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I am submitting herewith a thesis written by William Lawrence Patrick entitled "Opinion Leadership and Innovativeness in an East Tennessee School System." I recommend that it be accepted for nine quarter hours of credit in partial fulfillment of the requirements for the degree of Master of Science, with a major in Communications.

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We have read this thesis and recommend its acceptance:

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Graduate Studies and Research

OPINION LEADERSHIP AND INNOVATIVENESS IN AN EAST TENNESSEE SCHOOL SYSTEM

A Thesis

Presented to

the Graduate Council of

The University of Tennessee

In Partial Fulfillment

of the Requirements for the Degree

Master of Science

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by

William Lawrence Patrick

August 1973

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ABSTRACT

The purposes of this research were to profile the teaching personnel in an unique Appalachian school system, to describe characteristics of opinion leaders, to discover perceptions of the teachers, and to test innovativeness as a predictor of opinion leadership. The research design was a descriptive attitude study with data collection via self-administered form. Saturation sampling was used, and fifty-nine respondents were found. The questionnaire was constructed using items developed in past opinion leadership and diffusion research.

The profile of the respondents showed them to be listeners rather than talkers, moderately innovative, and often attentive to outside opinion leaders. Four respondents and several school administrators were named as opinion leaders. The significant findings were that innovativeness, previously a positive predictor of opinion leadership, was found to be a negative predictor. The finding was attributable to the atmosphere of the setting and respondent characteristics. It is likely that these two items better determine whether innovativeness is a positive or negative predictor of opinion leadership than the variable alone. Other findings supported the profile and the opinion leadership hypotheses.

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I. THE PROBLEM

Introduction

Apparently it is a human trait to want to be influential and persuasive when dealing with other human beings. Almost everyone seems to find satisfaction in being able to "advise" others in their decision-making processes--especially when they follow that advice.

"Opinion leadership" is a concept first described by social researchers fewer than thirty years ago. During the ensuing years, this notion was developed into a set of well-defined and tested theories--theories which attempt to explain how information and influence flow through society (Lazarsfeld, Berelson, and Gaudet, 1948; Berelson, Lazarsfeld, and McPhee, 1954; Merton, 1949; and Katz and Lazarsfeld, 1955). Therefore, "opinion leadership" is defined as the degree to which an individual is able to informally influence other individuals' attitudes and/or overt behavior in a desired way with relative frequency (Rogers and Shoemaker, 1971).

Theories of opinion leadership, in their attempt to define the operation of leadership in the flow of communication, have been utilized earlier to describe various social settings. Additionally, these theories have been utilized in an attempt to predict the operation of opinion leaders in environmental circumstances as yet unresearched.

One function of this study is to examine and explain both theoretical purposes--descriptive and predictive--and then correlate them with a unique educational situation. The researcher further hypothesized that

another item ought to be added to the list of opinion leadership predictor variables--that of "innovativeness." Innovativeness, it is hypothesized, can be employed as a predictor variable much in the same way that age, education, tenure, and discussion have been used in past research.

Innovativeness is defined as the degree to which an individual is relatively earlier than the other members of his social system in adopting new ideas (Rogers and Shoemaker, 1971). This factor has yet to be tested as a predictor variable for opinion leadership. This and four other purposes comprise the major reasons for selecting this research problem.

The five purposes of this research are: (1) to describe the composite situation in a selected social setting in terms of demographic data, the direction and amount of opinion leadership, the innovativeness of the subjects, and the perceptions of the subjects; (2) to explore possible differences between opinion leaders and nonopinion leaders; (3) to establish the relationship between variables in the project; (4) to test the innovativeness variable as a predictor of opinion leadership; and (5) to recommend action that would increase the effectiveness of the opinion leaders in the schools.

The teaching personnel of the Union County, Tennessee, school system have been chosen as the subjects of this study. Teaching personnel were chosen because: (1) it is important to know how teachers transmit information and influence; (2) this researcher's interest in the behavior of teachers in general, and this specific school system in particular; and (3) several researchers, such as Rogers, Lin, Johnson, and Marcum, have stressed in recent years the need for additional research into the functioning of opinion leaders within school systems.

The teaching personnel of the Union County schools were chosen for several reasons. These were: (1) they teach in a school system which comprises several modern facilities as well as several one- and two-room schools; (2) they are accessible and relatively easy to reach, yet they teach in a rural, Appalachian school system; (3) their school system is a member of a four-county educational cooperative that requested a study of this nature; (4) an adequate yet manageable number of respondents exists; and (5) the teachers have close relationships with one another. A "friends and neighbors" atmosphere is present in the schools among the teachers. Many are related and most have been friends for years.

The Union County school system is unique. The average level of education for the teaching personnel is below that a four-year college degree, it is located in Appalachia, and it features both modern and antiquated facilities. There are also few special education programs in the school system. Only one person, the supervisor of education, is completely accessible to all teachers and has direct contact with each regularly. She, therefore, may be the only true opinion leader in the system--a designation she may hold because of her position and authority.

The Appalachian culture is evident in the county and the school system--both in the teachers and the students. Most of the teachers have been employed by the school system for many years. The existence of one- and two-room schools with outdoor facilities, eight grades with twenty students being taught by a single teacher, and pot-bellied stoves for heating standing within a few miles of newer brick schools with indoor plumbing, twenty classrooms, television in each room, and other modern conveniences, add to the uniqueness of the Union County schools.

This paper should prove beneficial to the administrators of the school system in that it will identify opinion leader characteristics which their teachers possess, and that may be employed to diffuse innovations through the school system. This paper will also provide the administrators with a profile of the teaching personnel as well as composite scores from a number of personality, perceptual, and demographic variables. Strengths and weaknesses of the teacher profile will be provided along with the teacher perceptions of a number of programs and school administrators.

The perspective for this study is taken mainly from Jain and Rogers (1968), as well as Lin (1968), who suggest that educational research should center on the opinion leaders who act as "gatekeepers" in the flow of information and influence. The methodology, outlined fully in Chapter II, draws heavily from several sources--Rogers, Lin, Katz and Lazarsfeld, Johnson, and Marcum.

Theoretical Perspective and Hypotheses

In order to understand the current state of opinion leadership theory on which this study is based, a review of the history and development of the theory is in order. Research in opinion leadership began in the early 1940's with a study aimed at discovering how people make up their minds about voting. Lazarsfeld, Berelson, and Gaudet (1948) attempted to discover and measure the influence of the mass media when they studied voting preferences during the 1940 Presidential election. Instead of finding that the mass media had large-scale direct effects, they found that influence largely centered on certain persons in the

community under study. These persons were given the title of "opinion leaders."

Opinion leaders were seen as "gatekeepers" in the flow of information and influence. They exert control on the flow because: (1) they are considered by others to be an authority on the subject matter, and therefore hold positions of key importance in the transfer process; (2) they hold a formal position of authority; (3) they hold a combination of demographic data favorable to placing them in a position of informal authority in the social structure; or (4) they possess some yet unexplored trait or combination thereof that places them in key positions of influence in society.

In the voting study researchers found that opinion leaders operate at all levels of society. They also discovered that opinion leaders often gained their ideas and information from the media, and then passed this information, along with some degree of personal influence, to the nonopinion leaders in their social circles. Opinion leaders were also seen to withhold information gained from the media from others who turned to them for information and advice. Additionally, they could insert their own messages into the flow of information and influence. Truly, opinion leaders are powerful agents in the flow of communication.

A 1948 voting study by Berelson, Lazarsfeld, and McPhee (1954), which was modeled after the earlier 1940 study, also confirmed the existence of opinion leaders acting as key links in the process of communication. Researchers now realized that characteristics of opinion leaders must be isolated, and that a full-scale exploration of the concept of opinion leadership was needed.

The characteristics were isolated by Merton (1949) as he attempted to identify opinion leaders. He found that opinion leaders could be classified into two categories according to the type of influence that they exerted. Local opinion leaders held influence over matters of local importance, and their influence often spread over a variety of topics. Cosmopolitan opinion leaders held influence over topics of more regional or national concern, and their influence was limited to more specific categories than that of the locals. The influence of the locals seemed to be rooted in whom they know, whereas the influence of the cosmopolitans was anchored in what they knew. Merton's data also suggested that persons were likely to be influenced more by their peers than by persons from other strata of society, and that influentials had specialized spheres of influence--they acted as opinion leaders only on specific topics. Merton also confirmed the voting studies' findings of the existence of a chain of communication and influence anchored by opinion leaders.

Katz and Lazarsfeld (1955) provided the first major and systematic exploration of opinion leadership as it operated among eight-hundred women in Decatur, Illinois. They selected four fields--marketing, fashions, public affairs, and movie-going--for use in their study. Their findings were similar to those of the two earlier voting studies--namely, that personal influence, operating through opinion leaders, is the key to opinion change and information and influence flow.

Coleman, Katz, and Menzel (1957, 1966) showed that opinion leadership plays a key role in the spread of information and the adopting of a new prescription drug for patient use by physicians. Rogers (1962)

and Rogers and Shoemaker (1971) have summarized the findings from hundreds of studies that have shown that opinion leaders are the key agents in the spread of innovations. This last reference is, perhaps, the best work to date offering a complete summary of innovation and opinion leadership theory.

Lin (1973) offers a very current exploration of opinion leadership characteristics. His observations draw heavily from all of the above-mentioned authors, especially Rogers. Lin describes opinion leaders as tending to exhibit the following characteristics:

1. They appear in all social, occupational, and economic levels in a social system.
2. They are interested in the topics on which they are opinion leaders.
3. They are more likely to be exposed to the mass media and to impersonal sources outside of their own social circles.
4. They tend to hold strategic or advantageous social positions which facilitate their receiving information on topics on which they exert influence.
5. They are accessible and gregarious.
6. They tend to be similar to their followers in social, economic, and occupational characteristics. However, they also tend to be slightly, but not much, better off than their followers in socioeconomic status.
7. They are social norm supporters rather than deviants. Thus, in developed countries, opinion leaders are prone to change simply because the social norm is in favor of change.
8. There may be two or more types of opinion leaders operating within a social system. Local and cosmopolitan and informal and formal opinion leaders are two distinct classifications which may be employed to distinguish types of opinion leadership.
9. There is a positive relationship between the range of the opinion leaders' expertise and the extent of their local orientation. Local leaders tend to be polymorphic, specializing in a wide range of issues, and cosmopolitan leaders tend to be monomorphic, specializing in a more narrowly defined area.
10. Opinion leaders who deviate from the existing norms may emerge when the traditional opinion leaders fail to relate the group to the larger social system.

Opinion leaders may be viewed as transfer agents who hold key positions in the flow of communication. They have a variety of characteristics which may set them slightly apart from the nonopinion leaders. They may also be classified into different categories depending on the types of influence they exert.

Research on opinion leaders within educational structures has centered on superintendents in the past. Carlson (1965, 1968) concentrated his studies on the spread of innovations through superintendents. Johnson, Carnie, and Lawrence (1967) studied opinion leadership and personality innovativeness among school superintendents in an effort to find some formula to predict which superintendents were prone to accept and initiate change. Johnson and Marcum (1969) studied the relationship of the school system's organization to innovativeness and opinion leadership not only among superintendents, but also among the teaching personnel of the system.

