census of the entire MDE. Hence, service areas were sampled as intact units. Monge and Contractor (1987) categorized

sampling techniques for network field studies into those based on the relational approach and those based on the positional approach. In this study, the following sampling procedure was used: (1) all persons at the supervisory level and above were included in the sample; (2) service areas were sampled as intact units; (3) service area selection was obtained by random sampling procedures; (4) the Disability Determination Services (DDS) was excluded from the sample because it was a non-comparable group in that it had a different function. The DDS is a service area in the Bureau of Vocational Rehabilitation. The service area receives all its funds from the Federal Social Security Administration and provides direct service to individuals rather than providing administrative support for local programs. Moreover, there are 337 employees in this service area and inclusion of this service area would have limited the study's chances of obtaining a representative sample of all service areas.

To sample service areas as intact units, a list of all service areas and offices as they appeared in the organizational chart was developed. As a service area was selected, the number of employees in the chosen service area was deducted from the specified sample of 500 to be included in the study. This process was repeated until approximately 500 subjects were obtained. A total of 492 individuals were obtained. Of these, 420 had completed the

survey instrument. Table 2 shows respondent characteristics.

Research Instrumentation

A two-part survey instrument was administered to the sampled MDE employees. The first part (Appendix A) included information about the respondents' work environment which consisted of the physical, social and informational characteristics of the work place, trust, job satisfaction and task characteristics. The second part (Appendix B) of the questionnaire consisted of a communication directory with approximately 500 names of employees. Respondents were asked to indicate with whom they communicate about work-related and non-work related matters. The instrument was developed through a process that involved indepth interviews (Appendix C) with employees at all levels and all service areas.

Research Methods

A general proposition of this study is that communicative interaction significantly influences perceptions of the organization's climate and satisfaction with one's work. Groups formed on the basis of frequency of communication were created using NEGOPY. Forced reciprocation and symmetric relationship were enforced in the analysis of links. Reciprocation was forced, i.e., the

TABLE 2

Respondent Characteristics

% Sampled Employees Responding to Survey Instrument	84.50
% Female	61.00
Mean Organizational Tenure (Years)	8.23
Mean Job Tenure (Years)	5.30
Distribution by Service Area/Office	
% Bureau of Post Secondary Education	22.40
% Bureau of Elementary and Secondary Education	30.80
% Bureau of Libraries and Adult Extended Learning	9.80
% Bureau of Rehabilitation	5.30
% Bureau of Finance, Legislation and Personnel	26.80
% Other Supervisory-level Offices	5.0

missing half added to retain as many of the links as possible. A symmetric or non-directional relationship was specified because interest is in determining the amount of information exchange rather than flow of communication. Link strength was based on the general formula presented by Richards (1976).

$$\text{LINK STRENGTH} = [\text{CONSTANT}+(\text{MX})(\text{XWEIGHT})+(\text{MY})(\text{YWEIGHT})]^{\text{EXP}}$$

where XWEIGHT is the first indicator of communicative interaction

YWEIGHT is the second indicator of communicative interaction

MX is the weight given to the first indicator

MY is the weight given to the second indicator

Data obtained from the network instrument consisted of responses to a 7-point scale indicating the frequency of interaction concerning work-related and nonwork-related communication where,

1 = Once a year
2 = A few times a year
3 = Once a month
4 = A few times a month
5 = Once a week
6 = A few times a week
7 = Once a day or more

To obtain a single indicator of general communication, the following procedure was followed. Each indicator, X (work-related) and Y (nonwork-related), was

transformed to an interval level scale where, 1=1, 3=12, 5=52, 7=255. These anchor points were chosen because they approximated the scale equivalents of once a year, once a month, once a week, and once a day or more, respectively. Values in between these points were interpolated. To get a sum of the total amount of interaction, the two converted scales were added resulting in a measure of total frequency of interaction, i.e., both work- and nonwork-related. Added values amounting to or greater than 255 were set to 255 because of the maximum value allowed by NEGOPY for link strength. This was not seen to affect groups because links were defined to be those that occurred at least a few times a week, i.e., values equal to or greater than 160 were considered acceptable link strength values. Appendix D shows the NEGOPY program and parameters used.

Groups were formed by clustering individuals on the basis of communication interactions. Network analysis, through the use of NEGOPY, produced communication network groups. One advantage of using NEGOPY is its built-in check for group stability. The NEGOPY algorithm incorporates in its group detection phase a group testing procedure which utilizes the connectiveness and critical node/link criteria. Group stability is established if all criteria for group membership, as specified in the NEGOPY parameters, are met.

Analytical Methods

The study required a two-stage methodology. First, communication groups needed to be identified. This was done through network analysis. Second, on the basis of the SIP model, multiple regression analyses were performed to test the hypothesized relationships. Regression analyses were first performed where predictors of climate perceptions included group membership and organizational tenure. Next, regression analyses were performed where work satisfaction was the dependent variable. As in the first set of regression equations, organizational tenure and group membership were included as predictor variables. In addition, a given climate dimension was included. In all, eight regression equations were tested. Results are presented in the next chapter.

CHAPTER V

RESULTS

Overview

This chapter presents the results of data analysis. First, results of network analysis are presented for communication groups formed on the basis of frequency of interaction. Results of multiple regression analyses used to test hypothesized relationships are then presented.

Network Analysis Results

A total of 411 group members were identified for the communication network. Density, or the proportion of within-group links to maximum possible number of links, ranged from .18 to .94. The lowest average link strength for any given group was 215.75 and the highest was 254.44.

Twelve groups were produced by network analysis. Table 3 shows the network properties of each communication network group. A description of each group is presented in Appendix E. Seven of the twelve communication groups had 100% of its members belonging to a given service area.

After group members were identified, those not belonging to groups were identified and used as a

TABLE 3

General Communication Network Group Properties

GROUP NO.	NUMBER OF MEMBERS	DENSITY*	%WITHIN GROUP LINKS	AVERAGE LINK STRENGTH
1	15	.6667	85.37	250.714
2	15	.5048	72.11	241.774
3	37	.3514	94.93	245.801
4	34	.3850	74.61	244.771
5	50	.2767	94.56	246.183
6	10	.6889	88.57	215.758
7	13	.9359	78.49	254.445
8	93	.1779	96.27	249.632
9	32	.2722	90.00	245.693
10	66	.2695	92.04	247.892
11	24	.6630	87.14	252.249
12	22	.4762	96.92	241.468

* Density = Number of within-group links/maximum possible links

comparison group. There were forty individuals who comprised the quasi-control group. Demographic characteristics of the comparison group are presented in Appendix F.

Adequacy of the Clustering Procedure

NEGOPY incorporates in its group detection phase, a built-in check for group stability. The NEGOPY algorithm involves testing at the individual and group levels. Individual nodes are tested for consistency between role definition and role classification by computing the appropriate proportions of linkages with group members and comparing results to the criterion levels as specified. At the group level distance matrices are used to test for group stability. The criteria of connectiveness and critical links/nodes are applied. If the group is not connected, the group is split by removing critical nodes. If the computer succeeds in doing this two groups are formed and the same criteria are applied to test the new groups. Otherwise, all nodes are returned to the original group (Richards, 1976).

In this investigation, additional checks for adequacy of the clustering procedure was made. It is argued that an adequate clustering procedure is expected to produce units with a high degree of unanimity in members' perceptions. Alternatively, it can be posited that the variance in responses of group members will be lower

compared to that of non-group members. This translates to testing the statistical hypothesis of equal variances for two independent populations against the alternative that the variance for communication group members will be lower than that of the non-group members. Hence,

$$Ho: \sigma^2_1 = \sigma^2_2$$
$$Ha: \sigma^2_1 < \sigma^2_2$$

To test whether the variability in the communication group is significantly lower than that of the comparison group, the F-test was used, where, the F-statistic is a ratio of two sample variances and is distributed as an F distribution with n_1-1 and n_2-1 degrees of freedom. Rejection of the null hypothesis constitutes support in favor of the alternative hypothesis. In this case, the null hypothesis was rejected if the computed F-value is less than $1/F_{(\alpha,n2-1,n1-1)}$ (Hildebrand, 1986).

Results for tests of homogeneity of variances are presented in Table 4. Nineteen of the possible 60 variances (5 variables by 12 communication groups) proved to be statistically lower than the comparison group.

The degree of agreement among individuals belonging to groups created on the basis of frequency of interaction is of central interest in this investigation. The data demonstrated support for increased homogeneity in

TABLE 4

Comparative Variances
Communication Group vs Non-communication Group

GROUP	PHYSICAL ENVIRONMENT	SOCIAL ENVIRONMENT	AUTONOMY	TRUST	SATISFACTION
N	VARIANCE F-VALUE	VARIANCE F-VALUE	VARIANCE F-VALUE	VARIANCE F-VALUE	VARIANCE F-VALUE
GROUP 1	44.71	59.17	24.09	11.27	12.55
15	0.6096	0.8935	1.4916	0.6830	0.7547
GROUP 2	19.76	87.95	11.43	18.24	21.24
15	0.2694***	1.3281	0.7077	1.1054	1.2772
GROUP 3	37.38	40.76	13.79	14.32	14.03
34	0.5097**	0.6155*	0.8539	0.8679	0.8436
GROUP 4	56.99	47.60	16.92	11.85	7.02
29	0.7711	0.7188	1.0477	0.7182	0.4221***
GROUP 5	75.14	53.42	14.84	17.75	9.93*
44	1.0245	0.8067	0.9189	1.0758	o.5971

* Significant at .10
** Significant at .05
*** Significant at .01

TABLE 4
(Con't)

GROUP	PHYSICAL ENVIRONMENT	SOCIAL ENVIRONMENT	AUTONOMY	TRUST	SATISFACTION
N	VARIANCE F-VALUE	VARIANCE F-VALUE	VARIANCE F-VALUE	VARIANCE F-VALUE	VARIANCE F-VALUE
GROUP 6	32.11	77.61	4.44	3.36	4.78
9	0.4378*	1.1720	0.2749**	0.2036**	0.2874**
GROUP 7	33.36	31.59	11.90	9.14	1.09
13	0.4549*	0.4770*	0.7368	0.5539	0.0655***
GROUP 8	41.64	59.06	20.53	16.56	10.58
85	0.5678**	0.8919	1.2712	1.0036	0.6362*
GROUP 9	40.74	52.60	19.18	19.56	7.89
31	0.5555**	0.7943	1.1876	1.1854	0.4744**
GROUP 10	48.16	47.06	19.08	19.87	26.16
64	0.6567*	0.7107	1.1814	1.2042	1.5731

* Significant at .10
** Significant at .05
*** Significant at .01

TABLE 4
(Con't)

GROUP	PHYSICAL ENVIRONMENT	SOCIAL ENVIRONMENT	AUTONOMY	TRUST	SATISFACTION
N	VARIANCE F-VALUE	VARIANCE F-VALUE	VARIANCE F-VALUE	VARIANCE F-VALUE	VARIANCE F-VALUE
GROUP 11 21	55.98 0.7633	64.12 0.9683	16.39 1.0149	20.53 1.2442	14.77 0.8882
GROUP 12 20	15.59 0.2126***	42.20 0.6373	17.37 1.0755	11.63 0.7048	7.94 0.4774**
COMPARISON GROUP (NON-GROUP MEMBERS) 40	73.34	66.22	16.15	16.50	16.63

* Significant at .10
** Significant at .05
*** Significant at .01

perceptions when communication groups were compared to non-communication groups. When communication groups were compared to groups formed on the basis of structural divisions (bureaus) only eight of the possible 60 variances (13%) proved to be significantly lower than the cmparison group (Table 5). In the present study, clustering by frequency of interaction showed a high degree of overlap with organizational divisions. Hence, the finding that only 13% of the communication groups proved significant was not surprising. Moreover, it suggests that individuals belonging to the same functional division engage in communicative interaction on a frequent basis.

Test of a Partial SIP Model

Figure 2 shows the posited relationships among communication, climate, satisfaction, and tenure variables. According to this model, (1) the predictors of the climate variable (perceptions of the physical environment, social environment, autonomy and trust) are group membership influence and organizational tenure; and (2) the predictors of work satisfaction are group membership influence, climate (perceptions of the physical environment, social environment, autonomy and trust), and organizational tenure.

