Indiana secondary instructor and Indiana vocational technical college instructor absenteeism as related to instructor perception of administrative management style and job satisfaction

Madalyn S. Binger

Iowa State University

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INDIANA SECONDARY INSTRUCTOR AND INDIANA VOCATIONAL TECHNICAL COLLEGE INSTRUCTOR ABSENTEEISM AS RELATED TO INSTRUCTOR PERCEPTION OF ADMINISTRATIVE MANAGEMENT STYLE AND JOB SATISFACTION

Iowa State University PH.D. 1980

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Indiana secondary instructor and Indiana vocational technical college instructor absenteeism as related to instructor perception of administrative management style and job satisfaction

by

Madalyn S. Binger

A Dissertation Submitted to the Graduate Faculty in Partial Fulfillment of the Requirements for the Degree of DOCTOR OF PHILOSOPHY

Major: Industrial Education

Approved:

Signature was redacted for privacy.

In Charge of Major Work

Signature was redacted for privacy.

For the Major Department

Signature was redacted for privacy.

For the Graduate College Iowa State University Ames, Iowa 1980
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Above all, I praise God for leading me every step of the way.
CHAPTER 1. INTRODUCTION

Within the last decade, dismay has been expressed with reports on the lack of adequate positive effects of schooling (Coleman et al., 1966). Increased educational expenditures appear to have resulted in decreased student achievement. These reports have discouraged educational practitioners and have comforted those who would reduce the resources allocated to education (Harnischfeger and Wiley, 1975). Instructor absenteeism is one factor among many that has contributed to a decrease in the amount of instruction hours for many students in the United States. Quality of instruction decreases considerably when the regular teacher is absent while instructional costs increase. A recent New York study in which teachers were observed and rated for effectiveness yielded the following mean scores (1974):

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<td>Regular instructors</td>
<td>6.12</td>
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<td>Substitutes</td>
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According to this study conducted by the New York Metropolitan School Study Council, substitute instructors are considerably less effective in classrooms than regular instructors (Elliott and Manlove, 1977). No research has been found to compare effectiveness of regular versus substitute instructors in community colleges.

Although managerial concern over employee absence has been sporadic, the problem has been a matter of concern throughout history. Industrial managerial concern with employee absence has traditionally depended on the
internalized values from the home, family, and from schoolteachers that one should work hard and regularly and not cheat the system. Today's high rates of instructor absenteeism not only decrease total student learning, but also encourage general student and employee absenteeism, which pose even greater overall concerns with increasing instructor absentee rates. Instructors have traditionally been role models for dedicated, responsible service throughout history.

Current concern by administrators over costs associated with the educational enterprise has focused attention on the problem of instructor absenteeism. The cost of instructor absenteeism in public education can be measured in terms of dollars; but the cost in dollars is only one cost to be considered in the educational setting (Slick, 1974).

Proof of complaints that instructor absenteeism is "out of control" is readily available. For example, New York City spent $71.5 million on substitute instructors during the 1971-72 school year. This staggering cost prompted concern and study of instructor leave policies by the New York State Office of Education (New York State Office of Education Performance Review, 1974).

The Pennsylvania School Boards Association (Oravitz, 1978) published an absence report in which twenty-seven percent of the 504 districts in Pennsylvania participated. Some of the noteworthy findings were:

1. Pennsylvania's school districts are spending approximately $27 million annually for substitute instructors to maintain school operation during periods of short-term instructor absence and $88 million in total personnel costs associated with instructor absence.

2. The average instructor was absent a total of 8.2 days during the 1977-78 school year.
3. More instructor absences occur on Friday than on any other day of the week.

4. Pennsylvania's absence rate has increased over 106 percent in the past sixteen years.

5. Over five million hours of regular instruction time are "lost" due to instructor absences annually.

Similar problems and corresponding concern is spreading nationwide during the present times of tight budgets and rising costs.

According to the Des Moines Register (April, 1979), instructor absentee rates in Des Moines, Iowa are comparable with high rates in other areas of the country. Harpster, Des Moines Register staff writer (1979), said that absences by employees of the Des Moines School District have increased significantly in the past five years, which partly accounts for the dramatic increase in pay for substitute instructors from 1966 to 1978. According to Harpster (1979), the amount spent on substitutes went up nearly fourfold -- from $162,000 to $614,000 -- over the thirteen-year period. The study conducted by the Des Moines School Board revealed that a one percent increase in the number of instructors who were absent cost the district an additional $150,000 in substitute pay. The study found that an average of 4.7 percent of the teaching staff was absent per day during 1977-78, a higher rate than five or ten years ago. The "average instructor" was absent between eight to nine days during 1977-78, also an increase (Harpster, April, 1979).

Ames, Iowa, a typical midwestern town with a public school enrollment of 5559 during the 1977-78 school year, certainly is far removed from the problems of the large cities. Ames is affected, however, by the growing numbers of absent instructors and related costs. Preliminary
examination of absence data in this comparatively small school district revealed an increase from 6.72 average employee days absent in 1972-74 to 7.83 average employee days absent in 1977-78 (Alvord, 1979). Substitute costs have risen from $31,541 to $52,906, an increase of 68 percent, in these four years while the number of employees has risen only two percent, from 330 to 337 (Alvord, 1979). The Ames district spent approximately $272,160 due to instructor absenteeism during 1977-78, 2.8 percent of the total district general budget. Instructor absenteeism has drastically increased in the Ames School District within the previous four years.

Indiana has experienced similar trends. A 1976-77 research study involved a detailed survey questionnaire which had been distributed to every superintendent in Indiana. Results follow as reported by Elliott and Manlove (1977):

1. The number of total substitute days is increasing. Eighty-six percent of all the organizations reporting indicated steady increases over the last five-year period, although the total number of instructors and students declined in Indiana.

2. The time allowed by contract for instructor absences was increasing in Indiana.

3. Great numbers of substitute instructors were required for implementation of the contracts. The largest Indiana school corporation reporting used 1,365 different substitutes during 1975-76; the mean number of different substitutes used was seventy-eight per reporting system.

4. Dollar amounts spent for substitutes varied predictably with the size of the districts; one district spent $889,050 in substitute pay during one year.

5. Ninety-six percent of the districts in Indiana indicated that some of their substitutes were employed so that instructors could engage in professional growth activities.

6. Ninety-five percent of the districts in Indiana reported that more of their substitutes were professionally or provisionally
licensed than was the case five years earlier.

7. Fourteen percent of the superintendents reported that they were able to provide their schools with certified personnel in all cases.

8. More than half the time substitutes had been assigned in instructional areas in which they had been specifically trained.

9. The problem of qualified substitutes was acute in rural areas in Indiana. (They hired whoever they could get.)

10. Superintendents reported that a little more than half the time they believed there was continuity of instruction when a substitute was in the classroom, although principals were mainly responsible for such assessment (their opinions did not correspond with the results of the New York MSSC study).

11. Less than one percent of the reporting school organizations in Indiana indicated that any money was spent in preparing substitutes.

12. Close to five percent of the districts reported that when instructors were going to be absent, they were required to do nothing.

13. Another thirteen percent of districts reported that they had little or no recourse when the absent contract instructor failed to provide either plans or materials for substitutes.

14. Seven percent of the districts reported that when a principal was dissatisfied with the work of a substitute, no recourse was available.

15. All districts reported that the principal was charged with the major responsibility for monitoring substitute and absent contract instructors.

16. A request for the criteria by which substitute instructors were evaluated elicited twenty-seven different general responses, the largest of which was "principal's recommendation." Among reasons for selection of a substitute instructor, more than twice as many respondents listed "availability" as a criterion rather than "successful teaching."

These responses indicated that:

1. Instructors were clearly spending more and more time away from their assigned classroom.
2. In many localities substitutes were probably providing more than student sitting services historically accepted from them.

3. More substitute instructors held professional credentials than had held such credentials previously.

4. Evidence existed that no one had taken a serious look at this important change in the qualifications of substitutes to determine how they could be more effectively used.

5. The response appeared to indicate an acceptance of the New York City appraisal of the inadequacy of substitutes; at least operational policy is based upon similar assumptions.

6. There was no evidence of any serious attempts to reverse the growing absence problem.

7. Strong evidence existed that instructors had abused their absence privileges, and something had to be done about it.

8. The amount of lost instruction time and excessive costs have been increasing. Lawsuits demanding better instruction have been increasing in number.

Perhaps the simplest way of viewing absence can be based on the theory that good attendance is found where employees are able and willing to work. If this is true, the main causes of absence are obviously those which interfere with the employees' ability and desire to work (Gaudet, 1963). Although this theory oversimplifies the instructor absentee case, the few studies that have been conducted indicated that supervisory behavior was the single greatest factor in control of excessive instructor absenteeism, a factor related to overall job satisfaction.

Absence was frequently disguised as "illness." In other words, although illness absentee rates were generally assumed to be determined by such biological causes as germs, bacteria, viruses, changes in body structure and function, they were clearly affected also by psychological, social, cultural, managerial, and economic influences as well as organi-
zational policies of "diagnosing" illness absence and organizational attitudes toward the entire phenomenon of instructor absenteeism.

Great variance within the different organizational settings in the amount of Monday and Friday one-day absentee rates suggest that a difference in administrative techniques may account for the differences in employee absentee rates (Noland, 1945b, and Gaudet, 1963).

Both instructors and principals play key roles in the educational organization and process. The principal-instructor relationship appears, therefore, to be a central factor in the effective management of a school. The principal influences subordinates toward organizational goals merely by virtue of the position in the school system. The principal-instructor role relationship is therefore a key factor in fulfilling the educational philosophy of the school system as set forth by the school board and in promoting instructor job satisfaction. It appears reasonable, then, that the principal-instructor role perception could have an impact on instructor absenteeism.

Since the principal is established as an educational leader, a study of current leadership styles is appropriate in an attempt to increase instructor satisfaction and reduce instructor absenteeism. Leadership styles advocated by psychologists and behavioral scientists today recommend increased participation by subordinates in problem-solving and decision-making. Vroom (1960) suggested a positive relationship between individual performance and the amount of influence superiors allow their subordinates in decisions that affect them. If instructor satisfaction and effectiveness are to be maintained and increased, it would be desirable that instructor participation in the decision-making process be
increased (Dettre, 1970). The effectiveness of the organization in meeting the needs of the employees will be enhanced if the persons who will be affected by decisions are involved in the making of these decisions (McGregor, 1960). A close association exists between the amount of control the employee has over his/her work and positive job performance. Katz, Maccoby, Morse (1950) and Katz, Gurin, Floor (1951) indicated that performance will increase as subordinates are allowed to participate in the decision-making process. Others have found high negative correlations between employee absence and the extent to which the leader shows appreciation for work well done (Noland, 1945b).

Conversely, autocratic management styles have been found to be more successful in reducing chronic instructor absenteeism. Stemnock cited a Fort Hauchuca study (1963) that utilized random visits from a health nurse for excessively absent government employees, resulting in dramatically decreased employee absenteeism. In Minnesota, positive attitudes toward superiors correlated with higher employee absenteeism. When these "liked" superiors were given training to demand employee attendance, employees came to work more frequently (Stemnock, 1973). Campbell (1970) revealed that lax superiors tend to encourage laxness in employees. Superiors who take excessive sick leave breed subordinates with the same attitude. Thus the superior's attitude can be a critical factor in the instructor attendance problem.

Since an impressive body of literature suggests that leadership plays a major role in instructor absence, an issue of great practical importance is raised to management personnel such as principals who are responsible for the reduction and control of absence of instructors. When the
individual employee is at fault, absence control can be maintained through instructor selection, correction, and dismissal. When administrators are at fault, however, the solution becomes more difficult. According to Washington and Watson (1976), positive instructor morale is the principal's responsibility. Community college administrators have a similar responsibility.

The purpose of this study was to identify discrepancies in perceived management styles and roles of administrators and identify administrative management styles that maximize instructor job satisfaction and instructor attendance.

This study investigated the role perceptions of instructors and administrators in Indiana high schools and Indiana vocational technical colleges concerning the type of management style being used by the administrator as related to instructor job satisfaction and alienation from the workplace in the form of absenteeism.

Statement of the Problem

The problem of this study was to examine the absenteeism and job satisfaction among high school and vocational technical college instructors, giving special emphasis to the relationship between instructor absenteeism and satisfaction with the management style of supervision.

Purpose of the Study

The purpose of this study was to identify discrepancies in perceived management styles and roles of administrators and identify administrative management styles that maximize instructor job satisfaction and instructor
Need for the Study

The importance of maximum attendance of employees at the workplace has been recognized for many years as being mandatory for greatest possible productivity. Maximum attendance of instructors is particularly critical due to the double loss of paid salary and substitute pay in addition to decreased student learning in the absence of the regular instructor. Although instructor absenteeism tends to encourage student and employee absenteeism due to the influence of the "dedicated instructor role" in American tradition, educational institutions have only recently become aware and concerned with the impact of increasing instructor absenteeism on the educational process and on a cost basis.

An organization can cut costs greatly and develop a much more effective educational program by minimizing its employee absence rates. In spite of this fact, the study of absence rates has often been neglected or overlooked in an educational setting concerned with instructors, educational costs, and learning efficiency. The reasons for neglecting the instructor absence drain on the educational process are numerous. Probably the most inhibiting is a feeling that little can be done to reduce instructor absenteeism.

Such astronomical drains of instructor absenteeism on the educational process and the high cost factor of education mandate research for successful methods of instructor absence reduction and increased instructor job satisfaction.

Alvord (1979) commented "whether this rise (instructor absentee rise
in the Ames high school) is reasonable and comparable to national and state trends is worthy of further examination." Earl Bridgewater, Personnel Director in the Des Moines School District, stated that concern about the rising cost of substitute instructors prompted the school board to ask for the recent study in the Des Moines School District, which had never been made by the district before. Paul Mann, President of the Des Moines Education Association, said that the instructors' group had not analyzed the report and was unaware of any reason why the absence rate would increase. Additional studies need to be planned according to the officials' remarks printed in the Des Moines Register (Harpster, 1979).

Suggestions for reduction of instructor absences included "requiring the employee to report absences directly to the supervisor who evaluated the employee" or requiring instructors to speak directly to the principal when reporting off work. Such suggestions imply a need for conducting research on instructor absenteeism as related to management styles.

No research has been found concerning instructor absenteeism in community colleges.

The national and state dearth of research in the literature concerning teacher absenteeism and its control provide more than adequate need for this proposed study.