Jain and Rogers (1968) and Lin (1968) have outlined both a theoretical and methodological approach to be used in future research in the field of education. They stress studying the opinion leaders within a system, not only to understand how information and influence flow, but also as a profile of the system. Lin (1968) states that most research in education has been too narrowly centered on tracing specific innovations instead of asking the more basic and general questions concerning the innovativeness of school personnel and the operation of opinion leadership within a school system.

The advice of these researchers will be followed, with the result that the following questions will be asked: (1) how is innovativeness

related to opinion leadership; (2) how does opinion leadership operate within the school system under study; and (3) what is the profile of the teaching personnel? The hypotheses developed for this project draw directly from the aforementioned list of characteristics developed by Lin (1973), as well as from research by Rogers and others. This research showed that opinion leaders are more innovative, more often rooted in the center of the social sphere in which they exert influence, and those to whom others turn to for advice most often (Rogers and Shoemaker, 1971). Building on their efforts, this study will develop and test the following nine hypotheses.

This school system is a rural one with many teachers not having completed a four-year college-degree program. Many of the teachers have been out of school for many years. Based on these reasons, few of the teachers will hold clearly defined expertise on the subject of new educational practices. Also none of the teachers will hold any type of formal authority because none exists in the system--all teachers are equal. Therefore, the first hypothesis is that relatively few opinion leaders--less than 10 percent of the total population in the school system--will be discovered among the teachers.

The prestige of a teacher may grow the longer he or she remains in the school system. This may be because the older teachers will be considered to be more knowledgeable concerning the workings of the school system, or because in the friendly atmosphere which exists, the older teachers will have had more time to develop friends who may turn to them for advice. The older teachers may also tend to be stronger social norm supporters than the younger teachers--one of the opinion leader

characteristics developed by Lin. Therefore, the second hypothesis states that the opinion leaders in this school system will be older and employed longer than the other teachers in the school system.

As stated earlier, the supervisor of education is the only person who has regular contact with the teachers. She supervises their performance, and assists them in many ways. She is accessible and gregarious--a requisite characteristic for an opinion leader as noted by Lin--and is an expert in her field. She holds a slightly higher position on the socioeconomic scale than do most of the teachers, and is a main source of information and advice for those teachers. Therefore, the third hypothesis is that the supervisor of teachers will be the highest ranked opinion leader in the school system.

The younger teachers within the school system will most likely possess the greatest number of years of formal education. More of these teachers will have completed a four-year college degree. These younger teachers may also have been exposed to innovative educational programs during their college coursework. When thrust into a rural and conservative setting, these teachers may be expected to express some imbalance over the perceived lack of opinion leadership within the system. These teachers, and possibly others, may have opinion leaders on educational matters outside of the school system. Therefore, some amount of negative scores--10 percent of the total number of scores--will be found on the opinion leadership item indicating this outside source of opinion leadership, and outside sources will rank near the top of the information source item.

The information source item is also involved in the fifth hypothesis, one dealing with Clinch-Powell Educational Cooperative. The Cooperative was established to improve the educational programs in a four-county area including Union County. The persons who deal with Clinch-Powell most, however, are not the regular teachers but the administrators of the school system. The regular teachers have little regular contact with the Cooperative staff. Past research has shown that persons are influenced the most by persons on their own social strata and with whom they have regular contact. The staff members of Clinch-Powell are not on this level for the teachers. Therefore, the fifth hypothesis states that little effect will be felt by the teaching personnel of the efforts of Clinch-Powell Educational Cooperative, and it will rank low as a source of information for the teachers.

The rural and conservative outlook of the teachers may also be reflected in the teachers' scores on the questionnaire. Few teachers will consider themselves to fall in the upper classification on the innovativeness scale. The teachers tend to score as their peers--the other teachers--do. This may be in the middle to lower middle of most items on the survey form. Therefore, the sixth hypothesis states that the profile of the teachers will show that, in general, they score in the middle to low categories of the questionnaire, and that they will be shown to be less than highly innovative.

The opinion leaders in the school system should score slightly higher than the nonopinion leaders on most items on the questionnaire. This is in line with findings of past research. The opinion leaders will be social norm supporters, but should be more innovative on the

personality innovativeness scale. Therefore, the seventh hypothesis of this study is that the other-designated opinion leaders should have slightly higher scores than the nonopinion leaders on the innovativeness and other variables.

Rogers, Johnson, and Marcum have shown that demographic variables may often be the positive predictors of opinion leadership. They have also shown that persons who are talkers more often than listeners on a given topic may be opinion leaders more often than not. Based on these demographic and discussion findings, the eighth hypothesis states that the variables of age, education, tenure, and discussion will have significant positive correlations with opinion leadership.

Johnson, Carnie, and Lawrence (1967), Marcum (1968), and Johnson and Marcum (1969) have shown that the variable of innovativeness is positively related to opinion leadership--opinion leaders are innovative. The extent of the predictive power of innovativeness to opinion leadership is, however, uncertain at this point. In this exploratory study, the ninth hypothesis states that innovativeness will have a significant positive correlation with opinion leadership.

Each of these hypotheses will be tested in the course of this project, but there is another reason for this research: exploration. Several of the variables have yet to be tested generally, and many others have yet to be tested in an Appalachian school setting specifically. Because of the exploratory nature of the project it is expected, therefore, that many statements detailing the conditions and the operation of the variables will be developed during the course of the research.

The purposes of the project are to profile the situation and respondents, discover and describe the relationships between the variables, compare opinion leaders and nonopinion leaders, and test the possibility of the innovativeness variable being a predictor of opinion leadership. This research project has a firm base on past studies, and the hypotheses have been developed in line with existing research. The hypotheses are:

1. Relatively few opinion leaders--less than 10 percent of the total population in the school system--will be discovered among the teachers.
2. Opinion leaders in this school system will be older and employed longer than the other teachers in the school system.
3. The supervisor of teachers will be the highest ranked opinion leader in the school system.
4. Some amount of negative scores--10 percent of the total number of scores--will be found on the opinion leadership item indicating an outside source of opinion leadership, and outside sources will rank near the top of the information source item.
5. Little effect will be felt by the teaching personnel of the efforts of Clinch-Powell Educational Cooperative, and it will rank low as a source of information for the teachers.
6. The profile of the teachers will show that, in general, they score in the middle to low categories of the questionnaire, and that they will be shown to be less than highly innovative.

7. The other-designated opinion leaders should have slightly higher scores than the nonopinion leaders on the innovativeness and other variables.
8. The variables of age, education, tenure, and discussion will have significant positive correlations with opinion leadership.
9. Innovativeness will have a significant positive correlation with opinion leadership.

Section I has surveyed what is known from existing research, outlined the purposes of the study, while developing then stating the hypotheses to be tested. The task of Section II, then, is to describe and explain the environment within which this investigation was conducted, and to use this understanding as a basis for detailing the methodology employed in the data gathering.

II. METHODOLOGY

Introduction

The methodology employed in this research project may be described in terms of six major areas. These are: (1) the setting; (2) the sample and questionnaire construction; (3) operationalization of concepts; (4) data collection; (5) data analysis; and (6) a discussion of the methodology. Each of these areas will be examined beginning with the setting.

Setting

Union County, Tennessee, is located in the northeastern section of the state adjacent to the Knoxville Standard Metropolitan Statistical Area (SMSA). The county was formed in 1854 with the city of Maynardville being chosen as the county seat. Maynardville is twenty-eight miles from Knoxville, the closest metropolis. There are 9,072 residents in Union County, which ranks it eighty-first in population among the state's ninety-five counties. The county occupies 212 square miles. Agriculture has been the principal occupation of the residents of the county in past years, but recently there has been increasing success in attracting manufacturing concerns to the county.

According to the 1990 planning guide, authored by the Tennessee State Planning Commission (1968), the income level of the residents of the county is well below that for residents of the nearby Knoxville SMSA. It is also well below the levels for the United States and the state of Tennessee. See Table 1. That same planning guide also reveals that the median for school years completed by county residents is comparable to

Table 1. Income Levels for Urban U.S., Tennessee, and Knoxville SMSA for Comparison with Union County, Tennessee

	Urban U.S.	Tennessee	Knoxville SMSA	Union County
Median Family Income	$6,166	$3,949	$4,908	$2,413

the median for all Tennessee residents, but lower than that for the residents of the Knoxville SMSA. The percent of high school graduates in Union County is, however, much lower than in either of the other two areas. Table 2 illustrates this.

Table 2. Educational Levels for Tennessee, Knoxville SMSA, and Union County, Tennessee

	Tennessee	Knoxville SMSA	Union County
Median for School Years Completed	8.8	10.1	8.0
Percent of High School Graduates	30.4	38.4	12.4

Union County offers an elementary and secondary school "system." Seven elementary and one high school are administered by a county board comprising seven elected members. The superintendent of the system, also elected, serves a four-year term.

Although there are seven elementary schools in the county, large differences exist in the quality of individual buildings and the type of

education offered. Four of the schools are modern, well-lighted facilities with indoor plumbing; individual teachers are assigned to each grade. The other schools, however, are either one- or two-room wooden structures with poor lighting, outdoor plumbing, pot-bellied stoves for heating; as many as eight grades may convene in one room with a single teacher. The teachers in these less-than-modern schools possess only a high school degree or one year of college at the most.

There were seventy-four teachers employed by the county school system at the time of the project. Included in the teacher category were regular classroom, special education, vocational education teachers, and librarians. These seventy-four teachers taught a total of 2,038 students. In addition to the teachers, there is a supervisor of education for the county. She performs no actual teaching, but supervises the performance of the teaching personnel, handles the purchasing of supplies and text-books for the system, and generally oversees administrative duties of the schools. She is in a position of authority over the teachers. She is also the only person who has direct contact with every teacher in the schools on a regular basis. Because she supervises the teachers and holds a position of formal authority, she may be an opinion leader for the teachers.

Neither the superintendent nor the supervisor will be included in the scope of the project, even though it is possible that they may be designated as opinion leaders by the teachers. It is the purpose of this research to query only teachers. Aides at the schools, as well as other administrative employees of the school system will also be excluded from

the scope of the project. The areas of sampling and questionnaire construction are next.

Sampling and Questionnaire Construction

Because Union County employs a total of seventy-four teachers, the entire universe becomes manageable as the "sample." Such "saturation sampling" follows the suggestion of Lin (1968), who advised that, where feasible, all respondents should be contacted in opinion leadership studies. The data collected should yield findings of greater validity than those resulting from a smaller sample. It must be noted here, and will be explained further on in this section, that one teacher was left out of the sample due to unusual circumstances. This was done on the advice of the administration of the school system. Once the sampling technique had been selected, the next step was to construct the questionnaire.