Subprogram Regression of the Statistical Package for Social Sciences (SPSSx) was used to perform regression

TABLE 5

Comparative Variances
Communication Group vs Bureau

GROUP	PHYSICAL ENVIRONMENT	SOCIAL ENVIRONMENT	AUTONOMY	TRUST	SATISFACTION
N	VARIANCE F-VALUE	VARIANCE F-VALUE	VARIANCE F-VALUE	VARIANCE F-VALUE	VARIANCE F-VALUE
GROUP 1	44.71	59.17	24.09	11.27	12.55
15	0.9741	1.0715	1.4356	0.6826	0.9387
GROUP 2	19.76	87.95	11.43	18.24	21.24
15	0.4305**	1.5927	0.6812	1.1048	1.5886
GROUP 3	37.38	40.76	13.79	14.32	14.03
34	0.8144	0.7381	0.8218	0.8673	1.0494
GROUP 4	56.99	47.60	16.92	11.85	7.02
29	1.2416	0.8620	1.0083	0.7177	0.5251**
GROUP 5	75.14	53.42	14.84	17.75	9.93
44	1.6370	0.9674	0.8844	1.0751	0.7427

* Significant at .10
** Significant at .05
*** Significant at .01

TABLE 5
(Con't)

GROUP	PHYSICAL ENVIRONMENT	SOCIAL ENVIRONMENT	AUTONOMY	TRUST	SATISFACTION
N	VARIANCE F-VALUE	VARIANCE F-VALUE	VARIANCE F-VALUE	VARIANCE F-VALUE	VARIANCE F-VALUE
GROUP 6	32.11	77.61	4.44	3.36	4.78
9	0.6969	1.4055	0.2646**	0.2035**	0.3575*
GROUP 7	33.36	31.59	11.90	9.14	1.09
13	0.7268	0.5721	0.7092	0.5536	0.0815***
GROUP 8	41.64	59.06	20.53	16.56	10.58
85	0.9072	1.0695	1.2235	1.0030	0.7913
GROUP 9	40.74	52.60	19.18	19.56	7.89
31	0.8876	0.9526	1.1430	1.1847	0.5901*
GROUP 10	48.16	47.06	19.08	19.87	26.16
64	1.0492	0.8522	1.1371	1.2035	1.9566

* Significant at .10
** Significant at .05
*** Significant at .01

TABLE 5
(Con't)

GROUP	PHYSICAL ENVIRONMENT	SOCIAL ENVIRONMENT	AUTONOMY	TRUST	SATISFACTION
N	VARIANCE F-VALUE	VARIANCE F-VALUE	VARIANCE F-VALUE	VARIANCE F-VALUE	VARIANCE F-VALUE
GROUP 11	55.98	64.12	16.39	20.53	14.77
21	1.2196	1.1612	0.9768	1.2435	1.1047
GROUP 12	15.59	42.20	17.37	11.63	7.94
20	0.3396***	0.7642	1.0352	0.7044	0.5939
COMPARISON GROUP (BUREAU)[a]					
68	45.90	55.22	16.78	16.51	13.37

a Variance was averaged across four bureaus
* Significant at .10
** Significant at .05
*** Significant at .01

analyses. Group membership was included as an indicator variable, where a value of "1" was assigned if the respondent belonged to the group and "0" otherwise; scale scores were used for climate dimensions and work satisfaction; and number of years was used to measure organizational tenure.

For a variable to be included in a regression equation it must pass the tolerance and minimum tolerance tests. SPSSx defines tolerance as "the proportion of a variable's variance not accounted for by other independent variables in the equation. The minimum tolerance associated with a given variable not in the equation is the smallest tolerance any variable already in the equation would have if the given variable were included" (p.669). In SPSSx, the default tolerance value is 0.01. In all regression equations in this study, the indicator variable associated with Group 8 did not pass the tolerance tests and therefore was dropped from all subsequent analyses.

Determinants of Climate Perceptions

The predictor variables of climate included organizational tenure and group membership. Tables 6 to 11 present results of regression analysis in which each climate dimension was used as the dependent variable and organizational tenure and group membership as independent variables.

TABLE 6

Regression Statistics for Entire Equation
(Dependent Variable = Perceptions of Work Environment)

DEPENDENT VARIABLE	OVERALL F-VALUE	ADJUSTED R-SQUARED	MULTIPLE CORRELATION
PHYSICAL ENVIRONMENT	6.3824***	.1562	.4303
SOCIAL ENVIRONMENT	4.9461***	.1195	.3870
AUTONOMY	2.8796***	.0607	.3050
TRUST	3.1298***	.0682	.3167

* Significant at .10
** Significant at .05
*** Significant at .01

TABLE 7

Regression Coefficients
(Dependent Variable = Perceptions of
Work Environment)

	PHYSICAL ENVIRONMENT	SOCIAL ENVIRONMENT	AUTONOMY	TRUST
CONSTANT	34.4080	26.3729	12.6016	10.3728
TENURE	00.0541	00.0929*	00.2383***	00.1227**
GROUP 1	-00.0268	00.0901*	00.0840	00.0754
GROUP 2	00.1678***	00.0683	00.1151**	-00.0038
GROUP 3	-00.0049	-00.0029	00.1527***	00.0773
GROUP 4	-00.1087**	00.1483***	00.0793	00.0830
GROUP 5	-00.0909	-00.1012*	00.0054	-00.0295
GROUP 6	00.0119	00.0012	00.0717	00.0011
GROUP 7	-00.1047**	00.0802	00.0907*	00.1667***
GROUP 8[a]	-	-	-	-
GROUP 9	00.0198	-00.1509***	-00.0925	00.0566
GROUP 10	-00.3670***	-00.1649***	00.0776	-00.1285**
GROUP 11	-00.0133	00.1254**	00.1135**	00.0880
GROUP 12	00.0094	00,0587	-00.0036	-00.0750

* Significant at .10
** Significant at .05
*** Significant at .01
a This variable did not pass the default tolerance value and therefore was not included in the analysis

TABLE 8

Predictors of Work Environment Perceptions
(Dependent Variable = Perception
Physical Environment)

INDEPENDENT VARIABLE	F-VALUE	R SQUARED	PARTIAL CORRELATION
ORGANIZATIONAL TENURE	1.059	.0031	.0560
MEMBERSHIP IN			
GROUP 1	0.251	.0007	-.0273
GROUP 2	10.324***	.0297	.1724
GROUP 3	0.651	.0019	-.0439
GROUP 4	3.974**	.0117	.1080
GROUP 5	2.485	.0073	-.0856
GROUP 6	0.053	.0002	.0126
GROUP 7	4.107**	.0120	-.1097
GROUP 8[a]	-	-	-
GROUP 9	0.129	.0004	.0196
GROUP 10	38.284***	.1020	.3194
GROUP 11	0.061	.0002	-.0135
GROUP 12	0.031	.0001	.0095

* Significant at .10
** Significant at .05
*** Significant at .01
a This variable did not pass the default tolerance value and therefore was not included in the analysis

TABLE 9

Predictors of Work Environmment Perceptions
(Dependent Variable = Perception of
Social Environment)

INDEPENDENT VARIABLE	F-VALUE	R SQUARED	PARTIAL CORRELATION
ORGANIZATIONAL TENURE	2.989*	.0088	.0938
MEMBERSHIP IN			
GROUP 1	2.822*	.0083	.0911
GROUP 2	1.638	.0048	.0696
GROUP 3	0.003	.0000	.0028
GROUP 4	7.092***	.0206	.1436
GROUP 5	2.952*	.0087	-.0932
GROUP 6	0.001	.0000	.0012
GROUP 7	2.310	.0068	.0825
GROUP 8[a]	-	-	-
GROUP 9	7.150***	.0208	-.1442
GROUP 10	7.409***	.0215	-.1467
GROUP 11	5.208**	.0152	.1233
GROUP 12	1.147	.0034	.0583

* Significant at .10
** Significant at .05
*** Significant at .01
a This variable did not pass the default tolerance value and therefore was not included in the analysis

TABLE 10

Predictors of Work Environment Percepctions
(Dependent Variable = Perception of
Autonomy)

INDEPENDENT VARIABLE	F-VALUE	R SQUARED	PARTIAL CORRELATION
ORGANIZATIONAL TENURE	18.421***	.0518	.2277
MEMBERSHIP IN			
GROUP 1	2.304	.0068	.0824
GROUP 2	4.364**	.0128	.1131
GROUP 3	6.760***	.0197	.1402
GROUP 4	1.902	.0056	.0749
GROUP 5	0.008	.0000	.0048
GROUP 6	1.734	.0051	.0716
GROUP 7	2.769*	.0082	.0903
GROUP 8[a]	-	-	-
GROUP 9	2.515	.0074	.0861
GROUP 10	1.538	.0045	.0674
GROUP 11	3.996**	.0117	.1082
GROUP 12	0.004	.0000	-.0034

* Significant at .10
** Significant at .05
*** Significant at .01
a This variable did not pass the default tolerance value and therefore was not included in the analysis

TABLE 11

Predictors of Work Environment Percepctions
(Dependent Variable = Perception of
Trust)

INDEPENDENT VARIABLE	F-VALUE	R SQUARED	PARTIAL CORRELATION
ORGANIZATIONAL TENURE	4.9242**	.0144	.1200
MEMBERSHIP IN			
GROUP 1	1.869	.0055	.0743
GROUP 2	0.005	.0000	.0038
GROUP 3	1.748	.0052	.0718
GROUP 4	2.097	.0062	.0786
GROUP 5	0.236	.0007	-.0265
GROUP 6	0.001	.0000	.0011
GROUP 7	9.4312***	.0272	.1650
GROUP 8[a]	-	-	-
GROUP 9	0.949	.0028	-.0530
GROUP 10	4.248**	.0125	-.1116
GROUP 11	2.421	.0071	.0845
GROUP 12	1.769	.0052	-.0722

* Significant at .10
** Significant at .05
*** Significant at .01
a This variable did not pass the default tolerance value and therefore was not included in the analysis

All regression equations proved to be significant at the .01 or better level of significance (Table 6). However, the magnitudes of the effect size (adjusted R^2) were not substantial. The proportion of the variance in the dependent variable explained by the joint effects of the independent variables range from a low of 6% to a high of 16%. Hence, much of the variation in the dependent variables remains largely unexplained by the model.

Effects of Group Membership

The independent effects of membership in communication groups are presented in Tables 7 to 11. For all regression equations at least two groups showed significant Beta coefficients (Table 7). In all, these involved 9 (Groups 1,2,3,4,5,7,9,10,11) of the 12 groups.

Relative to the length of time one has been in the organization, group membership is a better explanatory variable. Group membership accounted for almost all of the explained variation in climate perceptions except for the autonomy dimension (Table 12). Hence, one's perceptions of the work environment relating to aspects of the physical environment, social environment and trust are affected by the social influence exerted by the group on its members.

TABLE 12

Proportion of Variation in Climate Perceptions Accounted for by Categories of Independent Variables

DEPENDENT VARIABLE	GROUP MEMBERSHIP	ORGANIZATIONAL TENURE	GROUP AND TENURE
PHYSICAL ENVIRONMENT	.1560	.0063	.1562
SOCIAL ENVIRONMENT	.1143	.0167	.1195
AUTONOMY	.0123	.0455	.0607
TRUST	.0574	.0107	.0682

Effects of Organizational Tenure

Organizational tenure proved to be a significant predictor of members' perceptions of the social environment, autonomy and trust but not for perceptions of the physical environment. This implies that the length of time one has spent in the organization significantly influences one's perceptions of certain aspects of the work environment.

Specifically, perceptions of ease of communication, feelings of belonging, freedom in the job and trust in management appear to be affected by the number of years one has been in the organization. The physical aspects of the work place, such as proper lighting, comfortable temperature, etc., do not seem to be particularly influenced by organizational tenure. Organizational tenure accounted for about 5% of the variation in perceptions of autonomy. However, for perceptions of trust, and perceptions of the social environment the effect of organizational tenure is negligible (Tables 7 to 11).

In summary, it seems that both organizational tenure and group membership variables play important roles in determining perceptions of the work environment. The relative importance of these variables, however, differs for different climate dimensions. For instance, group membership was more influential than organizational tenure in predicting perceptions of the physical environment,

social environment and trust. On the other hand, length of time spent in the organization proved to be more important than group membership in predicting autonomy perceptions.