Assumptions of the Study

This study has been based on the following assumptions:

1. The administrator, instructors, and executive officers knew each other well in communities smaller than 20,000 and/or in high schools with smaller than 500 student enrollment, and therefore excessive instructor absenteeism is negligible in these smaller high schools regardless of the management style used by the
administrators. Although all post-seconday Indiana Vocational Technical Colleges and all Secondary Area Career Centers were included in the sample, the largest corresponding feeder and/or comprehensive high schools were selected for the sample.

2. Accurate records of instructor absenteeism were available and could be obtained for use in this study.

3. Instructors with high absence rates existed in each school selected for the sample.

4. Administrators would correctly identify high absence instructors who represented the chronic absence group, even when those instructors had a negative attitude toward the administrator.

5. Subjects would conscientiously complete a questionnaire to measure management styles of their administrators resulting in an accurate reflection of their perceptions.

6. Instructors within each unit would not influence the responses of other instructors within that same educational unit.

7. The sampling technique used adequately controlled all intervening variables.

8. High absence instructors would be present to complete the questionnaire on the day designated for data collection.

**Delimitations of the Study**

The delimitations of this study were:

1. Generalizability of the study was limited to Indiana Vocational Technical Colleges, Indiana Secondary Area Career Centers, and feeder high schools.

2. Identification of high and low absence instructors was limited to administrator cooperation and willingness of identified instructors to complete the questionnaire.

3. The lack of a standard definition of absence and the lack of instructor absence record-keeping was one delimitation of this study.

4. Time available for collecting the data posed a delimitation for this study. Additional relevant variables could have been collected.
5. A limitation existed in the lack of control over which administrators selected instructors as low/high participants.

6. High absence instructor responses may have been limited if they were absent during the period of data collection.

7. A coordination could have existed between the type of administrator style and whether or not the administrator permitted the school to participate in the study.

Procedure of the Study

The procedure of the study consisted of the following:

1. A review of the literature was made on absenteeism and management styles.

2. Instruments previously used in related studies were reviewed for possible adaptation.

3. No suitable instrument was available to adapt for purposes of this study, so an instrument was developed.

4. The developed instrument was reviewed and verified for content validity by authorities in Educational Administration and Industrial Relations.

5. The instrument was piloted in twelve secondary schools in Indiana to further validate the instrument and determine difficulty in administration and clarity of directions. These secondary schools were not included in the final study.

6. Appropriate minor modifications were made on the instrument and a final testing version was developed and reproduced.

7. Instructors and administrators included in the study were identified from IVTC, ISACC, and comprehensive feeder high schools in Indiana.

8. The instrument was administered in person by the researcher.

9. The responses to the instrument were collected and scored.

10. The data was key punched and statistically analyzed.

11. Findings were discussed.

12. A summary with conclusions and recommendations completed the study.
Definitions

In order to provide clarity and meaning to this study, the following operational definitions were used:

1. Absence: Absence is any state of nonattendance at the workplace for a half day or more when scheduled to be at the said workplace. An employee is unscheduled for work when:
   a. on leave of absence;
   b. ill to the degree that the employee's name is removed from the list of active employees;
   c. on vacation or annual leave;
   d. on bereavement leave (provided arrangements have been made in advance);
   e. participating in union activities;
   f. scheduled by administration to attend other duties outside normal responsibilities as scheduled.

2. Administrator: The administrator is the executive officer to whom the instructor is directly responsible. For purposes of this study, the administrator of high schools is the high school principal and the administrator of community colleges is the department head.

3. Alienation: Alienation is separation, diversion, aversion, turning away, indifference, or estrangement from the workplace and the accomplishment of its objectives.

4. Community college administrator: A community college administrator includes an administrator equivalent to a department head to whom a minimum of twelve instructors report.

5. Educational unit: An educational unit includes instructors of more than one discipline who report to the same administrator.

6. High school administrator: The high school administrator is the principal.

7. Job satisfaction: Job satisfaction is viewed as the sum total of an individual's met expectations on the job. The more an individual's expectations are met on the job, the greater the satisfaction.

8. Management style, autocratic (System I): System I is often
referred to as the classical design theory which includes a body of literature evolving from scientific management, classical organization, and bureaucratic theory emphasizing the design of a preplanned structure for doing work minimizing the importance of the social system.

9. Management style, participative (System IV): System IV is the universal theory of organization design defined in terms of overlapping groups, "linking pins" management, and the principle of "supportiveness." Leadership tends to be supportive, group-oriented, with equalization of authority to set goals, implement, control, and make decisions.

10. Role: Role consists of one or more recurrent activities out of a total pattern of interdependent activities which in combination produce the organizational output. Role refers to a set of such activities within a single subsystem of an organizational output. Role refers to a set of such activities within a single subsystem of an organization performed by supervisory or administrative personnel.

11. Role perception: Role perception includes acquiring expectations as to the behavior of certain others within an organization (recurring actions of others so as to yield a predictable outcome). Role perception reflects that member's conception of the person's position and function in that position.

12. Satisfaction: A criterion of effectiveness which refers to the organization's ability to gratify the needs of its participants. Equivalent terms include morale and voluntarism (Gibson, Ivancevich, and Donnelly, 1976).

Summary

In this chapter, an introduction to the study was made; the problem, purpose, and need for the study were discussed. The specific problem to be addressed by the study was defined. The question of whether or not differences exist in instructor job satisfaction and absenteeism as related to management style of supervision has been addressed.

The assumptions and delimitations of the study were stated. The procedure of the study was outlined and specific terms were defined.
In the following chapter, a review of the cogent literature is presented. The methodology and design of the study are included in Chapter III. In Chapter IV the analysis and findings of the pilot study data are presented. Chapter V reports the analysis and findings of the research data while the final chapter incorporates a summary, conclusions, and recommendations for further research.
CHAPTER II. REVIEW OF LITERATURE

Reasons for Current Concern

Costs of education have increased dramatically within the last decades. According to Haggerty (1974), as a nation we spent almost $86 billion in support of academic educational institutions in the year 1971-72, or approximately eight percent of our Gross National Product. The 1978 figure spent on education approached $120 billion (Statistical Abstract of the United States, 1978).

"Since 1930, our population has grown from 123 million to 205 million, about 60%. During that same span of time, our school enrollment doubled, from 29.7 million to 59.7 million, but the number of full-time equivalent men and women employed in education grew more than four times, from 1.3 million in 1930 to 5.4 million in 1970. Thus, in the last 40 years, the number of full-time employees in education has grown twice as fast as the population. Expressed in 1970 dollars, between 1930 and 1970 our total expenditures for education for all levels have grown more than nine times, from $7.5 billion to $70.3 billion." (Dept. of Commerce quoted by Haggerty, 1974.)

Our expenditures per student have gone in constant 1971-72 dollars from $481 per student in 1951-52 to $1421 in 1971-72. Therefore, in 1971-72 we spent nearly three times more per student in constant dollars than we did twenty years earlier (Haggerty, 1974).

All of us know, of course, that it is extraordinarily difficult to accurately measure productivity in education and that a comparison of cost changes per student with time is an oversimplification. Nonetheless, few, if any, individuals honestly believe that today's students are, on the average, two to three times better prepared than students were twenty years ago. In fact, today's students may not be as well-prepared, considering the difficulties and the instabilities of the times. Whatever
the causes, one is forced to recognize a marked reduction in productivity per person engaged in education. In 1890, or probably even thirty or forty years after that, when the total number of adults engaged in education was relatively small, the fact that productivity in education was not increasing was not crucially important. The extra burden simply was not significant in terms of the total resources in society. Today the story has reversed, however. The nearly $86 billion spent in support of regular educational institutions in school year 1971-72 represents approximately eight percent of our Gross National Product. According to Haggerty (1974), six percent of our total working population or 5.1 million adults were in education in 1971-72. The figure has increased annually.

The number of schools in higher education, including both private and public, has increased as follows (Statistical Abstract, 1978):

<table>
<thead>
<tr>
<th>Year</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1940</td>
<td>1,708</td>
</tr>
<tr>
<td>1950</td>
<td>1,851</td>
</tr>
<tr>
<td>1960</td>
<td>2,008</td>
</tr>
<tr>
<td>1970</td>
<td>2,525</td>
</tr>
<tr>
<td>1977</td>
<td>2,785</td>
</tr>
</tbody>
</table>

In spite of the increased funding spent for education, according to reports from educational testing services, overall national testing scores have decreased within recent years. Taxpayers and government officials have been demanding accountability.

Many indications reflect the extent of taxpayer dissatisfaction with public education. Increasing numbers of unemployed graduates may indicate public dissatisfaction to the extent that graduates are not being hired. Dissatisfaction unmistakably has been revealed in taxpayer reactions to bond issue renewals and approvals which have traditionally been the mainstay for financing the capital needs of schools. While only one out of
four bond issues was rejected in 1965, in 1972 one out of two bond issues was rejected (Congressional Record, 1972).

In addition, in some parts of the country, dissatisfaction has become so acute that students and/or parents have even sued instructors for student inability to write or read upon graduation from high school. While many factors are undoubtedly responsible for a student's inability to utilize the English language effectively upon graduation from high school, the instructor is unquestionably a vital part of the process of student learning and intellectual development.

Conversely, educational advancement of great numbers of employees in all occupations beyond that achieved decades ago places subordinates in a more knowledgeable position to demand that their ideas be given consideration in decision-making that affects them. For example, during 1960-70 the numbers of students in higher education more than doubled. According to the Statistical Abstract of the United States (1978), the percentages of adults who have completed four years of high school or more from 1950-77 include:

- 1950 - 34%
- 1960 - 42%
- 1970 - 57%
- 1977 - 67%

According to the United States Office of Education figures reported by Haggerty (1974), well over sixty percent of 1974 high school graduates entered college. The 1984 predicted college enrollment percentage is seventy percent. Based on the eight million enrollment figure in colleges and universities during 1974, by 1984 enrollment figures will approximate twelve million in American colleges and universities. The mere scale of
resource commitment alone is sufficient to justify concern about how educational productivity may be improved. Every indication exists to suggest that both the needs and interests of the American people warrant enlarged educational efforts.

Growing discontent of subordinates against management is an indication of a trend that subordinates are desiring greater input into decisions that involve their education, work, and life.

As speakers periodically suggested in addresses before the Educational Testing Service, many educators believed all that was necessary to solve the educational problems was sufficient finances. It would appear that the events of the past twenty years should have dispelled that illusion completely since spending three times as much per student (in constant dollars) does not appear to have improved the effectiveness of the educational system or the quality of the end product appreciably (Haggerty, 1974).

Additional financial assistance does not help enough, if the record of the past twenty years means anything. Dr. William Bowen (1968) observed that if the productivity in the rest of the economy was increasing and that in education was not, then it would take a considerable amount of money per year merely to keep the pay scales of those in the education industry comparable with those in the rest of society, even though nothing was being produced for the surplus funds.

Instructor absenteeism is one of the most critical disruptions to maximum educational productivity and in the maintenance of a continuous educational program. In a recent study conducted by Martin N. Olson of the Institute of Administrative Research at Columbia University, chronic
instructor absenteeism was found to be an extremely negative factor in maintaining "effective learning experiences for students" (Olson, 1970). Continuous progress on the part of the student is in large part dependent on the habitual presence of the regularly assigned instructor.

While the general public is placing more stringent demands of accountability on instructors, instructors and employees in general have been demanding accountability of higher echelon authority in education as well as authority in all sectors.

In response to such demands, innumerable studies have been conducted on various management styles and their effectiveness with subordinates as well as a great array of personal opinions written regarding management styles and techniques that achieve maximal productivity from subordinates while maintaining high levels of employee job satisfaction.

As administrators discover management techniques that they suspect may increase positive responses from employees, many attempt to make positive changes that are intended to enhance employer-employee relationships.

Other administrators may be oblivious to suggestions that administrative management style makes a difference in subordinate response. Some like the way they are currently operating the organization and do not wish to change regardless of the consequences. Others perceive their management style as being one that affects subordinates positively even though that perception may be in total error.

Since it is possible for two individuals to perceive the actions of the same administrator in two totally different ways, role perception becomes an extremely important aspect of management and supervision.
Self-perception frequently differs notably from perceptions of others. When such misperceptions become severe, the employer/employee relationship undoubtedly grows impersonal and distant. Severe misperceptions between management and employees can decrease employee satisfaction, reduce meaningful communication, and finally lead to employee alienation manifested in numerous ways, one of which is excessive employee absenteeism.

The increase in instructor absenteeism within the last decade or two of over one hundred percent may be related to perceptions of the management style of the direct administrator. While various researchers have suggested that one style of management may be more effective in controlling employee absenteeism than another, the employee's perception of the management style being used is even more critical than the actual style being used. Regardless of the degree to which the administrator attempts to conform to rigid standards for a particular management style, the employee responds as s/he perceives the administrator to be projecting. Therefore role perception is a critical factor to managerial effectiveness. The implication is clear that any administrator interested in minimizing instructor absenteeism and maximizing instructor job satisfaction cannot afford to ignore the manner in which instructors perceive him/her to be managing the organizational unit.

It is conceivable that if we apply the multitude of talents and skills possessed by educators, from two to five percent more work can be performed each year. A total of three percent more productivity per person in education per year would maintain the productivity of education with that of the rest of society. Five percent more productivity per person in education per year would generate a lead over the remainder of
society and produce some surplus funds which, in turn, could be used to improve the quality of education itself without increasing real costs.

Fundamentally, the problem is a cultural one. The attitudes requisite to constantly improving productivity per person must be built into the culture in which the individuals work. Those who are responsible must approach their responsibilities in a way which takes for granted that more resources, either for work needs or as personal financial rewards for working, can come only because more is accomplished per person this year than last year and that next year still more per person must be done.

The system forces us to recognize increasing costs, either by increasing prices or improving productivity per person or both.

Given the problem of the increasing cost in maintaining a public educational system, the magnitude of the costs associated with instructor absenteeism, and the effect of instructor absenteeism on the learning process, the problem of instructor absenteeism as related to instructor perceptions of the administrative management style is particularly worthy of study at the present time.

**Historical Perspective**

Absenteeism is an age-old industrial problem. It has been a concern throughout recorded history. An Egyptian chalk table on display in the British Museum contains a chief workman's record of forty-three workers, listing their absence and causes -- "ill" or "sacrificing to the gods" or simply "lazy" (Trever, 1936).

Management concern over absenteeism has been sporadic. During World
War II it was considered unpatriotic to be absent from work. Over 175 articles on worker absence were published during 1943, thus illustrating the interest shown in this area (Gaudet, 1963).