The questionnaire employed in this research was constructed to gain demographic data, a measure of opinion leadership among the teachers, the perceptions of the teachers concerning various programs and administrators, and selected personal and personality traits of each teacher. The actual construction of the survey form relied on four sources. These were: (1) the research tool used by Katz and Lazarsfeld (1955) in their opinion leadership study; (2) the questionnaires used by Rogers and others (1969) in their study of Asian school personnel that was developed from their investigations of school teachers in Michigan; (3) the scales and questions used by Johnson, Carnie, and Lawrence (1967), Marcum (1968), and Johnson and Marcum (1969) during their studies of school personnel

and school systems in the Western United States during the late 1960's; and (4) original ideas developed by the researcher. The questionnaire is reproduced in Appendix A.

Eighteen questions were formulated for use in the final draft of the questionnaire. Each of these was aimed at discovering a specific bit of information concerning the teachers, and several of the questions, taken together, were designed to provide composite scores on more general variables. The purpose of the research tool was to obtain a profile of the teachers on the innovativeness, discussion, and opinion leadership items. The relationships between questions also gained much of this information.

The initial group of questions dealt with the formal education level, the age, and the length of employment in the school system of the teacher. The next question was divided into three parts to reveal the direction and amount of discussion of educational practices among the individual teacher and other teachers. The following question presented twelve items, as the teachers were asked to rank-order sources of information to which they turn for advice on educational methods and materials. The next question was the "other-designation" to discover the opinion leaders within the school system. Teachers were asked to name three persons in the school system that they considered to be knowledgeable on educational matters and to whom they would turn for advice concerning new teaching methods and materials. After each name listed the teachers were asked to indicate the weight of the designated person's opinion to them on a one-to-seven numeric scale. This question--with its built-in

weighting--allowed for the construction of an accurate scale of opinion leadership within the school system.

A personality innovativeness scale followed the opinion leadership item. This scale was taken from the findings of Johnson, Carnie, and Lawrence (1967), Marcum (1968), and Johnson and Marcum (1969), who used it to test the innovativeness of school system personnel. It is constructed by placing a nine-step semantic differential between two polar adjectives. The adjective descriptors were also taken from the above-mentioned research. Eleven descriptors were used in this project.

The next question was a five-step Likert-type statement asking the teachers to designate whether they talked, listened, or talked and listened equally, when discussing new educational practices with their fellow teachers. The next six questions were perceptual ones designed to discover the attitudes of the teachers towards various school programs, as well as the school administrators' abilities to inform the teachers about new teaching methods and materials. A seven-interval Likert-type statement was used for each of these questions. The last of this six-question group utilized an additional seven-interval Likert-type statement asking how important the respondent believed it is for teachers to keep aware of new developments in the field of education.

There were four final questions on the survey form. The first asked the teacher to indicate which area within the fields of elementary/secondary education they consider to be their specialty. The second asked when was the last time that the respondent was enrolled in a college-level refresher course or a course leading to a degree. The third question asked how often the respondent attended professional

meetings, and the final item queried how often the teachers read professional education publications. These last two items were scored on a five-interval Likert-type scale.

The questions were placed in an order such that the easiest questions were followed by the more difficult items which were, in turn, followed by easier questions. The demographic data questions--age, education, tenure--were first and required little thinking on the part of the respondents. The discussion, opinion leadership, and personality innovativeness questions were placed in the center of the questionnaire--but before the perceptual ones--so that names of administrators would not occur until after the more important responses were gained. Specific names, had they been stated before the opinion leadership question, might have contaminated the opinion leadership item by giving the respondents the impression that they should rank the administrators high on the opinion leadership item. The final few questions were placed there in order to facilitate teachers' evaluations of their own action. These questions were also easier than the earlier discussion, opinion leadership, and innovativeness ones. Once the questionnaires were constructed and approved, operational definitions were made and the data collection portion of the project was begun.

Operationalization of Concepts

Many of the variables--age, education, and sex--will retain their standard definitions for this research project. Other variables, however, will be operationally defined for the purposes of this project. These are:

Tenure. The length of employment in the school system.

Discussion. The direction and intensity of respondents' answers to the question of whether they seek or give advice concerning current educational practices and materials. The variable is measured by question four.

Opinion Leadership. The naming of persons within the Union County school system who are considered by the respondent to be knowledgeable concerning educational matters and to whom the respondent would turn for advice on new teaching methods and materials. In addition to the naming of a person, the respondent's scoring of that person's strength on a one-to-seven scale used to determine how much the respondent values the opinion of the person named. The variable will be tested by question six.

Innovativeness. The composite score of the respondent on an eleven-item question dealing with the amount of innovative self-perceptions scored by the respondents. High scores will relate to more innovative personalities and low scores will related to less innovative personalities. This variable will be measured by question seven.

These variables will be used in the project along with the more standard definitions for other variables. Following the completion of operationalization of concepts, the data collection was next.

Data Collection

Several months prior to the data collection stage of the project, contact was made with the superintendent and supervisor of the school system. They were asked to supply preliminary information concerning the physical aspects of the schools. This information was used to formulate

the scope of the project. Three weeks before the actual data collection, via the survey forms, was undertaken personal contact was made with the two administrators of the schools. They were told that the questionnaire would survey teacher attitudes, and both agreed to cooperate fully. A memo, sent by the superintendent to all schools in the county, asked that the teachers also cooperate with the project. To maximize the validity of the study, and to minimize prior bias, no respondent in the school system was told of the exact nature of the research.

Teachers were asked to complete their questionnaires during a three-day period from Wednesday through Friday, April 4th to the 6th, 1973. On Wednesday, April 4th, the researcher visited three schools--Big Ridge Elementary, Sharps Chapel Elementary, and Luttrell Elementary. On Thursday he visited the largest elementary school in the county, Maynardville, as well as Horace Maynard High School. On Friday, the last day of data collection, he visited with the teachers at Hubbs Grove Elementary and Bull Run Elementary. Braden Elementary is operated by Union County but isolated from the rest of the county due to the construction of the Tennessee Valley Authority's Norris Dam in the 1930's. Once the dam was completed, the lake that formed behind it flooded a portion of Union County. The one-room school was left on a peninsula located more than sixty-five miles by car from Maynardville. In order to reach Braden one must drive through Claiborne County, which supplies the bus service and high school education to the students of Braden Elementary. Because of its isolation, and on the advice of school administrators, it was decided not to administer the questionnaire to the lone teacher at the school.

The actual method of requesting the teachers to complete the survey form was to tell them that the form was for use in a Master's degree research project, that all teachers were to fill out the form, and that individual responses were not to be identified. The teachers were told to be candid in their answers, not to consult with the other teachers, and to seal the completed form in the envelope provided. The researcher then collected the survey forms within the next half-hour. This method worked well: most teachers followed the instructions as requested. Upon completion and return of the forms to the researcher the teachers were thanked and told that a final report would be made available to them upon its conclusion.

Substitute teachers were not asked to complete the questionnaire because: (1) they do not have to hold any type of state certification and, therefore, may not be professional teachers; and (2) they do not enjoy full-time employment with the school system and may not be qualified to make judgments as to their relationships with the other teachers and the school administrators. Following the completion of the data collection, letters of thanks were sent to the teaching faculty at each school and to the administration of the school system.

Seventy-one of the total number of seventy-four teachers were present in the schools and completed a questionnaire. The three absences were due to two teachers being sick and one being absent on professional leave at the time. This response rate falls at the 96 percent level of completion. There were, however, some problems which further reduced this rate.

During the coding process, the researcher noticed that some of the questionnaires were incomplete. A dozen of the seventy-one forms were found to have missing data. The forms were incomplete because a teacher either skipped over an entire page, perhaps by accident, refused to answer a certain question, or only answered part of a question, thus leaving out other important parts. It was impractical to go back to the teachers and ask them to fill in the missing data. Therefore an incomplete questionnaire was deemed valueless; it should be removed from the sample and not tabulated. Because of this policy, fifty-nine completed questionnaires remained for analysis purposes. This is 80 percent of the total sample of seventy-four teachers--an adequate number for profiling the teachers in the system, but low for purposes of statistical analysis. The analysis was computerized. Prior to beginning the analysis, a t-test was run on both the complete and incomplete questionnaires. No significant differences were found between the two populations--those who completed the forms, and those who did not.

Data Analysis

Three distinct methods of analysis were used in this research. First was a frequency and percentage calculation, second was cross-tabulation to determine relationships, and last was multiple regression analysis aimed at determining the extent of variable prediction power. Each method of analysis was chosen for a specific purpose, and each yielded different results.

The frequency and percentage calculation was chosen because it provided a profile of the respondents. It tallied the total number of

responses in each category for every variable, and also determined percentages. This method was used to construct the teacher profile. Cross-tabulation was the next step of analysis. This method showed direction and intensity of relationships between variables in the research. A discussion of the findings appears in Section III, and the tables with the data appear in Appendices B and C. The final tool for analysis was multiple regression. Using the interval data prevelant in the research, multiple regression provided the predictive analysis necessary to fulfill the fourth purpose of the research--to test innovativeness as a predictor of opinion leadership. Multiple regression provided analysis of variance for each variable, F ratio statistics, and correlations between the independent variables and the dependent variable. The models used in the regression formula appear in Appendix D.

In order to be successful in predicting and controlling significant human behavior, one must introduce a series of variables which might be relevant to reducing error. In any behavior a network of interrelated variables is usually operating. Multiple regression will help determine the strength of each variable. Because there were several variables in this research, and the test of both the eighth and ninth hypotheses was to determine the strength of each--especially that of the innovativeness variable--it was decided that multiple regression was the best method of analysis. There were, however, many questions to be answered regarding the methodology. That discussion is next.

A Discussion of the Methodology

The main areas of discussion regarding the methodology pertain to reliability and validity--both internal and external. Reliability concerns itself with the question of whether another researcher, testing the respondents on the same variables, would discover essentially the same answers as those found in this research. The best method of determining this would be, of course, to replicate the project under the guidance of another researcher. There is some evidence, however, that points to the probability of the research being reliable without going to the expense and trouble of replication. The questions and indicators employed in this research were borrowed from several research sources. These research efforts have already been proven reliable. It would be expected that the demographic data gathered would remain fairly constant allowing for normal change. The respondents of this study may be described as being very honest, open, and cooperative. Considering this, the likelihood of the answers being nearly the same as those found in this effort should be quite high.

The internal validity question concerns itself with the question of whether the measuring instrument did, in fact, measure what it was intended to measure. Again, there is some evidence that the internal validity of the research was high. The measuring instrument was developed from the Katz and Lazarsfeld Decatur study, questionnaires constructed by Rogers for testing school personnel, and the Johnson and Marcum innovativeness study. All of these sources have demonstrated high internal validity. The nature of the project was also limited to a specific area of opinion leadership: new teaching methods and materials. This would aid in

heightening the internal validity because the focus of the research was narrowly limited. Although this particular combination of questions has not been empirically tested for internal validity, it should prove to be valid due to its specialized construction and its basis in other well-documented research efforts with high internal validity.

The question of external validity deals with the possibility of generalization of results gained from this research. There is evidence to suggest that the research has high external validity--especially when considering its intended purposes. It was intended to research opinion leadership and innovativeness among teachers in a rural school system. It did just that. Generalization to other similar populations may, therefore, be justified and acceptable. The population for the study possesses specific characteristics: it is rural, conservative, and long-tenured. Moreover, it functions in a system which is small and located in a friendly Appalachian atmosphere. In order to generalize properly one would have to find other populations that possess similar characteristics. The results were not intended for generalization to urban school teachers, and any application along this line may be hazardous. For its intended purpose it performed with high external validity.

