December 1994

The Relationship Between Job Satisfaction and Social Network Characteristics of Elementary School Principals

Lisa R. Gentry
East Tennessee State University

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The relationship between job satisfaction and social network characteristics of elementary school principals

Gentry, Lisa Rae Sproles, Ed.D.

East Tennessee State University, 1994
THE RELATIONSHIP BETWEEN JOB SATISFACTION AND SOCIAL NETWORK CHARACTERISTICS OF ELEMENTARY SCHOOL PRINCIPALS

A Dissertation
Presented to
the Faculty of the Department of Educational Leadership and Policy Analysis
East Tennessee State University

In Partial-Fulfillment
of the Requirements for the Degree
Doctor of Education

by
Lisa S. Gentry
December 1994
APPROVAL

This is to certify that the Graduate Committee of Lisa Rae Sproles Gentry met on the 31st day of October, 1994.

The committee read and examined her dissertation, supervised her defense of it in an oral examination, and decided to recommend that her study be submitted to the Graduate Council and the Associate Vice-President for Research and Graduate Studies in partial fulfillment of the requirements for the degree Doctor of Education.

Chairman, Advanced Graduate Committee

Signed on behalf of the Graduate Council

Associate Vice-President for Research and Graduate Studies
ABSTRACT

THE RELATIONSHIP BETWEEN JOB SATISFACTION AND SOCIAL NETWORK CHARACTERISTICS OF ELEMENTARY SCHOOL PRINCIPALS

by

Lisa S. Gentry

The purpose of this study was to investigate the nature of social communication networks and to determine the levels of job satisfaction of public elementary school principals in Northeast Tennessee. Relationships between social communication network characteristics and job satisfaction were described.

Information from the Social Support Questionnaire (SSQ) and the Job Descriptive Index (JDI) was used to identify characteristics of social networks and levels of job satisfaction. Data was used to investigate relationships between social network characteristics and job satisfaction scores.

Data gathered included principals' gender, age, school size, years of experience, education level, ethnicity, community setting, marital status, tenure as a principal, social network size, network composition, and levels of job satisfaction in the areas of present job, present pay, opportunity for promotion, supervision, people on the job, and the job in general.

Fifty male and thirty-two female public elementary school principals were surveyed using the SSQ and the JDI. Average network size was reported as fifteen. Most network members were female, with male principals reporting slightly larger networks than female principals. Conclusions emphasize small network sizes composed primarily of family members. All respondents were married and reported themselves and their network members as Caucasian.

Moderate to high levels of job satisfaction were reported among principals. Highest job satisfaction was reported in the areas of people on the job and the job in general. Lowest scores on the JDI were reported in the areas of opportunity for promotion and present pay. Relationships between social communication network characteristics and job satisfaction are reported as insignificant.
INSTITUTIONAL REVIEW BOARD APPROVAL

This is to certify that the following study has been filed and approved by the Institutional Review Board of East Tennessee State University.

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In memory of Peyton Smith who started me on this journey.

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CHAPTER 1
Introduction

One characteristic of American schools is the limited contact the adults who work within them have with each other and with others outside the building. Teachers' relationships with colleagues are typically infrequent. Contact with peers occurs primarily before or after school, during free periods, or at lunch. The principals' working day consists of an endless series of disconnected and isolated meetings. There is seldom a chance to visit other schools or discuss matters with other principals. The formation of communication networks among principals can be a powerful source of social support relating to job satisfaction (1991; Cusick, 1981; Garber, 1992; Renegar, 1993; Roberts, 1991).

Communication influences all administrative processes. Communication networks represent regular patterns of person-to-person contact that can be identified as people exchange information in an organization. Networks represent the sum of all interaction of a certain kind in a certain place (Cusick, 1981; Hoy & Miskel, 1981). Communication networks of principals are some of the least understood elements of administration (Garber, 1992; Knezevich, 1984).
Social communication networks break the isolation often associated with school administration, and they provide valuable information and support for more effective administration (Garber, 1992; Heck, 1992; Kaplan & Usdan, 1992; Villines, 1987). Baker and Schumm (1992) suggested that managers build and manage a network of relationships and that the quality of the relationships is related to satisfaction on the job. In business, individuals are more satisfied on the job with colleagues who help them attain goals. Educators' job satisfaction is positively affected by colleagues who work well together (Renegar, 1993).

Job satisfaction is the positive emotional state resulting from job experiences (Gregson, 1990). Networks are resources that affect job satisfaction and advancement through social contacts such as the support or rejection of network members (Alexander, Helms, & Wilkins, 1989; Baker & Schumm, 1992; Caldwell, Bogat, Kriegler, & Rogosch, 1984; Crino & White, 1981; Hirsch & Rapkin, 1986; Hurlbert, 1991; Sarason, Sarason, Hacker, & Basham, 1985).

Social communication networks have been related to job satisfaction among university administrators, public school supervisors, and teachers. Networks are also an important part of the principals' success on the job (Alexander, Helms & Wilkins, 1989; Garber, 1992; Gregson, 1990; Hirsch & Rapkin, 1986; Iannone, 1987; Kaplan & Usdan, 1992).
The Problem

Statement of the Problem

Communication networks have been observed as effective vehicles for decreasing isolation and providing support among school administrators. Research has shown that principal isolation is related to job satisfaction. However, the problem is an absence of data describing the characteristics of social communication networks or the linking of those characteristics to scores on the Job Descriptive Index as reported by public elementary school principals in Northeast Tennessee.

Purpose of the Study

The purpose of this study was to investigate the nature of communication networks and to determine the levels of job satisfaction of public elementary principals in Northeast Tennessee as perceived by principals. The information obtained was used to describe relationships between social communication network characteristics and reported scores on the Job Descriptive Index.

Research Questions

1. What size are principals' communication networks as reported by each individual principal on the Social Survey Questionnaire Short Form Revised (SSQSR)?
2. Does the individual principal's network size relate to demographic characteristics (gender, age, community setting, marital status, school enrollment, education level,
ethnicity, years of work experience, and tenure as a
principal)?

3. Do members in a principal's network have similar
demographic characteristics as the principal (gender, age,
etnicity)?

4. What scores on the Job Descriptive Index are reported by
each principal?

5. Are principals' scores on the Job Descriptive Index
related to the size of the principals' communication
networks?

6. Are principals' scores on the Job Descriptive Index
related to demographic characteristics of the principals'
social communication networks (gender, age, ethnicity,
relationship of members, years members have been known)?

7. Are principals' scores on the Job Descriptive Index
related to the principals' demographic characteristics
(gender, marital status, years of experience in the school
system currently employed, years experience as an elementary
principal, total school enrollment, level of education, age,
etnic origin, community setting)?

Significance of the Problem

The results of this study add to the field of
educational leadership by describing public elementary
school principals' social communication network
characteristics and linking those characteristics to
reported scores on the Job Descriptive Index. Independent
variables include the principals' gender, age, community setting, marital status, school enrollment, education level, ethnicity, years of work experience, and tenure as a principal.

This study provides information about how social communication network characteristics might relate to levels of job satisfaction for elementary school principals.

Assumptions

The following assumptions are made regarding this study:

1. Individual behavior is to a large extent influenced by the networks to which a person belongs (Colarelli & Boos, 1992; West, 1985).

2. Both the positions of individuals in a network and the pattern of relationships between them are critical in explaining the behavior or attitudes of individuals and the entire system (Armstrong & Rada, 1989; Baker & Schumm, 1992).

3. Reported levels of job satisfaction and network membership are based on the perceptions of the individual principals.

Limitations

1. The use of survey network data is limited by the lack of standardized instruments to collect them (Burt & Minor, 1983; Hirsch & Rapkin, 1986).

2. The lack of research designs that include
interaction assessment of network members is considered a limitation for this study (Bernard & Killworth, 1977).

**Definitions**

1. **Environment** is the combination of surrounding conditions and influences within which the public elementary school principal functions.

2. **Job Descriptive Index** is a seventy-two item checklist designed to measure an individual's job satisfaction derived from a comparison of expected outcomes received from the work environment and actual outcomes (Buckley, Carraher & Cote, 1992).

3. **Job satisfaction** is the pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences (Gregson, 1990).

4. **Network analysis** is a set of methods for analysis of relationships of a social structure. It asks questions about who is linked to whom, the nature of that linkage, and how the nature of the linkage affects behavior (Boissevain, 1979; Burt & Minor, 1983).

5. **Network composition** is the content or characteristics of relationships in a connection (Boissevain, 1979; Burt & Minor, 1983; Marsden, 1987). The extent to which networks contain a large percentage of coworkers, friends, kin, or others is used to denote the concept of network composition (Hurlbert, 1991). The content of each principal's network is determined by
calculating the percentage of network composition as the number of alters in an individual's network with a particular characteristic divided by the individual's network size (West, 1992).

6. A **public elementary school principal** is defined as the person with the major responsibility for coordination and supervision of activities related to the public elementary school.

7. A **social network** is a specific set of linkages among a defined set of persons with the property that the characteristics of those linkages as a whole may be used to interpret the behavior of the persons involved (Burt & Minor, 1983).

**Overview**

Network analysis surveys provide information about the communication and social support that an individual believes to be available in his or her life. There is limited research on social communication networks as they relate to the job satisfaction of the public school principal. The goal of this study was to produce a description of the social communication network characteristics of public elementary school principals and identify relationships between those characteristics and principals' levels of job satisfaction. Variables include network characteristics, principals' gender and age, school size, years of experience and education level, community setting, marital status,
ethnicity, and tenure as a principal.

Summary

The next section will include a review of the related literature concerning the history of network analysis, network studies, communication networks, network composition, gender differences within networks, isolation and job satisfaction, and isolation of principals and job satisfaction. Hypotheses are at the end of each appropriate section in the literature review.
Chapter 2
Review of Literature

Introduction

This chapter contains an overview of the literature in the area of communication networks and job satisfaction. Topics discussed include a history of network analysis and theoretical approaches to network studies for providing the reader with background information on methodology. A discussion on communication networks is furnished as a transition from historical and theoretical concerns to the more specific area of network composition. Gender differences in network composition, isolation and communication are addressed because of their relationship to job satisfaction. Hypotheses are placed at the end of each appropriate section in the literature review.

History of Network Analysis

There are three main historical areas in the field of network analysis. The sociometric analysts used graph theory for technical advances, the Harvard researchers of the 1930s explored interpersonal relations, and the Manchester, England anthropologists used both the previously mentioned strands to investigate community relationships in various societies (Scott, 1991).

Each of these groups was influenced by Wolfgang Kohler's gestalt theory that stresses the organized patterns through which thoughts and perceptions are structured. The
organized patterns are thought of as systems that have properties distinct from those of their parts. The systems determine the nature of the parts. This theory stimulated research on group dynamics, and the flow of information and ideas through groups (Scott, 1991).