Anxiety over absence reached a peak during World War II that can only be described as "hysteric." Many of the writers were in positions of leadership, but whether they truly represented the thoughts and feelings of the general public is impossible to say; certainly, as individuals, they were confused. Each had a cure for the problem although no one was sure, nor could take the time to make sure, about the diagnosis.

Congressmen wanted to put absentees in jail, chiropodists wanted to work on their feet, Madison Avenue saw salvation in posters. In a period of six weeks early in 1943, six government agencies launched separate investigations into the problem of excessive industrial absence and each arrived at a different "cure" (Blair, 1943).

Indiscriminate criticism of people absent from their wartime jobs took on the proportions of character assassination. The individual who was away from his/her job was termed a "slacker" and a "traitor to the country." Few reflected that real reasons existed for absence, some of which were peculiar to wartime such as the need for military manpower and defense-industry manpower simultaneously, resulting in switches from one job to another for "patriotic reasons"; poor management of employees, causing excessive fatigue; inadequate community services (particularly in the care of children and the ill or infirm); in any case, some reason beyond the control of the individual.

There was no doubt that many thousands of workers were absent, now and then simply because they wanted a day to go fishing or to a ball
game; but the proposed methods of dealing with absentees were such that everyone was "tarred with the same brush" regardless of the reason for their absences.

Union leaders of this period, although generally more levelheaded than some of the writers of the irresponsible articles, too often felt that they had to yield to the pressures of the times and made no effort to refute the many false statements which were being promoted concerning employee absence. Part of this apparent inertia may have been caused by fear of drastic action by Congress in the event that the clamor should grow too loud.

Some authorities on the subject genuinely attempted to view the absentee problem rationally. In 1943 Elton Mayo, for example, pointed out that the term "absenteeism" was being used to cover all absences from work. It "leads easily to the assumption that all absences are varieties of one and the same absence -- and so to the further and disastrous assumption that perhaps a single, simple cure can be devised" (Fox and Scott, 1943).

One may ask when top management becomes concerned with the problem of employee absence. The literature shows that, in the past, interest has been aroused most often when the business world was concerned about all forms of labor wastage including turnover and accidents as well as other factors related to absence and wastage. Absence reduction interests usually reached the highest peak during times of extreme labor shortage, as in World Wars I and II, when human resources were few. Although human resources are readily available currently, excessive costs and interest in maximizing productivity have created the recent concern with instructor
Absence.

Absenteeism: Causes, Administrative and Union Views

A survey of the literature covering recommendations to reduce absence quickly leads to the conclusion that efforts have frequently been directed at effects rather than causes of absenteeism. The attack on absence is, for the most part, where accident prevention was three to four years ago when lectures, posters, slogans, and other direct methods were the only techniques used (Gaudet, 1963). Not until some of our leading companies started to learn of the causes of accidents and took action based on this knowledge did any appreciable reduction of accidents occur.

Assuming that many of the factors now considered causes of absence are merely elements of the total problem, some of the real causes may be seen when absence is broken down into its elements.

The assumption that absence is entirely or almost entirely found in connection with sickness is grossly oversimplifying the problem. Writers in the field have been unclear as to whether they were referring to total absences or illness absences. An examination of statistics from many companies indicated that the "absence mix" varied radically from one plant and company to another and from one industry to another. Companies with high accident rates might be expected to show a higher proportion of illness absences. When illness absence statistics for companies in the same business or industry were compared, however, wide differences still remained in the proportion of total absences ascribed to illness.

The frequency of absences due to off-the-job accidents varied with such economic factors as the type of sickness benefits the company pro-
Complex classifications have been used by various writers. For example, Baker (1950) of Ohio State University categorized most types of absence as follows:

1. absences caused by physical incapacity of the worker
2. absences caused by conflicting motivation of the worker
3. absences resulting from interfering personal obligations and needs of the worker
4. absences encouraged by wage conditions

Another method of classification of absences segregated those caused by conditions inherent in the job such as plant or departmental working conditions, methods of supervision and similar related factors, some of which were clearly under the control of management.

External factors may include such items as poor transportation or other lack of community facilities which top management has at times attempted to improve. The majority of the external factors were related to the employees' ability and willingness to come to work, however. Although management can do little about an employee's "ability" to work, the few research studies which have been conducted in the area of "willingness" indicated that supervisory behavior was the single greatest factor involved. In other words, administrative behavior could prevent or create emotional and/or physical illness of employees.

Many management people argue that illness absences are more important than other types of absences because illness absences are likely to be preceded and/or followed by a day or two of substandard work. Several Australian studies surveyed during World War II (How to Reduce, 1943), suggested
that sickness absence made up one-half to three-fourths of all absences.

An interesting fact shown in another study was the high percentage of unexplained absences among employees. In both sexes, they made up approximately one-fourth of all absences.

Only a few companies analyzed their absences in terms of length. Long-term absences were assumed to be genuine involuntary absences while short-term absences, especially those of one or two days, were frequently looked upon with skepticism, particularly if they occurred on Mondays or days preceding or following a holiday (Behrend, 1951).

The relationship of sickness absence to other types of absences varied greatly, and not only from one company to another, but also in any one company, from time to time. This variation was largely accounted for by the complete lack of agreement on the definition of sickness absence.

Other factors helped account for the variation, however. The type of benefit plan, or changes in an existing benefit plan, affected the amount of the company's sickness absence as well as other factors: economic conditions, male-female ratio, age of employees, and type of industry. Climate affected statistics on sickness absence; many studies supported the widespread belief that sickness absence increased in the winter months.

All that is known at the present time is that sickness absence rates reflect a hodgepodge of many factors, of which physical illness makes up a certain unknown percentage. Other factors such as psychosomatic illness need to be added for a total picture.
Personal Traits of Absentees

Several major studies have been based on the idea that if the personal characteristics of the high absentees were known, something could be done to reduce absences. The approaches used in these studies have differed widely, as have the findings; but each contributed to an understanding of the problem, if only to demonstrate that there was no single cause of absence.

The general impression gained from the literature was that absentees as a group were "problem people" in many areas. As William J. Fulton, medical director of General Motors Corporation, stated (Fulton, 1944):

"Comparison of the plant dispensary records with that of the personnel department demonstrates that the majority of problems for supervisors and for personnel and safety departments are absentees (who) seem to be 'in everybody's hair.' It is within this group that we find the preponderance of neurotics, indigents, irresponsibles, and otherwise below-par brothers and sisters."

One of the most frequently quoted studies of the causes of absence was conducted by Joseph Jackson (1944) with 550 factory employees in a precision-machine shop. In addition to his statistical study of these 550 workers, he intensely studied the subgroup of 120 workers who had above-average absence rates by interviewing each worker and his/her foreman. Results in ascending order of importance were:

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Percentage Possessing Characteristic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Poor work habits</td>
<td>6%</td>
</tr>
<tr>
<td>2. Personal maladjustment</td>
<td>9%</td>
</tr>
<tr>
<td>3. Dissatisfaction with work</td>
<td>16%</td>
</tr>
<tr>
<td>4. Irresponsibility</td>
<td>17%</td>
</tr>
<tr>
<td>5. Outside difficulties</td>
<td>17%</td>
</tr>
<tr>
<td>6. Sickness or fatigue</td>
<td>35%</td>
</tr>
</tbody>
</table>

Probably the more important aspect of this study, certainly the most
important for the manager who is basing his/her absentee-control program on causes of absenteeism, lay in Jackson's finding that there was seldom only one cause for a particular incidence of absence. He concluded that for only one-third of the employees interviewed was one rather than several causes active. Sickness was most frequently related to other causes.

One of the most impressive series of studies dealing with the nature of absence was conducted by Norman Plummer and Lawrence E. Hinkle, Junior (1955), both physicians with the New York Telephone Company, who have published a long series of articles on industrial absence. One aspect of this investigation was a study of women employees who had twenty years or more of service. In this intensive study, twenty women had many absences and twenty others had few absences. The groups were comparable in age and length of service. Long and detailed interviews covering medical, family, and general life history as well as cultural, social, and economic background were conducted. Each subject's present situation was noted, including any evidence of disturbances of mood, thought, and behavior.

The original medical examinations which had been made when these women entered the company's employ did not show any great differences between the two groups, although their later history of illnesses clearly did.

While the two groups of women were found to come from very similar cultural, educational, and economic backgrounds, the personalities of the two groups were quite dissimilar. Among the differences found were the following:
<table>
<thead>
<tr>
<th>Low-Absence Group</th>
<th>High-Absence Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. &quot;Outward-going&quot; individuals who were capable of diffuse emotional attachments.</td>
<td>1. Not &quot;outward-going,&quot; defensive, suspicious, and somewhat hostile.</td>
</tr>
<tr>
<td>2. Made friends readily.</td>
<td>2. Did not make friends readily.</td>
</tr>
<tr>
<td>3. Rapidly adapted to changes from one type of operation to another, or from one location to another.</td>
<td>3. Reacted with distaste and complaints toward job or location changes.</td>
</tr>
<tr>
<td>4. Well-liked by associates and supervisors.</td>
<td>4. Not well-liked by supervisors (and the women reciprocated this dislike).</td>
</tr>
</tbody>
</table>

Leon Schwartz (1945) studied the personality characteristics of employees in the high- and low-absence groups. He found good attenders to be reported better workers than the poor attenders. Since many civil service proficiency ratings carry an item on "reliability" which included quality of attendance however, this conclusion may be inaccurate due to a contaminating factor. Contamination explains part of the difference in the over-all ratings of the two groups. Schwartz found that low-absence employees had higher seniority. Since many studies showed a positive relation between seniority and proficiency ratings, this may be another factor explaining the higher ratings of the low-absence groups.

Schwartz (1945) pointed out that no difference exists between the two groups in the number of employees who admit to "chronic conflicts in their working environment," but he did find that the groups differed in the number of their members who reported "difficulties at home." Only six of the low-absence employees admitted to chronic conflicts at home versus twenty-three of the high-absence employees. More overweight and underweight individuals were in the high-absence group, which may have reflected
health habits. Thirty-two percent of the women who were high-absence employees in Schwartz' study suffered from constant "nervousness" versus only four percent of those in the low-absence group. Similar differences were found in the frequency of those suffering from headaches (54 percent of the high absentees versus 13 percent of the low absentees).

A study of far greater significance among those who have attempted to research the cause of absence was conducted by LeBaron O. Stockford (1944) at one of the plants of the Lockheed Aircraft Corporation. During the latter part of World War II, this company decided to look for "the real causes of absenteeism." Feeling that procedures in the past had been limited to recording of the percentage of working time lost through accidents and tabulating the frequency of the excuses offered, their approach studied the differences (economic, social, and psychological) between good and poor attenders. The sample included 200 non-supervisory production workers of whom 100 had perfect attendance during the previous six months. The second 100 had lost at least fifteen or more working days of the 132 scheduled during the same six months. The two groups were matched for plant department, job, shift, sex, and seniority. The following characteristics differentiated the two groups:

1. Absentees included more unmarried individuals although there was no difference in the frequency of divorces in the two groups.
2. Absentees were more likely to live away from their families, either alone or with other workers.
3. Absentees saved less money (which may have been due to their higher absence rates).
4. Home-ownership was less frequent among absentees.
5. Absentees were more inclined to drive their own cars than to ride with others.
6. Absentees were a younger group: 31 years of age versus 37 years for the good attenders. (This may explain several of the points listed above.)

7. Absentees had an average IQ of 95 while the good attenders had an average IQ of 100.

Much more important than the points listed above are the following characteristics as listed for the two groups:

Absentees: comparatively unstable socially and economically

Good Attenders: more stable than the average employee both socially and economically

Such studies and similar but less important ones which appeared in the literature indicated that absentees were a type of people different from those whom we classify as "good attenders."

Absentee characteristics can rarely be identified prior to employment, however, due to the fact that problems are aggravated on the job by boredom, discouragement, a poor working environment, or a negative relationship with the boss (Kellog, 1957).

This statement implies that one cannot say definitely that absence is caused only by personality characteristics of the employees or by management practices alone. The two factors may work together, or there may even be a circular effect, one exaggerating the other. Evidence for this point of view was indicated by the Stockford (1944) study. Important differences between the good and poor attenders which were discovered by Stockford include:
Absentees

1. A large percentage were placed in jobs wholly unrelated to their previous training and experience.
2. They were frequently given jobs they disliked.
3. Their requests for transfer were refused as often as not.
4. Fifty percent were in their original jobs.

Good Attenders

1. Almost three-fourths were in jobs related to previous training and experience.
2. Seventy-six percent liked best their previous jobs which resembled their Lockheed jobs.
3. Only nine percent were refused transfer requests.
4. The majority had two or three or more different jobs while at Lockheed.

This study was unique in examining both personality factors and management practices as causes of absence. The most significant factor discovered by the Lockheed study was that absentees appeared to change on the job, that their "instability" as demonstrated by on-the-job behavior was created or exaggerated. This was indicated by a comparison of the merit reviews of the two groups six months before the study began and again when the study was undertaken. At the earlier date, the merit reviews of the two groups were similar. When the study was begun, however, the absentees had made no significant improvement in either their merit-review scores or their wages, while the good attenders had made significant changes in both. Whether their absences were responsible for their lack of progress or, on the contrary, their poor progress caused their absences, is impossible to tell.

A concept of accident-proneness exists based on the following three arguments:

1. A small proportion of the employees have a large proportion
2. The high absentees are a fixed group of employees.
3. The distribution of the frequency of absences in a large group of employees cannot be explained by chance alone.

The whole concept of absence-proneness needs more study. Whether or not statistical measures of proneness are found in all distributions of absences needs to be known. Whether the same evidence of proneness exists before and after programs of absence or accident reduction has been in operation for a while, and whether the same individuals are "prone" before and after an absence-reduction program, are topics yet to be researched.

An interesting speculation exists, although never appearing in the literature, as to the proportion of lowered absence during periods of depression. What proportion is really due to firing or laying off of younger and more recently hired employees? The effect of unemployment on the level of absence may be blurred or contracted by changes in:

1. management policy with regard to absence
2. level of wages
3. age composition of the plant workforce
4. the incidence of sickness (an influenza epidemic, for example)
5. method of recording absence

An Ohio firm polled its employees (1956) before all major sporting events and found that baseball and football ranked high as causes of absence. Horse racing was apparently another cause according to the following (1961) news item:

"Seven hours of debate were scheduled Thursday on a multi-billion dollar highway bill in the House. But the House moved at a gallop, finished in less than four hours. Congressmen
wanted Friday off so they could go to the Kentucky Derby" (World-Telegram and Sun, 1961).