Determinants of Work Satisfaction

Predictor variables of work satisfaction included organizational tenure, climate perception and group membership. Tables 13 to 18 present results of regression analysis in which work satisfaction was the dependent variable and organizational tenure, perceptions of the physical environment, social environment, autonomy and trust and group membership were the independent variables. All regression equations proved significant at the .01 or better level of significance. This suggests that the combined effects of the independent variables significantly explain the variation in work satisfaction. Moreover, effect sizes, as expressed in terms of correlation between work satisfaction and the combined effects of group membership, organizational tenure and climate perceptions were moderately high from .44 to .64 (Table 13). The independent variables explain between 16% to 38% of the variation in work satisfaction.

Effects of Group Membership

The independent effects of group membership are presented in Tables 14 to 18. Three (Groups 4,5, and 10)

TABLE 13

Regression Statistics for Entire Equation
(Dependent Variable = Satisfaction)

CLIMATE DIMENSION	OVERALL F-VALUE	ADJUSTED R-SQUARED	MULTIPLE CORRELATION
PHYSICAL ENVIRONMENT	6.2801***	.1643	.4421
SOCIAL ENVIRONMENT	17.8136***	.3851	.6388
AUTONOMY	7.0012***	.1827	.4617
TRUST	13.1637***	.3124	.5875

* Significant at .10
** Significant at .05
*** Significant at .01

TABLE 14

Regression Coefficients
(Dependent Variable = Satisfaction)

	PHYSICAL ENVIRONMENT	SOCIAL ENVIRONMENT	AUTONOMY	TRUST
CONSTANT	12.2707	08.8457	13.2085	11.3214
CLIMATE DIMENSION	00.1994***	00.5367***	00.2349***	00.4498***
TENURE	00.1462***	00.1251***	00.1190**	00.1198***
GROUP 1	00.0104	-00.0432	-00.0146	-00.0287
GROUP 2	-00.0514	-00.0546	00.0450	-00.0162
GROUP 3	00.0341	00.0267	-00.0107	-00.0097
GROUP 4	00.1183**	00.0170	00.0780	00.0593
GROUP 5	00.0684	00.1046**	00.0491	00.0636
GROUP 6	00.0033	00.0051	-00.0112	00.0052
GROUP 7	00.0524	-00.0115	00.0102	-00.0434
GROUP 8[a]	-	-	-	-
GROUP 9	-00.0115	00.0735	-00.0292	00.0179
GROUP 10	-00.2378***	-00.2224***	-00.3292***	-00.2532***
GROUP 11	00.0482	-00.0218	00.0189	00.0060
GROUP 12	-00.0515	-00.0811	-00.0487	-00.0158

* Significant at .10
** Significant at .05
*** Significant at .01
a This variable did not pass the default tolerance value and therefore was not included in the analysis

TABLE 15

Predictors of Work Satisfaction
(Climate Dimension = Physical Environment)

INDEPENDENT VARIABLE	F-VALUE	R SQUARED	PARTIAL CORRELATION
PHYSICAL ENVIRONMENT	13.528***	.0387	.1967
TENURE	9.797***	.0283	.1683
MEMBERSHIP IN			
GROUP 1	0.040	.0001	.0109
GROUP 2	0.949	.0028	-.0530
GROUP 3	0.378	.0011	.0335
GROUP 4	4.700**	.0138	.1174
GROUP 5	1.411	.0042	.0647
GROUP 6	0.004	.0000	.0004
GROUP 7	1.026	.0030	.0552
GROUP 8[a]	-	-	-
GROUP 9	0.044	.0001	-.0114
GROUP 10	14.577***	.0416	-.2039
GROUP 11	0.810	.0024	.0490
GROUP 12	0.927	.0028	-.0525

* Significant at .10
** Significant at .05
*** Significant at .01
a This variable did not pass the default tolerance value and therefore was not included in the analysis

TABLE 16

Predictors of Work Satisfaction
(Climate Dimension = Social Environment)

INDEPENDENT VARIABLE	F-VALUE	R SQUARED	PARTIAL CORRELATION
SOCIAL ENVIRONMENT	139.004***	.2927	.5410
TENURE	7.684***	.0224	.1495
MEMBERSHIP IN			
GROUP 1	0.922	.0027	-.0523
GROUP 2	1.491	.0044	-.0664
GROUP 3	0.316	.0009	.0306
GROUP 4	0.131	.0004	.0197
GROUP 5	4.477***	.0132	.1147
GROUP 6	0.013	.0000	.0063
GROUP 7	0.068	.0002	-.0142
GROUP 8[a]	-	-	-
GROUP 9	2.378	.0070	.0838
GROUP 10	18.888***	.0532	-.2307
GROUP 11	0.222	.0007	.0257
GROUP 12	3.122	.0092	-.0960

* Significant at .10
** Significant at .05
*** Significant at .01
a This variable did not pass the default tolerance value and therefore was not included in the analysis

TABLE 17

Predictors of Work Satisfaction
(Climate Dimension = Autonomy)

INDEPENDENT VARIABLE	F-VALUE	R SQUARED	PARTIAL CORRELATION
AUTONOMY	21.372***	.0552	.2349
TENURE	5.004**	.0141	.1190
MEMBERSHIP IN			
GROUP 1	0.079	.0004	-.0146
GROUP 2	0.755	.0020	-.0449
GROUP 3	0.038	.0001	.0107
GROUP 4	2.100	.0061	.0780
GROUP 5	0.746	.0024	.0491
GROUP 6	0.048	.0001	.0112
GROUP 7	0.040	.0001	.0102
GROUP 8[a]	-	-	-
GROUP 9	0.287	.0009	.0292
GROUP 10	5.6275***	.1084	-.3292
GROUP 11	0.125	.0004	.0189
GROUP 12	0.852	.0024	.0487

* Significant at .10
** Significant at .05
*** Significant at .01
a This variable did not pass the default tolerance value and therefore was not included in the analysis

TABLE 18

Predictors of Work Satisfaction
(Climate Dimension = Trust)

INDEPENDENT VARIABLE	F-VALUE	R SQUARED	PARTIAL CORRELATION
TRUST	93.393***	.2175	.4664
TENURE	6.330**	.0185	.1360
MEMBERSHIP IN			
GROUP 1	0.370	.0011	-.0332
GROUP 2	0.119	.0004	-.0188
GROUP 3	0.037	.0001	-.0105
GROUP 4	1.459	.0043	.0658
GROUP 5	1.508	.0045	.0668
GROUP 6	0.013	.0000	.0062
GROUP 7	0.854	.0025	-.0503
GROUP 8[a]	-	-	-
GROUP 9	0.130	.0004	.0197
GROUP 10	22.326***	.0623	-.2496
GROUP 11	0.015	.0000	.0067
GROUP 12	0.108	.0003	-.0179

* Significant at .10
** Significant at .05
*** Significant at .01
a This variable did not pass the default tolerance value and therefore was not included in the analysis

of the 12 groups proved to significantly influence work satisfaction. Consistently, membership in Group 10 accounted for a substantial portion of the variance in the dependent variable. The proportion of variation explained by membership in Group 10 alone ranged from 4% to 10%.

Moreover, it is clear from Table 19 that in predicting work satisfaction, group membership is a better predictor than organizational tenure. The inclusion of group membership in the regression equations results in an increase in the magnitude of the explained variance. Specifically, the combination of climate perception and group membership leads to a substantial increase in the amount of explained variation. Hence, the data provide evidence for the effect of membership in communication groups on work satisfaction.

Effects of Climate Perceptions

When independently assessed for their contributions significant Beta coefficients were obtained for climate dimension at .01 or better level of significance (Table 14). In all regression equations the climate perception proved to be a more important predictor variable than organizational tenure and group membership, except for the autonomy dimension. Perceptions of the social environment accounted for 29% of the total variation in work satisfaction; perceptions of trust accounted for 22%;

TABLE 19

Proportion of Variation in Work Satisfaction Accounted for by Categories of Independent Variables

	PHYSICAL ENVIRONMENT	SOCIAL ENVIRONMENT	AUTONOMY	TRUST
CLIMATE DIMENSION	.0713	.3081	.0669	.2465
GROUP MEMBERSHIP	.0549	.0664	.1084	.0623
ORGANIZA-TIONAL TENURE	.0283	.0224	.0141	.0185
CLIMATE AND GROUP	.1425	.3729	.1730	.3090
CLIMATE AND TENURE	.1689	.3830	.1884	.3294
GROUP AND TENURE	.0837	.0888	.1225	.0808
CLIMATE, GROUP AND TENURE	.1712	.3824	.1906	.3279

perceptions of autonomy accounted for 6%; and perceptions of the physical environment accounted for 4% of the variation in work satisfaction. Apparently, the way one perceives the climate of the work place determines, to a large extent, one's attitudes toward the job.

Effects of Organizational Tenure

While organizational tenure proved to be a significant explanatory variable, its effect size, as represented by the proportion in work satisfaction explained by organizational tenure, was not substantial. In fact, R^2 values ranged only from 1% to 3%. In relation to climate perceptions and group membership, organizational tenure had the least effect on work satisfaction (Table 19).

In summary, work satisfaction, as specified in the SIP approach to work attitudes, appears to be significantly influenced by perceptions of the work environment, membership in communication groups and organizational tenure. Moreover, effect sizes, as represented by the square of the multiple partial correlation, appear to be substantial. It seems, therefore, that in general there is support for the links among communication, behavior and work environment perceptions as specified in the SIP model.

Summary of Results

Hypotheses 1 and 2 assert that individuals who belong to groups formed on the basis of communicative interaction will exhibit greater homogeneity in their perceptions of the work environment and their degree of reported satisfaction than would individuals not belonging to these groups. Results of test for homogeneity of variance show that there is evidence that a certain degree of homogeneity is achieved when individuals are grouped on the basis of frequency of communication.

The SIP model specifies that perceptions of the work environment are determined by the social influence attributable to group membership and by length of time one has been in the organization. Using regression analyses, the effects of membership in communication groups and organizational tenure were assessed. Results indicate that jointly group membership and organizational tenure significantly influence climate perceptions. However, effect sizes, as represented by the proportion of the variance in the dependent variable explained by the model, do not appear to be substantial.

Hypothesis 3 specifically posits that perceptions of the work environment are influenced by membership in communication groups. Results show that nine of the 12 groups proved to be significant determinants of perceptions

of the work environment. Hence, it appears that social influence, as represented by group membership, affects work environment perceptions providing support for Hypothesis 3.

Hypothesis 4 posits that length of time in the organization influences perceptions of the work environment. Results show that organizational tenure is an important explanatory variable for perceptions of some aspects of the environment but not for others. Length of time in the organization is seen to influence perceptions of the social environment, autonomy and trust. Perceptions of the physical environmment are not particularly influenced by length of time in the organization.

The SIP model also specifies that work attitudes are affected by social influence, perceptions of the work environment and length of time in the organization. Results show that the joint effects of the explanatory variables significantly influence work satisfaction. In general, therefore, support for the links specified in the SIP model was obtained.

Hypothesis 5 specifically posits that membership in communication groups influence work satisfaction. While only three of the 12 groups proved to be significant explanatory variables, the effect size associated with these groups were substantial relative to the other independent variables. It appears that such results provide support for Hypothesis 5.

Hypothesis 6 posits that perceptions of the work environment influence an individual's degree of satisfaction. Results showed that perceptions of the climate are indeed important explanatory variables in its influence on work satisfaction.

Hypothesis 7 posits that the length of time one has been in the organization significantly influences work satisfaction. In all regression equations, organizational tenure proved to be a significant explanatory variable. However, the magnitude of its effect size is not substantial.

CHAPTER VI

DISCUSSION

Overview

While general support for the predictions of the SIP model was found in the present study, several issues need to be addressed in light of the findings. First, the issue of low effect sizes is discussed. Second, although group membership as a whole significantly influences climate perceptions and work satisfaction, certain groups appear to consistently affect these variables while others do not.

Low Effect Sizes

The explained variance in perceptions of the work environment range from 6% to 16% indicating that as much as 84% to 94% of the variation remain unaccounted for by group membership and organizational tenure. Similarly, as much as 62% to 84% of the variance in work satisfaction cannot be accounted for by group membership, organizational tenure and climate perceptions. Inclusion of variables that may be contributing to individual differences, such as gender

and job tenure, did not improve the predictive power of the models (Table 20).