While Kohler's work was being developed, sociologists at Harvard University were working with the ideas of British social anthropologist Radcliff-Brown. They were concerned with the structural interdependence of social systems. In Britain a similar line of thought also came from the works of Radcliff-Brown. Anthropologists at Manchester University emphasized the study of conflict within social systems. These ideas were applied to the study of African tribal societies and to small villages in Britain (Scott, 1991; Sherer, 1982).

Jacob L. Moreno, sometimes called the father of sociometry, was a member of a group of social analysts influenced by Kohler and Radcliff-Brown. He and other gestalt theorists fled Nazi Germany in 1920s and 1930s to come to the United States (Scott, 1991). Moreno provided the basic methods to measure network variables in the early 1930s.

The typical research approach for Moreno was to ask an individual in some system to select certain other members of the system who were considered friends, most attractive as work partners, or most knowledgeable about some topic. The
data gathered using experimentation, observation, and questionnaires were then arranged in the form of a sociogram. The sociogram is a way of displaying the patterns of communication or social choice in a system. In a sociogram, individuals are represented by points and their social relationships to one another by lines. Moreno's technique of drawing sociograms was limited to a network with a maximum size of eighty to one hundred individuals (Scott, 1991).

Moreno's goal was to explore the ways that a person's group relations served for both opportunities and limitations in his or her actions. His interest in interpersonal relations mirrored his medical training and psychiatric practice in Vienna and was evident in his book, *Who Shall Survive?*, written in 1934. He also founded the *Sociometry* journal in 1937. For Moreno, mapping social structures into a sociogram allowed researchers to identify leaders, isolated individuals, and chains of connections (Knoke & Kuklinski, 1982; Scott, 1991; Sherer, 1982).

There was interest in Moreno's sociometric approach during the 1930s and 1940s. Kurt Lewin advocated that group behavior was a product of the space or field a group occupies. The environment or field perceived by the group is important in relations. The field is made of points representing individuals, their goals, or actions, and paths representing the interactions or sequences that connect them
Heider was interested in attitudes and perceptions. He was concerned with how a person's perceptions toward others are brought into a state of balance by the attitude of different members of a group. Balance refers to a psychological state, not to any existing relations in a social group, with attitudes being described as simply positive or negative. Heider, like Lewin used network analysis as it related to the way a group is perceived by an individual in that group (Scott, 1991).

One of the most well known studies in the field of network analysis was researched during the 1930s by Australian psychologist, Elton Mayo, and others. A series of investigations on worker efficiency at the Hawthorne Electrical Factory in Chicago, Illinois was completed by managers in an attempt to find out how physical conditions affected productivity. Managers were surprised to find that productivity increased despite changes in heating, lighting, or rest periods. They called on Mayo and his Harvard research team for help in determining the results. The conclusion was that increased productivity was a result of participation in the research project (Baker & Schumm, 1992).

The Hawthorne investigators also began studies on work group behavior in a factory setting. Observations were taken in the bank wiring room at the Hawthorne Electrical
Factory. The observation team recorded everything they could about group behavior in an attempt to assemble a full anthropological account. They constructed sociograms to illustrate the structure of informal relations within the work group. The Hawthorne study was the first major investigation to use sociograms to describe actual relations observed in real situations (Baker & Schumm, 1992; Scott, 1991).

During the 1950s the works of Moreno, Lewin, and Heider were brought together by Dorwin Cartwright, Zander, and Frank Harary who worked using the mathematical application of graph theory to group behavior.

These researchers made a breakthrough in group dynamics. It consisted of moving from the concept of cognitive balance in individual minds to that of interpersonal balance in groups. Building on this idea Cartwright, Zander, and Harary worked out models of group cohesion, social pressure, cooperation, power, and leadership. They constructed directed graphs using positive and negative signs to indicate the direction of relationships. This allowed the researchers to analyze group structure from the standpoint of each of its members, not just from the focus of a particular individual (Scott, 1991).

At this time a Harvard researcher, George Homans, used Moreno's sociometry as a method for testing his theories.
Homans believed that human activities bring people into interaction with each other, and those interactions vary in frequency, duration, and direction. Further, the interactions are based on the sentiments that develop among people. Homans reexamined previous studies including the Hawthorne study to illustrate his idea that a group is a system within an environment (Scott, 1991).

In the 1960s and 1970s, Harrison White and others expanded Homans' work using algebraic ideas to model structure relations while Mark Granovetter wrote on the methods of analysis of community structure.

Granovetter (1973) felt that a flaw in network theory was that it did not relate strong ties to weak ones. He extended Homans' idea that the more frequently individuals interact with one another, the stronger their connections or ties are likely to be. From Granovetter's point of view, weak connections in a personal network are an important source of contacts in formal organizations and work settings. Stronger ties are likely to involve larger time commitments and more people can be reached through weak ties.

Despite the previously mentioned studies, there was a lull in the use of sociometric analysis during the 1950s and 1960s. One reason may have been the rise of computers as data analysis tools. The use of computers and punch cards facilitated large scale surveys of individual respondents.
The researcher used individual level variables to look for explanations of communication behavior. The possibility of using communication relationships as units of analysis was generally overlooked (Rogers & Kincaid, 1981).

There has been a resurgence of interest in network analysis since the 1970's as evidenced by conferences and symposia, articles and discussion papers in the fields of anthropology, sociology and political science (Boissevain, 1979; Scott, 1991). In 1978 the International Network for Social Network Analysis (INSNA) was founded along with two of its journals, Connections and Social Networks. This has been accompanied by the availability of computer programs for handling data. Network studies may have been abandoned for a time because the technology necessary for their pursuit was not available. There is an increasing recognition of the importance of networks in identifying organizational structure that mirrors the demand of society, economy, and education (Kaplan & Usden, 1992; Scott, 1991).

Network Studies

Network analysis is an interdisciplinary medium for the social sciences used to study patterns of interaction between individuals and groups. It provides insights into the processes by which social needs are met (Boissevain, 1979; McIntyre, 1986). In comparing theoretical approaches of network studies and individualistic studies, individualistic studies use single subjects who are viewed
as making choices or acting without regard to the behavior of other subjects. Network studies are based on the belief that subjects or actors participate in a social system involving other actors who are reference points in one another's decisions. The network of an actor's relationship with other network members may affect his or her perceptions, beliefs, and actions. Social networks function as determinants of an individual's access to information, assistance, social support, opportunities, and influence. They also function to reinforce norms and values regulating behavior. Network analysis is based on the assumption that relations have an impact on an individual's freedom to act (Knoke & Kuklinski, 1982; McIntyre, 1986).

Network studies are used for the analysis of relations of social structures (Scott, 1991; West, 1985). Networks provide realistic pictures of the ways that social relationships exist (Sherer, 1982). Network analysts view relatives, friends, and other groups as points connected by lines to form networks. They focus on individuals' social networks as a way to understand behavior (McIntyre, 1986; West, 1985).

Network analysis techniques allow social scientists to explore actual relationships among individuals, rather than feelings or perceptions of their social involvement. This has theoretical implications in that it forms part of a paradigmatic shift from structural functionism and focuses
on linkages between units of analysis (Boissevain, 1979; Scott, 1991). Actors engaging in actions in a network could alter that network. The structure of relations among actors has consequences for the individual actor and for the network as a whole (Boissevain, 1979; Burt & Minor, 1983).

Relations in a network are measured with binary yes or no connections between actors and they have both form and content. Content is the type or composition of the relationship in the connections. Form refers to the properties or characteristics of the connections between actors (Boissevain, 1979; Burt & Minor, 1983; West, 1985).

Properties of social networks can be divided into three categories. The first is role composition, including the characteristics of kin, friends, coworkers, and others. The second is the attributes of the network members. Examples of these would be age, gender, and ethnicity. The final properties of social networks include the attributes of the entire network, such as size, density (the number of members directly linked in proportion to the number of total possible links), and centrality (many members linked together through ties to one member) (Granovetter, 1974).

A social network can be seen as focused on one person, termed an egocentric network, or as focused on a set of individuals. Social networks have no natural limits, but boundaries are assigned for manageability of data (Knoke & Kuklinski, 1982; McIntyre, 1986).
There are two approaches in establishing network boundaries. The first is the realist approach in which analysts use the subjective perceptions of network members to define network boundaries as the limits that are consciously experienced by most of the members of the network. Examples would be families, corporations, or social movements.

The second approach to boundary specification is the nominalist approach. Network closure is imposed by the researcher's conceptual framework that serves an analytical purpose. Network boundaries are relative to the purpose of the investigator. Examples would be doctors in small cities, or workers in a certain social class (Knoke & Kuklinski, 1982; McIntyre, 1986; Scott, 1991).

Networks encompass a reality that most people recognize. Experiences with grapevines and "old boy" networks are part of many individuals' personal experiences. Social networks are created through human interaction. They provide connections among people with comparable values and interests by facilitating communication and reducing isolation (Leeds-Hurwitz, 1992; Sherer, 1982).

**Communication Networks**

Communication networks are regular patterns of person-to-person contacts that can be identified as people exchange information in a social organization (Hoy & Miskel, 1991; Player, 1985; Schwartz, 1986). They have been described as
social resources that offer support and information to members (Cusick, 1981; Moore, 1990; Smith, Andrews & Albrecht, 1984; Villines, 1987). Communication networks serve to socialize members by communicating expectations, developing friendships, assisting in development of an individual's reputation, providing professional contacts and support, and supplying information (Rose, 1985).

Communication networks are the means by which various tasks are coordinated (Dallinger, 1985). The more people interact with others, the more they know about others (Brewer, 1992). The essence of much human behavior is the interaction through which an individual, referred to as an ego, exchanges information with one or more other individuals referred to as alters. Any individual in a system is likely to contact certain individuals and ignore others. Some of these individuals contacted may have similar demographic or personality attributes (Rogers & Kincaid, 1981; West, 1992).

A communication network is made up of the connections within the network from the point of view of a particular individual and is a part of human relationships and organizational structure (Armstrong & Rada, 1989; Rodgers, 1986). Personal networks in an organization are important because they provide a basis for acquiring large amounts of organizational information and exerting personal influence (Monge, Edwards, & Kirste, 1983; Schwartz, 1986; Smith,
Andrews & Albrecht, 1984). A person's place in the communication network is defined by how frequently he/she communicates with others. Communication networks can be used to assess the extent that individuals have developed their personal networks and the extent that others in the organization view the networks as functioning effectively (Dallinger, 1985; Monge, Edwards, & Kirste, 1983).

An emphasis of communication network analysis is information exchange. The strength of a communication network is in its loose structure, spontaneity, and degree of social interaction among individuals that determines exposure to information (Howie, 1989; Player, 1985; Sherer, 1982; Smith, Andrews, & Albrecht, 1984).