Alcoholism and mental ill-health were important causes of absence in some plant operations. They were believed to be related although the relationship was not precisely known. The fifty percent of the nation's alcoholics who are currently employed were absent two and a half times as often as non-alcoholics (Gaudet, 1963).

Muchinsky and Garrison (1977) found a difference between paid and unpaid absences. Their data indicated that unpaid absences were predictable, as evidenced by the results that employees who were more dissatisfied with their work and job in general, and who had several children, would manifest higher levels of absenteeism.

In general, their data indicated that a portion of the variance in unpaid employee absenteeism could be accounted for on the basis of biographical and attitudinal predictors. There does appear to exist some relatively small but systematic relationships between affective and biographical characteristics and withdrawal behavior.

Porter and Steers (1973) have shown that unfavorable job attitudes are related to withdrawal behavior. Unpaid absenteeism was considered a form of withdrawal behavior with several substantial predictors, while paid absenteeism was not considered a conceptually equivalent form of withdrawal behavior.

The results of the study indicated that paid absences were basically unpredictable, while unpaid absences related to selected attitudinal and biographic variables. Unpaid absences were conceptually more representative of withdrawal behavior than were paid absences.
Freedman's (1967) study suggested that absence frequency was in some way related to the nature of the school organization as well as with situations which would be considered external to the school organization.

Yolles (1974) suggested that absenteeism may only be a symptom of the comprehensive scope of industrial and business problems erupting.

Industrial psychologists observed that perhaps the most sensitive measure of morale is absenteeism rates. Adjustment to a job can be expressed along a continuum that ranges from creative productivity (going beyond routine job demands) to discontinuing membership in the organization (turnover).

Absenteeism may have increased over the past twenty years because:

1. Work is no longer so central a value in our society that the adult male or female will occupy his/her productive hours almost exclusively with on-the-job performance.

2. Absenteeism is simply a relatively illegitimate way of conforming with society's expression of the notion that successful people have more time off the job than on the job.

Some suggest that absenteeism may be a form of group behavior. Evidence on this possibility was found over thirty years ago by Walker (1947) who showed that a distribution of absence in industry assumed the form anticipated from the application of the "J-curve" hypothesis of conforming behavior to industrial absenteeism.

Discretionary absenteeism in an organization may be due to a number of factors including job content, employee fitness for the job, employee life-style/personality/psychosomatic proneness, and logistical problems (both parents working or transportation or others).
Some industrial executives, therefore, stress the relationship between management and absenteeism, the need to humanize jobs, the new breed of workers in factories today, the greater disenchantment among younger workers, the possibility that technology has been pushed too far (taking skill out of jobs), and the widespread idea that something different exists about today's discontent (the alienated, bored, rebellious, and frustrated workers).

Others suggest that too often where absenteeism is concerned, management has been treating the symptoms and not the cause. Impacts of leisure time and a more educated society are factors which must be dealt with, in addition to job-related factors.

Yolles (1974) quoted J. J. McManus as representing labors' view of absenteeism:

"We are not committed to alleviate absenteeism, per se, but to the implementation of the principle that the life of a union member in his/her family should be as healthy and happy as possible."

McManus suggested that the heart of a healthy employer-employee relationship involves recognition, respect, and remuneration.

Clinical examination of undependable workers revealed deficient ego and super ego functions wherein accepted work habits mandating industriousness, punctuality, and individual responsibility have never been developed. One psychiatrist hoped that industrial systems would change so that work would resemble a form of worship.

According to Toffler (1970) millions of ordinary, psychologically normal people will suffer "future shock" within the next three short decades. The term "future shock" denotes "distress both physical and
psychological, that arises from an overload of the human organism's physical adaptive systems and its decision-making process." Toffler questioned whether humans possessed the capacity for the adaptation required by the accelerative thrust of change.

A growing body of evidence exists which supports the claim that acceleration of change beyond the limits the human organism can absorb results in both physical and psychal distress, the effects of which may lead to illness or breakdown (Cassel, 1964). This may be a crucial factor in the erosion of the ability of millions to act rationally on their own behalf, much less on the behalf of others. If such claims prove valid, the effect of future shock on employee performance has profound implications for educators and industries.

Several authors suggested that job enrichment was a useful countermeasure to absenteeism. Turner and Lawrence (1968) found, however, that enriched jobs resulted in greater satisfaction and less absenteeism for small town workers but not for urban employees.

Occasional references were made indicating that ten percent of the work force was responsible for ninety percent of the absenteeism. The implication is, of course, that were the small hard core of offenders properly treated, much of the problem would be solved. The fact that the ten percent of absentees often changed annually as did accident-involved drivers was ignored. The problem of identifying a clearly defined or hard core absenteeism-prone group of employees remains a challenging one.

In complete contradiction to the many studies that attempted to prove that a relatively small percentage of employees was responsible for a
large proportion of all absences was an equally impressive body of research which placed the blame on the employer, which raises an issue of great importance to management personnel who are responsible for the reduction and control of absence.

While studies conducted on the causes of absence have led experts in the field to conclude that no one single cause of absence exists, clearly one aspect of the cause is the effect of good versus poor management.

Studying the causes of absence as a method of determining the proper cure has produced valuable information including:

1. revealment of marginal workers
2. lax supervision
3. corrective measures for unjustified absences
4. unhealthy working conditions
5. more effective medical functioning
6. reduction of one-day absences
7. effects of poor ventilation, crowded conditions, and excessive overtime on the absentee's record
8. revealment of the physically unfit
9. effects of good administration
10. methods for helping employees correct problems
11. methods for increasing productivity

Methods of Absence Reduction

Surveys exploring companies that have been attempting to decrease their employee absence rates are influenced not only by the types of companies sampled (in terms of size, union or non-union, liberality of
present benefits, etc.) but also by the period when the investigation was made. The time element is so important, in fact, that one can almost date the survey from the techniques described in the responses. For example, if a number of companies were establishing nursery schools, improving public transportation facilities, or influencing other community changes, one could almost be certain that the survey dated back to World War II.

An American Management Association survey dealt with company practices in the control of reduction of absence (Gaudet, 1963). Respondents were asked to check one or more of the following items:

<table>
<thead>
<tr>
<th>Items</th>
<th>Number of Companies Checking Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. posting of attendance records</td>
<td>13</td>
</tr>
<tr>
<td>2. specific training program in absence-control for supervisors</td>
<td>16</td>
</tr>
<tr>
<td>3. labor-management committee control of absence</td>
<td>8</td>
</tr>
<tr>
<td>4. posters, cartoons</td>
<td>17</td>
</tr>
<tr>
<td>5. rotation of shifts to ease pressure of night work</td>
<td>4</td>
</tr>
<tr>
<td>6. additional methods described</td>
<td>36</td>
</tr>
</tbody>
</table>

Thirty-three of the 104 companies (31.7 percent) responding to the American Management Association (AMA) survey questionnaire did not check any of the items, nor did they state that they were using a method not indicated in the checklist question. Except for the smallest companies of 250 or fewer employees, of which less than half were using any type of control, little relationship was found between the size of the company and interest in techniques for the control and reduction of absence. The survey indicated that smaller companies frequently employed posters and cartoons in attempted absence control more often than large companies. Of all the methods cited, posters and cartoons proved to be most popular
in seventeen of the seventy-one companies.

The second most common technique was a specific training program for supervisors in absence control. Companies citing this item were evidently those implementing a formal training program. Companies implementing informal training programs frequently listed them under "other methods." Training details were vaguely described. Formal training programs were more common in larger companies.

The third most common technique was posting attendance records, interpreted as "public" posting of attendance records with the intent of embarrassing poor attenders. This technique did not include circulation of attendance reports to management.

The use of labor-management committees was checked by eight respondents, one of which did not have unionized employees. Four companies used "rotation of shifts to ease pressure of night work."

A compilation of other methods used by companies in attempts to reduce employee absenteeism follows:

1. department head with advice and assistance of medical and personnel department, given responsibility to control (statistics compiled quarterly and annually by departments, spot visits or checks made and statements required from attending physicians)

2. individual discussion with supervisors, counseling of constant offenders

3. discussions with first-line supervisors analyzing control methods

4. reports and discussions with department heads where attendance records indicate need

5. primarily handle on an individual basis, counseling and disciplinary action, frequent solicitation and cooperation of union officials pursued

6. supervisory interview on day of return
7. memos to unit leaders and operations officers
8. calls for all absences routed to top supervision regardless of department
9. absence causes reported by employees, warning slips and disciplinary action used for unreported and unexcused absence
10. must report by 9:00 a.m. to supervisor reasons for absence, nurse calls if employee is absent more than two days
11. reports by departments circulated to all officers and supervisors
12. oral warning, written warning, discharge
13. post best absence records each month for top groups
14. procedure requiring advance clearance for paid personal leave, close inspection of sickness records
15. excessive absenteeism affects merit increases in salary and disciplinary action
16. half-pay for first week of absence
17. medical examination of staff prior to being hired and periodic medical examinations thereafter
18. nurse discussed preventive medicine with each employee following a return from any illness
19. occasional articles on health hints and preventive literature
20. individual disciplinary action-warning letter, disciplinary letter including layoff of one to five days, eventual discharge for continuance
21. subject was being studied and the company hoped results would lead to appropriate control methods.

Practically every technique was rated good to effective by some company. Others reading the list would be convinced that some or many of these techniques were either a waste of time or actually tended to increase absence. It is evident that no one had any sound basis for judgment regarding the efficacy of most absence reduction methods.
Preliminary examination of methods used revealed that rewards, in contrast to penalties, received little attention.

Despite the popular contention that watching attendance was a legitimate part of the first-line supervisor's job, the personnel department and top management were mentioned quite frequently in the survey. A relatively large number of companies which indicated that training was given to first-line supervisors in absence control supported the contention that many companies did leave the problem to the immediate supervisor, or at least that was the goal of their programs. The fact that a higher manager was mentioned several times indicates top management may agree that research is needed to understand both the causes and control of absence.

Medical departments have been established in many industries to reduce the number and cost of accidents resulting in employee absence. Their functions have expanded considerably until today. The objectives of the company medical departments varied from company to company and according to each company director's conception of his/her job. Some medical directors believed their main objective was a public health function, maintaining employee health, rather than reducing absence per se. Others stated that employee absence reduction was their primary objective. Reduction of lost time and absenteeism from illness and injury were points rather widely approved by medical authorities as major objectives of a company medical service.

When companies with medical facilities have been questioned on whether or not their medical personnel were involved in activities as examination of sick employees before sending them home, checking on ill-
ness reports from absent employees, and/or examination of employees returning after illness or childbirth, the vast majority indicated that their medical personnel had no duties in absence control. Only seven out of the thirty-three companies reported that they had dependable evidence of the effect of the installation of a medical department on absence. Since the great majority of respondents specifically stated that the medical department was not involved in absence control, we may conclude that management in many companies believed that a company nurse visit to a sick employee at home was intended to improve the employee's health rather than function as a "spy" technique.

Despite the respondents' beliefs that their medical departments were not involved in absence control, some of the phrases used in describing their work indicated that they were being used to police employees. For example, one company used the Visiting Nurses Association to visit all sick employees on the second day of absence. The phrase "check on" was used by some of the respondents.

Although some companies indicated that the medical staff contacted an employee's private physician only with the employee's permission and others indicated that the medical staff contacted the employee's physician only when the employee had been sick for some time, the majority of companies did not mention acquiring the employee's permission prior to contacting his/her private physician. One company used the medical staff department as an intermediary with the employee's physician in suspected malingering cases.

The majority of companies examined the returning employee who had been sick and who had given birth to children. Other medical department
functions generally associated with absence control in the mind of the public are administration of flu shots, daily time card checking for absentee detection, periodic physical examinations, dispensary services, assisting and advising supervisory employees in handling chronic absentees, preparing articles on health for the company, preventive medicine, and securing medical releases.

During World War II, companies sent medical representatives to the homes of sick employees to be certain the employees had proper medical care. When company nurses visited, employee welfare motives could be accepted. When company guards visited, however, the company motives were questioned.

A survey of personnel practices in factories and offices conducted by the National Industrial Conference Board disclosed several methods used to "check up" on sick employees (Seybold, 1954). One means was that of home visits by one of the following persons:

<table>
<thead>
<tr>
<th>Individual</th>
<th>Percentage of Companies Utilizing Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. an unspecified individual</td>
<td>36.2%</td>
</tr>
<tr>
<td>2. a nurse</td>
<td>5.4%</td>
</tr>
<tr>
<td>3. employee's departmental superintendent</td>
<td>3.1%</td>
</tr>
<tr>
<td>4. some member of the personnel department</td>
<td>2.6%</td>
</tr>
<tr>
<td>5. some company representative</td>
<td>2.3%</td>
</tr>
<tr>
<td>6. an investigator</td>
<td>1.8%</td>
</tr>
<tr>
<td>7. a company messenger</td>
<td>0.8%</td>
</tr>
</tbody>
</table>

In addition, 48.3 percent of the companies checked absences by telephone calls and 4.4 percent checked by mail (Seybold, 1954).

Close examination of these practices ought to cast doubt on the idea that home visits and some other practices were employed to provide proper
care for the sick employee.

Gaudet (1963) reported that the Associated Industries of Cleveland made a Monday morning survey of 151 plants employing 45,541 workers during World War II. Of these, 3,027 or 6.6 percent had failed to report. The survey quoted individual plant findings as "twenty percent of all workers on sick leave, when visited, were not at home; less than five percent of all absences investigated were due to actual illness."

A War Manpower Commission survey during World War II (Three-Way Solution, 1943) indicated that illness outranked all other reasons for absence, yet a nursing service check in one instance showed only thirty percent of those claiming illness to actually be ill.

The literature referred to many instances of home visiting, but few studies reported results. The literature did contain frequent reference to the reluctance of companies to investigate illness absences, however. Those companies feared accusations of "spying." One advantage to having an insurance company administer the sickness benefits program is that the carrier can investigate without harming employee attitudes toward the company. One large insurance company carrying such sickness benefits insurance reported investigation of employee illness in the insured companies but not investigation of its own employees.

A highly significant study in this area was conducted by Andrew T. Court (1944) of General Motors Corporation. Court stated his portrayal of illness absence by showing that occupational illness in his company was low and decreasing continually. Gaudet (1963) agreed that absenteeism had been reduced through the reduction or elimination of occupational hazards. Almost ninety-five percent of all absenteeism had been non-occupational
rather than occupational and had been due to a broad range of emotional and/or physical illnesses.