The analysis has shown that membership in communication groups rather than organizational tenure or individual differences better explains variation in climate perceptions. Pfeffer (1980) found similar results when the addition of education, age and time on the job failed to enhance the proportion of explained variation in the prediction of task dimensions. Since individual characteristics do not appear to significantly impact on perceptions of the environment, it could be argued that unique group characteristics may be a possible source of variation.

Communication Group Membership

In fact, the second and related issue that has become apparent in this study is that membership in certain communication groups has consistently been shown to influence climate perceptions and work satisfaction. However, when group properties such as size and density were included in the regression equation no significant improvement in the predictive power of the model was achieved (Table 21). Other studies (Pfeffer, 1980; Contractor, 1987) have demonstrated that the amount of social interaction does not influence work environment perceptions.

TABLE 20

Comparison of Adjusted R2 for Regression Equations Excluding and Including Gender and Job Tenure

EQUATION NUMBER	EXCLUDING GENDER AND JOB TENURE	INCLUDING GENDER AND JOB TENURE
Equation 1	.16	.16
Equation 2	.12	.12
Equation 3	.06	.07
Equation 4	.05	.05
Equation 5	.17	.17
Equation 6	.38	.38
Equation 7	.19	.19
Equation 8	.33	.33

TABLE 21

Comparison of Adjusted R2 for Regression Equations Excluding and Including Group Size and Group Density

EQUATION NUMBER	EXCLUDING GROUP SIZE AND DENSITY	INCLUDING GROUP SIZE AND DENSITY
Equation 1	.16	.16
Equation 2	.12	.12
Equation 3	.06	.06
Equation 4	.05	.06
Equation 5	.17	.17
Equation 6	.38	.38
Equation 7	.19	.19
Equation 8	.33	.33

Pfeffer (1980) suggested that if individual variables and amount of social interaction do not account for the remaining unexplained variance, it could be that it is not so much the intra-group interaction as it is the between group differences that leads to a significant group effect. Specifically, he suggests that isolation from non-group members rather than interaction with group members is accounting for variation in perceptions. He argues that "for there to be a group effect, it must be the case that the person is influenced by his co-workers to hold attitudes toward the job and the organization which are different from those held in other groups..." (p. 473).

If this is indeed true, examination of group characteristics that discriminate among groups may be a step towards better understanding the influence of the social context on perceptions of the work environment. It has long been recognized by behavioral scientists that social norms exert potent influences on individuals' interpretation of cues in their environment, their attitudes and consequent behavioral patterns.

Norms are the "unwritten rules that are felt to govern what people should or should not do (in behavior) or be (in attitude) in order to be acceptable members in good standing of a particular social system" (Steele & Jenks, 1977, p. 41.). Group norms are those specific expectations that arise from the confluence of individual beliefs and

value systems that members bring to the group. As such, group norms are distinct to the group and may possibly be contributing to the differential effect of group membership on climate perceptions and work attitudes. Hence, it can be argued that it is not the amount or frequency of interaction alone that affects one's perceptions of the work environment. Rather, it may be the unique interplay of expectations, values and belief systems of individual group members that influence perceptions of the work environment and their behavioral patterns.

CHAPTER VII

CONCLUSIONS AND RECOMMENDATIONS

Overview

The present study has demonstrated general support for the Social Information Processing Model to Job Attitudes. Moreover, the data provides some evidence for social information influence, as represented by membership in communication groups, on perceptions of the work environment and on work attitudes. These conclusions, however, need to be tempered by certain limitations of the study. Recommendations to improve future research on work environment perceptions and work attitudes are presented.

Study Limitations

The study is limited in several respects. These limitations relate to (1) the clustering approach used to identify the groups used in the analysis and (2) the limited test of the Social Information Processing Model.

First, a saturated sample or complete census was not obtained for this study. Time and cost constraints did not allow for the inclusion of all employees in the organization. The interaction patterns, therefore, do not

reflect the complete picture of the communication linkages in the organization.

Moreover, the communication network analyzed could have been influenced by the existing conditions at the time of data gathering. It should be recalled that the different offices were housed in different buildings that were geographically separated. As the results showed, the communication network groups that emerged highly coincided with service areas. A different communication network may have emerged if the respondents were centrally located.

The second major limitation of the study concerns the test of a partial, rather than a full, SIP model. The model here tested focused on the effects of social information on perceptions of the work environment and attitudes, the effects of perceptions on attitudes, and the effects of behavior on perceptions and attitudes. The study did not allow for a test for needs, behavioral commitment and past behaviors. Moreover, since social information influence was represented by communication group membership, information saliency and recency were also not tested for.

Recommendations for Future Research

Results of the present study suggest several areas for improving future studies dealing with the influence of communication on climate perceptions and work satisfaction. First, the impact of group norms as well as the overall

organizational culture need to be taken into consideration in future research. The finding that certain groups significantly affected perceptions of the work environment and reported work satisfaction while other groups did not suggest the need to seriously examine intra-group characteristics and processes that set them apart from other groups.

The SIP model shows that social norms and expectations have important influences on the rationalization and legalization of the individual's past behaviors. Past behaviors in turn affect perceptions and one's attitudes toward work. While social norms and expectations have been specified as important components in Salancik and Pfeffer's (1978) SIP model, most studies utilizing this theoretical framework have not focused on norms as explanatory variables in determining perceptions of task environment characteristics.

One of the reasons for the failure to include this component in the test of the SIP model is that social norms are difficult to measure with standard survey instruments. Determining existing group or organizational norms entails considerable amount of research time involving detailed observations, interviews and note-taking. To gain better understanding of intra-group processes that are important in determining climate perceptions, future research should include both qualitative and quantitative approaches.

Moreover, future studies should be designed to obtain overtime data since organizations, and particularly groups, change all the time.

At the pragmatic level, results of the study should also provide directions for better understanding the way employees perceive the work environment as well as how perceived climate affects work attitudes. The present study has shown that social units, such as communication or work groups, influence members' perceptions of the work environment, which in turn influence work attitudes. This suggests that employees' work attitudes may be improved through knowledge of existing group norms and expectations. It is not sufficient to create a favorable climate. The climate must be perceived to be such.

Second, the SIP model posits that commitment binds an individual to a behavior. Salancik and Pfeffer (1978) argue that "commitment affects the creation of attitudes from behavior by constraining how individuals make sense of their reactions to their environment" (p. 230). However, it is "not choice or commitment per se, but choice or commitment associated with a specific behavior that affects attitudes" (Pfeffer, 1980, p. 464). Hence, it is the interaction of choice or commitment with behavior that is seen to influence attitudes.

In the present study, behavior was measured as the number of years one has been in the organization. To test

the interactive effects of this behavior on work attitudes it is necessary to include the behavioral commitment component of the SIP model. Future research investigating the effects of behavior, represented by length of time in the organization, on attitudes, therefore, need to look into the interaction of behavioral commitment and organizational tenure on work attitudes.

Third, in this study, social information influence was measured in terms of membership in communication groups and therefore measured at the nominal level. As such, this variable was included as an indicator variable where membership was indicated as "1" and non-membership as a "0". In future research, it is suggested that social information influence be operationalized in other ways as well.

Fourth, general support found for the SIP model should prompt further tests of the model. Specifically, in addition to work environment variables, task characteristics should also be examined. Likewise, other behavioral variables such as commitment and involvement in the organization should be included in the test of the model.

Fifth, as ealier pointed out, the resulting communication networks may have been influenced by the fact that offices were housed in geographically separate locations. The present study could be extended by

examining communication networks for organizations that have all their offices in a central location. This should allow for a better way to determine the effect of communication groups vis-a-vis functional divisions or departments of the organization.

Summary

The primary purpose of the present study was to determine the effect of membership in communication network groups on perceptions of work environment characteristics and on reported satisfaction. In the study of organizational climate, it has been proposed that prior to correlating individual and organizational outcome variables, such as job satisfaction, with climate perceptions, there is a need to establish the validity of the aggregated score. In this study, individuals were clustered on the basis of the frequency of communication. Resulting communication network groups were used as aggregation units. Tests of homogeneity of variance showed that a certain degree of homogeneity in climate perceptions was achieved when individuals were grouped on the basis of communicative interaction.

Hypothesized relationships among communication, climate, work satisfaction and behavior variables were formulated using Salancik and Pfeffer's (1978) social information processing (SIP) model. In this perspective,

social information was seen to influence perceptions of the work environment and attitudes toward work.

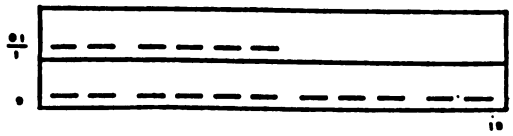
In the current study, social information influence was represented by membership in communication groups. Results provided general support for the SIP model. However, the proportion of variance explained by the set of independent variables was not substantial suggesting that much of the variation remains unexplained by the predictor variables. Inclusion of individual variables such as gender and job tenure did not improve the predictive power of the regression model. Results also revealed that certain groups consistently influenced climate perceptions and work satisfaction while other groups did not. Group properties such as size and density did not enhance the predictive power of the model. These findings suggest that there is a need to further examine factors operating at the intra-group level which may be uniquely contributing to the way group members perceive the organization's climate and to their attitude towards work.

APPENDIX A

WORK ENVIRONMENT INSTRUMENT

APPENDIX A

WORK ENVIRONMENT INSTRUMENT



SECTION I – WORK ENVIRONMENT

The first part of the questionnaire seeks information about your work environment. WORK ENVIRONMENT includes the physical, social and information characteristics of your work.

PHYSICAL CHARACTERISTICS refer to heating, lighting, office layout, etc. in your work environment.
SOCIAL CHARACTERISTICS refer to privacy, ease of communication, relationships with others, etc. in your work environment.
INFORMATION CHARACTERISTICS refer to whom you give information, receive information from, the kinds of information you exchange, and its importance in your work.

The questions in Parts A, B, and C address the physical and social characteristics of your work environment. The questions in D and E tap the information characteristics of your work environment.

A. THINK ABOUT YOUR CURRENT WORKING CONDITIONS – YOUR OFFICE ENVIRONMENT AND WORK SPACE immediately surrounding you.

Indicate the degree to which you AGREE or DISAGREE with the following statements by circling the appropriate number.

		1 STRONGLY DISAGREE	2 DISAGREE	3 slightly disagree	4 neither	5 slightly agree	6 AGREE	7 STRONGLY AGREE
1. MY WORK AREA IS:								
a. adequately lighted	31	1	2	3	4	5	6	7
b. large enough for my needs	32	1	2	3	4	5	6	7
c. adequately equipped for my work	33	1	2	3	4	5	6	7
d. at a comfortable temperature throughout the year	34	1	2	3	4	5	6	7
e. located close to people I need to talk with in my job	35	1	2	3	4	5	6	7
f. located near personal facilities (for example, bathrooms, eating areas, etc.)	36	1	2	3	4	5	6	7
2. MY WORK AREA PROVIDES:								
a. the quiet I need to do my work	37	1	2	3	4	5	6	7
b. the visual privacy I need to do my work	38	1	2	3	4	5	6	7
c. enough storage for my work needs	39	1	2	3	4	5	6	7
3. IN MY WORK AREA:								
a. I feel free to discuss private matters without being overheard	40	1	2	3	4	5	6	7
b. I have no worries about my property being stolen	41	1	2	3	4	5	6	7
c. the noise level makes me irritable and uneasy	42	1	2	3	4	5	6	7
d. it is hard to concentrate on what I am doing	43	1	2	3	4	5	6	7
e. I am aware of others passing nearby	44	1	2	3	4	5	6	7
f. I am aware of others working nearby	45	1	2	3	4	5	6	7

This set of questions addresses social characteristics of your work environment. These questions focus on the group of people that you work with. Two kinds of groups are found in the HDE: Service areas, e.g., Department Services, REAS; and Offices, e.g., Office of the Superintendent, Office of Professional Development.

B. THINK ABOUT THE SERVICE AREA-OFFICE THAT YOU WORK IN AND THE PEOPLE THAT YOU WORK WITH.

Indicate the degree to which you AGREE or DISAGREE with the following statements by circling the appropriate number.