Network communication is important when individuals are involved in exchanging information to reduce uncertainty and is related to one's distribution of knowledge. Examples of this would be when a person is beginning a new job or learning about a new situation. In circumstances where individuals want information and where that information is likely to change their behavior, they depend on communication networks (Player, 1985; Rogers & Kincaid, 1981).

An individual's position within a network influences the extent that information is available and determines the rate that ideas and technologies are shared. Communication networks have also been linked to perceived administrative
and technical power, and they are necessary to the internal and external functions of an organization (Fombrun, 1983; Schwartz, 1986). One potential use of networks is their ability to link resources and people for communication and support on a continuing basis (Howie, 1989).

Most people are surrounded by a group with whom they interact and from whom they receive support (Baker & Schumm, 1992). With school districts and states pursuing reforms that hold principals accountable for school performance, communication with other principals is increasingly important (Heck, 1992; Villines, 1987). Communication influences administrative processes and is important for advancement (Armstrong & Rada, 1989). Its main role is to provide information from the environment (Smith, Andrews & Albrecht, 1984). Without the establishment of communication networks, information essential to the administration process may not be transmitted (Knezevich, 1984).

Administrative work is often done in cooperation with other people. Success depends in part on the efforts of diverse groups. One task of a leader should be determining how to make connections and develop relations with those groups (Armstrong & Rada, 1989; Baker & Schumm, 1992; Bolman & Deal, 1991).

One objective of communications network research is using analysis to gain a picture of interaction in a system based on information exchange (Rogers & Kincaid, 1981). It
calls for the researcher to view the organization as a
social system composed of members who are joined by a
variety of communication relationships and who share
information with one another (Rogers & Kincaid, 1981; Smith,

**Network Composition**

Network Composition represents the content or type of
relationship in a social system. The extent to which
networks contain a percentage of co-workers, friends, or kin
is used to denote the concept of network composition. The
percentage of network composition is calculated by dividing
the ego's network size into the number of members in an
ego's network with a particular characteristic (Boissevain,
1979; Burt & Minor, 1983; Hurlbert, 1991; Marsden, 1987;
McIntyre, 1986; Moore, 1990; West, 1992).

Network composition is based on the idea of a social
circle and is used to indicate networks whose membership is
based on some common interest or characteristic. Social
circles do not constrain network members, instead, they
decrease the effects of stress by offering members a way to
better understand problems and utilize resources. A social
circle can exist when network members possess other
heterogeneous characteristics or connections besides the one
on which the network is based (Hurlbert, 1991).

The connections in an individual's network, called an
ego centered network, include characteristics of other
network members known as alters. The degree that networks contain a large percentage of co-workers, friends, kin, or others serves as a measure of network composition (Hurlbert, 1991; Marsden, 1987; McIntyre, 1986; Moore, 1990).

Homogeneity is the prevalence of certain kinds of alters in a network. Networks with different types of relationships could be important for self esteem and access to resources. Homophily is concerned with differences between the ego and his or her alters. It has been related to socioeconomic status, age, education, and urban or rural area of residence (Acock & Hurlbert, 1990).

Campbell (1988) found evidence that network composition is linked to education. Persons with higher educational attainments have networks composed of others who are likely to be well educated. People with high levels of education and socioeconomic status have a wider range of network members, and network size increases with an individual's education.

Licata and Hack (1980) described the informal communication structure of the grapevine linking principals in a medium size Midwestern suburban school district. Nineteen male and nine female principals from three high schools, five middle schools, seventeen elementary schools, one vocational school, and two schools for emotionally disturbed children were surveyed.

The researchers found that secondary level school
principals formed an informal group in which the communication patterns were based on common professional interests and the need for mutual aid and protection. Middle school principals also formed an informal group that expressed feelings that they held their positions because they were seen by superiors as able to deal with the problems associated with their jobs. The two special school principals who formed their own communication network felt that their distinctive abilities made them logical choices for their positions.

Elementary level principals seemed to cluster into two groups. The elementary principals communicated informally with others who either had earlier worked for or with them at the same school, had shared a common mentor, or had close social ties as friends or relatives. They also interacted informally with other elementary principals, but had more isolated members than any other group of principals.

Secondary principals structured their grapevine around professional survival and development, while elementary principals communicated informally with others based on close social and work relationships sometimes producing distinct ties. Topics discussed by principals at all levels included reports, teacher evaluation, discipline, and test scores. Most interactions dealt with specific situations or problems that arose on the job (Licata & Hack, 1980).

In a study by Garber (1992), 151 new principals and
assistant principals from a southern state were surveyed to determine any significant differences in their networks based on demographic variables. Variables included geographic location, school level, school size, position (principal or assistant principal), years of experience in administration, and whether the administrator was promoted from within the school.

The results of the study showed significant differences between secondary principals' networks and those of principals at other levels. Secondary principals discussed scheduling, discipline, staffing, and evaluation more than middle or elementary principals. Elementary principals discussed evaluation, resource allocation, and student outcomes less than principals at the middle or secondary school levels. Secondary principals talked with network members most often during or after meetings. Principals at all three levels were not likely to communicate to network members in writing, by visiting or entertaining, or by participating in leisure activities with one another. Most principals communicated verbally through telephone contacts or at meetings (Garber, 1992).

Based on the findings related to network composition the following null hypotheses were given:

Hypothesis 1: There is no relationship between the principal's network size and education level.

Hypothesis 2: There is no relationship between the
principal's network size and age.

Hypothesis 3: There is no relationship between the size of the principal's network and school enrollment of the elementary school where the principal is employed.

Hypothesis 4: There is no relationship between network size and number of years of experience as a principal.

Hypothesis 5: There is no relationship between the principal's network size and ethnic origin.

Hypothesis 6: There is no relationship between the principal's network size and the community setting of the elementary school where the principal is employed.

Hypothesis 7: There is no relationship between the principal's gender and the percentage of kin, friends, coworkers, or others in the principal's networks.

Hypothesis 8: There is no relationship between the principal's age and the percentage of kin, friends, coworkers, or others in the principal's network.

Hypothesis 9: There is no relationship between the principal's ethnicity and the percentage of kin, friends, coworkers, or others in the principal's network.

Gender Differences in Network Composition

Social homogeneity in the workplace may make communication and social support easier to accomplish. Similar personal characteristics such as sex, race, or education may mean common interests and values (Ibarra, 1992). When compared to men, women have fewer ties to non
kin and more ties to kin than men, while men include more coworkers and fewer family members in their networks. Differences may be attributed to contrasting dispositions of men and women toward personal relationships, to dissimilar social structure locations of men and women, or to men being less willing to disclose relationships (Marsden, 1987; Moore, 1990). Interaction in professional careers occurs in informal clublike settings. Women may be excluded, or they may preferentially exclude themselves from the development of communication networks by not taking part in such interactions (Brass, 1985; Rose, 1985; Rosser, 1980; Weaver, 1986).

In her 1985 study, Rose reported that male professors were more likely than female professors to have at least one half of their network composed of high status individuals and that females were less likely than males to have direct access to high status professionals in their field. Male Ph.D. students were significantly more likely to have heard of job offers through announcements to departments than females.

Rose (1985) surveyed 139 assistant professors of psychology from sixty universities to assess network composition differences related to gender. The hypothesis was that female faculty members would have more female associates, fewer male associates, and fewer high status colleagues. It was also predicted that women would rate
their networks less effective than the men did.

Subjects were asked to name individuals with whom they had an important collegial relationship within their departments, within the discipline of psychology, and outside their departments, but within their universities. They were also asked to list personal friends.

Results were that men had fewer women colleagues in their networks than women did, but women had about the same number of male associates in their networks as the men. There were no differences found for the number of high status individuals in a network. Single female faculty members had the largest proportion of close personal friends, followed by married males, single males, and married females, respectively. The women rated their networks less effective than the men did (Rose, 1985).

Campbell (1988) also studied gender differences in network composition. Network communication was used to locate resources such as information and influence in organizations. Campbell's argument was similar to that of Granovetter's strength of weak ties (Granovetter, 1973, 1982). Her hypothesis was that women's networks are composed of a higher proportion of kin than men's; therefore, the tendency of women to maintain greater proportions of their ties with kin or close friends may limit their ability to use networks as effectively as men.

She surveyed 97 women and 89 men in the Raleigh Durham
area of North Carolina. The sample was limited to persons in four white collar occupations: computer programmers, real estate agents, personnel professionals, and retail sales clerks. Respondents were asked the number of kin, friends, close friends, and coworkers currently employed in their occupations.

Results were that men, more than women, named coworkers as their friends and that women belonged to fewer voluntary business organizations than men. Women with young children had more restricted network compositions than women who did not have children. This was not evident when comparing fathers of young children to other men. Education levels and occupation did not change the relationships between gender and network composition (Campbell, 1988).

In his 1985 study, Brass described communication patterns of men and women in an organization and the relationship of those communication patterns to perceptions of influence and promotion. The research took place at a newspaper publishing company with 140 nonsupervisory personnel completing a sociometric questionnaire. Respondents were asked to list the names of persons (1) who provided them with inputs to their jobs and to whom they distributed outputs from their work; (2) with whom they talked frequently about work related topics; and (3) whom they considered close friends.

Conclusions were that men in the organization cited
other men as network members seventy-five percent of the time while women listed other women sixty-eight percent of the time. The women were not as central in the network regarding informal interactions with supervisors as the men, but informal interaction was perceived by both men and women to relate to influence (Brass, 1985).

Ibarra (1992) describes differences between men and women with regard to their networks in a 1992 study that explores gender differences in network structure. The research took place at a New England advertising agency with 94 employees. Workers filled out background and sociometric questionnaires during interviews with the researcher. Participation was voluntary and responses were kept confidential.

Findings included the women in the study, as a group, were less desirable as network contacts because of differences in achievement, formal position, and education. They talked to men most often about advice or influence and other women were most often cited as friends.

Rank in the organization was significant as an indicator for advice and support networks. High status individuals had more extensive network connections. Since women were not at the highest management levels in significant numbers and had little control of important contingencies, they were hypothesized to be less central in the organizational network (Ibarra, 1992).
In 1992 Gwen Moore completed a study of gender and informal networks of 101 individuals in two New York state government agencies. The respondents including 36 women and 65 men were asked to identify their friendship networks and their informal advice networks in each agency. Moore found that in advice networks men were more sought after and had fewer isolates than women but friendship networks were heterogeneous. While friendship networks were not related to gender, they were found to relate to rank in the organization. A large portion of the respondents reported little informal interaction with lower level employees of either sex.

Traditionally, male networks have involved business associates, friends, and favors at clubs or meetings. Women's networks were more likely to be seen at weddings, birthday parties, or showers and involved more family than did male networks. Since women are more likely than men to be socialized into care giving roles, they are exposed to conflict between family and work, and overload from both responsibilities (Hirsch & Rapkin, 1986). Women may obtain social support and friendship from female coworkers, but rely on relationships with male coworkers to gain access to resources (Crossen, 1990; Ibarra, 1992; Moore, 1990). As more women occupy high level administrative positions, the differences between male and female networks may continue to lessen (Brass, 1984; Crossen, 1990; Marsden, 1987; Rosser,
Miller, Lincoln, and Olson (1981) compared the effects of gender on network position and professional achievement. They surveyed several thousand clients in multiple organizations over a period of two years.