This research has, therefore, high reliability, internal validity, and external validity. The small sample size may pose problems in the areas of statistical analysis, but overall the methodology employed was sound, reliable, and valid. Any special details of the methodology employed in a particular instance of the research will be noted during the discussion of the findings. That discussion is next.

III. FINDINGS

The findings of this research project may be dealt with in three broad areas. These are: the profile of the respondent population; the analysis of hypotheses; and other findings. The profile of the teachers is first.

The Profile

The profile of the teachers is generally one of conservative, older, tenured, and medium-leveled innovative persons. This narrative description of the sample is augmented by tables detailing the frequency and percentages found in constructing the profile. These tables appear in Appendix B.

There were forty-three women and sixteen men in the sample, giving the women a three-to-one margin over the men. The mean score on the education variable was 15.7 years which indicates that the average level of education for the teachers is slightly below that of a four-year college degree program. Scores on the education variable ranged from twelve years to eighteen years showing that there were teachers with high school educations as well as Master's degrees. The age variable had a mean of 37.6 years placing the average for the teachers in the middle-age category. The tenure variable showed that the average teacher had been employed in the system for 12.1 years. There were, however, a number of younger teachers who have been employed by the school system for three or fewer years. The data supporting these statements and detailing frequencies and percentages appear in Tables 6-9, Appendix B.

The teachers were more often seekers of advice and information than they were givers. They also listened more often than they talked. The mean on the discussion question was 4.7 on a thirteen-interval scale. Lower numbers indicated listeners; higher numbers indicated talkers. As seen in Table 10, Appendix B, no scores above ten were recorded.

The teachers indicated on the rank-ordering of information sources that they turned to university-related persons and items the most often. This was followed by professional magazines and journals, other teachers, and professional education meetings. The supervisor of teachers was fifth, followed by the superintendent, Clinch-Powell Educational Cooperative staff members, popular media, Tennessee Education Association representatives, and finally salesmen of educational materials and sales catalogs. A listing of the mean scores for items in this question appears in Table 11, Appendix B.

Four of the seventy-four teachers in the school system were named as opinion leaders by the other teachers. There were three women and one man in this group. In order to qualify as an opinion leader, a teacher had to be mentioned a minimum of three times on question six. This was an arbitrary threshold. The opinion leaders were mentioned, however, as many as twenty times on the questionnaire. A more complete discussion of this item will be presented in the analysis of hypotheses portion of this section.

The teachers tended to be middle-range scorers on the personality innovativeness scale. Eight of the eleven means for the teachers on the scale items fell between 4.0 and 6.0. These means are listed in Table 12, Appendix B, but a graphic representation appears below in Figure 1.

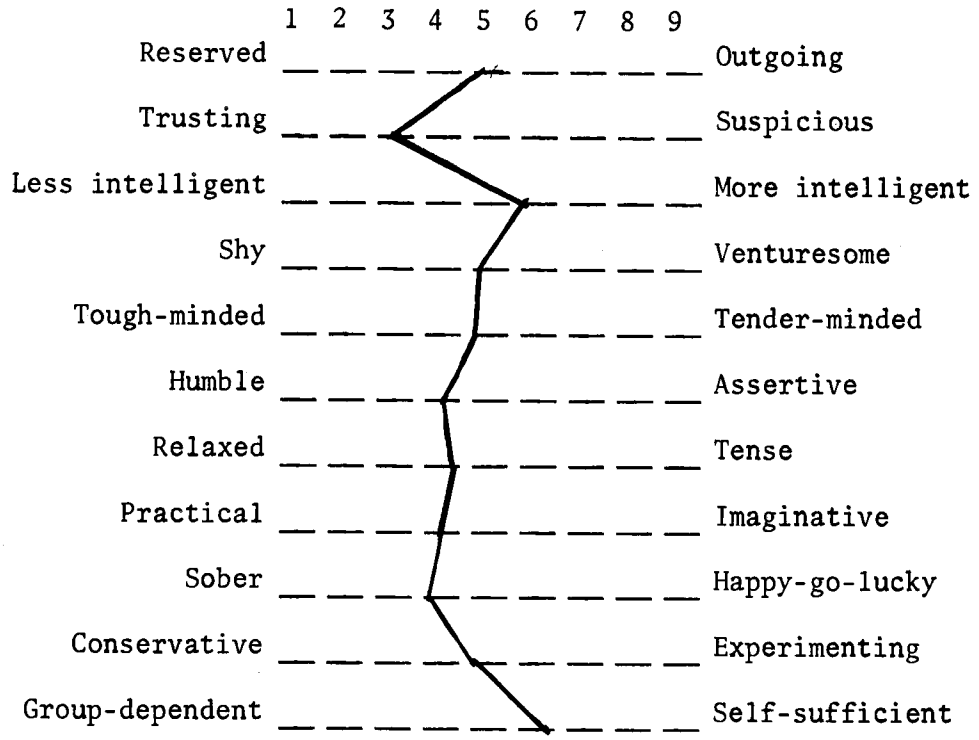

Figure 1. Personality innovativeness means for teachers in the Union County, Tennessee, school system.

The scale, taken from the Johnson and Marcum studies, uses the higher scoring descriptors in the right column to indicate the more innovative personalities, and those in the left column to indicate less innovative personalities. The adjective descriptors were randomly placed on the questionnaire, but have been rearranged in Figure 1. It is evident when viewing the scale that the teachers tend to fall in the middle-range category of personality innovativeness.

In a question relating to the earlier discussion item, the teachers indicated that they listened slightly more often than they talked when discussing educational practices with the other teachers. The mean for this item was 2.8 on a five-interval Likert-type statement with the lower number indicating listening and the higher one indicating talking.

The next several questions on the form asked for the teachers' perceptions of the effectiveness of various persons and programs. These were all seven-interval Likert-type statements, and are given in Appendix A. The mean given by the teachers for the effectiveness of the in-service point system was 4.1. This program is the only county-wide innovation recently diffused, and was instituted by Clinch-Powell Cooperative. The mean indicates the neutral position on the scale, and suggests that the teachers did not think the program either effective or ineffective.

The mean given the principals of the system was 3.4. This indicates that the teachers perceive their principals as being slightly ineffective in informing them of new teaching methods and materials. The mean for the supervisor of teachers was 4.7 indicating that she is considered to be in the neutral position on the scale, but close to being slightly effective in the task mentioned. The superintendent was given a mean of 3.9 by the teachers. This places him in the slightly ineffective position on the scale, but his score is close to reaching the neutral position.

The staff members on Clinch-Powell were given a mean response of 4.7 by the teachers. This places them in the neutral position, but approaching the slightly effective threshold. The finding is hard to reconcile with the earlier finding that Clinch-Powell staff members were placed low on the rank-ordering list of sources of information and advice. Apparently the teachers do not turn to the staff members for information and advice often, but the teachers do consider the staff members to be performing adequately.

The last of the seven-interval Likert-type statements asked the teachers how important they thought it was for teachers to keep aware of new developments in the field of education. The mean for this item was 6.7 indicating that the teachers believe it is very important for teachers to keep informed of new developments. This may be due to the teachers considering this question as one which relates to their professional competence.

Most of the teachers responded to the query regarding their specialty in the fields of elementary/secondary education by stating that it was language arts, math, or social studies. Mean responses to the question of when was the last time they were enrolled in a college-level refresher course or a course leading to a degree was 5.7 years. There were, however, thirty-four teachers who were enrolled in one of these two types of courses within the past year. This may be due to recently graduated and employed teachers, teachers without degrees continuing their studies, and other teachers starting to work on Master's degrees.

The last two items of the profile asked the teachers how often they attended professional education meetings and how often they read professional education publications. The means for these two items were both 4.1. These items were scored on a five-interval Likert-type statement with the higher numbers indicating "usually" down to the lowest number indicating "never" on the part of the respondent. These two answers place the teachers in the "often" category on the scale.

A review of the profile data shows that, speaking in the broadest of terms, the teachers average slightly less than a college degree, are

middle-aged on the average--although there is a high number of younger teachers, and tend to be listeners rather than talkers. Most scores for the teachers also fell into categories near the middle of the scales. This was true for the personality innovativeness and perceptual questions. This may have been because the descriptors on the innovativeness scale were all desirable, forcing the teachers to seek the middle. They rank university-related sources of information highest, which may be due to the large number of teachers taking a college-level course within the past year. They also consider it important to keep aware of new developments in the field of education, and often attend professional education meetings and read professional education publications.

The teachers, in general, reflect both a conservative nature in their innovativeness and discussion answers, and a professional nature in their answers to some of the perceptual items. In short, the teachers tend to fit the general profile hypothesized for them. They are conservative yet unique in some ways. The raw data, contained in Appendix B, show more fully the exact profile of the teachers. The next portion of this section will deal with the nine hypotheses, and a discussion of the findings related to these statements.

Analysis of Hypotheses

The first six hypotheses relate to the profile of the respondents, while the last three hypotheses deal with the innovativeness and opinion leadership variables. The discussion will, therefore, first center on the profile-related hypotheses, and then move to the final three

statements. A restatement of each hypothesis will be followed by the presentation of data that either supports or refutes the statement.

The first hypothesis states that relatively few opinion leaders--less than 10 percent of the total population in the school system--will be discovered among the teachers. The data support this hypothesis. Only four of the seventy-four teachers qualify as opinion leaders--only 5.4 percent of the total population. This figure is below the 10 percent threshold set in the hypothesis, and thus the hypothesis is supported. The data also showed that the opinion leaders were not present in every school in the system. The few opinion leaders found among the teachers did possess particular characteristics, as seen in the next hypothesis.

The second hypothesis states that the opinion leaders in the school system will be older and employed longer than the other teachers. The data support this hypothesis. The mean on the age variable for the opinion leaders was 46.3, and 37.6 for the nonopinion leaders. On the tenure variable, the opinion leaders had a mean of 24.3 years of employment, and the nonopinion leaders had a mean of 12.2 years. The opinion leaders are then, on the average, nine years older and have been employed twelve years longer than the nonopinion leaders. Although the few opinion leaders among the teachers are older and more tenured, the supervisor of teachers was named as the top opinion leader.

The third hypothesis states that the supervisor of teachers will be the highest ranked opinion leader in the school system. The supervisor, Mrs. McKelvey, was given a raw score of 251 points on the opinion leadership item. This was almost one hundred points above the next highest

ranked person, the superintendent of schools. The supervisor was the highest ranked person on the opinion leadership item, and this hypothesis is supported. The possible explanation for the validation for this hypothesis is that many teachers considered the school administrators to be competent sources and opinion leaders. The teachers turned to the administrators more often than they turned to the other teachers. This may be one reason why few opinion leaders were discovered among the teachers themselves. Another reason may be found in the next hypothesis.