		STRONGLY DISAGREE	DISAGREE	slightly disagree	neither	slightly agree	AGREE	STRONGLY AGREE
4. IN MY SERVICE AREA/OFFICE:								
a. it is easy to talk openly to all people	46	1	2	3	4	5	6	7
b. it is easy to ask advice from any person	47	1	2	3	4	5	6	7
5. I FEEL THAT:								
a. I am really a part of my service area/office	48	1	2	3	4	5	6	7
b. there are feelings among people that tend to pull the service area/office apart	49	1	2	3	4	5	6	7
c. I look forward to being with others in my service area/office each day	50	1	2	3	4	5	6	7
d. there is too much bickering in my service area/office	51	1	2	3	4	5	6	7

C. THINK ABOUT YOUR SERVICE AREA/OFFICE AND ESTIMATE THE FOLLOWING:
(Indicate the number that is appropriate)

6. HOW MANY PEOPLE in your service area/office: (e.g., 005, 015)

a. regularly ask you for information	52	___ ___ ___
b. do you regularly ask for information	55	___ ___ ___

7. IN AN AVERAGE WEEK, HOW MANY REQUESTS FOR INFORMATION:

a. do you receive from people in your service area/office?	58	___ ___ ___
b. do you make of other people in your service area/office?	61	___ ___ ___

The next set of questions measures the information characteristics of your work environment. People's behavior may be influenced by information and one's perception of it.

D. THINK ABOUT THE INFORMATION THAT YOU HAVE ABOUT THE OTTAWA STREET BUILDING AND YOUR REACTIONS TO THAT INFORMATION.

Indicate the degree to which you AGREE or DISAGREE with the following statements by circling the appropriate number.

		STRONGLY DISAGREE	DISAGREE	slightly disagree	neither	slightly agree	AGREE	STRONGLY AGREE
8. THE INFORMATION I HAVE RECEIVED ABOUT THE MOVE TO THE OTTAWA STREET BUILDING:								
a. has been timely	64	1	2	3	4	5	6	7
b. has been useful	65	1	2	3	4	5	6	7
c. has adequately answered my questions	66	1	2	3	4	5	6	7
d. indicates that it will be a positive experience	67	1	2	3	4	5	6	7
e. makes me think that Department employees will have problems working there	68	1	2	3	4	5	6	7
f. indicates that my work space there will be adequate	69	1	2	3	4	5	6	7
9. OVERALL, MY EXPECTATIONS ABOUT THE MOVE TO THE OTTAWA STREET BUILDING ARE THAT:								
a. the move is of no concern to me	70	1	2	3	4	5	6	7
b. I look forward to the move	71	1	2	3	4	5	6	7
c. I feel anxious about the move	72	1	2	3	4	5	6	7
10. IT IS IMPORTANT FOR ME:								
a. to be the first one to give someone new information	73	1	2	3	4	5	6	7
b. to have lots of information about the Ottawa Street Building	74	1	2	3	4	5	6	7
c. to get more information about the Ottawa Street Building	75	1	2	3	4	5	6	7
11. IT IS IMPORTANT TO OTHER MDE STAFF:								
a. to be the first one to give new information	76	1	2	3	4	5	6	7
b. to have lots of information about the Ottawa Street Building	77	1	2	3	4	5	6	7
c. to get more information about the Ottawa Street Building	78	1	2	3	4	5	6	7

E. We are interested in how information about the Ottawa Street Building was and is distributed among people in the Department. The answers to these questions can be used to ensure that staff receive more and better information. There are two components to this part. We ask you to fill out two charts that indicate:

1. from whom you received information about the Ottawa Street Building
2. to whom you would provide new information about the Ottawa Street Building

BY INFORMATION we mean any new bits of knowledge about the new building, e.g., what it will be like, where you will be located, how people are reacting to the move. We are interested in communication whether written or oral except for official MDE memorandum, newsletters, reports.

12. THINK ABOUT THE PEOPLE IN THE DEPARTMENT THAT YOU RECEIVED INFORMATION FROM ABOUT THE OTTAWA STREET BUILDING IN THE LAST THREE MONTHS. TO FILL IN THE FOLLOWING TABLE:

Column 1 – List the NAMES OF PEOPLE in the Department who gave you information relating to the Ottawa Street Building

Column 2 – Estimate HOW MANY TIMES in the last 3 months each of these people gave you information, e.g., 004 times, 087 times.

Column 3 – Estimate HOW CLOSELY YOU SEE YOURSELF ASSOCIATED WITH each person. Indicate a number from 000–100.

We vary on how closely we see ourselves associated with other people. There are some people that we identify with and think of our relationship as close. There are others that in spite of the fact that we frequently have contact with them we do not view the relationship as close. Work as well as nonwork-related factors may influence how close we view our association with others.

For example: If you view the association with this person as the maximum closeness possible..... use 100
If you view the closeness of association as two thirds as close as it could be..... use 066
If you view the closeness of association as minimal or nonexistant..... use 000

1	0	0
0	6	6
0	0	0

For Coding Purposes Leave Blank

LAST NAME, FIRST INITIAL	NUMBER OF TIMES THIS PERSON GAVE YOU INFORMATION	HOW CLOSELY YOU ASSOCIATE YOURSELF WITH THIS PERSON (Indicate 000–100)
(1)	(2)	(3)

(See Survey Administrator if you need more room)

THE FOLLOWING INFORMATION CONCERNS THE OTTAWA STREET OFFICE BUILDING. PLEASE READ IT BEFORE PROCEEDING TO THE NEXT CHART.

The Ottawa Street Office Building is located west of the State Capitol and is bordered by Ottawa, Allegan, and Pine Streets.

The MDE will occupy approximately 50% of the 360,000 square feet of rentable space in the two-tower building. This is most of the South Tower. There will be about 1,100 MDE employees moving into the building. The State Library will be the only service area not housed in the new office building.

The actual move to the building will begin December, 1982 and be completed by the end of February, 1983.

There will be a cafeteria and conference center available for use by the MDE in the upper parking level. The cafeteria will seat between 350–400 people and is similar to the cafeteria in the Mason Building. The 7200 square foot conference center consists of two large lecture rooms and two smaller conference rooms.

Office furniture in the Ottawa Street Building will be provided and is part of the Westinghouse openscape design. You will however bring your current desk chair with you. Service areas that have refrigerators and/or microwave ovens will also be able to bring them to the new building.

Within the next several weeks, your service area will be contacted to plan the physical layout of individual office spaces for specific programs and subunits on each of the following floors:

4th Floor . . . . . Superintendent's Office, State Board of Education, Bureau of Finance, Legislation & Personnel, Bureau of Rehabilitation, and Adult Extended Learning Services

3rd Floor . . . . . .Disability Determination Services

2nd Floor . . . . . Bureau of Elementary and Secondary Education and Bureau of Postsecondary Education with the exception of Student Financial Services

1st Floor . . . . . .Bureau of Postsecondary Education--Student Financial Services, Department of Natural Resources offices

Upper Parking Level . . . Data Processing Center, Cafeteria, and Conference Center
(Ground Floor)

(This is the current update of Bureau locations as of March 29, 1982.)

Think about the information on the preceding page. You may have heard some of the information already or not heard any of it at all.

13. IMAGINE THAT TWO WEEKS AGO YOU HEARD THE INFORMATION ON THE PRECEEDING PAGE. There are some people you would have gone out of your way to tell, others you might have told because you generally talk with them, and still other people whom you would have told because of a chance meeting.
CONSIDER ALL OF THESE POSSIBILITIES AND FILL OUT THE CHART BY THINKING ABOUT ALL THE PEOPLE YOU MIGHT HAVE TOLD THE INFORMATION.
Column 1 – List ALL the PEOPLE IN THE DEPARTMENT that you would have told any of the information.
Column 2 – Estimate what the LIKELIHOOD (probability) is that you would have told each of the people listed. Remember that some people you would have definitely told and others there was a slight chance.
(Use 000–100 to indicate the likelihood of telling the person)
For example: If you would definitely tell the person..... use 100
If you were as likely to tell them as not tell them (equal chance)..... use 050
If there was a 22% chance of telling them..... use 022
Column 3 – Estimate HOW CLOSELY YOU SEE YOURSELF ASSOCIATED WITH this person (Use 000–100. Remember 100 indicates the maximum closeness – see previous chart for explanation.)

For Coding Purposes Leave Blank	LAST NAME, FIRST INITIAL	LIKELIHOOD YOU WOULD TELL THIS PERSON (probability) (Use 000–100)	HOW CLOSELY YOU ASSOCIATE YOURSELF WITH THIS PERSON (Use 000–100)
	(1)	(2)	(3)
09 1 9 — — —			
10 — — —			
20 — — —			
30 — — —			
40 — — —			
50 — — —			
59 1 9 — — —			
10 — — —			
20 — — —			
30 — — —			
40 — — —			
9 — — —			

(See Survey Administrator if you need more room)

SECTION II. JOB ATTITUDES, JOB BEHAVIOR AND JOB DESCRIPTION

As was mentioned earlier, the move to the Ottawa Street Building may affect the way in which work is accomplished in the Department. Attitudes and behaviors may change as a result of the move. These questions have been validated and tested in numerous organizations to understand work behaviors. The following groups of questions are concerned with a general overview of how you view working in the Department and doing your job.

F. THE NEXT SET OF QUESTIONS IS ABOUT YOUR JOB. WHEN ANSWERING KEEP IN MIND THE KIND OF WORK YOU DO AND HOW YOU GO ABOUT DOING YOUR JOB.

Indicate how much you AGREE or DISAGREE with each statement as a DESCRIPTION OF YOUR JOB by circling the appropriate number.

		1 STRONGLY DISAGREE	2 DISAGREE	3 slightly disagree	4 neither	5 slightly agree	6 AGREE	7 STRONGLY AGREE
14. I often have to deal with new problems on my job.	9	1	2	3	4	5	6	7
15. A lot of people can be affected by how well I do my work.	10	1	2	3	4	5	6	7
16. I can see the results of my own work.	11	1	2	3	4	5	6	7
17. Just doing the work required by my job gives me many chances to figure out how well I am doing.	12	1	2	3	4	5	6	7
18. On my job, I produce a whole product or provide a complete service.	13	1	2	3	4	5	6	7
19. I have the freedom to decide what I do on my job.	14	1	2	3	4	5	6	7
20. My job requires that I do the same things over and over.	15	1	2	3	4	5	6	7
21. It is basically my own responsibility to decide how my job gets done.	16	1	2	3	4	5	6	7
22. I get to do a number of different things on my job.	17	1	2	3	4	5	6	7
23. On my job, I often have to handle surprising or unpredictable situations.	18	1	2	3	4	5	6	7
24. I often have to meet or check with other people in the Department in order to do my job.	19	1	2	3	4	5	6	7
25. I often have to cooperate directly with other people in the Department in order to do my job.	20	1	2	3	4	5	6	7

Indicate the degree each of the following is typical of YOUR JOB by circling the appropriate number.

		1 none at all/ very little	2	3	4 A Moderate Amount	5	6	7 VERY MUCH/ A GREAT AMOUNT
26. How much freedom do you have on your job? That is, how much do you decide on your own what you do on your job?	21	1	2	3	4	5	6	7
27. How much variety is there on your job? That is, to what degree do you do different things or use different procedures in the course of your job?	22	1	2	3	4	5	6	7
28. As you do your job, can you tell how well you are performing?	23	1	2	3	4	5	6	7
29. How much does your job involve producing a complete product or providing a service yourself? That is, to what degree do you work alone on the service or product from start to finish?	24	1	2	3	4	5	6	7
30. In general, how important is your job? That is, are the results of your work likely to significantly affect the lives and well being of others?	25	1	2	3	4	5	6	7
31. How much does the work you do on your job make a visible impact on the services or products of your area?	26	1	2	3	4	5	6	7

G. THE NEXT SET OF ITEMS ALLOWS YOU TO MAKE SOME OVERALL APPRAISALS OR ASSESSMENTS OF YOUR JOB, IN TERMS OF JOB SATISFACTION AND INVOLVEMENT. LIKE MANY OF THE OTHER QUESTIONS IN THIS QUESTIONNAIRE, THEY ARE TAKEN FROM SCALES THAT HAVE BEEN EXTENSIVELY VALIDATED AND TESTED IN OTHER ORGANIZATIONS.