Their findings were that education was positively related to females' positions in the networks studied. For men the effects of education on network positions were negative, but age was positively related to influence in males. For women, age was a negative factor in network positions.

Gwen Moore (1990) analyzed data from the 1985 General Social Survey that included measures of personal networks. Respondents were 1534 English speaking Americans eighteen years or older. They were asked to name people with whom they had discussed "important matters" over the past six months and their connections to those people. Variables include network composition and gender.

Moore found that men's networks consisted of fewer family and neighbors, but more non-kin, coworkers, advisors, and friends than women's networks. Women's networks were composed of a larger proportion of family as well as different types of kin, but fewer non-family members. Women maintained ties to a larger number of persons than men, but network size was not significantly different for men and women.
In a study by Astin and Leland (1991) a group of women leaders described the importance of communication networks. One element that stood out in their lives and their leadership was their strong connections with like-minded women and the recognition of the importance of a network. They described the network as providing support for their actions in bringing about change. The relationships developed in the networks were based on members being involved with the same issues and being committed to sustaining change. Change was not however caused by individuals. Networks of like-minded people were developed to evolve a collective effort. Meetings and conferences were one way for the women to enlarge their communication networks. Family and friends also played a large part in the communication networks of these women.

Brass (1984) indicates that women do not differentiate between formal and informal networks in the same way that men do. Female leaders maintain a complex network of relationships with people outside the organization. Between twenty and forty percent of their time is spent sharing information with clients, peers, and colleagues (Helgesen, 1990).

Garber described network styles in a 1992 study about secondary school administrator communication. He found that women administrators reported significantly more frequent contact about scheduling, allocation of resources, class
assignments and structure, and evaluation than male administrators. They also described themselves as using more discussion before, during, and after meetings to stay in contact with other administrators.

In a qualitative study, Weaver (1986) found that principals reported the majority of their communication was with teachers. After observing the principals' networks, she found that male teachers met more often with principals of both sexes than did female teachers. Female principals were more willing to meet with male teachers than male principals were willing to meet with female teachers. Male and female principals initiated more interactions with male teachers than with female teachers, and female principals reported communicating most with their assistant principal. Principals of both sexes described themselves as too busy with daily activities to network with other principals, leaving them isolated from their peers (Weaver, 1986).

Using data from the 1985 General Social Survey, Marsden and Hurlbert (1987) identified differences in networks of males and females. They found that isolation is more likely in males and nonwhites, those with decreasing socioeconomic status, and with increased age. Those who were married and those that attended church were less likely to be isolated from others. Subjects living in a detached single unit dwelling were more likely to experience isolation than those living in apartments.
Based on the findings related to gender differences in network composition following null hypotheses were given:

Hypothesis 10: There is no relationship between the size of the principal's network and the principal's marital status.

Hypothesis 11: There is no relationship between the size of the principal's network and the number of years of total work experience reported by the principal.

Hypothesis 12: There is no relationship between the size of the principal's networks and the principal's gender.

Social Isolation and Job Satisfaction

Social contacts provided by a job are related to job satisfaction. Reduced communication among isolated workers results in the decline of job satisfaction (McLaughlin & Cheatham, 1977; Villines, 1987). Social isolation has been linked to increased mortality rates, performance, tenure, status, leadership, information gathering, assistance, support, decision making, and job satisfaction (Caldwell, Bogat, Kriegler, & Rogosh, 1984; Crino & White, 1981; Fairhurst & Snavely, 1983; Fernandez, 1991; Hurlbert, 1991; McIntyre, 1986; Miller, 1975; Mottaz, 1987).

Job satisfaction is the pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences and is affected by job conditions. It is considered an individual perception or emotional reaction to important facets of work in comparison with some personal
standard (what the person wants or has had in the past). When an individual's perception of job experiences matches his or her standard of comparison, job satisfaction is predicted to be high (Gregson, 1990; Harwood & Rice, 1992; Pincus, 1986).

Networks serve as a resource that affects job satisfaction through social support. The support or rejection of social network members has a critical effect on role satisfaction and opportunity for advancement (Alexander, Helms & Wilkins, 1989; Crino & White, 1981; Hirsch & Rapkin, 1986; Hurlbert, 1991; Kline & Boyd, 1991; Mansfield, Lynn & Vicary, 1992; Stevenson, 1990).

Mansfield, Lynn, and Vicary (1992) examined the role of social support in contributing to job satisfaction. They surveyed 85 clerical workers from 22 campuses of a large land grant university in the eastern United States. Job satisfaction and social support were measured by the Job Descriptive Index. Results included support from co-workers, supervisors, and spouses and were related to job satisfaction.

In their 1982 study, Hatfield and Huseman described job satisfaction levels of 1256 hourly employees in five manufacturing firms. Results indicate that job satisfaction was higher in areas where supervisors and subordinates communicated frequently and agreed about the communication occurring between them.
King, Lahiff, and Hatfield (1988) studied the relationship between communication and job satisfaction in 184 undergraduate students in an introductory business course. Eighty-seven respondents were male, 97 were female and 160 were business majors. Students were asked to respond based on their current full or part time job. Results indicated a positive relationship between the communication the employees received from their supervisors and their satisfaction on the job.

Monge, Edwards, & Kirste (1983) hypothesized that the higher the level of job satisfaction, the higher the level of network involvement and commitment to the organization. They collected data from 125 questionnaire respondents at a naval training center in California. The Job Descriptive Index was used to assess levels of job satisfaction and a sociometric questionnaire was used to obtain data on network involvement. The researchers found that individuals with large personal networks had higher levels of job satisfaction than isolates in the organization.

McLaughlin and Cheatham (1977) compared job satisfaction levels of 79 inside and outside bank tellers working at six banks in a southwestern city. Using the Job Descriptive Index to measure job satisfaction, they found that with identical salary and promotion policies, inside tellers were more satisfied with their jobs. The inside tellers reported feeling more respected than outside
tellers. That may have been due to the connection with bank officers that was not available to outside tellers.

Hurlbert (1991) analyzed data from the 1985 General Social Survey to examine the effects of social networks on job satisfaction. She correlated concepts of network composition, including percentage of coworkers and kin in the network with age, gender, and education of respondents.

Network composition measures that were positively related to job satisfaction were the percentage of coworkers and kin in a respondent's social circle. In networks with lower levels of education, the relationship of high coworker or kin composition (membership in a coworker or kin social circle) with job satisfaction was negative. In networks with higher levels of education, membership in a coworker or kin social circle positively related to job satisfaction (Hurlbert, 1991).

Roberts & O'Reilley (1983) found that isolated workers in military organizations had lower job satisfaction, organizational commitment and job performance than their peers. They surveyed 579 officers and enlisted personnel in three large high technology military organizations.

Isolates reported using the telephone or written communication more than network members and deliberately withholding information to a greater degree than nonisolates. Network members reported being more satisfied at their jobs and they had higher performance ratings from
their superiors than did isolates in the organizations (Roberts, 1992).

Applbaum and Anatol (1979) hypothesized that there was a positive correlation between job satisfaction and communication climate. The researchers surveyed 101 administrators at California State University. Job satisfaction is defined as the favorableness or unfavorableness with which employees view their work. Communication climate is the pattern of communication used by the organization. There was a significant positive correlation between the measures of job satisfaction and communication climate (.86, <.01).

In a 1991 study, Albrecht and Hall interviewed and surveyed twenty teachers, principals, assistant principals and central office members to investigate differences in isolates and network members and their communication contacts. They found that network membership was significantly related to communication and the development of new ideas in the organization.

Based on the findings related to job satisfaction the following null hypotheses were given:

Hypothesis 13: There is no relationship between the principal's scores on the JDI and the percentage of kin, friends, co-workers, or others in his or her network.

Hypothesis 14: There is no relationship between the principal's scores on the JDI and network size.
Isolation and Job Satisfaction of Principals

Principals lead isolated professional lives and seldom have a chance to visit other schools or discuss matters with other principals (Garber, 1991; Kaplan & Usdan, 1992; Roberts, 1992). Lines of communication in schools generally flow downward with little lateral communication taking place. Contact with peers occurs primarily during inservice or after school with required clerical duties contributing to isolation (Renegar, 1993). It is important that principals communicate within the school system (Conference on Education, 1984; National Association of Elementary School Principals, 1986; Smith, Andrews & Albrecht, 1984).

In a study by Cusick (1981) secondary school principals were characterized by a series of disconnected or isolated meetings carried out in halls, the lounge, or the office. To keep moving forward principals actively seek out and use support bases so that isolation is not an obstacle to be overcome (Roberts, 1992). They should devise communication processes to counteract the negative effects of isolation (Hoy & Miskel, 1991; Kaplan & Usdan, 1992).

Communication isolates in educational organizations may be separated from perceived control, coworkers, the school's control structure, support, and friends. The potentially destructive aspect of this isolation is that it can lead to alienation or obscurity (Kaplan & Usdan, 1992).

Licata and Hack (1980) describe school administrator
isolates or loners as wary of their peers, trusted less by peers, and involved less in informal interaction.

Weaknesses of isolated principals identified by Smith, Andrews and Albrecht (1984) include a perceived lack of structure in communications about innovations and a lack of understanding of how innovations are initiated.

In their 1984 study, Smith, Andrews and Albrecht completed a district wide survey of 97 administrators in a northwestern state. The focus of the research was the administrators' perceptions of actual and desired contacts with other district administrators with regard to daily decision making and educational innovations.

Specific findings were that the nineteen elementary principals had more isolates than other administrators in the district. They were also more isolated from central office personnel than the other principals. The fourteen junior high principals served as bridges between the high school administrators and elementary school principals, and the twelve high school principals had the fewest isolates of any of the respondents. They tended to communicate most frequently with their own administrative teams at each high school.

In a study of 50 high school principals who were members of a regional principals' association in the state of Washington, Player (1985) asked respondents to identify the principals with whom they most often discussed school
matters. He found a significant correlation between network participation and knowledge of school law. As a principal associated more frequently with colleagues, or her knowledge of school law increased.

Although principals are isolated from each other, they have established some communication techniques to break that isolation. Contacts are in meetings or on the phone, but not often made in writing. Principals talk with each other in professional situations but do not participate in informal activities together (Garber, 1992). Topics discussed by principals include reports, evaluations, discipline, and test scores (Licata & Hack, 1980). Networks can help break the isolation associated with school principals and provide for more effective administration (Heck, 1992). They also decrease stress, provide insight to problem solving, maintain a buffering effect, provide resources, increase organizational commitment, and work involvement, and increase job satisfaction (Hurlbert, 1991; Monge, Edwards, & Kirste, 1983).