The fourth hypothesis states that some amount of negative scores--10 percent of the total number of scores--will be found on the opinion leadership item indicating an outside source of opinion leadership, and outside sources will rank near the top of the information source item. This hypothesis is supported by the data. Some of the teachers had opinion leaders on the subject of educational matters outside of the Union County school system. This was indicated by blank scores that were accompanied, for the most part, by comments stating that there were no opinion leaders for the respondent in the system. There were also comments that persons outside of the county schools served as opinion leaders for the respondents. Approximately 12.5 percent of the total number of responses on this item indicated outside opinion leaders. This is above the threshold established in the hypothesis.

The outside opinion leader possibility is also supported by the ranking of university-related persons and items as the first on the rank-ordering of information sources. For recent graduates among the teachers and teachers currently enrolled in college classes, the possibility states that these university-related persons and items may be their opinion

leaders. With this ranking and the number of negative or blank scores, it is reasonable to conclude that the hypothesis is supported. The next hypothesis also relates to the information source ranking item.

The fifth hypothesis states that little effect will be felt by the teaching personnel of the efforts of Clinch-Powell Eduational Cooperative, and it will rank low as a source of information for the teachers. The data support this hypothesis. The mean for the Clinch-Powell staff members on the information source rank-ordering was 7.1 on a twelve-interval scale. This placed Clinch-Powell in the eighth position on the scale shown in Table 11, Appendix B. The teachers also ranked both the in-service program instituted by Clinch-Powell, and the effectiveness of the staff members at informing them of new teaching methods and materials in the neutral position on the seven-interval perceptual scale. This shows that the teachers felt little effect of the efforts of Clinch-Powell staff members. The hypothesis is, therefore, supported on several bases--the low information source ranking, the neutral score on the in-service item, and the neutral score on the effectiveness of staff members. The last of the hypotheses dealing with the profile of the respondents is number six.

The sixth hypothesis states that the profile of the teachers will show that, in general, they score in the middle to low categories of the questionnaire, and that they will be shown to be less than highly innovative. The hypothesis is supported by the data in Tables 10 and 12, Appendix B. On the personality innovativeness item, eight of the eleven mean scores of the respondents fell between four and six on the eleven-interval scale. Two of the other three means were within a few tenths-of-a-point of these two parameters. On the discussion variable, the mean

was 4.7 on a zero-to-twelve interval scale. This definitely shows that some of the teachers were low scorers on certain items. The teachers were middle-range scorers on the perceptual questions. All of their mean scores on these questions fell in either the three or four categories on the seven-interval scale. It is evident, therefore, that the teachers tend to be middle-range scorers, and on certain items even low-middle and low-range scorers.

The discussion of the first six hypotheses related to the profile of the respondents has shown that all six were supported by the data. The final three hypotheses deal with differences between opinion leaders and the nonopinion leaders, and the relationships between five variables and the opinion leadership variable. A discussion of the opinion leaders and the nonopinion leaders is first.

The seventh hypothesis states that the other-designated opinion leaders should have slightly higher scores than the nonopinion leaders on the innovativeness and other variables. This hypothesis is partially supported and partially not supported by the data. On the innovativeness variable, the opinion leaders scored nearly the same as the nonopinion leaders, although they tended to be slightly less innovative. On seven of the eleven items on the innovativeness scale, there were raw score differences between the scores of the opinion leaders and the nonopinion leaders of at least 1.00. As used by Johnson and Marcum, such a difference was considered to be significant at the .05 level. Table 3 gives the mean scores for both groups on the eleven-item personality innovativeness scale. Figure 2, following Table 3, graphically represents the scores of both groups.

Table 3. Mean Scores for Opinion Leaders and Nonopinion Leaders on the Innovativeness Scale

Item	Opinion Leaders	Nonopinion Leaders
Reserved--Outgoing	5.000	5.424
Trusting--Suspicious*	2.750	3.797
Less intelligent--More intelligent	5.750	6.119
Shy--Venturesome*	6.500	5.305
Tough-minded--Tender-minded*	4.000	5.153
Humble--Assertive	5.500	4.780
Relaxed--Tense*	3.250	4.932
Practical--Imaginative*	3.250	4.627
Sober--Happy-go-lucky*	2.750	4.322
Conservative--Experimenting	4.500	5.203
Group-dependent--Self sufficient*	7.750	6.729

*Indicates raw score difference of 1.00, significant at .05.

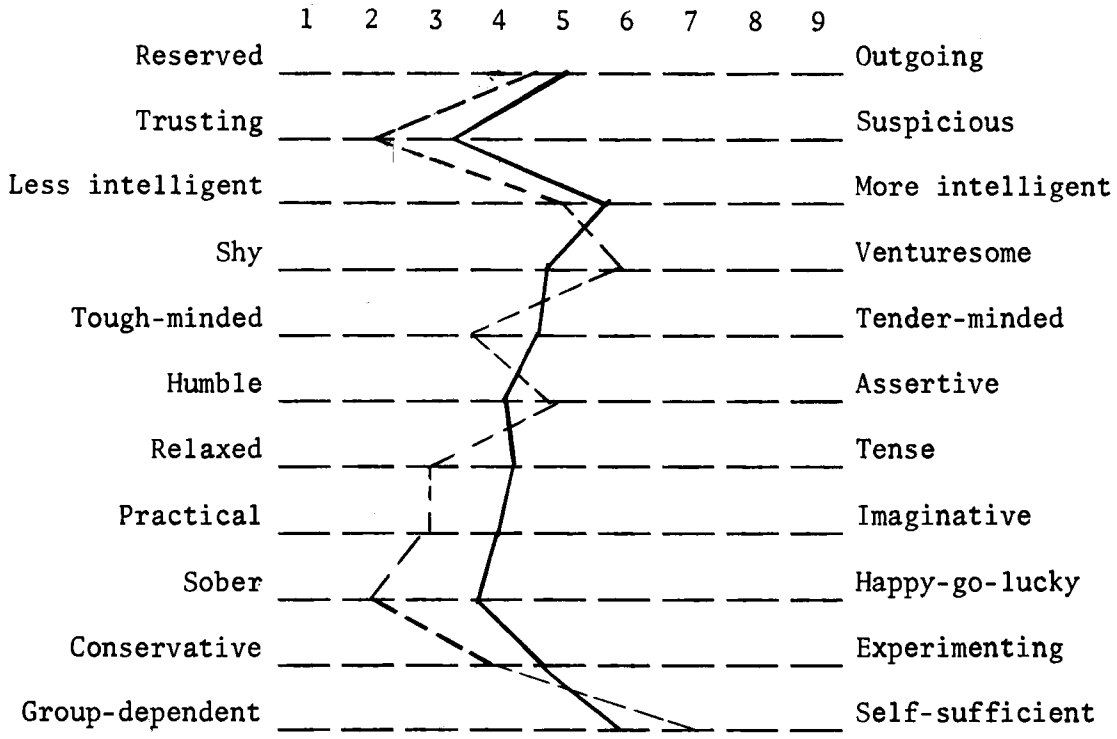

Figure 2. Graphic representation of mean scores for opinion leaders and nonopinion leaders on the innovativeness scale.

Opinion Leaders ---

Nonopinion Leaders ——

Little hard evidence is available as an explanation for the differences in the scores of the two groups. The similarity in some of the scores may be attributable to the fact that the opinion leaders are very much like the nonopinion leaders in many respects, and that the friendly atmosphere within the system tends to make all scores alike to some degree. The differences in the scores may be harder to explain.

The opinion leaders are more trusting than the nonopinion leaders. This may possibly be because they are older and less wary of events surrounding them. The opinion leaders are also more venturesome, more tough-minded, more relaxed, more practical, more sober, and more self-sufficient. Although only conjecture, several of these differences may be due to the age and tenure differences between the two groups. As the opinion leaders grow older they may not only become opinion leaders, but may also become more relaxed, practical, sober, and self-sufficient. Perhaps they are more venturesome because they are more inquisitive by nature, and this factor enhances the possibility of their becoming an opinion leader in this particular situation. All of these assumptions and possible explanations must be approached with a good deal of caution. The small sample size for the opinion leaders and the lack of further evidence on these points make any assertions as to cause tenuous at best.

The opinion leaders and the nonopinion leaders also scored differently from each other on several of the other variables within the project. The perceptions as to the effectiveness of the persons and programs mentioned on the questionnaire were often different, and at times nearly the same for the two groups. Their mean responses for discussion

and self-perceptions were also different. Table 4 details the differences and similarities between the means for the two groups on many of the variables within the project.

Table 4. Mean Scores for Opinion Leaders and Nonopinion Leaders on Selected Variables

Variable	Opinion Leaders	Nonopinion Leaders
Years of education	16.3	15.7
Amount of discussion	5.3	4.8
Effectiveness of Clinch-Powell in-service point system	5.8	4.0
Effectiveness of principals informing teachers of new teaching methods and materials	2.8	3.4
Effectiveness of supervisor informing teachers of new teaching methods and materials	6.3	4.7
Effectiveness of superintendent informing teachers of new teaching methods and materials	4.8	3.9
Effectiveness of Clinch-Powell staff members informing teachers of new teaching methods and materials	5.3	4.7
Importance for teachers to keep aware of developments in education	6.8	6.7
Number of years since last enrolled in a college-level course	12.0	5.7
Attendance at professional education meetings	4.0	4.1
Reading of professional education publications	4.3	4.1

As seen in Table 4, the scores of the opinion leaders are often higher than the scores of the nonopinion leaders. The opinion leaders are more educated and they are more often talkers than the nonopinion leaders. The opinion leaders believe the in-service point system is more effective than do the nonopinion leaders. The opinion leaders do not, however, believe their principals are as effective as the nonopinion leaders do in informing them of new teaching methods and materials. This may be because the principals are authorities for the nonopinion leaders, but are not authorities on the subject for the opinion leaders. The opinion leaders may, in fact, be the authorities for the principals.

The effectiveness of the supervisor of teachers, the superintendent, and the staff members of Clinch-Powell Educational Cooperative is ranked higher by the opinion leaders than by the nonopinion leaders. This is especially true for the scores given the supervisor of teachers, and another reason supporting the concept that she may be an opinion leader even for the teachers who are opinion leaders in the system.

Both groups consider it important to keep aware of new developments in the field of education. Both also attend professional education meetings and read professional education publications at approximately the same level. A large difference exists, however, in the number of years since they were last enrolled in a college-level course. This may be because the opinion leaders have college degrees and are older, therefore, they are not under the pressure to complete their degrees, and they have been out of school for a length of time as to make them unwilling to begin additional coursework required for a higher degree.

The opinion leaders do have higher scores on most variables in this research, but have only a few higher scores on the key personality innovativeness variable. Therefore, this hypothesis is partially supported and partially not supported. Isolation of specific variables along with more extensive questioning may provide the necessary data for either complete support or refutation of the hypothesis. The final two hypotheses deal with the relationship of five variables to the opinion leadership variable.

The eighth hypothesis states that the variables of age, education, tenure, and discussion will have significant positive correlations with opinion leadership. The data partially supports and partially does not support this hypothesis. The ninth hypothesis states that the variable of innovativeness will also have a significant positive correlation with opinion leadership. Although this is an important assertion of the research, it is not supported by the data. Table 5 gives the correlation, variance, and F ratio scores for the variables.