Indicate the degree to which you AGREE or DISAGREE with the following statements by circling the appropriate number.		STRONGLY DISAGREE	DISAGREE	slightly disagree	neither	slightly agree	AGREE	STRONGLY AGREE
32. The most important things which happen to me involve my job.	27	1	2	3	4	5	6	7
33. What happens to this organization is really important to me.	28	1	2	3	4	5	6	7
34. Employees here feel you can trust top management.	29	1	2	3	4	5	6	7
35. All in all, I am satisfied with my job.	30	1	2	3	4	5	6	7
36. I live, eat and breathe my job.	31	1	2	3	4	5	6	7
37. When top management here says something, you can really believe that it is true.	32	1	2	3	4	5	6	7
38. In general, I don't like my job.	33	1	2	3	4	5	6	7
39. I don't care what happens to the MDE as long as I get my paycheck.	34	1	2	3	4	5	6	7
40. In general, I like working here.	35	1	2	3	4	5	6	7
41. I am very much personally involved in my work.	36	1	2	3	4	5	6	7
42. People in this organization will do things behind your back.	37	1	2	3	4	5	6	7

H. This set of questions asks you about you and your time with MDE.

43. How many YEARS have you worked in your present job? (Use 00 if less than one year; e.g., 09 would indicate 9 years) 38 ___ ___

44. How many YEARS have you worked in the MDE? (Use 00 if less than one year; e.g. 05 indicates 5 years) 40 ___ ___

45. Are you: (indicate 1 or 2) 43 ___
1 – Female
2 – Male

APPENDIX B

COMMUNICATION NETWORK INSTRUMENT

APPENDIX B

COMMUNICATION NETWORK INSTRUMENT

COMMUNICATION DIRECTORY

The purpose of this booklet is to obtain information about the communication among Department of Education employees. The booklet contains a list of approximately 500 names of Department employees. The list is a sample of Department employees and does not contain all the names of people in the Department.

We are interested in your communication with people in your own service area or office and in other service areas or offices.

The names are in the following order:

1. The Office of the Superintendent is listed first.

2. The Directory is then alphabetized by:

   A. Bureau
   B. Service Areas/Offices
   C. People's names

INSTRUCTIONS

In this booklet you are asked to report your communication with other Department of Education employees. There are approximately 500 names of other employees listed in this booklet. You are asked to review the names and report your communication with them. It is unlikely that you will know or have communicated with all the people listed. Disregard all names of people you do not know or have not communicated with in the last six months.

Respond for ALL the people listed with whom you have communicated in the last six months. Some of the people will be those you have communicated with frequently and some of them you will have communicated with only a few times. By COMMUNICATION, we mean any communication whether written or oral except official department communications such as memorandum, newsletters, reports.

There are two types of communication you are asked to report:

WORK-RELATED and NONWORK-RELATED

WORK-RELATED COMMUNICATION is communication that is necessary for the accomplishment of your job and the business of the organization. For example, communication related to task assignments, management information, or discussion at meetings.

NONWORK-RELATED COMMUNICATION is communication that is unrelated to work and the accomplishment of one's job. For example, social information, personal matters, and rumors.

Note that the list is alphabetized by Bureau, service area/office and last name. This is to aid you in finding the names of people within your service area/office as well as in other service areas or offices with whom you have communicated.

Use the following steps in completing the directory:

1. Find YOUR NAME and CIRCLE IT.

2. Read through the list. When you come to the name of someone you have communicated with in the last six months, first indicate how often you communicated with him/her on WORK-RELATED MATTERS and then how often you communicated with him/her on NONWORK-RELATED MATTERS. Circle the appropriate number corresponding to the following scale:

1 – once a year	5 – once a week
2 – a few times a year	6 – a few times a week
3 – once a month	7 – once a day or more
4 – a few times a month	

3. If you have communicated with someone only on either WORK-RELATED MATTERS or NONWORK-RELATED MATTERS, leave the other column blank.

4. REMEMBER to leave all lines blank for people with whom you have not communicated.

This is an example of part of a filled-out Directory.

EXAMPLE

1 = once a year	5 = once a week
2 = a few times a year	6 = a few times a week
3 = once a month	7 = once a day or more
4 = a few times a month	

DEPARTMENT SERVICES	WORK-RELATED COMMUNICATION	NONWORK-RELATED COMMUNICATION
100 Able, Jill	1 2 3 (4) 5 6 7	1 2 3 4 5 6 (7)
101 Baker, Ronald	1 2 3 4 5 6 7	1 2 3 4 5 6 7
(102 Courtney, Nancy)	1 2 3 4 5 6 7	1 2 3 4 5 6 7
RESEARCH, EVALUATION AND ASSESSMENT SERVICES		
104 Leftland, Joyce	1 2 3 4 5 6 7	1 (2) 3 4 5 6 7

1. Note that Nancy Courtney first circled her own name on the Directory.
2. She next reviewed the list and responded about her communication with Jill Able. She indicated that she communicated with Jill Able a few times a month (4) on work-related matters and about once a day (7) on nonwork-related matters.
3. Note that Nancy has no contact with Ronald Baker and indicated this by not circling any numbers.
4. Nancy continues through the list. She notes that she has no work-related communication with Joyce Leftland by leaving the column blank. But since she does occasionally socialize with Joyce, she circles a (2) indicating that they talk a few times a year.

1 = once a year	5 = once a week
2 = a few times a year	6 = a few times a week
3 = once a month	7 = once a day or more
4 = a few times a month	

		WORK-RELATED COMMUNICATION	NONWORK-RELATED COMMUNICATION
OFFICE OF THE SUPERINTENDENT			
0030	Canja, Alex	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0031	Fleming, Dennis	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0032	Hawkins, Philip	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0034	Miles, Wendy	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0035	Miller, Karen	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0036	Paslov, Eugene	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0037	Rekis, Maija	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0038	Ross, Janet	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0039	Runkel, Phillip	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0040	Schultz, Daniel	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0041	Strzelec, Ruth	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0042	Trethewey, Diane	1 2 3 4 5 6 7	1 2 3 4 5 6 7
Program Coordination			
0051	Amundsen, Robert	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0052	Cass, Gary	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0053	Clemmons, Deborah	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0054	Gordon, Elaine	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0055	Hunter, Marilyn	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0056	Kribs, Barbara	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0057	Lycos, Pauline	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0058	Moreno, Rachael	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0059	Osborne, John	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0060	Schneider, Marilyn	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0061	Slocum, Patricia	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0062	Surline, Wanda	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0044	Worgul, Jean	1 2 3 4 5 6 7	1 2 3 4 5 6 7
Public Affairs			
0001	Carter, Craig	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0002	Farrell, Tom	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0003	Hume, Rosarita	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0005	O'Loane, Jeannine	1 2 3 4 5 6 7	1 2 3 4 5 6 7
School and Community Affairs			
0006	Atkinson, Karla	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0007	Bunton, Peter	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0008	Cullinan, Joan	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0009	Dobbs, John	1 2 3 4 5 6 7	1 2 3 4 5 6 7

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4 = a few times a month	

		WORK-RELATED COMMUNICATION	NONWORK-RELATED COMMUNICATION
0010	Doty, Peggy	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0011	Flores, Antonio	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0012	Gallop, Peggy	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0013	Garrett, Vicky	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0014	Gemmill, Lester	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0015	Gordon, Gloria	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0016	Hurwitz, Alan	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0004	Jacobs, Jo	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0017	Libey, Susan	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0018	Molenda, Patricia	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0019	Reyes, Yolanda	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0020	Ruiz, Diana	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0021	Travis, Cindy	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0022	Wing, Nancy	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0024	Worthington, Barbara	1 2 3 4 5 6 7	1 2 3 4 5 6 7
State Board of Education			
0025	Dombrowski, Lad	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0026	Gikas, Stella	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0027	Hamilton, Eileen	1 2 3 4 5 6 7	1 2 3 4 5 6 7
BUREAU OF ELEMENTARY & SECONDARY EDUCATION			
0045	Addonizio, Michael	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0047	Hathaway, Douglas	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0048	Parrish, Betty	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0049	Phelps, James	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0050	VanOstran, Rose Mary	1 2 3 4 5 6 7	1 2 3 4 5 6 7
Research, Evaluation and Assessment Services			
0064	Bebermeyer, James	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0065	Calabrese, Patsy	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0066	Carr, Robert	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0068	Caswell, Martha	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0069	Chung, Ki-suck	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0070	Clough, Charlotte	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0686	Coleman, Geraldine	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0687	Crawford, Cathy	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0071	Deason, Terri	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0072	Donovan, David	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0073	Ellis, Sherry	1 2 3 4 5 6 7	1 2 3 4 5 6 7

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4 = a few times a month	

		WORK-RELATED COMMUNICATION	NONWORK-RELATED COMMUNICATION
0074	Fox, Pamela	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0075	Hanson, Lois	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0076	Hey, Norma	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0077	Kiefer, Charles	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0078	Kirby, Caroline	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0079	Leland, Irene	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0080	Marshall, Lucille	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0081	Murphy, Morley	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0082	Novak, Paul	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0084	Roeber, Edward	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0085	Rio, Raul	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0086	Schooley, Daniel	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0087	Shakrani, Sharif	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0088	Silver, Jacob	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0090	Vanlooy, Dorothy	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0091	Voelkner, Alvin	1 2 3 4 5 6 7	1 2 3 4 5 6 7
School Program Services			
0615	Ruiz, Miguel	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0139	Staten, Teressa	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0146	VanPatten, Muriel	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0151	Wills, Clarence	1 2 3 4 5 6 7	1 2 3 4 5 6 7
School Support Services			
0154	Anderson, Thomas	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0155	Baumgartner, Valerie	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0156	Boguhn, Carol	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0158	Chastine, Deborah	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0159	Claflin, Richard	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0160	Davis, Sandra	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0161	DeRose, Paul	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0162	Ferris, Susan	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0163	Godmer, Raymond	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0164	Hampton, Thomas	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0165	Hatch, Joan	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0166	Howell, Susan	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0167	Iribarren, Miguel	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0168	Janecek, Sally	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0169	Jordan, Janet	1 2 3 4 5 6 7	1 2 3 4 5 6 7

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4 = a few times a month	

		WORK-RELATED COMMUNICATION	NONWORK-RELATED COMMUNICATION
0171	Knopp, Jean	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0172	Lamp, Marie	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0173	Loring, Edgar	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0174	Louderback, Lawrence	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0175	Lynas, Roger	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0177	Mullen, Leone	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0178	Murton, James	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0179	Nelson, Claudette	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0180	Nowak, Linda	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0181	O'Leary, Philip	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0182	Osbo, Donna	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0183	Pawelek, Peggy	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0184	Peabody, Bonnie	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0185	Perez, Argelio	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0186	Perkowski, Susan	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0187	Powtak, Dorothy	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0188	Schafer, Joanne	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0189	Singer, Diane	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0190	Slagle, Zoe	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0191	Smith, Duane	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0192	Stratz, Carrie	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0193	Thelen, Darlene	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0194	Turnbull, Ralph	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0195	VanOrden, Colleen	1 2 3 4 5 6 7	1 2 3 4 5 6 7
Special Education Services			
0197	Anderson, Carl	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0198	Bailey, Diane	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0199	Bailey, Susan	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0200	Baldwin, Richard	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0202	Baxter, Jan	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0203	Beck, Theodore	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0204	Beltran, Lydia	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0205	Bergin, Katherine	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0206	Birch, Edward	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0207	Braccio, John	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0209	Devereaux, Kristy	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0210	Dutkowski, Sheryl	1 2 3 4 5 6 7	1 2 3 4 5 6 7

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		WORK-RELATED COMMUNICATION	NONWORK-RELATED COMMUNICATION
0211	Eid, Foster	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0212	Elder, Jean	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0213	England, Hazel	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0214	Fink, Sharon	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0215	Fisher, Marilyn	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0216	Francis, Norman	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0218	Gomez, Joe	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0219	Griese, Shawn	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0220	Herbert, Benson	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0221	Hughes, Delores	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0222	Kitchell, Mary	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0223	Kowalski, Sharon	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0224	Kowatch, Sandra	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0225	Law, Harriet	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0226	Livingston-White, Deborah	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0227	MacPherson, Sandra	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0228	Magin, Kevin	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0229	McCrum, Joanne	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0230	Monk, George	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0231	Mroczka, Elna	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0232	Nester, Gerald	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0233	Nuttall, James	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0234	Oakley, Lois	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0235	Parshall, Lucian	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0236	Patterson, Gloria	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0237	Pung, Joyce	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0238	Regnier, Carol	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0239	Richardson, Richard	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0240	Rowell, James	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0241	Rudolph, James	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0242	Scandary, Emma (Jane)	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0243	Smith, Denise	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0244	Smith, Mary Ellen	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0245	Sparks, Craig	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0246	Swegles, Shirley	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0247	Thelen, Sandra	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0248	Thelen, Sharon	1 2 3 4 5 6 7	1 2 3 4 5 6 7