The most recent research indicated that we still have not reduced non-occupational disabilities. Some companies have promoted "preventive medicine" by encouraging employees to correct minor indispositions and utilize preventive surgery. Results were negative in that economic changes reducing the cost of surgical operations to the individual stimulated surgery with no evidence that better health resulted.

While a properly conducted medical service certainly did reduce illness absence, statistics indicated that this reduction was less than one day per person per year (Gaudet, 1963), hardly noteworthy in the light of expected absenteeism rates "normal" to industry.

Malott and Hass (1957) of the American Management Association studied a punishment approach to company disciplinary practices. One hundred twenty-nine personnel officers were asked to specify the reason or reasons for firing the employee most recently terminated. Absence had been the most common single cause for discharge. According to the respondents, more than half of the discharges for excessive absence were made because the individuals lost too much time. The second most frequent reason given for absence discharge was that the worker was away from the job in violation of company rules or custom. Reasons for rule-violation discharges were:

1. overstaying vacation without notifying management
2. absent without notification to the company and without an accepted reason
3. working for another employer to see if one "liked the job" (which undoubtedly was the last straw)
Although the usual pattern of disciplinary action was a simple warning with layoff and dismissal, considerable variation existed in dismissal methods.

Legislative penalties as punishments were emergency measures utilized during war. For example, during World War II in many countries laws were invoked to reduce industrial absence. The Essential Work Order regulations were designed to control employee absence. Failure to comply resulted in prosecution or loss of deferred status, entry into the armed forces, or imprisonment and fining.

A number of companies have reported undesirable results from the use of punishments applied to chronic absentees. The results of Buzzard and Liddell's study (1958) appeared to illustrate that employees could adopt a "rational" strategy toward the imposition of sanctions and could opt for more acceptable forms of absence rather than show the desired overall decrease in absence rates. This explanation was consistent with Gouldner's (1954) model of industrial bureaucracy and its description of the effects of the application of impersonal rule systems to organizational behavior. Survey results confirmed the hypothesized prediction that there would be a trade-off between uncertified and certified absence (Nicholson, 1976).

Despite the fact that the available literature on the causes of absenteeism (Porter and Steers, 1973) stressed the importance of job redesign, improvements in the work environment, more effective reward systems, and other long-term policies designed to enhance job satisfaction and intrinsic motivation, many organizations continued to place heavy reliance on management sanctions when workers violated the attendance norms (Baum, 1978). In view of the widespread use of
sanctions such as progressive discipline for repeated violations, it was surprising that so little actual research has been reported on the effectiveness of sanctions in deterring counterproductive behaviors as absenteeism. Moreover, the available literature was characterized by divided opinions and conflicting findings concerning the efficacy of sanctions in reducing absenteeism.

Opposition to use of sanctions has been based on two ideas:

1. Behavior modification techniques based on positive reinforcement of desired behaviors (such as coming to work regularly) are more suitable and effective in dealing with absenteeism.

2. Sanctions based on the use of disciplinary procedures (punishments) tend to produce undesirable side effects, objectionable as the behavior of primary interest.

Numerous companies have, therefore, used rewards for absence minimization encouragement, such as cash payments of some sort or time off for good attendance.

American Business surveyed 200 companies (Absenteeism and Tardiness, 1956) to determine their methods for controlling absence. One of the findings was that over eighty percent of the participants felt a positive approach to solving the problem was more effective than a negative approach. Appeals to the employee's sense of fair play, importance to the work group as a whole, chances for advancement, and more money were felt to have more effect on the worker than threats of discipline or punishment.

Later, in the same article, the comment was made that the trend toward incentives to be on the job, regularly and on time, was fast surpassing the old theory of threats and punishments.

Conversely, a survey of the literature revealed even more opposition to the use of rewards than to use of punishments. The difficulty with
bonuses as a reward were reported to be:

1. The question of justifiable absence was a perennial headache, as was the use of fines for unjustified absence.

2. If an employee missed a day in the early part of the bonus period, s/he lost interest in maintaining good attendance for the remainder of the time (Kent, 1951).

3. Certain built-in factors in bonus plans were responsible for some of the difficulties (good attendance period length should not be too long).

4. Critics asked why employees should be paid for being on the job when it was their duty to attend the workplace.

5. Their effects were of short duration.

6. Difficulties with a stated number of paid sick-leave days per calendar year (high in October - December) resulted in dislocation of schedules.

7. Some employees came to work when they should have remained at home; they developed a negative attitude.

8. There was some evidence to indicate that reward systems may be most effective when the absence rate has been lowered to a reasonable degree by other methods.

Payment after only the third day of sickness encouraged more people to take time off for minor indispositions. Among those suffering illness of eight through thirteen days duration, four times as many claims appeared for those paid after three days as appeared for those who waited seven days before drawing sick-leave benefits. Even when illnesses of twenty-eight days and longer were considered, the three-day employees had more than the seven-day employees.

Financial rewards utilized by companies in attempting to reduce employee absenteeism are listed as follows. Some methods appeared to function quite well, at least temporarily.

1. Northwest Plumbing and Heating Supply Company of Detroit in-
stalled a plan, as part of their union contract, whereby employees with unused sick leave were paid for those unused days the week before Christmas. The plan was so successful that it was extended to office employees. Some employees who formerly stayed away if they had the slightest headache managed to be at the workplace every day.

2. A form of cash reward instituted by one company started each month with a bonus. Failure to earn the bonus brought financial penalties (McGuire, 1954). At the beginning of each month a bonus of six percent of base salary was set up for each employee. If s/he was absent for a day, two dollars were subtracted; one dollar was subtracted if s/he was away for a half-day. During the first month this plan was in operation, "lates" decreased seventy-four percent and doubtful reasons for absence diminished. Employees reported liking the plan.

3. A similar arrangement was adopted by the Farmers Casualty Company. The president of the firm, C. N. Rogers, said it kept absenteeism, tardiness, and labor turnover at a minimum (Scobell, 1947). Under this plan, the employee received twelve days pay for a year of perfect attendance. One day's pay, or part of it, was deducted for each occasion of absence or tardiness.

4. Another form of cash reward for good attendance was introduced by the Guardian Electric Manufacturing Company of Chicago (Lytle, 1942). After employees had completed their work week of forty hours, the company started paying overtime at time and a half for hours over thirty-five. Workers had to be on the job every hour of every week to gain increased earnings. Absenteeism was cut in half in the last week of operation.

5. If the weekly time card showed that an employee had been on time
every morning and afternoon and present during all working hours, s/he would receive a bonus on pay day equal to five percent of the week's wages. To allow for unavoidable absence or tardiness, s/he would receive the bonus if absent or tardy no more than once during any month. Those with a perfect attendance record for three consecutive months would be allowed two such absences or latenesses without affecting attendance bonus rights, according to a Time Magazine article quoted by Gaudet (1963).

6. Merchandise National Bank of Chicago, which had been awarding two percent of the annual salary to employees with records of perfect attendance, expanded their bonus plan to include a smaller bonus to those who had missed less than six workdays throughout the year (Kent, 1951).

7. The Daisy Manufacturing Company of Michigan (1946-47) awarded employees fifteen dollars for six months perfect attendance. Proportionate amounts were added for additional periods of perfect attendance. A single half day was permitted before disqualification. Since this privilege led to abuse, however, it was discontinued (Gaudet, 1963).

8. Hall Brothers, Inc., of Kansas City, Missouri, opened its attendance incentive plan with a bonus of one dollar per month for perfect attendance. Later the company changed to a vacation bonus of one additional half-day for each three consecutive months of a record showing no tardiness or absence, with an additional day for four consecutive three-month "no tardiness or absence" records.

9. Westinghouse Electric Corporation tried various drives, campaigns, and rewards without lasting effect. As a last resort, the company decided to give the awards to department supervisors and foremen. Departmental goals considered attainable but not easy to reach were set; super-
visors were rewarded for "beating the bogey." This plan, by applying a 
more direct pressure on employees, was reported to have reduced absence 
by more than fifty-five percent.

10. Other companies which provided incentives have used a jackpot 
contest which only employees with good attendance were eligible to enter. 
Almost all reported a decrease, but too frequently the decrease lasted 
for only four to five weeks.

Some maintained that a time-off plan as incentive to good attend­
an ce merely made the employee absent with approval rather than absent 
without approval. Scheduled absences at least provided the company an 
opportunity to plan for them in advance.

Many other minor devices, none of which have scientifically demon­
strated proof of their value, could be cited including the occasional day 
off suggested by a medical officer who stated that a day off occasionally 
for the average worker is likely to increase efficiency and prevent pro­
longed absences. Various companies reported finding no system to permanent­
ly minimize absenteeism, so they launched new programs periodically hoping 
one would work for a month or two at the most. Interesting attempts 
pursued included (Gaudet, 1963):

1. attempting to reduce off-the-job accidents through city traffic 
clubs (posters on company bulletin boards, prizes to school 
children for essays on accidents, articles in the company and 
letters to the homes of employees)

2. spot checks of employees' homes to locate hazards causing 
accidents

3. educational campaigns on safety (safety booklet to parents of 
a new born child)

4. supplementary diet experiments:
a. five tablespoons of cod-liver oil per week
b. supplementary feedings of bananas and milk (Results were that groups receiving supplementary feedings had lower absence rates than control groups.)

5. installation of air conditioning reduced absence although no definite conclusions could be drawn due to the Hawthorne effect

6. piping music into plants and offices (no results other than in one company where one type of absence increased)

7. educational campaigns stressing the importance of personal hygiene "washing up" which reduced skin disorders accounting for sixty-five percent of all industrial diseases

8. mailing absence records of employees to their homes stating number of days lost and/or amount of wages lost

9. team formation of fifty to one hundred employees competing with other teams for a banner given to the team with the lowest absence record

10. active ligamentous stretching exercises to reduce menstrual cramps and aches among women, which resulted in eighty percent absence reduction (Dick and Billing, 1943)

11. stop work and practice ballet exercise for thirty seconds as a backache cure (Ballet for Backaches, 1959)

12. closed bars on Sundays (resulted in a sixty-one percent decrease in absenteeism on Mondays, according to Coates, 1942)

13. use of a lie detector (Gaudet, 1963)

14. lottery systems (gambling, games, door prizes, poker games, cards given)

Available documentation of many of these plans exhibits poor quality. Almost any plan works, at least for a very short time, which is most likely due to employee consciousness that the company is concerned about absences, rather than effectiveness of the method itself.

Companies must have more information about causes before they can determine what to do and how to begin successfully. Present techniques for determining causes are clearly of doubtful validity. Until companies
have identified causes, solutions are difficult to maintain.

Accurate records must be kept and analyzed by department or division to identify high absentee rates and absence-proneness. Costs of absence should be calculated in terms of direct and indirect expenses to indicate where efforts will produce best results. Although analyses of records have typically been done through medical departments of industries, questions have arisen as to whether medical departments obtained an accurate picture. As an example, they were unlikely to investigate the percentage of absences ascribed to sickness as sickness absence benefits increased. Their emphasis had typically been sickness absences rather than absences in general.

Although abundant research is available on the causes and correlates of industrial absences, surprisingly little research has been devoted to the role of sanctioning systems in absence control, in spite of the fact that the majority of industries operate under some type of sanctioning system. The writers who have discussed the efficacy of punishments in absence control are divided in their opinions (Nicholson, 1976). Problems with the system include employee ability to "beat the system." Under the point-penalty system, for example, an employee can easily keep his/her own record and make certain s/he fails to pass the dismissal level.

While job enrichment programs give some promise of alleviating the problem, no one views them as a cure-all. Unless the first-line supervisor takes positive steps toward maintaining regular attendance of employees, permanent improvement is unlikely. Though any number of extraneous factors may affect a department's rate of absence, the key to a
good attendance record is most often found in the attitude the supervisor has toward absenteeism and the positive steps s/he takes toward maintaining regular attendance. Supervisors concerned with employee absence must take into consideration methods which are permanent. As factors associated with high absence rates, the influence of supervisors and the attitudes supervisors create among employees have been investigated in several studies by Noland (1945a). He pointed out that although such elements could not be controlled by management, those factors increased understanding of high versus low employee absence rates in different departments and companies. Quality of supervision could be increased through retraining.

The Edison Company (Information on Absences, 1953) program showed that reduction of absence could be approached from two points of view:

1. group approach, using meetings, reports, general improvement of the work situation
2. individual approach, working with each absentee

This company advocated the use of both approaches. Its training manual was organized around three main problems:

1. a chronic absentee
2. lack of information or understanding
3. human relations

Detroit Edison's well-planned five-step plan for handling the chronic absentee was elaborated in the company manual (Information on Absences, 1953):

1. identify the chronic absentee
2. investigate causes
3. try to help absentee correct problem
4. if help does not produce results, use discipline
5. recommend dismissal when discipline fails

After listing a number of possible causes for excessive absence, the manual suggested a way of approaching the offender, a method well in line with the best of the recognized techniques in conducting corrective interviews:

1. review the record and purpose of the company policies
2. let the employee talk it out
3. let employee judge own record and possibility of improvement
4. offer employee help on special problems
5. indicate that all absences will be checked and discussed
6. if the record improves, let the employee know you are aware of it; if the absence record does not improve, direct action is applied. Protect yourself first, however, by making certain that new problems have not arisen.

The final stage of this company's training was an enlightened human relations program which could be characterized by leading rather than pushing and as feeling-centered rather than fact-centered. The entire program was intended to alert the supervisor to a broad general understanding of the absence problem and provide a basis for group or individual work tailored to circumstances.

Work habits are learned, not inborn. The offender may have acquired the wrong work habits in the company. Employees could be reeducated if learning conditions were good.

One of the few attempts to measure the effects of industry's investment in this type of training has been made by the International Harvester Company, a corporation renowned for careful training at all levels of supervision (Fleishman, Harris, and Burtt, 1955). Only the two measures
of "initiating structure" and "consideration" were used in characterizing the behavior of foremen studied. Investigators found that the production foremen who "initiated structure" had higher rates of absence in their department than foremen who "showed consideration." In other words, when foremen were more considerate and structured less, workers were less inclined to stay home, which harmonizes well with "everyday behavior" although many companies still regard initiation of structure as preferable behavior.

The chemical industry, frequently mentioned as one of the earliest automated industries and therefore probably subject to very high indirect absence costs, has been concerned (Better, but still, 1954). One survey revealed clearly that chemical companies were becoming aware of "internal" causes of absenteeism. The survey summary ended with this paragraph:

"Such defensive steps as withholding pay, check-up home visits, and medical certification, management agrees, just are not effective enough. Instead, a new attitude is developing, aimed at attacking the source of the problem, the worker him/herself. 'We feel today' says one employer's research director, 'that absenteeism is affected more by such factors as the relationship of the worker to his/her immediate supervisor, his/her feeling of job importance and responsibility, his/her work-group team spirit, and his/her chance of promotion. Most important is a worker's liking for the work s/he is doing." (Better, but still, 1954)

Note that although these investigations stated that the problem was the worker, in solving the problem they stressed the effect of work environment and managerial behavior at all levels, or what was being done for the worker to create good or poor attendance. Supervisory training was favorably implied.