Table 5. Correlation, Variance, and F Ratio Scores for Independent Variables

Variables	r[a]	Variance Accounted for	F Ratio
Age	0.23584	0.05562	3.35713
Education	0.15077	0.03709	2.86129
Tenure	0.37993	0.09593[b]	4.26260
Discussion	0.11122	0.00001[c]	3.13904
Innovativeness	-0.13720	0.00827[c]	2.59933

[a]Correlation with dependent variable, opinion leadership.

[b]Significant at the .01 level. [c]Significant at the .05 level.

Although none of the correlations for the first four independent variables are particularly strong, they are all positive. Only two of these four are, however, significant at either the .01 or .05 level. Tenure and discussion are significant; the other two are not. The data therefore supports the eighth hypothesis on tenure and discussion, and does not support it on age and education. Tenure is also the only variable that accounts for a high level of the total variance, and it is the only one significant at the .01 level. Discussion is significant at the .05 level. Although statistically significant, the finding is of little practical value due to the small amount of variance being accounted for. The hypothesis is partially supported. This is not the case of innovativeness and the ninth hypothesis.

Innovativeness is shown to have a slightly negative correlation with opinion leadership of -0.13720. The variance accounted for is small, but the finding is significant at the .05 level. This means that the null hypothesis may be rejected, and that innovativeness is a negative predictor for opinion leadership in this case. Although this finding is contrary to past research, there are several possible explanations for the reversal.

One explanation, perhaps the most plausible, is that there were large differences in the populations of the Johnson and Marcum studies and this one. The Johnson and Marcum population was mainly composed of superintendents who had earned a four-year college degree. Most had earned Master's or doctorate degrees. These superintendents were also located in more urban settings than the respondents of this study. In short, there were urban and rural cultural differences, educational, and

locational differences between the two populations. This may prove to be the crucial determinent of whether innovativeness is a positive or negative predictor for opinion leadership. Perhaps with urban and more educated populations, innovativeness does act as a positive predictor. On the other hand, perhaps in a rural and more conservative population, innovativeness acts as a negative predictor of opinion leadership. It may not be a strong negative predictor, but it may be a negative one all the same.

There are other possible explanations, namely those dealing with differences in the overall measuring instrument and approach of the two projects, differences in the timing, and other methodological reasons. Another explanation may be that in a "friends and neighbors" atmosphere, such as in this study, innovativeness may be an undesirable characteristic. Respondents may not wish to be highly innovative, and thus may remain similar to their friends. These aforementioned reasons may be the primary reasons for the differences in the findings of the two projects. They may also explain the existence of a negative correlation between the innovativeness and opinion leadership variables.

Other Findings

Although the bulk of the findings were centered on either supporting or refuting the hypotheses, there were some findings generated by this research which were not directly tied to the hypotheses, but which were interesting and relevant. Most of these findings resulted from the analysis of relationships between variables in the project. Each of the

findings will be discussed here and the supporting data appears in the various tables in Appendix C.

In using sex as a variable for comparison with several of the other variables, it was found that the males in the school system are better educated than the females. Data support for this statement appears in Table 13, Appendix C. Using sex in comparing with the tenure variable, it was discovered that the women have been in the school system longer than the men. Data support appears in Table 14, Appendix C. The traditional sex role was most clearly seen when comparing sex with the variable of discussion. Men were seen to be more talkers and women listeners. The data shown in Table 15, Appendix C, indicate that these classifications are very pronounced.

In order to discover which age group of the teachers was the best educated, it was necessary to group the teachers into younger, middle-aged, and older age categories. The data shows that the younger teachers are the best educated with the other two groups approximately the same. Table 16, Appendix C, clearly indicates this pattern.

Although no clear-cut patterns emerge from the comparison of either age and discussion or education and discussion variable, the data from these relationships is presented as a further profiling tool. Tables 17 and 18, Appendix C, contain this information. There were also many other relationships tabulated in the course of the project analysis. For the most part, these were both inconclusive and too extensive for adequate condensation.

In review, the profile showed that the teachers were middle-aged on the average, most had or were close to having a four-year college degree,

they were listeners rather than talkers, and were generally of average innovativeness. They also named four of their own as being opinion leaders, stated that most of the persons and programs mentioned were neutral on the perceptual effectiveness scale, considered it very important for teachers to keep aware of educational developments, and often attended professional education meetings and read professional education publications.

The hypothesis section showed that six of the hypotheses were supported, two were partially supported and partially not supported, and one hypothesis was negated. The variables of age, education, tenure, and discussion were seen to have a positive relationship with opinion leadership. Innovativeness, however, had a negative relationship with opinion leadership. There were factors within this research which may have accounted for this finding. The other hypotheses relating to the profile of the respondent population were all supported. These showed that there were few opinion leaders among the teachers, the opinion leaders were older and more tenured than the nonopinion leaders, and that the supervisor of teachers was the top-rated opinion leader in the school system. Negative scores were also reported on the opinion leadership item possibly indicating outside sources of information acting as opinion leaders for some teachers. The teachers were also seen to be middle-range and low-middle-range scorers on most items, and low scorers on the discussion item.

The other findings suggest traditional sex role portrayal on the part of the respondents on many relationships, especially that of

discussion and sex. Younger teachers were also seen to be better educated, women had been in the school system longer than the men, and men were more often talkers and women listeners in this situation.

Having reviewed the findings of the profile, the analysis of hypotheses, and other findings, the next section will attempt to offer a summary, recommendations, and conclusions for the study. This appears next.

IV. SUMMARY, RECOMMENDATIONS, AND CONCLUSIONS

This chapter will have three divisions--the summary, recommendations, and conclusions. The summary will review the purposes, methods, and findings of the research. It will also discuss the significance and limitations of the research. The recommendations will be made to assist the administration of the Union County schools in improving the operation of opinion leadership within the schools. The conclusions portion will attempt to place this research in the proper perspective and discuss future possibilities of exploration in this area. The summary portion is first.

Summary

The purposes of this project were to profile the teaching personnel in the county schools, to profile and compare the opinion leaders with the nonopinion leaders in the system, to explore relationships among the variables in the project, to test the innovativeness variable as a predictor variable for opinion leadership, and to make recommendations to the administration. All of these purposes have been met during the course of the research.

The methodology employed in this project was taken from several sources. The self-administered form used for data collection was constructed using the scales, questions, and measuring devices developed in past opinion leadership and innovation research. Personal contact was made with all of the respondents, and the resulting usable survey

forms generated during the project were returned by 80 percent of the teachers. A variety of analysis methods were applied to the data in order to arrive at the findings. These findings were classified into three major areas for examination.

The first major area of the findings was the profile of the teaching personnel in the Union County school system. The average age of the teachers was in the late thirties, but there was a large number of teachers in their mid-twenties. The average teacher had close to a four-year college degree, and had been employed by the school system for an average of twelve years. Again, there were a number of new employees in the school system due to the large number of younger teachers. The teachers tended to be listeners rather than talkers when discussing current educational practices. The teachers also ranked university-related persons and items, professional meetings, and other teachers as sources of information concerning new teaching techniques and materials higher than any other sources.

Only four of the total of seventy-four teachers were named as opinion leaders for the teachers. Several teachers also stated that they had no opinion leaders on the particular subject within the school system, but that they turned to outside sources for information and advice. This supports the rank-ordering finding. The teachers also revealed that they were middle and low-middle range scorers on the personality innovativeness variable. Few ranked themselves near either end of the scale.

The teachers were also asked to rate several persons and programs as to their effectiveness in keeping the teachers informed of new

teaching methods and materials. Again, the teachers showed that they were middle-range scorers. Most of the persons and programs were ranked near the middle of the seven-interval scale. They did, however, consider it very important for teachers to keep aware of new developments in the field of education.

The teachers stated that on the average they had been enrolled in a college-level course approximately five and one-half years ago. There was, however, again a high number of teachers who had been enrolled in courses within the past year. The teachers also stated that they often attended professional education meetings and read professional education publications.

The bulk of the findings were centered on supporting or refuting the nine hypotheses. Six of the hypotheses were supported by the data, two were only partially supported, and the last of the nine was not supported. Most of the supported hypotheses dealt with the opinion leaders in the schools, but the one not supported stated that innovativeness would be a positive predictor of opinion leadership. This contrary finding was not, however, without possible explanation. Population differences between this and other research that supported the hypothesis, and unique conditions present in this research effort may have accounted for the differences in the findings.

There were several other findings discovered during the course of the project that did not specifically relate to the hypotheses. These dealt with the relationships between variables in the project. Teacher similarities and differences were also discovered through these relationships.

There were significant findings discovered in this research. One was that the opinion leadership hypotheses were again validated--this time in a unique Appalachian setting. The other major finding was that innovativeness may operate as a positive predictor of opinion leadership only in specific cases. Innovativeness may, in fact, be a negative predictor of opinion leadership in rural settings where the respondents possess characteristics such as being only moderately innovative, listeners rather than talkers, and very friendly with the other respondents.

The few limitations of this research were its small sample size and the lack of extensive responses as well as behavioral correlation with the responses provided. The innovativeness variable, for example, would be further clarified by additional questions designed to describe the personality of each teacher more fully. This may not be possible, however, without engaging in personal or form questioning of some length. The other limitation is that this is an attitude research effort and not a behavioral one. It would be far preferable to have data of teacher behavior, instead of only teacher attitudes. Gaining this behavioral information would be difficult. It is, however, the next step at improving opinion leadership and innovativeness research--a move from attitude to behavioral data.

With knowledge of the findings and an understanding of their significance and limitations, it is necessary to briefly explore some of the implications to be drawn from this research. The next portion will contain recommendations to the administrators of the school system for improving the operation of opinion leadership within the schools. It

will not only pertain to opinion leadership and the diffusion of ideas and practices, but also methods for improving the profile of the teaching personnel.

Recommendations

Of the several recommendations aimed at improving the operation of opinion leadership and upgrading the profile of the teaching personnel in the Union County schools, the most obvious centers on the supervisor of teachers. The supervisor was by far the most important opinion leader in the school system. More persons turned to her for information and advice concerning educational matters than any other person in the system. It would be wise, therefore, to concentrate any future efforts of diffusion of educational matters on the supervisor. She is most able to reach more persons in the system, and she is a highly credible source for most teachers. This is not to say that the superintendent, the opinion leaders among the teachers, and the principals would not also be good persons to act as diffusion agents. They would be indeed, but the supervisor may be slightly better at diffusion.

The profile also showed that the four teacher opinion leaders were older and more tenured than the nonopinion leaders. It may be advantageous, therefore, to concentrate efforts aimed at changing teacher attitudes and behavior, instilling new attitudes or behavior, or extinguishing the same on the opinion leaders among the teachers. The teachers who are opinion leaders may also be the school system's best sources of feedback concerning teacher attitudes. If this is the case, it may benefit the administration to be cognizant of the benefits of listening to these feedback channels.

Although the profile also revealed that the average level of education for the respondents was slightly under that of a four-year college degree, new state requirements for teacher certification require a college degree. This should push the education average of the teaching personnel above the sixteen year mark in coming years. The average level of tenure among the teachers was slightly over twelve years. This is a good average and efforts should continue to keep the average high. Union County enjoys one of the lowest teacher turnover averages in the state. The discussion and rank-ordering of sources of information are two areas where further consideration should be given and where the following recommendations may prove useful.