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		WORK-RELATED COMMUNICATION	NONWORK-RELATED COMMUNICATION
0249	Theusch, Cynthia	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0250	Weber, Beth	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0251	Withrow, Kathy	1 2 3 4 5 6 7	1 2 3 4 5 6 7
Vocational-Technical Education Services			
0259	Bailey, Phillip	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0271	Gaylor, Barbara	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0282	Jackson, Lola	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0285	Kennon, Robert	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0291	Loomis, Arnold	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0292	McGarvey, Joseph	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0297	Pangman, Robert	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0308	Shupe, Richard	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0317	Weisgerber, William	1 2 3 4 5 6 7	1 2 3 4 5 6 7
BUREAU OF FINANCE LEGISLATION & PERSONNEL			
0319	Baker, Donna	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0320	McKerr, Robert	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0321	Rude, William	1 2 3 4 5 6 7	1 2 3 4 5 6 7
Department Services			
0323	Adams, Helen	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0324	Allen, Timothy	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0326	Baker, Steven	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0327	Bannick, Carol	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0328	Banning, Jack	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0329	Bazzett, David	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0330	Beggs, Wallace	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0331	Bellah, Richard	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0332	Bodell, Corlyss	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0333	Bols, Robert	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0334	Bombrys, Pauline	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0335	Boomershine, Bess	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0336	Brady, Sandra	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0337	Brewer, Lana	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0338	Briggs, Dale	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0340	Burleson, Evelyn	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0341	Butler, Helen	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0342	Cambell, Robert	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0344	Carpenter, Robert	1 2 3 4 5 6 7	1 2 3 4 5 6 7

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		WORK-RELATED COMMUNICATION	NONWORK-RELATED COMMUNICATION
0345	Constandt, James	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0346	Cook, Harriet	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0347	Cool, William (Ken)	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0348	Corlett, Robert	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0349	Craft, Sherry	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0350	Dieterle, Deborah	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0351	Dodge, Sharon	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0352	Doepker, Karen	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0353	Dunn, John	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0354	Dyer, Joyce	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0355	Dyke, Glenda	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0356	Ellison, Janice	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0357	Epple, Susan	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0358	Evert, Joy	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0359	Fajardo, Kathryn	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0360	Fillingham, Ruth	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0361	Floria, Rick	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0362	Floros, Mark	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0363	Ford, J. L.	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0364	French, Brenda	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0365	Garland, Virginia	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0366	Graves, Edward	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0367	Gray, Terry	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0368	Gustafson, Mary	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0369	Hannah, Margaret	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0370	Hanrahan, Daniel	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0371	Harris, Wilhemina	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0372	Hekhuis, Jean	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0373	Holmes, Christina	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0374	Hornberger, Robert	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0375	Howell, William	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0376	Huber, Linda	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0377	Jabara, Fayze	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0378	Johnson, Charles	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0379	Johnson, Frances	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0380	Johnson, Patricia	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0381	Kelley, Richard	1 2 3 4 5 6 7	1 2 3 4 5 6 7

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		WORK-RELATED COMMUNICATION	NONWORK-RELATED COMMUNICATION
0382	Kowalk, Carolyn	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0383	Lane, Priscilla	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0384	Laverty, Janet	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0385	Lind, John	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0387	Mahrt, Kimberly	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0388	Matson, James	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0389	Meyer, Ralph	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0390	Milan, Thomas	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0391	McMeans, John	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0392	Moore, Harold	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0394	Myers, Audrey	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0395	Nalett, Emmaline	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0396	Nelson, Daniel	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0397	Nelson, Robert	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0398	Nobach, Karen	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0399	Page, Mary	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0400	Parker, Max	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0401	Patrick, Robert	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0402	Peatee, Geraldine	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0403	Peter, Stephan	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0404	Peterson, Lorent	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0405	Phillips, Warren	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0406	Pieters, E. H.	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0407	Priest, Kathleen	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0408	Randall, Jack	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0409	Rogers, David	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0410	Rutter, Mae	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0411	Scabich, Robert	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0412	Schafer, Gary Lee	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0413	Schmitt, Amy	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0414	Schultz, Martha Lynn	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0415	Sherman, Lewis	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0416	Simpson, Calvin	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0417	Smith, Fred	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0418	Toebe, Carl	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0419	Wager, Walter	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0420	Waite, Clendon	1 2 3 4 5 6 7	1 2 3 4 5 6 7

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	WORK-RELATED COMMUNICATION	NONWORK-RELATED COMMUNICATION
0421 Waldron, Rita Ann	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0422 Waldron, Shirley	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0423 Witte, Robert	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0424 Wolfe, Ruth	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0425 Woodruff, Opal	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0426 Wrzesinski, Richard	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0427 Zechinato, Max	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0428 Zimmerman, Elaine	1 2 3 4 5 6 7	1 2 3 4 5 6 7
Office of Legislation and School Law		
0429 McAuliffe, Kathleen	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0430 Schaar, Marjorie	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0431 Vergeson, Sandra	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0432 Widmayer, Patricia	1 2 3 4 5 6 7	1 2 3 4 5 6 7
Office of Personnel Management		
0432 Abbott, Teresa	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0433 Allen, Mildred	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0434 Brazil, Gerald	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0435 Conyers, Walter	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0436 Cunningham, Nancy	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0437 Hackney, Connie	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0438 McCaul, Yvonne Lee	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0439 Pearson, Pamela Ann	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0440 Pelkey, Geraldine	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0441 Peston, Norma	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0442 Rice, Jeannette	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0444 Walter, Patricia	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0445 Wojtysiak, Diane	1 2 3 4 5 6 7	1 2 3 4 5 6 7
BUREAU OF LIBRARIES AND ADULT EXTENDED LEARNING		
0447 Krzeski, Rachel	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0448 Ort-Smith, Barbara	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0449 Reiss, Mary	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0453 Stokes, Ethel Mary	1 2 3 4 5 6 7	1 2 3 4 5 6 7
Adult Extended Learning Services		
0454 Alexe, William	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0455 Beard, Mary	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0456 Brown, Orchid	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0457 Clark, Laura	1 2 3 4 5 6 7	1 2 3 4 5 6 7

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		WORK-RELATED COMMUNICATION	NONWORK-RELATED COMMUNICATION
0458	Coley, Raymond	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0459	Columbus, Frederick	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0460	Eldredge, Rebekah	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0461	Gibbs, Billy	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0462	Gillum, Ronald	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0463	Henry, Rebecca	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0464	Horton, Devota	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0465	Hughes, Cora	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0466	Jackson, Raymond	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0467	Jackson, Richard	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0468	Johnson, Fred	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0469	Jones, Edward	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0470	Jones, Elodia	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0471	Kleinhans, Marta	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0474	May, Joan	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0475	McDaniels, Linda	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0477	Miller, Paul	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0478	Mittag, Mae	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0479	Peterson, Agnes	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0481	Schaefer, Judy	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0482	Schmidt, Russell	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0483	Sidel, Kim	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0484	Smith, Richard	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0486	Stern, Robert	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0487	VanderVlught, Ralph	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0488	Wallace, Debra	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0489	Walsh, Kenneth	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0490	Weaver, Angela	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0491	Wesley, Suzanne	1 2 3 4 5 6 7	1 2 3 4 5 6 7
Office of Professional Development			
0446	Brictson, Paula	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0450	Rowley, Geraldine	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0451	Sarris, Sharon	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0452	Shaw, Dian Lee	1 2 3 4 5 6 7	1 2 3 4 5 6 7
BUREAU OF POSTSECONDARY EDUCATION			
0495	Folkening, James	1 2 3 4 5 6 7	1 2 3 4 5 6 7
Student Financial Assistance Services			

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		WORK-RELATED COMMUNICATION	NONWORK-RELATED COMMUNICATION
0503	Alvarez, Daniel	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0504	Appel, Walter	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0505	Bachman, Lisa	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0506	Barber, Simona	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0507	Bauman, Monica	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0508	Bellah, Susan	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0509	Bentley, Carol	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0510	Bonner, Dolores	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0511	Bristol, Beverly	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0512	Burshaw, Valerie	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0513	Busch, Nancy	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0514	Cady, Mary	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0515	Christie, Constance	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0516	Compton, Pattie	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0517	Cornell, Jennilee	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0518	Culver, Richard	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0519	Cummings, Patrick	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0520	Cumberworth, Dorothy	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0522	Curtis, Dorothy	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0523	Dalman, Vicki	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0524	David, Jean	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0525	Davis, Mary	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0526	Dean, Debra	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0527	Deluca, Margaret	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0528	Denbrock, Brenda	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0529	Doin, Linda	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0530	Douglas, Kevin	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0531	Edgar, Pamela	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0532	Ensley, Janet (Sue)	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0533	Fashbaugh, Penny	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0534	Fox, Robert	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0535	Fronczak, Suzanne	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0536	Gates, Marcia	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0537	Goerge, Margaret	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0538	Graham, Robert	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0539	Grimes, Colleen	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0540	Hall, Aaron	1 2 3 4 5 6 7	1 2 3 4 5 6 7

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		WORK-RELATED COMMUNICATION	NONWORK-RELATED COMMUNICATION
0541	Hardin, Martha	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0542	Harris, Thora	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0543	Harvey, Gary	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0544	Herrera, Irene	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0545	Hinton, Elizabeth	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0546	Hoekje, John	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0547	Hogan, Faye	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0548	Howe, Terri	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0549	Hurst, Joseph	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0550	Jaskiewicz, N. James	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0551	Jorae, Elizabeth	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0498	Jursa, Ronald	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0552	Keast, Harry	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0553	Keast, Jane	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0554	Koenigsknecht, Agnes	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0555	Lamb, George	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0556	Leonard, Emma (Louise)	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0557	Lewis, Candy	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0558	Madav, Jean	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0559	Mariano, Marian	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0560	Martin, Mary	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0561	Mather, Donna	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0562	McClean, Mary	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0563	Miller, Carol	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0564	Miller, Mary	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0565	Montgomery, Thomas	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0566	Nelson, Henry	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0567	Pelkey, Carol	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0568	Peterson, D. Lee	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0569	Pierce, Marlene	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0570	Roat, Rosina	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0571	Robinson, Richard	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0572	Roe, Karen	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0574	Schmitz, Amy	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0575	Schrauben, Loretta	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0576	Schroeder, Jane	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0577	Shantz, Dale	1 2 3 4 5 6 7	1 2 3 4 5 6 7

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		WORK-RELATED COMMUNICATION	NONWORK-RELATED COMMUNICATION
0578	Shepherd, Marilyn	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0579	Smith, June	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0580	Smith, Karen	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0581	Smith, Marsha	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0582	Snyder, Glenna	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0583	Sorv, James	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0584	Suardini, Rosemary	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0585	Taylor, Sarah	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0586	Towsley, Nancy	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0587	Vaillancourt, Tamara	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0588	VanDomelen, Susan	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0589	Vanvleck, Mathew	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0590	Vedder, Julia	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0591	Volz, Linda	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0592	White, Patricia	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0593	Williams, Laurie	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0594	Wood, Marcia	1 2 3 4 5 6 7	1 2 3 4 5 6 7
Teacher Preparation and Certification Services			
0596	Bishop, Faith	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0613	Roth, Robert	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0144	Trezise, Robert	1 2 3 4 5 6 7	1 2 3 4 5 6 7
BUREAU OF REHABILITATION			
0636	Cotman, Ivan	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0642	Griswold, Peter	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0671	Skiba, Joseph	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0673	Smith, Harry	1 2 3 4 5 6 7	1 2 3 4 5 6 7
Disability Determination Services			
0640	Edmondson, William	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0653	Jones, Charles	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0661	Miller, Mari	1 2 3 4 5 6 7	1 2 3 4 5 6 7
Field Service		1 2 3 4 5 6 7	1 2 3 4 5 6 7
0621	Andringa Larry	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0626	Blalock, Jesse (Ray)		
0630	Bufkin, Judith	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0632	Burke, Jaye	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0633	Byrnes, Crystal	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0638	Eaton, Curtis	1 2 3 4 5 6 7	1 2 3 4 5 6 7

1 = once a year	5 = once a week
2 = a few times a year	6 = a few times a week
3 = once a month	7 = once a day or more
4 = a few times a month	

		WORK-RELATED COMMUNICATION	NONWORK-RELATED COMMUNICATION
0641	Espie, Jean	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0647	Harmon, Lee Anne	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0649	Hiltner, Debra	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0651	Horvath, Robert	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0656	Losin, Robert	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0657	Mareck, Mary	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0658	Matelsky, Dianne	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0660	McFarlane, Robert	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0664	Retzloff, Rae	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0665	Rolfe, Eleanor	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0682	Williams, Robert	1 2 3 4 5 6 7	1 2 3 4 5 6 7
Interagency Service			
0622	Antenucci, Basil	1 2 3 4 5 6 7	1 2 3 4 5 6 7
0659	McConnell, L. Robert	1 2 3 4 5 6 7	1 2 3 4 5 6 7

APPENDIX C

INTERVIEW QUESTIONS

APPENDIX C

INTERVIEW QUESTIONS

1. What is your official job title?

2. Describe your job. What is it that you do?

3. How autonomous is your job? How much discretion do you have in determining what you do? To what degree do you have control over the initiation and follow through on tasks?