In a qualitative study Iannone (1987) found that principals need at least one or two satisfying events a year to endure the difficult times. For the principals interviewed in that study the communications of others either enhanced or limited the opportunities for achieving intrinsic rewards from their jobs. Other principals, parents, teachers, and students were part of the individual
principal's communication networks. These relations brought out misunderstandings and fears as well as information and ideas. The most important aspect of these principals' networks was that they did not feel that they were totally isolated. Instead, the networks helped them feel that they were working in cooperation with the community. The principals reported that the communication networks were a factor in helping them feel satisfied on the job.

Based on the findings related to the principal's job satisfaction the following null hypotheses were given:

Hypothesis 15: There is no relationship between the principal's scores on the JDI and gender.

Hypothesis 16: There is no relationship between the principal's scores on the JDI and education level.

Hypothesis 17: There is no relationship between the principal's scores on the JDI and age.

Hypothesis 18: There is no relationship between the principal's scores on the JDI and enrollment of the elementary school where the principal is employed.

Hypothesis 19: There is no relationship between the principal's scores on the JDI and his or her years of experience as an administrator.

Hypothesis 20: There is no relationship between the principal's scores on the JDI and ethnicity.

Hypothesis 21: There is no relationship between the principal's scores on the JDI and the community setting of
the school where he or she is employed.

Hypothesis 22: There is no relationship between the principal's scores on the JDI and the marital status of the principal.

Hypothesis 23: There is no relationship between the principal's scores on the JDI and the principal's years of total work experience.

Summary

This chapter described the foundations on which this study is based. The history of network analysis, network studies, communication networks, network composition, gender differences in network composition, social isolation and job satisfaction, and isolation and job satisfaction of principals were the topics discussed. Hypotheses were placed at the end of each relevant section of the literature review.

The next section will outline the methodology used to complete study and will include hypotheses, sample selection and instrument development.
CHAPTER 3
Methodology

Introduction

The purpose of this section is to discuss data collection methods in order to describe the social communication networks used by public elementary school principals. Communication network characteristics will be related to the principal's perceived satisfaction with his or her job. Independent variables are principals' gender, age, school size, years of experience, education level, ethnicity, community setting, marital status, and tenure as a principal.

Based on the statement of the problem, research questions, and review of the literature, the following null hypotheses were formulated:

Hypotheses

Hypothesis 1: There is no relationship between the principal's network size and education level.

Hypothesis 2: There is no relationship between the principal's network size and age.

Hypothesis 3: There is no relationship between the size of the principal's network and school enrollment of the elementary school where the principal is employed.

Hypothesis 4: There is no relationship between the principal's network size and number of years experience as a principal.
Hypothesis 5: There is no relationship between the principal's network size and ethnic origin.

Hypothesis 6: There is no relationship between the principal's network size and the community setting of the elementary school where the principal is employed.

Hypothesis 7: There is no relationship between the principal's gender and the percentage of kin, friends, coworkers, or others in the principal's network.

Hypothesis 8: There is no relationship between the principal's age and the percentage of kin, friends, coworkers, or others in the principal's network.

Hypothesis 9: There is no relationship between the principal's ethnicity and the percentage of kin, friends, coworkers, or others in the principal's network.

Hypothesis 10: There is no relationship between the size of the principal's network and the principal's marital status.

Hypothesis 11: There is no relationship between the size of the principal's network and the number of years of total work experience reported by the principal.

Hypothesis 12: There is no relationship between the size of the principal's networks and the principal's gender.

Hypothesis 13: There is no relationship between the principal's scores on the JDI and the percentage of kin, friends, co-workers, or others in his or her network.

Hypothesis 14: There is no relationship between the
principal's scores on the Job descriptive Index (JDI) and network size.

Hypothesis 15: There is no relationship between the principal's scores on the JDI and gender.

Hypothesis 16: There is no relationship between the principal's scores on the JDI and education level.

Hypothesis 17: There is no relationship between the principal's scores on the JDI and age.

Hypothesis 18: There is no relationship between the principal's scores on the JDI and enrollment of the elementary school where the principal is employed.

Hypothesis 19: There is no relationship between the principal's scores on the JDI and his or her years of experience as an administrator.

Hypothesis 20: There is no relationship between the principal's scores on the JDI and ethnicity.

Hypothesis 21: There is no relationship between the principal's scores on the JDI and the community setting of the school where he or she is employed.

Hypothesis 22: There is no relationship between the principal's scores on the JDI and the marital status of the principal.

Hypothesis 23: There is no relationship between the principal's scores on the JDI and the principal's years of total work experience.
Research Design

Classical sampling theory does not consider the social influences involved in decision making. Therefore, it does not lend itself to network analysis. It is best suited for use with individuals, rather than network relationships. Most network surveys are based on a sample of one or more intact systems. Usually all of the members of a network meet certain qualifications such as a member of a village, home, organization, or school (Rogers & Kincaid, 1981).

In contrast, the approach to descriptive research used here is through quasi-sociometry where the survey respondent is asked a sociometric question; however, the individuals that he or she names are not also respondents. The unit of analysis is the individual respondent's personal communication networks used to determine the relationships between measures of the different variables identified in the hypotheses (Long, Convey, & Chwalek, 1991; Rogers & Kincaid, 1981).

Selection of the Sample

One hundred and twenty-five public elementary school principals from seventeen school systems in the Upper East Tennessee Development District were chosen for this study because of their proximity to the researcher. The school systems included in the study are Carter County, Cocke County, the city of Bristol, the city of Elizabethton,
Greene County, the city of Greeneville, Hamblen County, Hancock County, Hawkins County, Johnson City, Johnson County, the city of Kingsport, the city of Newport, the city of Rogersville, Sullivan County, Unicoi County, and Washington County.

These principals were selected because they share a common characteristic in that they are all administrators at member schools in the previously mentioned district. Grade distributions of the schools include two schools with grades Kindergarten (K) through 12, one school with grades one through 12, forty schools with grades K through 8, two schools containing K through 7, thirteen schools comprised of grades K through 6, sixty one schools with grades K through 5, five schools having grades K through 4, one school consisting of grade K through 2, and one school encompassing grades 3 through 5. The use of this group of subjects is viewed in the nominalist perspective where the definition of boundaries is made by the researcher based on his or her concept of the professional group involved.

Instrumentation

The most common method in collecting network information is the network survey. The strategy is to ask respondents to name people and describe how they are related (Knoke & Kuklinski, 1982; Rogers & Kincaid, 1981; West, 1985). Usually few questions are included in the network survey, but responses yield a variety of network
The Social Support Questionnaire Short Form Revised (Sarason, Levine, Basham, & Sarason, 1983) was used to assess the network characteristics of public elementary school principals in Northeast Tennessee. A network is the set of people who are most likely to interact with the principal. The Social Support Questionnaire Short Form Revised (SSQSR) was designed to measure the perceived availability of social networks by an individual.

The SSQSR was chosen because of its length and generality. The idea of social support has many facets. Emphasis on one or more of those aspects has been shown to result in measures that are not highly related to one another.

The SSQSR was derived from the Social Survey Questionnaire that contains 27 questions. Response time is between 15 and 18 minutes for the long form. Subjects are asked to list up to nine people they can turn to in a given set of circumstances. The maximum score or SSQ number for this form is 243.

Respondent responses indicate initials and characteristics of members in the individual principals' networks in order to determine the relationship of the principal to the members of his or her network. Composition scores are calculated by adding the number of individual members in the principal's network with a particular
characteristic and dividing that number with the total number of members identified in the network.

The pilot study for the Social Support Questionnaire consisted of 61 items administered to college students who were told to list all individuals who provided them with support for each item presented. The students were also asked to rate their levels of satisfaction with the support received. Questions that had low correlations with other items were omitted.

The number of individuals identified with a particular characteristic was intercorrelated including category of relationships (family, friends, others), frequency of contact, length of relationship, and total number of individuals listed throughout the questionnaire. Correlations for each were greater than .70.

When scores on the SSQ were compared with results of a structured interview, the two network measures yielded comparable results.

Test reliability was calculated using three retests over a period of thirty-six months. Subjects used were 76 University of Washington freshmen recruited during their first quarter of study. All were available for comparison between the original testing and a two-month test. The correlation was .78. There were thirty one subjects available for the thirty-six month retest with a correlation of .67 (Caldwell, Bogat, Kriegler, & Rogosch;
The SSQSR was derived from the 27 item Social Survey Questionnaire by using varimax rotation to identify the principal factors of the survey. Two samples of between one hundred and forty and two hundred and twenty subjects who had taken the SSQ were used for analysis. Six items were selected for the SSQSR. Three items were selected because they were common to both samples and the other three items were chosen because they ranked higher than the common items in one of the two samples.

Internal reliability for the SSQ for the samples was between .97 and .98. The internal reliability for the SSQSR ranged from .90 to .93.

The SSQSR consists of 6 questions that ask subjects to list up to nine people they can turn to in a given situation. The maximum score or the SSQSR number is 54, providing an estimate of the size of an individual's network.

To assess a variety of demographic data, the response format was revised for this study. Respondents list initials and relationships of people whom they count on for support in a given situation. For this research elementary principals also indicated approximate age, gender, ethnicity, and length of time known for each set of
initials given. This made it possible to study the relationships between the respondents' demographic variables to those of his or her network members.

A pilot questionnaire with the revisions for this research was mailed to 27 elementary assistant principals, retired elementary principals, and elementary supervisors who were elementary principals in Northeast Tennessee. Returned pilot questionnaires were used to refine the revised response format for the purposes of this research.

To score the SSQSR the number of people listed for each item are counted. Those numbers are totaled together for the SSQ number score (SSQN). The maximum score is 54.

To compute scores for relationship, age, gender, ethnicity, and years known, the number of people are counted who have been identified as having a particular characteristic. That number is divided by the SSQN, or total network size to assess the percentage of network members with a characteristic. The SSQSR takes between five and ten minutes to complete and is available from the University of Washington Department of Psychology, Seattle, Washington.

To assess the levels of the principals' job satisfaction the Job Descriptive Index was used. The Job Descriptive Index was developed by Smith, Kendall, and Hulin in 1969 and is widely used throughout the social sciences. It is a seventy-two item checklist intended to measure an
individual's job satisfaction (the feelings a worker has about his/her job) derived from a comparison of expected outcomes received from the work environment and actual outcomes (Buckley, Carraher & Cote, 1992).