Discussion among the teachers was generally from a few persons to the majority of teachers. It would seem reasonable that teachers, especially those who consider it important to keep aware of new developments in the field and who rank outside sources of information high, should talk more than they do. They may be willing to share the information gained from outside sources with the other teachers. Discussion of educational matters among the teachers should, therefore, be encouraged. The rank-ordering showed that the teachers turned to university-related persons and items, professional magazines and journals, other teachers, and professional meetings most often for information. The administrators of the school system may decide that emphasis should be placed on developing these sources further. Although the nature of the emphasis is best left to the administrators, some type of forum for exchange of ideas among the teachers is one possibility. Another is some type of cooperative arrangement that would bring university-related

persons into regular contact with the teachers. One easily implemented suggestion would be the establishment of a recommended list of readings from current educational magazines and journals being made available to the teachers along with copies of the articles. Improvement of communication among the teachers is the key factor for consideration.

Clinch-Powell Educational Cooperative, the organization which Union County is a member, is dedicated to improving the public school education in its member counties. The efforts of this organization at informing teachers of new educational matters and methods are not presently perceived as being effective by the teachers. Every effort should be made to improve the effectiveness and raise the perceptions of the teachers concerning the efforts of Clinch-Powell. This recommendation should be directed at the administrators of the Cooperative.

The administrators of the school system are certainly in the best position to consider the findings of this research and act upon them. They understand the necessities of the educational system and the personnel, and the practical limitations of the applications of this research. Further recommendations will, therefore, be left up to the administrators of the system. With this decided, the final portion of this section deals with the conclusions of the research. Placing this effort in its proper perspective will be the goal of this part.

Conclusions

This research may be classified as an attitude study of opinion leadership, innovativeness, and related variables. The majority of the findings may have practical application for the administrators of the

Union County school system. The findings support much of the past research on opinion leadership, but its significance arises from the finding that innovativeness may be a negative predictor for opinion leadership in certain situations. Although this finding may not prove to be a monumental one in the literature, it is a significant one in the field of innovativeness and opinion leadership research--a field in need of additional empirical evidence to support its emerging theories.

Innovativeness may be a predictor variable for opinion leadership, but the direction and the strength of its predictive capability may vary with the setting, cultural differences, and respondent population. In this instance, innovativeness was a negative predictor significant at the .05 level. Other studies have shown that it is a positive predictor. This discovery of a significant difference may indicate that outside variables and internal predispositions of the population may be the reason for the different findings. If this is true, then the findings generated by this study are important ones capable of further explaining how innovativeness and opinion leadership may be related.

The need now exists for further verification of these findings, or discovery of other findings capable of determining if this assumption of cultural and population differences is acceptable. To this end, some suggestions as to possible future research in this area are in order.

Although exact verification of these findings through replication of the study may prove beneficial, it may be far more useful to replicate the study on another population. This second population may also be drawn from a small, rural school system, but should be different from

the one used in this study to test results from other sectors of the public. Replication with other, more urban populations would also be in order. The most important consideration prior to future research aimed at verification of the hypotheses may be, however, an improvement in the research tool.

As mentioned earlier, there is a need for behavioral data to further extend the research effort. A need also exists for more in-depth probing of both the innovativeness and the opinion leadership variable. Questions such as what is the relationship between respondents and their opinion leaders, how innovative are the respondents in their behavior and attitudes, what are the variables which may aid or inhibit innovativeness and opinion leadership within a teacher and a school system, and what personality traits may be beneficial to determine the extent of a person's innovativeness, must be answered. Perhaps by further limiting the research to innovativeness and opinion leadership questions alone, and eliminating the perceptual questions, more indicators of the two variables could be included. This move may help answer some of the questions concerning the relationship between innovativeness and opinion leadership.

Another suggestion for future research would be to move from the zero-order type of relationships to higher-level ones. Instead of comparing only two variables, it would be possible to compare several with another. Using age, education, and tenure, for example, in comparison with discussion or innovativeness would be a type of this higher-level research. Discovering more precise statistical measures of the variables would be still another method of improving the research. Instead of

determining that a variable is significant at a particular level, it would be preferable to predict exactly the probability of the variable. In short, future research should use more sophisticated research tools, different populations in order to generate a wider spread of research results, and more accurate statistical measuring devices for greater accuracy.

A definite need exists for future research in this area, because few studies have been performed in this area of the relationship between innovativeness and opinion leadership. These future studies should understand the importance of increasing their reliability and validity so that substantial theories may be generated through the research. It is hoped that this research will prove substantial in future years, and that it will serve as a basis for future efforts.

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APPENDICES

APPENDIX A

The following is a questionnaire for all teaching personnel in the Union County school system. The results of this survey will be used for academic purposes only and will not be revealed to the administration of the school system. You will remain completely anonymous. A summary of the totaled responses of all the teachers in the county will be made available to you. The form should only take you a few minutes to fill out and your cooperation is appreciated. Thank you very much.

1. Please circle below the highest level of education that you have completed:

1 2 3 4 5 6 7 8	1 2 3 4	1 2 3 4	1 2 3 4 5 more
ELEMENTARY	HIGH SCHOOL	COLLEGE	GRADUATE SCHOOL

2. Please indicate below how long you have been employed in the Union County school system to the nearest whole year:

_____

3. Please indicate below your age to the nearest birthday:

_____

4. Please indicate with one mark on each scale below the extent to which you believe the statement applies to you:

   A. I seek advice and information from others about current educational practices and materials more often than I give such advice and information.

Very much like me	A little like me	No opinion	A little unlike me	Very much unlike me

   B. I give advice and information to others about current educational practices and materials more often than I request such advice and information from others.

Very much like me	A little like me	No opinion	A little unlike me	Very much unlike me

C. I give advice and information just as often as I seek advice and information from others.

Very much like me	A little like me	No opinion	A little unlike me	Very much unlike me

5. Please rank the following items from the highest to the lowest. If you wished to find out information concerning new teaching techniques and materials where would you turn?

(1 = turn to the most often; 12 = turn to the least often)

_____ Professional magazines and journals

_____ Your principal

_____ Other teachers

_____ TEA representatives

_____ Your supervisor of teachers

_____ Television and radio

_____ Salesmen of educational materials/sales catalogs

_____ Your superintendent

_____ Clinch-Powell Educational Cooperative staff members

_____ Newspapers and popular magazines

_____ Professional meetings

_____ Other, please specify: _____

_____

6. Please list three persons in the Union County school system that you consider to be knowledgeable concerning educational matters and to whom you would turn to for advice on new teaching methods and materials. Following each name that you list, please circle the number which indicates how strongly you value that person's opinion. 1 is the least and 7 is the most on the scale.

1. _____ 1 2 3 4 5 6 7

2. _____ 1 2 3 4 5 6 7

3. _____ 1 2 3 4 5 6 7

7. Between each set of adjectives place one check indicating your personal position on the scale between the two words:

	1	2	3	4	5	6	7	8	9	
Reserved	___	___	___	___	___	___	___	___	___	Outgoing
Suspicious	___	___	___	___	___	___	___	___	___	Trusting
More intelligent	___	___	___	___	___	___	___	___	___	Less intelligent
Venturesome	___	___	___	___	___	___	___	___	___	Shy
Tender-minded	___	___	___	___	___	___	___	___	___	Tough-minded
Humble	___	___	___	___	___	___	___	___	___	Assertive
Relaxed	___	___	___	___	___	___	___	___	___	Tense
Imaginative	___	___	___	___	___	___	___	___	___	Practical
Happy-go-lucky	___	___	___	___	___	___	___	___	___	Sober
Conservative	___	___	___	___	___	___	___	___	___	Experimenting
Self-sufficient	___	___	___	___	___	___	___	___	___	Group-dependent

8. When you and your fellow teachers discuss new educational practices which do you most frequently do?

Usually listen	Often listen	Listen and talk equally	Often talk	Usually talk

9. How effective do you believe the in-service point system which was instituted by Clinch-Powell Coop has been in increasing your knowledge about new educational methods and materials?

Very effective	Fairly effective	Slightly effective	No opinion	Slightly ineffective	Fairly ineffective	Very ineffective

10. How effective do you believe your principal has been in informing you about new teaching methods and materials?

Very effective	Fairly effective	Slightly effective	No opinion	Slightly ineffective	Fairly ineffective	Very ineffective

11. How effective do you believe your supervisor of teaching has been in informing you about new teaching methods and materials?

Very effective	Fairly effective	Slightly effective	No opinion	Slightly ineffective	Fairly ineffective	Very ineffective

12. How effective do you believe your school superintendent has been in informing you about new teaching methods and materials?

Very effective	Fairly effective	Slightly effective	No opinion	Slightly ineffective	Fairly ineffective	Very ineffective

13. How effective do you believe the staff members of the Clinch-Powell Educational Cooperative have been in informing you about new teaching methods and materials?

Very effective	Fairly effective	Slightly effective	No opinion	Slightly ineffective	Fairly ineffective	Very ineffective

14. How important do you believe it is for teachers to keep aware of new developments in the field of education?

Very important	Fairly important	Slightly important	No opinion	Slightly unimportant	Fairly unimportant	Very unimportant

15. Within the fields of elementary/secondary education which subject areas, if any, do you consider to be your specialty.

_____

16. When to the nearest year was the last time that you were enrolled in a college level refresher course or a course leading to a degree?

_____

17. How often do you attend professional education meetings?

Usually	Often	Occasionally	Rarely	Never

18. How often do you read professional educational publications?

Usually	Often	Occasionally	Rarely	Never

THANK YOU FOR YOUR COOPERATION

APPENDIX B

Table 6. Teacher Classification by Sex for the Union County, Tennessee, School System

	Frequency	Percentage
Women	43	72.9
Men	16	27.1
Total	59	100.0

Table 7. Levels of Education Among Teachers in the Union County, Tennessee, School System

Level of Education	Frequency	Percentage	Cumulative Percentage
12 years	2	3.4	3.4
13 years	1	1.7	5.1
14 years	3	5.1	10.2
15 years	10	16.9	27.1
16 years	35	59.3	86.4
17 years	7	11.9	98.3
18 years	1	1.7	100.00
Total	59	100.0	100.0

Mean 15.695

Media 15.886 Mode 16.000

Table 8. Age Distribution of Teachers in the Union County, Tennessee, School System

Age Group	Frequency	Percentage	Cumulative Frequency
21-25 years	13	22.0	22.0
26-30 years	14	23.8	45.8
31-35 years	2	3.4	49.2
36.40 years	7	11.8	61.0
41-45 years	4	6.8	67.8
46-50 years	6	10.2	78.0
51-55 years	5	8.5	86.5
56-60 years	7	11.8	98.3
61 + years	1	1.7	100.0
Total	59	100.0	100.0
	Mean 37.644 years		
	Median 36.750 years		
	Mode 24.000 years		