4. How important is your job? How much do you affect the work of others in the Department?

5. How would you describe the physical surroundings you work in (e.g., amount of space, noise, privacy, temperature, ease of interaction)?

6. What would an ideal office be like for you? What are the things that are good and bad about your current office facilities? Tell me about your own work area and the other areas in your administrative unit. Why are things good or bad.

7. What types of information do you need to do your job?

8. How do you get this information?

9. What are the factors that you think influence your getting the information you need to do your job?

10. To what degree do you get the information needed to do your job?

11. How do you usually hear about things happening in the Department of Education?

12. Why do you think people tell you about things happening in the Department?

13. What do you do if you want to get information about new events or things happening in the Department?

14. What have you heard about the move to the new office building?

15. How did you find these things out?

16. What do you think are factors that cause people to give others information?

17. Describe how you feel about your job; how you feel working in the Department. How important is your job to you? Do you enjoy work? Do you like the people you work with? Is there something you would rather be doing? somewhere you would rather be?

18. Describe the type of relationship you have with the person you work for. Do you share information? Are you open with each other? Do you like each other? Does this person keep you informed? How do they provide you with feedback?

19. Describe the type of relationship you have with the people that work for you. Do you share information? Are you open with each other? Do you like each other? Do you keep these people informed? How do you give them feedback?

20. To what extent does your working in the Department provide opportunities for developing close friendships?

21. What are the factors that influence your relationship with your superiors and subordinates?

22. Are you satisfied with your job? What do you think influences this assessment? What can be done to increase your satisfaction?

23. The Department is currently transferring and laying off people as you are probably aware. How is your area affected by this? How are you affected by this?

24. What do you see people doing to cope with this situation?

25. Describe an incident that illustrates how people are handling this situation.

26. What effect do you think this is having on morale?

27. Do you discuss this situation with others? What types of things are discussed?

28. What effect do you think the reductions and transfers will have on staff's reaction to the move to the new office building?

29. Are there any other things that you believe are affecting Department personnel? What are they and how do you think they are affecting them?

APPENDIX D

NEGOPY PROGRAM AND PARAMETERS

APPENDIX D

NEGOPY PROGRAM AND PARAMETERS

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GENERAL COMMUNICATION NETWORK

100=*JOBCARD*,RG1,CM200000,T8000,JC6000,L1000.
110=ATTACH,DATA,NETDATACONVERTED.
120=HAL,L*UNSUP,NEGOPY.
130=*EOS
140=GENERAL COMMUNICATION NETWORK ANALYSIS
150=CONVERTED X Y ADDED, FORCED RECIPROCATION
160= P01=00690 P02=30000 P08=00005
170= P10=00160 P11=00255 P18=00001
180=*EOS
190=(4X,I4,X,5(I4,6X,F3.0))
200=*EOS
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APPENDIX E

DESCRIPTION OF COMMUNICATION GROUPS

APPENDIX E

DESCRIPTION OF COMMUNICATION GROUPS

GROUP 1
(N=15)

VARIABLE/CODE	
GENDER	
Female	67%
Male	33%
SERVICE AREA	
Office of School and Community Affairs	27%
Office of Program Coordination	73%
CIVIL SERVICE CLASSIFICATION	
Secretary	40%
Education Consultant	53%
Education Guidance Consultant	7%
MEAN ORGANIZATIONAL TENURE	8.33 years
MEAN JOB TENURE	3.27 years

GROUP 2
(N=15)

VARIABLE/CODE	
GENDER	
Female	40%
Male	60%
SERVICE AREA	
Research Evaluation and Assessment Services	100%
CIVIL SERVICE CLASSIFICATION	
Secretary	27%
Education Research Consultant	67%
MEAN ORGANIZATIONAL TENURE	8.73 years
MEAN JOB TENURE	7.53 years

GROUP 3
(N=34)

VARIABLE/CODE	
GENDER	
Female	62%
Male	38%
SERVICE AREA	
School Support Services	100%
CIVIL SERVICE CLASSIFICATION	
Secretary	35%
Bookkeeping Clerk	6%
Calculations Clerk	3%
Education Consultant	6%
School District Consultant	35%
Accounting Technicians	3%
Education Specialist	3%
Resources Program Analyst	6%
Program Executive	3%
MEAN ORGANIZATIONAL TENURE	7.26 years
MEAN JOB TENURE	4.56 years

GROUP 4
(N=29)

VARIABLE/CODE	
GENDER	
Female	79%
Male	21%
SERVICE AREA	
Office of the Superintendent	34%
Office of Public Affairs	7%
Office of Legislation and School Law	10%
Bureau of Elementary and Secondary Education	14%
Bureau of Libraries and Adult Extended Learning	7%
Office of Professional Development	14%
State Board of Education	7%
Bureau of Finance, Legislation and Personnel	7%
CIVIL SERVICE CLASSIFICATION	
Secretary	31%
Executive Secretary	17%
Education Consultant	14%
Vocational Education Consultant	3%
Department Analyst	7%
Departmental Manager	3%
Education Administrator	3%
State School Finance Administrator	3%
Departmental Administrator	3%
Communications Representative	3%
Assistant Superintendent	3%
Superintendent	3%
MEAN ORGANIZATIONAL TENURE	10.86 Years
MEAN JOB TENURE	7.00 Years

GROUP 5
(N=44)

VARIABLE/CODE	
GENDER	
Female	63%
Male	37%
SERVICE AREA	
Special Education Services	100%
CIVIL SERVICE CLASSIFICATION	
Secretary	39%
Education Consultant	9%
Special Education Consultant	39%
Education Specialist	7%
Department Analyst	2%
Departmental Administrator	2%
Accountant	2%
MEAN ORGANIZATIONAL TENURE	5.88 Years
MEAN JOB TENURE	3.60 Years

GROUP 6
(N=9)

VARIABLE/CODE	
GENDER	
Female	22%
Male	78%
SERVICE AREA	
Vocational-Technical Education Services	100%
CIVIL SERVICE CLASSIFICATION	
Education Consultant	11%
Education Guidance Consultant	11%
Vocational Education Consultant	56%
Departmental Administrator	11%
Vocational Educationo Administrator	11%
MEAN ORGANIZATIONAL TENURE	14.22 Years
MEAN JOB TENURE	7.78 Years

GROUP 7
(N=13)

VARIABLE/CODE	
GENDER	
Female	85%
Male	15%
SERVICE AREA	
Office of Personnel	100%
CIVIL SERVICE CLASSIFICATION	
Secretary	15%
Personnel Aide	54%
Personnel Manager	15%
Personnel Aide Supervisor	8%
Departmental Administrator	8%
MEAN ORGANIZATIONAL TENURE	8.31 Years
MEAN JOB TENURE	5.62 Years

GROUP 8
(N=85)

VARIABLE/CODE	
GENDER	
Female	54%
Male	46%
SERVICE AREA	
Department Services	100%
CIVIL SERVICE CLASSIFICATION	
Typist/Clerk	4%
Secretary	6%
Bookkeeping Clerk	9%
General Clerk	4%
Calculations Clerk	4%
Data Coding Operator	9%
Data Processing Clerk	2%
Data Systems Analyst	7%
Program Budget Analyst	2%
Technical Programs Analyst	2%
Data Processing Supervisor	1%
Accounting Supervisor	1%
Bookkeeping Supervisor	1%
Data Coding Supervisor	1%
Computer Operations Supervisor	4%
Office Supervisor	1%
Data Systems Manager	7%
Departmental Supervisor	1%
Education Administrator	1%
Departmental Administrator	1%
Administrative Officer	1%
Departmental Executive	1%
Accountant	6%
Computer Programmer	7%
Computer Operator	6%
Auditor	4%
School Finance Supplier	1%
MEAN ORGANIZATIONAL TENURE	9.56 Years
MEAN JOB TENURE	7.14 Years

GROUP 9
(N=31)

VARIABLE/CODE	
GENDER	
Female	55%
Male	45%
SERVICE AREA	
Adult Extended Learning Services	100%
CIVIL SERVICE CLASSIFICATION	
Secretary	45%
Education Consultant	32%
Higher Education Consultant	3%
Vocational Education Consultant	13%
Program Executive	3%
Accountant	3%
MEAN ORGANIZATIONAL TENURE	7.55 Years
MEAN JOB TENURE	5.00 Years

GROUP 10
(N=64)

VARIABLE/CODE	
GENDER	
Female	75%
Male	25%
SERVICE AREA	
Student Financial Assistance Services	100%
CIVIL SERVICE CLASSIFICATION	
Secretary	45%
Education Consultant	32%
Higher Education Consultant	3%
Vocational Education Consultant	13%
Program Executive	3%
Accountant	3%
MEAN ORGANNIZATIONAL TENURE	7.06 Years
MEAN JOB TENURE	5.05 Years

GROUP 11
(N=21)

VARIABLE/CODE	
GENDER	
Female	71%
Male	29%
SERVICE AREA	
Student Financial Assistance Services	100%
CIVIL SERVICE CLASSIFICATION	
Typist/Clerk	29%
Secretary	14%
Stenographer Clerk	5%
General Clerk	5%
Data Coding Operator	5%
Departmental Manager	5%
Office Supervisor	5%
College Trainee	5%
Account Examiner	24%
Promotional Agent	5%
MEAN ORGANIZATIONAL TENURE	4.43 Years
MEAN JOB TENURE	2.19 Years

GROUP 12
(N=20)

VARIABLE/CODE	
GENDER	
Female	40%
Male	60%
SERVICE AREA	
Office of Superintendent	5%
Bureau of Rehabilitation	15%
Field Services	70%
Interagency Services	10%
CIVIL SERVICE CLASSIFICATION	
Secretary	25%
Rehabilitation Consultant	30%
Vocational Rehabilitation Supervisor	5%
Departmental Administrator	10%
Vocational Rehabilitation Administrator	5%
Fiscal Officer	5%
Vocational Rehabilitation Representative	20%
MEAN ORGANIZATIONAL TENURE	13.35 Years
MEAN JOB TENURE	4.80 Years

APPENDIX F

DESCRIPTION OF QUASI-CONTROL GROUP

APPENDIX F

DESCRIPTION OF QUASI-CONTROL GROUP

CONTROL GROUP
(N=40)

VARIABLE/CODE	
GENDER	
Female	59%
Male	41%
SERVICE AREA	
Office of the Superintendent	5.0%
Office of School and Community Affairs	25.0%
Office of Public Affairs	2.5%
Department Services	5.0%
Student Financial Assistance Services	2.5%
Teacher Preparation and Certification Services	5.0%
Bureau of Elementary and Secondary Education	2.5%
Research Evaluation and Assessment Services	27.5%
School Program Services	7.5%
Special Education Services	7.5%
Office of Program Coordination	2.5%
Bureau of Libraries and Adult Extended Learning	5.0%
Adult Extended Learning Services	2.5%
CIVIL SERVICE CLASSIFICATION	
Typist/Clerk	2.5%
Secretary	30.0%
Education Consultant	17.5%
Higher Education Consultant	2.5%
Education Research Consultant	22.5%
Special Education Consultant	5.0%
Department Analyst	2.5%
Departmental Administrator	7.5%
Storekeeper	2.5%
Auditor	5.0%
MEAN ORGANIZATIONAL TENURE	7.18 Years
MEAN JOB TENURE	4.40 Years

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