Six dimensions of the JDI (Job Descriptive Index) include work on present job, supervision on present job, present pay, opportunities for promotion, people on your present job, and the job in general. The work, supervision, co-workers, and job in general subscales contain 18 items each, while the pay and promotion subscales have 9 items each. All the items included in each subscale are presented together under a heading that labels the particular aspect of satisfaction being measured. Subjects respond to adjectives ("boring") or short phrases ("good opportunities for promotion") with a yes, no, or "?" depending on whether the item describes his or her job. Positively scored items are scored 3, 1, 0 and negatively scored items are scored 0, 1, 3 for Yes, "?", and No respectively (Dallinger, 1986; Gregson, 1990; Johnson, Smith, & Tucker, 1982; Muchinsky, 1977; Yeager, 1981).

Internal consistency is reported to have an average coefficient alpha of .84. Total test-retest reliability is .77 and split-half reliability is reported as .79. Higher internal consistency reliabilities were found for each of the subscales: work (.84), pay (.80), promotion (.86), supervision (.87), and co-workers (.88). Convergent
validity or the correlations between similar scales measured by different methods were significantly different from zero when correlated with test-retest coefficients over a period of three weeks (r = .79, p < .001) (Johnson, Smith & Tucker, 1982; Yeager, 1981).

The Job Descriptive Index takes between five and ten minutes to complete. Respondents need a second grade reading level to finish the survey. The JDI may be manually scored, computer, or machine scored and is available from Bowling Green State University Department of Psychology, Bowling Green, Ohio (Mitchell, 1985; Sweetwater & Keyser, 1991).

**Method**

Upon approval of the topic, permission to complete the research was obtained from the East Tennessee State University Institution Review Board. Letters were sent to the superintendents of each of the previously mentioned school systems asking permission to survey the elementary principals. A phone call was made to each superintendent to assure that permission was granted. After permission was obtained from the superintendents, a cover letter explaining the study along with the surveys was sent to the principals. The correspondence included the cover letter, a brief demographic questionnaire, the Job Descriptive Index, the Revised Social Support Questionnaire, and a self-addressed stamped envelope for returning the surveys. Surveys were
coded for monitoring replies and generating a list for a follow up contact. A phone call was made two weeks after mailing the questionnaires to the principals who had not returned the survey materials. The final date for return of the surveys was Saturday, October 1, 1994.

The JDI and the SSQSR were hand scored to assess each principal's perceived level of job satisfaction, network size, and network characteristics. Results pertaining to each hypothesis were analyzed and reported in Chapter Four.

Data Analysis

Data gathered were in nominal, ordinal, and ratio scales. Nominal data classify objects into categories based on a definite characteristic. Data are mutually exclusive in that a variable can belong to only one category. The categories have no order. Variables from this study included in the nominal category are gender, community setting, ethnicity, and marital status.

Ordinal data classifies characteristics that are mutually exclusive and have a logical order to the classification. Data can be ranked within a category. Ordinal data include scores on the JDI and levels of education.

Ratio data have characteristics that are mutually exclusive, have a logical order, can be ranked, and have a true zero point. Equal differences in a variable are represented by equal differences in the numbers assigned to
categories. Ratio data include network size, age, enrollment of the elementary school, years experience as a principal, years experience in the school system, and number of friends, kin, co-workers, or others in a network.

The Pearson Product Moment Correlation Coefficient (r) is used when describing relationships among ratio level data. This correlation describes the extent that two or more variables are related. Pearson r ranges from +1 to -1.

For describing relationships between nonparametric data a special case of the Pearson r called the Spearman Rho Coefficient was used. The Kendall Correlation Coefficient or Kendall's Tau B was used to describe association between ordinal variables.

Descriptive statistics were used to analyze the data in this study. Level of significance was set at .05. Data collected from survey results were analyzed by Macintosh computer using the Statistical Package for Social Sciences program. Charts and tables were created on an IMB computer using Microsoft Excel.

Summary

This chapter presented the hypotheses, research design, instrumentation, methodology and data analysis procedures used in this research. It contains the framework for the study.

The next chapter describes the analysis of data, and includes a detailed discussion of the hypotheses and
research questions.

A summary, findings, conclusions, and recommendations are in the final chapter of this study.
Chapter 4
Results

Introduction

Data collected from this study were obtained from questionnaires mailed to one hundred and twenty-five public elementary school principals in the Upper East Tennessee Development District. The questionnaires consisted of a six item social network survey, a nine item demographic survey, and the Job Descriptive Index (JDI). The JDI is a widely used instrument measuring job satisfaction. It is divided into six categories including work on present job, present pay, opportunities for promotion, supervision on present job, people on your present job, and job in general.

Respondents

Eighty-two respondents or 66% of the participants returned questionnaires. Sixty-one responses were received within two weeks of the first mailing and twenty-one additional surveys were received during the next two weeks. Data collection was terminated on October 1, 1994.

Fifty questionnaires were returned from male principals, representing 61% of the respondents. Thirty-two questionnaires or 39% of those returned were from female principals. The average age of the respondents was forty-seven years. Data on ethnicity and marital status indicated a homogeneous background with 100% of the respondents being Caucasian and married. Principals indicated having an
average of nineteen years total work experience and nine years experience in administration with the average level of education being a masters degree plus additional hours.

Education

Sixty responses or 73% were received from county school systems and twenty-two responses or 27% were received from city schools. Average enrollment for elementary schools was reported at 408 students.

Analysis of Research Questions and Null Hypotheses

Seven research questions and twenty-three hypotheses were developed and tested for relationships. They were established to investigate the size and characteristics of public elementary school principals' social communication networks. Findings were related to scores on the Job Descriptive Index as reported by each elementary principal.

Hypotheses will be discussed along with each
appropriate research question.

Research Question 1. What size are principals' communication networks as reported by each individual principal on the Social Survey Questionnaire Short Form Revised (SSQSR)?

Social communication network size for the public elementary school principals in Northeast Tennessee ranged from zero to fifty-four members with the average network size being reported as fifteen. The distribution of numbers was bimodal with nine and eleven being the most frequently occurring numbers. Seven principals reported having no one in their social communication networks while one principal had a network size of fifty-four.

Social Network Size (SSQN)

Research Question 2. Does the individual principal's network size relate to his or her demographic
characteristics (gender, age, community setting, marital status, school enrollment, education level, ethnicity, years of work experience, and tenure as a principal)?

A review of literature in the area of network size and demographic characteristics of respondents provides evidence of positive relationships among people who are married and those with higher education levels. Network size increases as an individual's education level increases. Network size is not related to gender, community setting, school enrollment, years of work experience, or tenure as a principal. Negative relationships are reported between network size, age and ethnicity.

Network size of the public elementary school principals in Northeast Tennessee does not appear to be closely related to demographic characteristics. There are slight positive relationships between principal's social network size and education level, years of work experience, gender, and enrollment at the school where the principal is employed. Negative relationships were found between the principal's social network size and age, years of experience as a principal, and school setting.

Hypothesis 1: There is no relationship between the principal's network size and education level.

Using Kendall's Tau B to measure association, there was a small positive relationship found between the principals' social communication network size and their education
levels (.231). This number was not significant so the null hypothesis was retained.

Hypothesis 2: There is no relationship between the principal's network size and age.

Using the Pearson Correlation Coefficient, the correlation between principal's network size and age was found to be -.0423. This was not significant so the null hypothesis was not rejected.

Hypothesis 3: There is no relationship between the size of the principal's network and school enrollment of the elementary school where the principal is employed.

Calculations with the Pearson Correlation Coefficient, show no significant relationship found so the null hypothesis was retained. There was a slight positive
correlation between school enrollment and network size (.0472).

Hypothesis 4: There is no relationship between the principal's network size and the number of years experience as a principal.

A correlation of -.0846 was not found to be significant using the Pearson Correlation Coefficient. The null hypothesis was not rejected.
Hypothesis 5: There is no relationship between the principal's network size and ethnic origin.

Statistics for this hypothesis were not computed because there was no basis for comparison of the variables. Respondents were reported as 100% Caucasian.

Hypothesis 6: There is no relationship between the principal's network size and the community setting of the elementary school where the principal is employed.

A correlation of -.0484 was found using Kendall's Correlation Coefficient to test the relationship between network size and community setting. This correlation was not found to be significant so the null hypothesis was retained.

Hypothesis 10: There is no relationship between the size of the principal's network and the principal's marital status.

Statistics for this hypothesis were not computed because there was no basis for comparison of the variables. All respondents were married.

Hypothesis 11: There is no relationship between the size of the principal's network and the number of years of total work experience reported by the principal.

A correlation of .0113 was calculated using Pearson's Correlation Coefficient. This was not significant so the null hypothesis was not rejected.
Hypothesis 12: There is no significant relationship between the size of the principal's networks and the principal's gender.

Nonparametric correlations were used to compute relationships between principals' gender (sex) and network size (ssn). No significant relationship was found between ssn and sex so the null hypothesis was retained. There was a small positive correlation of 0.0132.
Research Question 3. Do members in a principal's network have similar demographic characteristics as the principal (gender, age, ethnicity)?

Findings from the literature review include evidence that homogeneity or similar characteristics such as gender, race, or age may be found among social communication network members. Women were reported as having more family members in their networks while men had more coworkers as network members.

Results from this study indicate that both male and female principals have more female network members. Male principals reported 61% of their networks composed of females while female principals reported 57% of their networks consisted of female members.

<table>
<thead>
<tr>
<th>Male Principals' Networks</th>
<th>Female Principals' Networks</th>
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<tr>
<td>%Female</td>
<td>%Male</td>
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<tr>
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<tr>
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<td>%Male</td>
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<td>57%</td>
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There was a small positive association between the male principals and the percentage of family members and friends in the network. There was a nonsignificant negative correlation between the female principals and the percentage of coworkers in their networks.

Negative relationships were found between the
principal's age and percentages of family members and coworkers in the principal's network. A positive relationship between age and the percentage of friends in the network was found. None of the correlations were significant.

One demographic characteristic that the principals had in common with network members was ethnicity. All respondents were 100% Caucasian and reported their networks as consisting of 100% Caucasian members.

Hypothesis 7: There is no relationship between the principal's gender and the percentage of kin, friends, or coworker in the principal's network.

The nonparametric correlation between the principal's gender and the percentage of family members in his or her network was .0062. Between gender and percentage of friends the number was .114, and between gender and percentage of coworkers the correlation was -.1076. These were not significant so the null hypothesis was retained.

Hypothesis 8: There is no relationship between the principal's age and the percentage of kin, friends, or
coworkers in the principal's network.

Pearson r was used to compute relationships between the principal's age and percentage of family friends or coworkers in his or her network. Correlations included family as -0.1119, friends 0.0467 and coworkers 0.002. The correlations were not significant so the null hypothesis was retained.

Research Question 4. What scores on the Job Descriptive Index are reported by each principal?

There are six dimensions of the Job Descriptive Index (JDI). They include work on present job (job), present pay (pay), opportunities for promotion (opport), supervision on present job (supv), people on your present job (people), and the job in general (jig). Possible Score ranges are from zero to fifty-four on all dimensions with zero as the low score and fifty-four as the high score.