Thus it becomes apparent that the reduction of total absenteeism
must be a function of management, whether the origin of such absence is emotional, physical, or due to extraneous causes such as baseball season opening or a birthday celebration.

Problem of Definition

In viewing the apparent lack of success with solving problems related to employee absence, one is not surprised to find literature terminology unstandardized. Attempts to study any subject are fruitless without general uniformity of terminology. The words "absence" and "absenteeism" for example have no standard meanings in business, industry, or education. Both terms have been used loosely to identify the same problem. Many regarded "absenteeism" as being associated with unnecessary or habitual absence while others regarded all absence as "absenteeism" and all those not present on the job as "absentees." The latter usage of the word was unfair to employees because some have been away for good and approved reasons. Obviously, every organization has some absences that are entirely legitimate and should not be treated as absenteeism; but the literature used these words interchangeably. Strictly speaking, the term "absenteeism" should be used only to mean unexcused or excessive absence.

Partially successful efforts have been made during the past 30 years to formulate a standard definition of absenteeism, absence, and similar related terms. The following definition by the U. S. Bureau of Labor Statistics has recently been most frequently quoted (Gaudet, 1960):

"Absenteeism is the failure of workers to appear on the job when they are scheduled to work. It is a broad term which is applied to time lost because sickness or accident prevents a worker from being on the job, as well as unauthorized time
away from the job for other reasons. Workers who quit without notice are also counted as absentees until they are officially removed from the payroll.

The United States Employment Service defined absence as follows (Gaudet, 1960):

1. A worker is not an absentee if he is not scheduled for work. For example, he is not scheduled for work if:
   a. He is on leave of absence.
   b. He is ill, and the illness is of such duration that his name is removed from the list of active employees.
   c. He is on vacation or annual leave.

2. Illness and death of members of the workers' immediate families should constitute reason for excused absence only if arrangements have been made by the worker prior to the absence.

3. Any worker absent from work for a period of six days without reporting to the company should not be included as scheduled to work. (There may be some exceptions, as when the employee indicates, upon investigation, that he intends to return to work shortly after the six days off.)

4. Handicapped workers not able to work the designated full shift should not be considered full-time workers. They should appear on the payroll as part-time workers scheduled to work...hours per week.

Note the differences between these definitions both published by Federal Government agencies. Due to such differences, the rates of absence calculated by formulas based on each definition resulted in very different data. As an example, all individuals away from work due to illness were considered absentees according to the Bureau of Labor Statistic's definition; but the United States Employment Service definition included only those who had been away from work for a certain number of days (unless the duration of their illness necessitated the removal of their names...
from the active employee list). Recognition of the fact that the number of days will vary from one organization to another depending on employee averages in a given organization and organizational policy regarding notification of illness absences attempted, comparisons between organizations became meaningless under the United States Employment Service definition.

Similarly, the Bureau of Labor Statistic's definition said that workers who quit the job without notice were to be counted absent until they were officially removed from the payroll. Organizations have varied extensively in the length of time such employees were left on a payroll, which again invalidated attempted comparisons. Interorganizational attempts likewise have been futile due to departmental variations. The United States Employment Service definition attempted to correct this methodological defect by limiting the allowed absence time to six days. The time element was so stated as to include drop-outs as well as absences for such personal reasons as death in the family, unless prior approval had been obtained. Confusion is evident.

Neither definition clearly showed what constituted an absence in terms of minimum time. It could be a full shift or class period, a half day, or a full day. Likewise, tardiness and absence were not differentiated. One could not determine whether the employee who became ill on the job and was sent home at noon was as absent as the employee who failed to show up at work until noon.

Numerous terms related to absence must also be defined. For example, a "sickness" absence may have occurred under any of the following circumstances depending on the organization in which the situation
occurred:

1. An employee calls in and says s/he is not coming to work that day because s/he is ill.

2. A friend or relative of an employee calls in for the employee to report that the employee is ill and is not coming to work that day.

3. An employee returns and tells the boss that s/he has been ill, after being out a day or two.

4. An employee, after calling the boss to say s/he is home and sick, is visited by a company nurse who reports the degree of sickness.

5. An employee returns with a note from the family physician after having been away from work a day or two.

6. An employee visits the organization's medical department to verify sickness when returning after a day or two of absence.

7. An employee completes a questionnaire explaining the nature of the sickness and prescribed medication and treatment.

Noland (1945a) illustrated the importance of absence definitions by using two similar definitions:

1. Absence is the failure of workers to report on the job when they are scheduled to work. (Kennedy, 1943)

2. Absenteeism is the absence of a worker during a full shift that s/he is scheduled to work. (Gaudet, 1960)

The Monthly Labor Review definition yielded a 12.2 percent rate of absenteeism while the American Labor Review definition reported by Gaudet (1960) yielded an 8.4 percent absence out of total possible work time. Since both definitions were used with the same payroll data, it was obvious that slight definition variations produced significant differences in estimated rates. Severe variations produced even greater disparity.
Gaudet (1963, p. 13) printed the following popular definitions of terms associated with the study of absence:

- **Chronic absentee:** one who is away from his job four days or more per month without excuse for two successive months.

- **Chronic absentee:** one who averages one or more days weekly.

- **Avoidable absence:** all absence not due to sickness (and) all absence due to sickness which cannot be attributed to the nature of the work (i.e., occupational diseases).

- **Casual absence:** all absence not due to sickness.

- **Sickness absence:** all absence certified as being due to sickness by a physician, company or private, (or) all absence which the foreman considers to have been due to sickness when the employee reports back to work and tells the foreman the reason for his sickness (or) all absence which employee says was due to sickness (or) all absence of longer than a certain number of days (2, 3, 4, or even 8) due to sickness (or) all absences for which sick benefits were paid.

- **Acute absence:** lasting one to seven days; chronic absences are those eight days or more in duration.

- **Absence:** being away from work for reasons other than sickness or accident.

- **Voluntary absence:** absence for which no satisfactory reason is given.

- **Sickness absence:** only disabilities which exhibit unequivocal objective evidence.

- **Avoidable absences:** those which can be eliminated by correcting the conditions which caused the illness.

- **Absentee:** any person who doesn't call in to tell the boss he'll be absent.

- **Absence:** any time that an individual is not at work. In some companies this includes involuntary layoffs and work stoppages. (In other companies, vacations and holidays are included, particularly when calculating cost of fringe benefits; holidays and vacations are lumped together with illness absence and other absence, both excused and unexcused. -F.J.G.
Lyons (1972) described absenteeism research as being a hodgepodge of conceptually and operationally different definitions. He said some studies used total absences; some differentiated types of absenteeism as unexcused, excused, and sickness while many failed to specify which measure had been used. Researchers infrequently reported whether they used days absent or times absent, two measures with differing reliabilities (Huse and Taylor, 1962). Differing definitions seriously limited comparisons across studies.

Ralph Cowart and V. Nichols (1972) acknowledged much necessary diversity in definitions of absenteeism due to the wide variety of items included or excluded by different employers in defining and treating various aspects of the problem. The terms have included both authorized and unauthorized absences, vacation time, military leave, and/or other excused leaves of absence (R. Cowart and V. Nichols, 1972). The U.S. Department of Labor reported that some did not consider absence as less than half a day, while others have counted any absence including only an hour. Even within the same organization, rules for employees have differed.

Baum (1978) reported that a Personnel Policies Forum survey indicated forty percent of the companies surveyed were computing some form of absence on a regular basis. This percentage corresponded with that reported by Hedges (1977) in a feasibility study. Among the manufacturing companies responding to the survey, however, fifty-four percent measured job absence on a regular basis compared with only twenty-seven percent of non-manufacturing businesses and seventeen percent of the non-business organizations, as nonprofit medical care and educational insti-
tutions. One basic difficulty has been that what one organization counted as an absence may be considerably different from what another organization counted as an absence, although both used the same formula. The definition of job absence used for the Bureau of National Affairs quarterly surveys was based on suggestions offered by the Department of Labor and the results of the 1974 Forum survey. Survey results indicated that absences of less than a full workday were not included by fifty-five percent of companies computing rates on a regular basis. Consequently these absences were not included in the quarterly surveys (Baum, 1978).

Miner (1977) conducted a study of job absence for the Bureau of National Affairs. She reported that the major emphasis during the first two years was on refining figures for a basis on common absence definitions. No commonly accepted definitions or specification of what types of absence should be included in computing a job absence rate existed.

One apparent reason for our past and present dearth of a concise definition of absence is the fact that theoreticians have given the absence problem only slight attention.

Until a standard definition accepted by all attempting to compare statistics on absence is available and in use, statistical compilations and comparisons are subject to gross error in interpretation.

Types of Absences

The early Egyptians used three simple categories to diagnose employee absence: 1) sick, 2) placating the Gods, and 3) lazy. Today's society is much more complex, unfortunately.

Organizations have been increasingly finding it desirable to cate-
gorize absences for a variety of reasons. Some organizations have been concerned about the extent of their illness absences either because they were considering adding a medical department or because management has been interested in whether the medical department was increasing or decreasing absence.

Unions have maintained interest in types of absence for purposes of introducing or modifying a clause in the contract dealing with illness absence. Statistics have been necessary for bargaining.

Some organizations have wished to watch occupational illness absence and have therefore needed a separate tabulation. Other organizations were interested in reducing short-term absences, so have concentrated on only that category.

The variety of breakdowns in use by American organizations can be staggering to the conscientious investigator. One list of dichotomous classifications by Blumberg and Coffin (1956) follows:

1. Sickness vs. non-sickness
2. Disability vs. non-disability
3. Medical vs. personal
4. Medical vs. surgical
5. Injury vs. sickness
6. Accident vs. non-accident
7. Chronic illness vs. acute illness
8. Long-term vs. short-term
9. Repeater vs. non-repeater
10. Scheduled vs. non-scheduled
11. Voluntary vs. involuntary
12. Intentional vs. unintentional
13. Justifiable vs. unjustifiable
14. Authorized vs. unauthorized
15. Avoidable vs. unavoidable
16. Explained vs. unexplained
17. Excused vs. unexcused
18. Official vs. unofficial
19. Compensable vs. non-compensable
20. Insured vs. non-insured
21. Legal conduct vs. illegal (bad) conduct
22. Occupational vs. non-occupational
23. Industrial vs. non-industrial
24. On-duty vs. off-duty

Other suggestions included:

1. Illness vs. self-induced illness. Self-induced illness includes sunburn, nausea, and other uncomfortable reactions caused by overindulgence or indiscreet acts, according to Christopher (1957).
2. Reasonable vs. unreasonable
3. Certified vs. casual illness (colds, not well)
4. Blue Monday absences vs. midweek absences
5. Work-centered vs. management-centered absences
6. Absence-prone vs. non-absence prone
7. Reported vs. unreported
8. Leave vs. non-leave

Most of these categories have no clear separation, by universally applicable definition, between the two halves of each classification. The percentage of sickness absence still varied between organizations on the basis of varying definitions.

Many governmental reports on absence focused on two types of absence:

1. those attributable to the illness or injury of the worker
2. those attributable to personal or civic reasons

Researchers varied considerably in categorization of absences, confusing the problem further.

Problems in Measurement

No systematic effort has been made thus far to collect even one representative sample of absence data upon which formulas might be tried out, compared, modified, validated, or alternate formulas developed.

Most organizations measuring absence did so only for control purposes. Out of two hundred sixty-six companies surveyed by the AMA as reported by Gaudet (1960), one hundred four (39%) stated they com-
piled statistical data on absence for their entire organization or for some divisions. The larger organizations generally kept more statistical data on absence.

The most frequent method of reporting absences was by number of days absent or times absent per individual. The second most frequent method was preparation of the same type of report by department, plant, division, or some other company unit. Those going beyond such simple reporting in terms of incidents of absence or time lost through absence may have calculated a rate, but usually computed several rates and reported several other types of absence data (Gaudet, 1963).

In forty-seven percent of the responding organizations, reports were found to be compiled by the following departments in order of decreasing frequency: personnel, payroll, medical, controller, accounting, IBM or calculating department. In some large organizations the top executives, vice-president of personnel, controller, and personnel manager took personal responsibility for absence report preparation.

One method of determining the importance of employee absence in various organizations was observing who received absence reports. Recipients in descending percentages included: top management (33%), personnel (25%), middle management (15%), first-line supervisors (10%), and the medical department (6%). Since the literature indicated that first-line supervisors were the key individuals in absence reduction, one is amazed to find reports directed so infrequently to first-line supervisors.

Organizations varied in absence measurement from never looking at absence to elaborate analyses. The most thorough analyses can roughly be divided into two categories: 1) those made by the medical department
analyzing sickness absences and 2) those analyzing absence costs.

Gaudet (1963) reported that at least forty-one different measures of absenteeism had been used in the past. Gaudet (1963) summarized the more typical forms of reporting absences as follows:

1. \[
\text{AIR} = \frac{A}{(H + L) - V} \times 100
\]

AIR represents absence ineffective rate; A is the total number of hours of absence in a month; H is the total hours worked in a month; L is the total hours of absence; and V is the total hours of vacation paid during a month.

2. A daily absence report, giving the name of each absentee, date absence started, reason, and number of times absent in the previous two years.

3. A weekly report by individual, by reason for absence, by frequency of absences; in addition, weekly by department, by half-days, and total days for a week.

4. A factory monthly lost-time report, containing a report for each individual and a plant summary given in terms of absence frequency rate and absence ineffective rate with cumulative annual summary provided for supervisors and absentees listing absentee names, sex, and hours lost during the current month and year.

5. An elaborate quarterly report from the medical department providing sickness disability, frequency rates, number of absences and calendar days lost broken down into absences per day.

6. Monthly records on a twenty-eight column ledger sheet.

7. Number of days lost per employee with six reasons on a monthly bar chart reported by absentee name, department, length of absence broken down into weeks with accompanying reasons, frequency, disability, and sick leave rates.

8. Annual report in terms of number of days lost, number of sick days, leave days, total, and reasons for paid and unpaid absences.

9. Monthly reports by departments giving number of absent days, causes, frequency of absences, and days lost during month classified by sex and cause of absence.
10. Weekly ineffective rates in addition to total hours lost divided by standard hours worked.