Table 9. Tenure Among the Teachers in the Union County, Tennessee, School System

Tenure	Frequency	Percentage	Cumulative Percentage
1	8	13.6	13.6
2	5	8.5	22.0
3	9	15.3	37.3
4	1	1.7	39.0
5	2	3.4	42.4
6	1	1.7	44.1
8	2	3.4	47.5
9	1	1.7	49.2
10	2	3.4	52.5
11	3	5.1	57.6
12	1	1.7	59.3
15	5	8.5	67.8
16	1	1.7	69.5
17	2	3.4	72.9
18	1	1.7	74.6
19	2	3.4	78.0
20	1	1.7	79.7
23	1	1.7	81.4
25	1	1.7	83.1
26	3	5.1	88.1
28	1	1.7	89.8
32	2	3.4	93.2
34	1	1.7	94.9
35	1	1.7	96.6
37	2	3.4	100.0
Total	59	100.0	100.0

Mean 12.153
Median 9.750
Mode 3.000

Table 10. Discussion Score Distribution for Teachers in the Union County, Tennessee, School System

Discussion Value	Frequency	Percentage	Cumulative Frequency
0.0	5	8.5	8.5
1.0	2	3.4	11.9
2.0	8	13.6	25.4
3.0	7	11.9	37.3
4.0	7	11.9	49.2
5.0	5	8.5	57.6
6.0	6	10.2	67.8
7.0	7	11.9	79.7
8.0	7	11.9	91.5
9.0	1	1.7	93.2
10.0	4	6.8	100.0
Total	59	100.0	100.0
Mean	4.780		
Median	4.600		
Mode	2.000		

Table 11. Rank-Ordering of Sources of Information and Advice by Teachers in the Union County, Tennessee, School System

Rank	Item	Mean
1.	University-related persons and items	2.153
2.	Professional magazines and journals	3.407
3.	Other teachers	4.000
4.	Professional meetings	4.492
5.	Supervisor of teachers	4.780
6.	School principals	6.559
7.	Superintendent of schools	7.034
8.	Clinch-Powell Educational Cooperative staff members	7.136
9.	Television and radio	7.390
10.	Newspapers and popular magazines	7.390
11.	Tennessee Education Association representatives	7.475
12.	Salesmen of educational materials/sales catalogs	8.085

Table 12. Mean Scores for Items on the Personality Innovativeness Variable by Teachers in the Union County, Tennessee, School System

Scale Item	Mean
Reserved--Outgoing	5.424
Trusting--Suspicious	3.797
Less intelligent--More intelligent	6.119
Shy--Venturesome	5.305
Tough-minded--Tender-minded	5.153
Humble--Assertive	4.780
Relaxed--Tense	4.932
Practical--Imaginative	4.627
Sober--Happy-go-lucky	4.322
Conservative--Experimenting	5.203
Group-dependent--Self-sufficient	6.729

APPENDIX C

Table 13. The Relationship of Sex and Education Variables Among Teachers in the Union County, Tennessee, School System

Level of Education	Females	Males	
	2	0	Frequency
12 years	4.7	0.0	Column Percentage
	3.4	0.0	Percentage of Total
	1	0	
13 years	2.3	0.0	
	1.7	0.0	
	2	1	
14 years	4.7	6.3	
	3.4	1.7	
	8	2	
15 years	18.6	12.5	
	13.6	3.4	
	28	7	
16 years	65.1	43.8	
	47.5	11.9	
	2	5	
17 years	4.7	31.3	
	3.4	8.5	
	0	1	
18 years	0.0	6.3	
	0.0	1.7	

Table 14. The Relationship of Sex and Tenure Variables Among Teachers in the Union County, Tennessee, School System

Tenure in the System	Females	Males	
1 year	6	2	Frequency
	14.0	12.5	Column Percentage
	10.2	3.4	Percentage of Total
	3	2	
2 years	7.0	12.5	
	5.1	3.4	
	8	1	
3 years	18.6	6.3	
	13.6	1.7	
	1	0	
4 years	2.3	0.0	
	1.7	0.0	
	2	0	
5 years	4.7	0.0	
	3.4	0.0	
	1	0	
6 years	2.3	0.0	
	1.7	0.0	
	2	0	
8 years	4.7	0.0	
	3.4	0.0	
	1	0	
9 years	2.3	0.0	
	1.7	0.0	
	1	1	
10 years	2.3	6.3	
	1.7	1.7	
	1	2	
11 years	2.3	12.5	
	1.7	3.4	
	0	1	
12 years	0.0	6.3	
	0.0	1.7	

Table 14 (continued)

Tenure in the System	Females	Males
	4	1
15 years	9.3	6.3
	6.8	1.7
	1	0
16 years	2.3	0.0
	1.7	0.0
	1	1
17 years	2.3	6.3
	1.7	1.7
	0	1
18 years	0.0	6.3
	0.0	1.7
	2	0
19 years	4.7	0.0
	3.4	0.0
	1	0
20 years	2.3	0.0
	1.7	0.0
	1	0
23 years	2.3	0.0
	1.7	0.0
	0	1
25 years	0.0	6.3
	0.0	1.7
	3	0
26 years	7.0	0.0
	5.1	0.0
	1	0
28 years	2.3	0.0
	1.7	0.0
	1	1
32 years	2.3	6.3
	1.7	1.7

Table 14 (continued)

Tenure in the System	Females	Males
	1	0
34 years	2.3	0.0
	1.7	0.0
	0	1
35 years	0.0	6.3
	0.0	1.7
	1	1
37 years	2.3	6.3
	1.7	1.7

Table 15. The Relationship of Sex and Discussion Variables Among Teachers in the Union County, Tennessee, School System

Discussion Value	Females	Males	
	5	0	Frequency
0.0	11.6	0.0	Column Percentage
	8.5	0.0	Percentage of Total
	1	1	
1.0	2.3	6.3	
	1.7	1.7	
	7	1	
2.0	16.3	6.3	
	11.9	1.7	
	5	2	
3.0	11.6	12.5	
	8.5	3.4	
	6	1	
4.0	14.0	6.3	
	10.2	1.7	
	4	1	
5.0	9.3	12.5	
	6.8	1.7	
	4	2	
6.0	9.3	12.5	
	6.8	3.4	
	5	2	
7.0	11.6	12.5	
	8.5	3.4	
	5	2	
8.0	11.6	12.5	
	8.5	3.4	
	0	1	
9.0	0.0	6.3	
	0.0	1.7	
	1	3	
10.0	2.3	18.8	
	1.7	5.1	

Table 16. The Relationship of Age and Education Variables Among Teachers in the Union County, Tennessee, School System

Education Level	Younger 21-30	Middle-Aged 31-45	Older 46 +	
	1	0	1	Frequency
12 years	3.7	0.0	5.3	Column Percentage
	1.7	0.0	1.7	Percentage of Total
	1	0	0	
13 years	3.7	0.0	0.0	
	1.7	0.0	0.0	
	0	1	2	
14 years	0.0	7.7	10.6	
	0.0	1.7	3.4	
	4	2	4	
15 years	14.8	15.4	21.2	
	6.8	3.4	6.8	
	16	8	11	
16 years	59.2	61.6	58.3	
	27.2	13.6	18.7	
	5	1	1	
17 years	18.5	7.7	5.3	
	8.5	1.7	1.7	
	0	1	0	
18 years	0.0	7.7	0.0	
	0.0	1.7	0.0	

Table 17. The Relationship of Age and Discussion Variables Among Teachers in the Union County, Tennessee, School System

Discussion Level	Younger 21-30	Middle-Aged 31-45	Older 46 +	
	2	1	2	Frequency
0.0	7.6	7.7	10.6	Column Percentage
	3.4	1.7	3.4	Percentage of Total
	2	0	0	
1.0	7.6	0.0	0.0	
	3.4	0.0	0.0	
	4	2	2	
2.0	15.2	15.4	10.6	
	6.8	3.4	3.4	
	2	1	4	
3.0	7.6	7.7	21.2	
	3.4	1.7	6.8	
	6	1	0	
4.0	22.8	7.7	0.0	
	10.2	1.7	0.0	
	2	0	3	
5.0	7.6	0.0	15.9	
	3.4	0.0	5.1	
	3	1	2	
6.0	11.4	7.7	10.6	
	5.1	1.7	3.4	
	3	2	2	
7.0	11.4	15.4	10.6	
	5.1	3.4	3.4	
	2	3	2	
8.0	7.6	23.1	10.6	
	3.4	5.1	3.4	
	0	1	0	
9.0	0.0	7.7	0.0	
	0.0	1.7	0.0	
	1	1	2	
10.0	3.8	7.7	10.6	
	1.7	1.7	3.4	

Table 18. The Relationship of Education and Discussion Variables Among Teachers in the Union County, Tennessee, School System

Discussion Level	Educational Level 12-14 years	15-16 years	17-18 years	
	1	4	0	Frequency
0.0	16.6	8.8	0.0	Column Percentage
	1.7	6.8	0.0	
	0	2	0	
1.0	0.0	4.4	0.0	
	0.0	3.4	0.0	
	0	7	1	
2.0	0.0	15.4	12.5	
	0.0	11.9	1.7	
	0	5	2	
3.0	0.0	11.0	25.0	
	0.0	8.5	3.4	
	2	4	1	
4.0	33.2	8.8	12.5	
	3.4	6.8	1.7	
	1	4	0	
5.0	16.6	8.8	0.0	
	1.7	6.8	0.0	
	0	4	2	
6.0	0.0	8.8	25.0	
	0	6.8	3.4	
	1	6	0	
7.0	16.6	13.2	0.0	
	1.7	10.2	0.0	
	0	6	1	
8.0	0.0	13.2	12.5	
	0.0	10.2	1.7	
	1	0	0	
9.0	16.6	0.0	0.0	
	1.7	0.0	0.0	
	0	3	1	
10.0	0.0	6.6	12.5	
	0	5.1	1.7	

APPENDIX D

Models Used in Regression Analysis

Where:

Y = Opinion Leadership

A_oU = Constant Weight

A_1-A_5 = Regression Weights

X_1 = Age

X_2 = Education

X_3 = Tenure

X_4 = Discussion

X_5 = Innovativeness

E = Residual (error)

$$Y_1 = A_oU + A_1X_1 + A_2X_2 + A_3X_3 + A_4X_4 + A_5X_5 + E$$

$$Y_2 = A_oU + A_2X_2 + A_3X_3 + A_4X_4 + A_5X_5 + E$$

$$Y_3 = A_oU + A_3X_3 + A_4X_4 + A_5X_5 + E$$

$$Y_4 = A_oU + A_4X_4 + A_5X_5 + E$$

$$Y_5 = A_oU + A_5X_5 + E$$

VITA

William Lawrence Patrick was born in Louisville, Kentucky, in 1949. He attended private elementary and high school, and was graduated in 1967. Later that year, he enrolled at the University of Kentucky where he earned a B.A. degree in Telecommunications. During his high school and college years, he became involved with a number of broadcasting, musical, and media enterprises.

Following several years of employment in the field of television, he enrolled in the graduate division of the College of Communications at The University of Tennessee. During the 1972-73 school year, he taught several courses in the Department of Broadcasting, and performed media-related research. His plans call for continued study in the field, attainment of a Ph.D. degree in Mass Communications, and a career of teaching and research in communications.