The first dimension discussed is work on present job. Average score reported by respondents was thirty-seven with a mode of forty-eight. The range was zero to fifty-one. The average score in the area of present pay was twenty-seven with a range of zero to fifty-four and a mode of eleven. Opportunities for promotion had the lowest average (nineteen) of the six dimensions. Minimum score was zero and the maximum was fifty-four. The most often reported score was twenty-four. The average score for supervision on present job was forty-two with a range of zero to
fifty-four. Modes for this distribution were forty and forty-seven. The highest average reported was forty-five in the area of people on your present job. Range was zero to fifty-four with a mode of fifty-four. Scores reported on satisfaction of the job in general averaged forty-five with a range of zero to fifty-four. The mode was forty-eight.

Average JDI Scores

Research Question 5. Are principals' scores on the Job Descriptive Index related to the size of the principals' communication networks?

Networks are a resource that affects job satisfaction through social support. Literature reviews in the area of job satisfaction and social network size indicate a negative relationship between satisfaction and social isolation. The larger the size of the social communication network, the higher the level of job satisfaction.

Results from this study show slight positive
relationships between principals' social network sizes and scores on each dimension of the JDI. None of the correlations were significant.

Hypothesis 14: There is no relationship between the principal's scores of the Job Description Index (JDI) and network size.

The Spearman Rho Correlation Coefficient was used to compute relationships between social network size and scores on the JDI. The correlation between network size and work on present job was .2732, present pay was .1726, opportunities for promotion was .2174, supervision on present job was .2269, people on present job was .2674 and the job in general was .3007. These correlations were not significant so the null hypothesis was retained.

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Research Question 6. Are principals' scores on the Job Descriptive Index related to demographic characteristics of the principals' social communication networks (gender, age, ethnicity, relationship of members, years members have been known)?

Literature in this area includes reports of job satisfaction being higher among people who report coworkers,
friends, and family as members of their networks. Gender, age, ethnicity, and years members had been known had no relation to job satisfaction in the literature review.

Positive relationships were identified between males and all dimensions of the JDI; however, none of the correlations were significant. Correlations between female principals and the areas of present job and present pay were slightly negative, but not significant.

There was almost no correlation between job satisfaction and years network members have been known.

Ethnicity was not correlated with scores on the JDI because there was no basis for comparison. Members of the principals' communication networks were reported to be 100% Caucasian.

Small positive relationships were found between percentages of family, friends, and coworkers and all areas of the JDI with one exception. The percentage of coworkers in a social network were slightly negatively correlated with the areas of present pay and opportunities for promotion. None of the correlations were significant.

Hypothesis 13: There is no relationship between the principal's scores on the JDI and the percentage of kin, friends, or coworkers in his or her network.

There was not a significant relationship found between principals' scores on the JDI and the percentage of family, friends or coworkers in the network. Small negative
Correlations were reported in the areas of percentage of coworkers and the pay and opportunity dimensions of the JDI. Other correlations between percentages of family, friends, and coworkers and present job, present pay, opportunities for promotion, supervision, people, and the job in general were slightly positive.

--- SPEARMAN CORRELATION COEFFICIENTS ---

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Research Question 7. Are principals' scores on the Job Descriptive Index related to the principals' demographic characteristics (gender, marital status, years of experience in the school system currently employed, years experience as an elementary principal, total school enrollment, level of education, age, ethnic origin, community setting)?

Job satisfaction has been positively related to being married and education level in the literature review. There was no relationship between job satisfaction and gender, years experience, years as a principal, school enrollment,
enrollment, age, ethnic origin, or community setting.

The findings of this study include small positive correlations between age and satisfaction on present job, present pay, and people on the present job. Positive correlations were also identified between years of total work experience, present pay, and people on the present job; however, they were not significant.

Hypothesis 15: There is no relationship between the principal's scores on the JDI and gender.

Kendall's Tau B correlation coefficient was computed to measure relationships between principals' gender and scores on all six areas of the JDI. There were no significant relationships found. The null hypothesis was retained.

Hypothesis 16: There is no relationship between the principal's scores on the JDI and education level.

There was no significant relationship between scores on the JDI and principals' education level using Tau B as a measure of association. The null hypothesis was retained.

Hypothesis 17: There is no relationship between the principal's scores on the JDI and age.

There were small positive correlations between principals' age and present job, present pay, and people on the present job. Negative correlations were found using the Spearman coefficient between age and opportunities for promotion, supervision on present job, and the job in general; however, they were not significant. The null
Hypothesis was not rejected.

Hypothesis 18: There is no relationship between the principal's scores on the JDI and enrollment of the elementary school where the principal is employed.

Negative correlations were found between school enrollment and scores on the JDI using the Spearman Rho correlation coefficient. None were significant so the null hypothesis was retained.

Hypothesis 19: There is no relationship between the principal's scores on the JDI and his or her years of experience as an administrator.

No significant correlations between scores on the JDI and years of experience as an administrator were found using the Spearman Correlation Coefficient. The null hypothesis was not rejected.

Hypothesis 20: There is no relationship between the principal's scores on the JDI and ethnicity.

There was no basis for computation of data since ethnicity of the respondents was reported as 100% Caucasian.

Hypothesis 21: There is no relationship between the principal's scores on the JDI and the community setting of the school where he or she is employed.

Tau B was used to compute relationships between scores on the JDI and community setting of the school where the principal was employed. No significant relationships were found so the null hypotheses was not rejected.
Hypothesis 22: There is no relationship between the principal's scores on the JDI and the marital status of the principal.

Since all respondents were married there was no correlation.

Hypothesis 23: There is no relationship between the principal's scores on the JDI and the principal's years of total work experience.

Using Spearman, there was no significant relationship between scores on the JDI and years of work experience. Negative relationships were found with years of total work experience and all dimensions of the JDI except pay and people on present job. Those two were positively related to years of total work experience. The null hypothesis was retained.

Summary

Chapter Four was a descriptive analysis of the responses from questionnaires included in the study. The analysis included a discussion of seven research questions regarding social communication networks and job satisfaction of public elementary school principals.

Eighteen hypotheses were tested for relationships. All were retained. Five hypotheses were not tested due to findings on marital status and ethnicity. The hypotheses were discussed along with the research questions that paralleled them.
Chapter Five
Summary, Findings, Conclusions, Recommendations

Introduction

There was little research in Northeast Tennessee about the social communication network characteristics of public elementary school principals or the linking of those characteristics to the levels of job satisfaction reported by the principals. The purpose of this study was to obtain and analyze data concerning the nature of communication networks and to determine the levels of job satisfaction of public elementary school principals in Northeast Tennessee.

Summary

The population for this study was the group of one hundred and twenty-five public elementary school principals from seventeen school systems in the Upper East Development District. Surveys were sent to the entire population.

Responses were received from 50 male and 32 female public elementary school principals in Northeast Tennessee. Other demographic characteristics included the average age of the respondents as 47 years. Data on ethnicity and marital status indicated a homogeneous background with 100% of the respondents being Caucasian and married. Principals indicated having an average of 19 years total work experience and 9 years experience in administration. The average level of education was reported as a masters degree plus additional hours.
Sixty responses or 73% were received from county school systems and twenty-two responses or 27% were received from city schools. Average enrollment for elementary schools was reported at 408 students.

Findings

Findings for this study are discussed concerning the hypotheses. Twenty-three hypotheses were written to go along with seven research questions. They were written in the null form for testing purposes. Eighteen of the twenty-three hypotheses were retained. Five hypotheses were not analyzed due to findings in the areas of ethnicity and marital status.

Hypotheses

Hypothesis 1: There is no relationship between the principal's network size and education level.

Hypothesis 2: There is no relationship between the principal's network size and age.

Hypothesis 3: There is no relationship between the size of the principal's network and school enrollment of the elementary school where the principal is employed.

Hypothesis 4: There is no relationship between the principal's network size and number of years experience as a principal.

Hypothesis 5: There is no relationship between the principal's network size and ethnic origin.

Hypothesis 6: There is no relationship between the
principal's network size and the community setting of the elementary school where the principal is employed.

Hypothesis 7: There is no relationship between the principal's gender and the percentage of kin, friends, coworkers, or others in the principal's network.

Hypothesis 8: There is no relationship between the principal's age and the percentage of kin, friends, coworkers, or others in the principal's network.

Hypothesis 9: There is no relationship between the principal's ethnicity and the percentage of kin, friends, coworkers, or others in the principal's network.

Hypothesis 10: There is no relationship between the size of the principal's network and the principal's marital status.

Hypothesis 11: There is no relationship between the size of the principal's network and the number of years of total work experience reported by the principal.

Hypothesis 12: There is no relationship between the size of the principal's networks and the principal's gender.

Hypothesis 13: There is no relationship between the principal's scores on the JDI and the percentage of kin, friends, co-workers, or others in his or her network.

Hypothesis 14: There is no relationship between the principal's scores on the Job descriptive Index (JDI) and

Hypothesis 15: There is no relationship between the principal's scores on the JDI and gender.
Hypothesis 16: There is no relationship between the principal's scores on the JDI and education level.

Hypothesis 17: There is no relationship between the principal's scores on the JDI and age.

Hypothesis 18: There is no relationship between the principal's scores on the JDI and enrollment of the elementary school where the principal is employed.

Hypothesis 19: There is no relationship between the principal's scores on the JDI and his or her years of experience as an administrator.

Hypothesis 20: There is no relationship between the principal's scores on the JDI and ethnicity.

Hypothesis 21: There is no relationship between the principal's scores on the JDI and the community setting of the school where he or she is employed.

Hypothesis 22: There is no relationship between the principal's scores on the JDI and the marital status of the principal.

Hypothesis 23: There is no relationship between the principal's scores on the JDI and the principal's years of total work experience.

Results of the Pearson r Correlation Coefficient, the Spearman Rho Coefficient, and the Kendall Correlation Coefficient (Tau B) reveal that there were no significant relationships between variables in any of the hypotheses. In summary, all of the null hypotheses were rejected.
Research Findings

Through the administration of reliable and valid survey instruments and the application of statistical analysis, conclusions can be drawn about the social communication networks and job satisfaction of public elementary school principals in Northeast Tennessee. Information gained through this research will add to the existing knowledge base in the fields of education and administration. Conclusions will be discussed in reference to the research questions.

Research Questions

1. What size are principals' communication networks as reported by each individual principal on the Social Survey Questionnaire Short Form Revised (SSQSR)?

   Principals in Northeast Tennessee reported a social communication network size ranging from zero to fifty-four members with the average network size being fifteen. The distribution of numbers was bimodal with nine and eleven being the most frequently reported network sizes. Seven principals reported having no one in their social communication networks while one principal had a network size of fifty-four.

2. Does the individual principal's network size relate to demographic characteristics (gender, age, community setting, marital status, school enrollment, education level, ethnicity, years of work experience, and tenure as a
principal)?