11. Daily employee reports by department and district accompanied by an annual absence report of sick leave by hours and dollars, costs of group insurance disabilities, workmen's compensation, and an "unverified disabilities."

12. Communication to supervisors regarding chronic absentees.

13. Absence reports submitted only when requested by top management.

Measures of absence may be classified in many ways. The most common one found in the literature involved measures of frequency and severity. The frequency rate was usually a measure of the number of times employees had been absent over a period of time while the severity rate was a measure of time lost per employee. These are insufficient for managerial purposes and certainly also for research analyses.

A third broad type of measure was based on the disability rate (annual number of days lost per person per year or per month).

A fourth measure was the "ineffective rate" (proportion of absence rate), a measure of time lost due to absence as a part of the time scheduled.

Specific formulas that measured various aspects of the problem included:

1. \[ \text{AFR} = \frac{A}{N} \times 100 \]

In this simple formula, AFR is the absence frequency rate; A is the total number of incidents or occasions of absence in the organization for a particular month or year or number absent, and N is the average number of employees in the organization during that period of time.
Attempts to calculate inclusions in A resulted in sixty footnotes to explain rates cited in the resulting table including varying policies accumulated by the Bureau of National Affairs in 1954 as reported by Gaudet (1963):

- Employee out with prior authorization is not counted absent.
- Employee out with prior notification is counted absent for two weeks only.
- Employee out with prior authorization is counted absent indefinitely until return.
- Employee is counted absent for two workdays after quitting without notice.
- Employee quitting without notice is counted absent until company is notified.
- Employee quitting without notice is not counted absent.
- Absence subsequently excused is not counted.
- Absence because of occupational injuries is not counted.
- Employee out with prior authorization is counted absent for one year.
- Employee out with prior authorization is counted absent for ten workdays only; employees out because of sickness or accident are counted absent for one year.
- Employee out because of sickness or accident is counted absent for 30 days.

Although these variations illustrate lack of uniformity of policy in business versus educational organizations, they form an appropriate basis upon which to study educational policies.

2. \[ AFR = \frac{Na \times X}{N} \]

In this formula, Na is the number of employees absent one or more times during the period under consideration; X is the average number of times employees were absent during the same period. The American Medical Association measured absence frequency by using a similar formula which allowed for alternate elements included "all reasons," "disability," "work injury," which basically changed the definition of absence. Alternate symbols were suggested which supposed-
ly lessened confusion in determining the meaning of a specific absence frequency rate.

If \( N \) was "number of absences per absent employee per unit of time," the absence frequency rate changed to the number of absences per absent employee per unit of time. The question of whether to use "number of employees at work" or "number of employees on the payroll" has been a matter of concern throughout the literature. Those who selected "number of employees absent" as the denominator obtained the number of absences per average employee in attendance per unit of time. The denominator \( N \) could have been the average number of employees each day during the month, the average number of employees on the pay day nearest to the middle of the month, or some other number.

When attempting to make comparisons, however, \( N \) was best determined through the following formula: 

\[
N = \frac{F+L}{2}
\]

where \( F \) is the number of employees on the first day of the month and \( L \) is the number of employees on the last day of the month.

Distressed by the variety of definitions of \( N \) in the formula, the Bureau of National Affairs conducted a survey (Gaudet, 1963) concerning the variety. It failed to recommend one above another, however. Consequently, the exact inclusion of \( N \) is still ambiguous, making comparisons based on the formula meaningless. Attempts to define absence have caused investigators extreme difficulty.

Although most rate formulas use a multiplier of 100, the fraction of "number of employees" has also been multiplied by 1000, 10,000, or 100,000. Studies of morbidity or illness absences frequently used occasions of absence per 1,000 employees and included "frequency," "disability," and "severity" rates. W. M. Gafafer (1945), a prolific absence writer of the United States Public Health Service, defined absence frequency rate as the "average annual number of days per 1,000 persons," which was actually the disability rate multiplied by 1,000. Although any author may label a "frequency rate," Grafafer's definition in no way
resembled typical frequency rates. Thus when the United States Public Health Service used only Gafafer's three basic morbidity rates, it had no frequency measure.

While the usual measure of frequency has been the number of absence incidents per employee, or per 100 employees per month or year, different definitions and hence different measurement formulas have been found throughout the literature. Some, unlike Gafafer's, were true frequency rates because they dealt with incidents rather than numbers of absence. Moreover, these frequencies were calculated against a different base line.

Organizations were sometimes interested in one particular type of absence as illness, absence costs, or reduction. Formulas, item definitions, and inclusions under different interpretations of definitions varied accordingly. Samples of formula variations follow:

1. \[ \text{AFR} = \frac{TA}{N} \times 100 \]

TA is the number of absence incidents ascribed to illness during the period. Confusion resulted when some companies attempt to differentiate between "short" and "long" illnesses in terms of days and in terms of "occupational" and "nonoccupational" illnesses. Comparison between studies became futile as, for example, short term illnesses were defined as one, two, three days, or sometimes longer overlapping other long term illness definitions. Indicating the exact length of the absence is much more precise.

The "sickness benefit rate" was sometimes useful for cost-conscious concerns and could be computed through utilization of a "benefit" formula \[ \text{SBR} = \frac{AB}{N} \times 100 \] where SBR is the sickness benefit rate and AB represents incidents of illness absence where benefits were paid. Modified formulas have frequently been used. However, if sickness benefits of three or more days were paid, under company policy, only to employees
who had more than a certain amount of seniority, the formulas would not yield the same rates. Or if the foreman had the authority to decide who would receive sickness benefit payments, but the medical department used only a private physician's "certificate of illness" as its validation of sickness absences, rates obtained by the benefits department or insurance company would certainly differ.

Closely related to illness absence were absences caused by accidents. Although the medical, safety, and benefits departments were all concerned with accidents, their interests were not identical even in terms of accident frequency (Gaudet, 1963). Formulas that were meaningful and easy to calculate assumed that all employees were scheduled to work the same number of days per week, per year, which made formulas of little use in interorganizational comparisons unless all organizations worked the same number of days per month or per year. The formulas were further limited for use in a particular organization over a period of time unless no changes had occurred in the number of days worked per year, which was an unlikely situation with increasing trends toward more holidays and lengthened vacations.

Further modifications were required in individual employee evaluation for purposes of promotion, merit rating, or as a form of absence control. Most organizations did not keep individual employee absence records in terms of frequency. Those who did so usually counted only the absences for a particular period of time, as a week, month, quarter, or year. While this method was adequate for some purposes, it was clearly unreliable where "opportunities for absence" varied with different employees both for varying periods of time and varying opportunities for absence.
Modified assortments of formulas have been used to obtain measures of individual employees. Attempts to compare organizations having different waiting periods in illness benefits programs, or in showing the effect of a change in a benefit program, required an infinite assortment of formulas.

Some organizations utilized a severity measure, which measured severity of the absences rather than organizational absence severity. It measured "time lost per absence" or "time lost per average absence" for a stated period. Blumberg and Coffin (1956) have frequently collected severity measure absence data. Researchers must exercise care in indicating exactly what is being measured and which data are used to measure, however. For example, the severity rate of respiratory disease should not be compared with the severity rate of unexcused absences, as has sometimes been attempted. Clarity of measurement is essential for meaningful comparisons. Unfortunately, few organizations have utilized clarity of measurement.

One manager pointed out that consideration must be given to the disruptive effect of job absence. In other words, one employee absent three different times, one day each time, during a month, was more disruptive than an employee who was absent once during the month for three successive days.

The average time lost per employee per unit of time was the disability rate, although the American Medical Association Syllabus called it the absence rate. It was actually a measure that combined the frequency rate times the severity rate. It applied only when the same elements were used in calculating both the frequency rate and the severity rate in
terms of days or shifts or other time units (Blumberg & Coffin, 1956).

The problem of measuring absence has not yet been solved even by the insurance industry. The first published material giving the actual experience of one company (Aetna) under group accident and health insurance policies was prepared by Keffer (1927). Fitzhugh (1937) pointed out that insurance companies did not follow uniform practices in collecting and reporting their data, particularly relating to the base used. As an example of method variation, some companies collected and reported their data on a policy-year basis; some used the calendar year; some reported by lives; and some by premiums.

Since insurance company rates have influenced rates in other fields, their rates should ideally be identical with or at least comparable with those of other industries.

The ineffective rate was the most commonly used measure of absence and was referred to as "the absence rate," "total absence rate," "lost-time absence rate," "proportion of absence," "percent of absence," "percent of scheduled work time lost," or "unit of time lost per unit of time scheduled." The rate could be derived through the use of several differing formulas.

The non-effective absence rate included both frequency and duration of absences. Wade (1955) defined it as "the average number of additional employees needed per 1,000 employees to ensure the presence of 1,000 workers on the job on any given day."

Non-effective rate = \[
\frac{\text{Total calendar day of disability}}{\text{Number of employees in thousands divided by 365}}
\]
Although absence computed as a cost was not a true measure, numerous organizations after trying some of the more commonly used measures, substituted cost of absence as the quantity reported to management.

Behrend's (1951) research was one of the first to employ multiple indices of absenteeism. Behrend (1953) conducted interesting studies concerned with voluntary absence. She believed the whole study of absence had been "impeded by the difficulty of identifying voluntary absences." She proposed the following measure:

\[
\text{ORAR} = \frac{O}{N \times D} \times 100
\]

ORAR is the "other reasons" absence rate; \(O\) is the number of days lost through absence other than certified sickness; \(N\) is the number of employees on the payroll; and \(D\) is the number of days scheduled. Although Behrend devised the formula, she disliked the ambiguity of the term "sickness absence."

Nonetheless, this classification provided a more accurate measure of voluntary absence than the total absence rate because it excluded distortions caused by long illness, reducing the bias toward sickness in the rate.

Behrend is known for her "Blue Monday Index," which took Friday, the day of lowest absence in Britain, as a base. It then measured the excess or deficiency in Monday's attendance per one hundred workers over Friday's attendance. A variant of this method was the calculation of the proportion of workers with a Monday absence pattern. The formula is:

\[
\text{Blue Monday Index} = \frac{\text{Difference between total of Friday's and Monday's absentees for the period}}{\text{period under observation}} \times 100
\]

Behrend contended that her index reduced the sickness-bias in the
ineffective rate by eliminating the effect of long absences; therefore the index was a good index of total unjustifiable absence. The index was independent of the incidence of short-term sickness; it was not subject to seasonal fluctuation; and it could be used to compare observation periods of different lengths. Its only disadvantage was liability to distortion in holiday seasons, when absence tended to be high.

Some say the best work attendance day in the United States is payday. In such a situation the Behrend method could be used by comparing attendance on payday with that of the week's worst day. Variations have been proposed to consider worker group variations.

Chadwick-Jones, Brown, Nicholson, and Sheppard (1971) examined seven indices of absenteeism: (a) frequency; (b) attitudinal; (c) other reasons-number of days lost in a week for any reason other than holidays, rest days, and certified sickness; (d) worst day-difference score between number of individuals absent on any week's "best" and "worst" days; (e) time lost-number of days lost in a week for any reason other than leave; (f) lateness-number of instances of lateness in any week; and (g) Blue Monday-number of individuals absent on a Monday minus number of individuals absent on a Friday for any week.

According to the U.S. Department of Labor report (Hodgson, 1972), absenteeism has usually been expressed as a rate by dividing the number of man-days lost during a given period through absence by the average number of employees times the number of working days during the period. In calculating man-days lost, frequency of absence has sometimes been counted (number of times an employee missed a half-day or more) rather than total days. The frequency-of-absence factor minimized the effect
on the rate of prolonged illnesses and maximized frequent, short-term absences. The most simplified formula was:

\[
\text{Absenteeism rates} = \frac{\text{Total controllable man-days lost}}{\text{Man-days worked}} \times 100
\]

The Bureau of Labor Statistics (BLS) (Hedges, 1977) held that employees normally attached to the labor force of an organization were "scheduled to work." Thus, employees who were ill or injured, employees who quit without notice and had not been removed from the payroll; and employees taking unauthorized time away from the job were all counted as absentees.

The Bureau of Labor Statistics formula employing the definition was:

\[
\frac{\text{Number of man-days lost through job absence during period}}{(\text{Average number of employees}) \times (\text{Number of working days})} \times 100 = \text{Absentee rate}
\]

If the average number of persons employed each day of the month was not readily available, the average to be used in computing the absentee rate may have been obtained by averaging the number of persons employed in each of the pay periods ending during the month.

One of the most serious limitations of this definition and formula was that in this rate, illness and accident absences accounted for from one-half to three-fourths of the absenteeism. For this reason, many researchers and employers may wish to use a formula that either excludes medical absences altogether or minimizes their effect. In the latter case, one may count each absence once, regardless of how many days were lost. For example, if two workers were absent for twenty-two days in a year, one could have suffered appendicitis and be absent twenty-two consecutive days; the other could have been out eleven times for two consecutive days on week-ends, thus suspected of malingering. The first
would be scored as one absence and the second as eleven. The assumption here was that most prolonged absences were medically related. This procedure involved a value judgment either that illness absences were more acceptable than other types or that they were not avoidable.

Although absentee rates within an organization tended to establish a pattern when observed over a period of time, comparisons must be made cautiously because of many variables as seasonal illness, bad weather, and community emergencies involved. Comparisons should take into consideration differences in nature of work performed, hours, working conditions, and so forth.

The absentee rate should generally be calculated monthly for each department to establish a seasonal pattern. To prevent distortion due to individual absence length, only the first five days of authorized sick leave or absence without notice should be considered. Unless a special survey of tardiness was being made, it was practical to omit absences of less than half a day. The following formula is one way to compute the rate of absenteeism:

\[ R = \frac{A}{H \times D \times E} \times 100 \]

- \( R \) = absentee rate
- \( A \) = total of absentee hours for period
- \( H \) = average daily hours for employees
- \( D \) = number of days during which the survey is being conducted
- \( E \) = average number of employees on the payroll

Lyons (1972) described absenteeism research as representing a "hodgepodge of conceptually and operationally differing definitions." Lyons continued, "Some studies used total absences; some differentiated the
types of absenteeism such as unexcused, excused, sickness, and so on; and many did not specify which measure was used." Authors often did not report even whether they were using days absent or times absent—two measures with differing reliabilities (Huse and Taylor, 1962). Even such elementary information as the reliabilities of the measures were seldom reported. Huse and Taylor (1962) examined four indices of absenteeism: (a) absence frequency—total number of times absent; (b) absence severity—total number of days absent; (c) attitudinal absences—frequency of one-day absences; and (d) medical absences—frequency of absences of three days or longer.