Network sizes of public elementary school principals in Northeast Tennessee does not appear to be closely related to demographic characteristics. There are slight positive relationships between the principals' social network sizes and education level, years of work experience, gender, and enrollment at the school where the principal is employed. Negative relationships were found between the principal's social network size and age, years of experience as a principal, and school setting.

3. Do members in a principal's network have similar demographic characteristics as the principal (gender, age, ethnicity)?

Results from this study indicate that both male and female principals have more female network members. Male principals reported 61% of their networks composed of females while female principals reported 57% of their networks consisted of female members.

There was a small positive association between the male principals and the percentage of family members and friends in the network. There was a nonsignificant negative correlation between the female principals and the percentage of coworkers in their networks.

Negative relationships were found between the principal's age and percentages of family members and coworkers in the principal's network. A positive
relationship between age and the percentage of friends in the network was found. None of the correlations were significant.

The demographic characteristic that the principals had in common with network members was ethnicity. All respondents were Caucasian and reported their networks as consisting of 100% Caucasian members.

4. What scores on the Job Descriptive Index are reported by each principal?

Average score reported by respondents in the area of work on the present job was 37 with a mode of 48. The range was zero to 51. The average score in the area of present pay was 27 with a range of 0 to 54 and a mode of 11. Opportunities for promotion had the lowest average (19) of the six dimensions. The minimum score was zero and the maximum was 54. The most often reported score was 24. The average score for supervision on present job was 42 with a range of 0 to 54. Modes for this distribution were 40 and 47. The highest average reported was 45 in the area of people on your present job. Range was zero to 54 with a mode of 54. Scores reported on satisfaction of the job in general also averaged 45 with a range of 0 to 54. The mode was 48.

5. Are principals' scores on the Job Descriptive Index related to the size of the principals' communication networks?
There is a slight positive relationship between principals' social network sizes and scores on each dimension of the JDI. None of the correlations are significant.

6. Are principals' scores on the Job Descriptive Index related to demographic characteristics of the principals' social communication networks (gender, age, ethnicity, relationship of members, years members have been known)?

Positive relationships were identified between males and all dimensions of the JDI; however, none of the relationships are significant. Correlations among female principals and the areas of present job and present pay were slightly negative, but not significant.

There was almost no correlation between job satisfaction and years network members have been known.

Ethnicity was not correlated with scores on the JDI because there was no basis for comparison. Members of the principals' communication networks were reported to be 100% Caucasian.

Small positive relationships were found between percentages of family, friends, and coworkers and all areas of the JDI with one exception. The percentage of coworkers in a social network was slightly negatively correlated with the areas of present pay and opportunities for promotion. None of the correlations were significant.

7. Are principals' scores on the Job Descriptive Index
related to the principals' demographic characteristics (gender, marital status, years of experience in the school system where the principal is currently employed, years experience as an elementary principal, total school enrollment, level of education, age, ethnic origin, community setting)?

The findings of this study include small positive correlations between age and present job, present pay, and people on the present job. A positive correlation was also identified between years of total work experience, present pay and people on the present job; however it was not significant.

**Conclusions**

The following conclusions were drawn from this study.

1. The average social communication network size for public elementary school principals in Northeast Tennessee is fifteen.

2. Nine and eleven are the most frequently reported network sizes among the respondents.

3. There are nonsignificant positive relationships between principal's social network size and education level, years of work experience, males, and enrollment at the school where the principal is employed.

4. Slight negative relationships were found between the principal's social network size and age, years of experience as a principal, and school setting.
5. Both male and female principals have more female network members than male network members.

6. There is a small positive association between the male principals and the percentage of family members and friends in the network.

7. There was a nonsignificant negative correlation between the female principals and the percentage of coworkers in their networks.

8. Small negative relationships were found between the principal's age and percentages of family members and coworkers in the principal's network.

9. A slight positive relationship between age and the percentage of friends in the network was found.

10. Principals and their network members were all Caucasian.

11. All respondents were married.

12. Respondents were fairly satisfied with their work on present job with the average score reported by respondents as 37 with a mode of 48 and a range of 51.

13. Principals were less satisfied with present pay. The average was 27 with a range of 0 to 54 and a mode of 11.

14. Lowest satisfaction among principals was in the area of opportunities for promotion with the average (19). Range was zero to 54 with a mode of 24.

15. Principals were satisfied with supervision on the present job with the average score of 42 with a range of 0
to 54. Modes for this distribution were 40 and 47.

16. Principals were most satisfied with people on present job. The average was 45, range was zero to 54 with a mode of 54.

17. Principals were also very satisfied with their job in general. Scores averaged 45 with a range of 0 to 54 and a mode of 48.

18. Small positive relationships were found between principals' social network sizes and scores on each dimension of the JDI. These were not significant.

19. Positive relationships were identified between males and all dimensions of the JDI; however, none were significant.

20. Correlations between female principals and the areas of present job and present pay were slightly negative, but not significant.

21. There was almost no correlation between any of the dimensions of job satisfaction and years network members have been known.

22. Small positive relationships were found between percentages of family, friends, and coworkers and all areas of the JDI except relating coworkers to the areas of present pay and opportunities for promotion. These were negative, but not significant.

23. There were nonsignificant positive correlations between age and present job, present pay, and people on the
present job.

24. A small positive correlation was also identified between years of total work experience, present pay, and people on the present job; however, it was not significant.

Recommendations

1. Future studies might include principals at the middle and high school levels or those employed in the private sector.

2. Longitudinal research would provide information about possible changes in social network characteristics throughout the school year and during the summer.

3. A larger number of respondents might provide data for more significant relationships.

4. Surveying principals across the state or in other areas of the United States would provide additional information on social communication networks and job satisfaction of administrators.

5. Longitudinal research would provide information about possible changes in job satisfaction levels throughout the school year and during the summer.

6. A comparative study of schools identified as exemplary and others might provide information on school success.
References


Fairhurst, G. T., & Snavely, B. K. (1983). A test of the


Hatfield, J. D. & Huseman, R. C. (1982). Perceptual
congruence about communication as related to satisfaction: Moderating effects of individual characteristics. *Academy of Management Journal*, **25** (2), 349-358.


differences in network structure and access in an advertising firm. *Administrative Science Quarterly*, 37, 422-447.


Research, 12, 113-131.


November 29, 1993

Lisa S. Gentry
521 Tennessee Ave.
Bristol, Tn. 37620

Irwin G. Sarason
Dept. of Psychology
NI-25
University of Washington
Seattle, Washington 98195

Mr. Sarason,

I am a doctoral student from East Tennessee State University in Johnson City, Tn. My dissertation topic is The Relationship Between Network Composition And Job Satisfaction of Public Elementary School Principals. I believe that the Social Support Questionnaire (Journal of Personality and Social Psychology, Vol. 44-1, pages 127-139) might be appropriate as one of my survey instruments and I would like to obtain a sample copy, any available reliability and validity data, and the cost of the instrument. Thank you for your time.

Lisa S. Gentry
June 6, 1994

Lisa S. Gentry
521 Tennessee Ave.
Bristol, Tn. 37620

Superintendent
Address School System
P.O. Box
City, Tn. 37Zip

Dear ,

I am a candidate for the doctoral degree in the department of Educational Leadership and Policy Analysis at East Tennessee State University.

As part of my requirements I will be researching the relationships among social communication networks and job satisfaction of the public elementary school principals in the Upper East Tennessee Development District.

With your approval I would like to mail surveys to the elementary principals in your school system during September, 1994. I would like your verbal or written approval of this request in advance. I will call you for approval, or if it would be more convenient, leave word regarding this request with your secretary.

Thank you,

Lisa S. Gentry
September 7, 1994

Lisa S. Gentry  
521 Tennessee Ave.  
Bristol, Tn. 37620

Principal  
Elementary School  
Address  
City, Tn.  
Zip

Dear ,

I am a candidate for the doctoral degree in the department of Educational Leadership and Policy Analysis at East Tennessee State University and a librarian and teacher in Washington County, Tennessee.

As part of my requirements I am researching the relationships among social communication networks and job satisfaction of public elementary school principals in the Upper East Tennessee Development District. Approval for your participation in this research has been given by your superintendent.

The enclosed survey instruments contain a total of 90 questions which should take no more than twenty minutes to complete. All responses to this research will be confidential and anonymous. Questionnaires are coded for return rate only and participation is voluntary. Data returned in the questionnaires will be kept on file for ten years.

Please complete the surveys and return them to me in the enclosed stamped envelope sometime during the next two weeks. I will check back with you in two weeks if I have not received your questionnaire.

As a teacher, I realize that you have a busy schedule, I appreciate your assistance.

Thank you,

Lisa S. Gentry
I am a candidate for the doctoral degree in the department of Educational Leadership and Policy Analysis at East Tennessee State University and a librarian and teacher in Washington County, Tennessee.

As part of my requirements I am conducting a pilot study of a survey about social communication networks of public elementary school principals. Your experiences in education would be very valuable to me in completing this pilot study.

Enclosed is a copy of the correspondence to the principals and the pilot form of one of the surveys they will complete in September, 1994.

Please critique the letter and the survey. Complete the survey and return the materials to me in the enclosed stamped envelope sometime during the next two weeks.

As a teacher, I realize that you have a busy schedule, I appreciate your assistance.

Thank you,

Lisa S. Gentry
June 22, 1994

Mr. Sarason,
Thank you for giving me permission to use the Social Support Questionnaire (December, 1993). The information you sent has been an asset in working on my doctoral dissertation. The proposed title is *The Relationship Between Job Satisfaction and Social Network Characteristics of Elementary School Principals*. I am interested in using the six item short form of the SSQ to measure network characteristics of public elementary school principals in Northeast Tennessee. My committee has approved the use of the instrument but recommends some changes to the answer format. I have enclosed a copy of the proposed changes for your review and approval. Thank you again for your time and assistance.

Lisa S. Gentry
August 15, 1994

Ms. Lisa S. Gentry
521 Tennessee Ave.
Briston, TN 37620

Dear Lisa,

You have my permission to make the changes you described for the Social Support Questionnaire and you also have my permission to use it in your doctoral dissertation.

Good luck!

Sincerely,

Irwin G. Sarason
Professor

Enc.

bj
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Lisa S. Gentry

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               City, Tennessee;  Biology, B.S., 1982
               East Tennessee State University, Johnson
               City, Tennessee;  Administration, M.Ed.,
               1989

Professional
Experience:    Librarian, Sulphur Springs Elementary
               School;  Washington County, Tennessee;
               1982 - 1995

Honors and
Awards:       Gamma Beta Phi Honor Society
               Kappa Delta Pi Honor Society
               Washington County, Tennessee Teacher of the
               Month
               Washington County, Tennessee Building Level
               Teacher of the Year
               Washington County, Tennessee Excel Teacher