Similarly, Hackman and Oldham (1976) described the problem of collecting and interpreting absenteeism data in interorganizational research.

Hedges (1977) in a Bureau of Labor Statistics special labor report revealed that absence could be viewed from several perspectives by using several different measurements. For example, she stated that a group of workers may have a relatively high incidence of absence; but only an average proportion of time lost. In addition, patterns of health-related absence could be compared with those for personal reasons, a relationship that could vary by both incidence and duration.

The principal measures were:

1. The incidence rate (absent workers per one hundred employees) which measured the number of absences per one hundred workers in any given period. Whether a worker was absent an hour or a week was irrelevant to this measure:

   \[
   \text{Incidence rate} = \frac{\text{Number of workers absent}}{\text{Total employed}} \times 100
   \]

2. The inactivity rate (aggregate hours lost as a proportion of aggregate hours usually worked) measured the
percent of time "scheduled" or "usually on duty" that was lost because of absence.

\[
\frac{\text{Number of hours absent}}{\text{Number of hours usually worked}} \times 100
\]

3. The severity rate measured the average (mean) time lost per absent worker in a given period. It could be presented in absolutes (number of hours lost) or in percentages (number of hours lost by absent workers as a percent of hours usually worked by those workers). The basic formula for the percent version was:

\[
\frac{\text{Average number of hours lost by absent workers}}{\text{Average number of hours usually worked by absent workers}} \times 100
\]

The Bureau of Labor Statistics (Hedges, 1973) conducted a feasibility study on gathering absence data from employers. This study of five hundred companies in four different labor markets indicated that fewer than two-fifths of all workers were employed by companies that kept records on job absence. Due to the scarcity of information available from employers, the project was discontinued. Individual responses to the monthly Current Population Survey have supplied available data to date.

In 1973, following numerous requests, the Bureau of National Affairs (BNA) investigated the feasibility of collecting and publishing absence data. Interest in the project was high. Results indicated that one-half of the companies computed absence rates on a regular basis, although a variety of formulas had been used and different organizations included varying employee groups (Hedges, 1977).

Miner (1977) stated that employers concerned with absence have lacked data for comparisons among organizations. Difficulties in the collection of data have hampered attempts to fill this void. A major
problem has involved the lack of uniformity in the records kept by individual employers. A lack of a generally accepted definition of job absence has precluded the collection and publication of data covering a comprehensive sample of companies.

Muchinsky (1977) reviewed the literature on employee absenteeism and found the single most vexing problem associated with absenteeism to be measurement.

Muchinsky (1977) found that few studies had examined the psychometric properties of the various indices of absenteeism. Two studies (Huse and Taylor, 1962; Chadwick-Jones, Brown, Nicholson, and Sheppard, 1971) were directed to establishing reliability of absenteeism measures.

Turner (1960) had computed the reliability of a frequency index of absenteeism at two plants.

Ronan (1963) stated that due to missing data he could not compute the reliability of a time lost index of absenteeism, but could estimate it through the communality from a factor analysis of several dimensions of employee performance.

Farr, O'Leary, and Bartlett (1971) computed the reliability of two absence measures as part of a large study examining the prediction of job performance.

Latham and Pursell (1975) computed the reliability of a frequency index of absenteeism for various splits of a twelve-week period.

The reliability of various indices was computed by Muchinsky (1977) as follows:
## Studies Computing the Reliability of Various Absence Measures

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Absence Measure</th>
<th>Type of Reliability</th>
<th>Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turner (1960)</td>
<td>Frequency</td>
<td>Spearman-Brown</td>
<td>.74 (plant 1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>.60 (plant 2)</td>
</tr>
<tr>
<td>Huse &amp; Taylor (1962)</td>
<td>Frequency</td>
<td>Test-retest</td>
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<td></td>
<td>Attitudinal</td>
<td></td>
<td>.52</td>
</tr>
<tr>
<td></td>
<td>Severity</td>
<td>(1 year)</td>
<td>.23</td>
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<tr>
<td></td>
<td>Medical</td>
<td></td>
<td>.19</td>
</tr>
<tr>
<td>Ronan (1963)</td>
<td>Time lost</td>
<td>(Estimated from factor analysis)</td>
<td>.70</td>
</tr>
<tr>
<td>Chadwick-Jones et al. (1971)</td>
<td>Frequency</td>
<td></td>
<td>.43</td>
</tr>
<tr>
<td></td>
<td>Attitudinal</td>
<td></td>
<td>.38</td>
</tr>
<tr>
<td></td>
<td>Other reasons</td>
<td>Test-retest</td>
<td>.27</td>
</tr>
<tr>
<td></td>
<td>Worst day</td>
<td>(1 year)</td>
<td>.20</td>
</tr>
<tr>
<td></td>
<td>Time lost</td>
<td></td>
<td>.19</td>
</tr>
<tr>
<td></td>
<td>Lateness</td>
<td></td>
<td>.16</td>
</tr>
<tr>
<td></td>
<td>Blue Monday</td>
<td></td>
<td>.00</td>
</tr>
<tr>
<td>Farr et al. (1971)</td>
<td>Days absent</td>
<td>Spearman-Brown</td>
<td>.35</td>
</tr>
<tr>
<td></td>
<td>Times absent</td>
<td></td>
<td>.39</td>
</tr>
<tr>
<td>Latham &amp; Pursell (1975)</td>
<td>Frequency</td>
<td>Test-retest</td>
<td>.51</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(12 weeks)</td>
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</table>

The extreme range of reliability for the various indices reported reflects the most fundamental problem with absenteeism measures. Some indices were fairly reliable while others were completely unreliable. Results were inconsistent across studies. The reliability of the frequency index appeared to be the highest and the most consistent across studies (e.g., .74 and .60; Turner, 1960; .61, Huse and Taylor, 1962; .43, Chadwick-Jones et al., 1971; .51, Latham and Pursell, 1975). Inconsistency was evidenced in the reliability of the time lost index (.70, Ronan, 1963; .19, Chadwick-Jones, et al., 1971). Since more than seventy studies have investigated absenteeism, one has reason to be disturbed that most investigators did not compute (or report) the reliability of their measure. Six studies addressed reliability of absenteeism.
measures; but no studies were found to directly address the validity of the measures. Validity of absenteeism measures has been ignored both from a conceptual and an operational perspective. Since validity measures directly relate to reliability, estimates of validity are not encouraging based on the available reliability coefficients.

Huse and Taylor (1962) reported that given reliable measures, the selection of a particular index for a use in a study should be dependent upon the investigator's objectives. While the statement is true, investigators were not assured of reliable measures. Huse and Taylor (1962) reported the reliability of the attitudinal index to be .52, which they concluded was "sufficiently high to warrant its use as a criterion."

Chadwick-Jones et al. (1971) reported the reliability of the attitudinal index to be only .38, however.

Investigators clearly cannot assume that certain indices are reliable; indices must be empirically derived. The extreme variability in the reliability coefficients reported foreshadows a major problem in the balance of absenteeism research. Many studies, in addition to failing to compute reliability coefficients, did not state which index of absenteeism was used in the study. This lack of information created problems in attempting to draw comparisons across studies.

It should be apparent that absenteeism is not a clear-cut behavioral act. Variations in the degree of experimental rigor, comprehensive reporting, etc., evidenced in previous studies has produced a quagmire of research findings.
Minimal Rates of Absence

Any organization concerned about reducing absence is automatically concerned about establishing a minimum absence rate. Due to the many assorted factors which influence absence rates, it is extremely difficult to speak of a minimum for any organization as a whole, or even for types of groups within individual organizations.

Published studies by individual firms, however, give proof that absence can be as low as one per cent of possible time on the job, and in some cases less than one per cent (Gaudet, 1963).

Hedges (1977) stated that a rate of three percent of available work-time often has been considered a "reasonable level" with an "attainable minimum" at two percent or below.

Some organizations have difficulty determining what their minimum absence rate should be. It is not enough to know that some organizations have achieved absence rates of less than one percent of possible work time while other investigators consider 1.5 to 2 percent to be the attainable normal minimum. Still others state that 3 percent is a reasonable figure. Variables such as age and sex mix of employees, benefit programs, size of the organization, its concern or lack of concern about absence, educational level of employees, management and working conditions all influence an organization's rate of absence.

One approach some have used is to divide absences into "avoidable" and "unavoidable." Assume that the unavoidable absences constitute the minimum absence rate. Organizations utilizing this method usually consider unavoidable absences as illness absences, assuming that all illness absences are unavoidable. Such an assumption is difficult to justify
since organizations with hygiene and medical officers have lowered their absence rates.

More significant, however, is the evidence that absences caused by illnesses vary with non-biological factors as benefit programs and organizational policy regarding absence.

Wyatt and Marriott (1956) reported a trend to regard ill health not attributable to the nature of the work as unavoidable although some organizations engaged in similar work had a higher rate of sickness absences.

An early study of absence rates in a war plant in World War II indicated illnesses were responsible for one-third to three-fourths of all absences (Absenteeism in War, 1943) while an earlier study (Quinby, 1921) of sickness and accident absences in the same plant showed that sickness and accident absences ranged from thirty-three to sixty-six percent of all absences over a three-year period, 1919-1921.

Until factors related to sickness and accident absences can be more clearly identified, minimal rates have been difficult to establish. An ideal way to begin would be to ascertain the lowest rates for similar types of organizations.

Published studies serve largely to emphasize the necessity for each organization to develop its own yardstick for determining a minimum absence rate.

Florence (1949) concluded that personnel officers should be satisfied with a total absence rate of less than three percent. Newman (1955) made a similar statement. A study of companies which had low absence rates during World War II revealed rates from 1.2 percent to 3 percent.
Effects of Benefit Programs, Unions, and Social Security on Employee Absence Rates

Attempts to minimize employee absence rates have prompted studies to identify the effects of employee benefit programs, labor unions, and social security on employee absence rates.

Since conclusions cannot be drawn between companies offering liberal versus restricted benefit programs, type of benefit program as well as variables as age, sex, ratio of non-exempt employees must be considered.

Carefully designed studies controlling variables have shown that organizations with more liberal benefit programs have more instructor absences for shorter periods of time than do organizations with restricted benefit programs (Gaudet, 1963). Gaudet reported that one such study had been conducted by Gordon Peterson, medical director of the Kimberly-Clark Corporation, whose analyses included disability rates based on records in seventeen company mills. For statistical purposes, these were divided into "liberal-policy mills" and "restricted-policy mills." This study provided evidence supporting the theory that more sickness occurred among employees entitled to liberal sickness benefits.

Brundage (1934) reported that companies paying full wages for sickness absences usually had more short absences than did non-paying companies.

Fitzhugh (1937), in a study of absence published by insurance companies, reported that variations in length of waiting period indicated that different types of policies showed "considerable selection against the insurance company and various types of benefit programs." Disability differed markedly with the length of the waiting period, the duration of
the disability, and the maximum duration of the benefits. Although both length of waiting period and maximum duration of benefits influenced disability, the length of the waiting period was of greatest importance.

Elbree (1939) studied sick leave usage in Rhode Island and reported that instructors had been granted unlimited sick leave accumulations, a factor that produced the lowest instructor absence rate then on record at the United States Office of Education.

Court (1944) indicated that among those suffering illness of 8 - 13 days duration, four times as many claims occurred among those paid after three days as occurred among those waiting seven days before beginning to draw sick-leave benefits. Court reported that groups receiving benefits after three days had twenty-nine percent more sick claims of over two weeks' duration than did groups receiving benefits after seven days of disability. Even when illnesses of twenty-eight days were considered, "three-day" people had more claims of absence than "seven-day" people.

When Court compared two groups with radically different sickness-benefits programs, employees receiving fifteen days annually of sick leave at full pay benefits (Federal employees) had more than three times as many minor illness absences as those receiving no benefits for the first week of disability and only $2.00 a calendar day up to a maximum, of thirteen weeks for one diagnosis per year (General Motors employees). If the assumption were accepted that taking care of minor illnesses was a way to reduce total absence, then Federal employees should have had fewer absences for more serious illnesses. Exactly the opposite occurred, however; the Federal Government employees who took care of minor illnesses by being absent more frequently had thirty percent more serious illnesses.
than did the General Motors employees.

A study of two hundred nineteen new employees conducted by the Detroit Edison Company compared their company absences during the employee probationary period (the first six months on the job when pay for absences was not allowed) and the next six months. Probationary employees were found to average two days of absence during the first six months and 4.1 days for the next six months (when employees were paid for days absent). During the second six months, the workers who were studied were evidently behaving in "standard fashion" for this company, as their 4.1 days absent matched the company's average (Let's Take a Look, 1956).

Kleinmann (1962) studied fourteen school districts in the New York City area. Three systems offering unlimited accumulations were compared with eleven districts that limited accumulations of sick leave. The average number of days instructors were absent in the districts with unlimited sick leave accumulations was 2.9 days versus an average of 4.5 days in districts with limited accumulations.

Campbell (1970) reported that seventy-five percent of all sick leave taken by Federal Government employees was one day or less. Little question existed that many one-day leaves were not due to incapacitating illness but were often sick-leave abuses. It appeared that under a permissive sick leave policy, employees were inclined to use their leave indiscriminately. A supervisor who used sick leave freely tended to lead subordinates to excessively and permissively use sick leave.

Several suggestions for discouraging indiscriminate use of sick leave included:

1. compensation for unused sick leave
2. buy-back sick leave plans
3. check-ups by nurses
4. credible service plans
5. blanket leave plans
6. combination plans

An analysis of the relationship between teacher remuneration and fringe benefit policies and the use of sick leave by instructors was reported by the Pennsylvania Suburban and South Pennsylvania School Study Councils (Philadelphia Suburban School, 1970). The study was designed to determine whether correlations existed between policies for supplemental remuneration and actual experiences regarding instructor absenteeism. The researchers concluded that, in general, the absentee-resistant district:

1. granted no more than state minimum sick leave allowance (10 days a year)
2. required proof of illness at the discretion of the administration or board
3. required instructors to report their illnesses by phone to the building principals (rather than to an answering service)
4. either granted no more than one day of personal leave a year or placed the approval of all personal leave in the hands of the administration or board
5. required instructors to submit proof of illness for each use of sick leave
6. did not provide severance pay
7. did not provide maternity leave
8. provided state minimum (3 days) for bereavement leave (for death of relative only), and
9. experienced less of a disparity of sick leave usage between males and females in 1968-69
Nadler (1972) studied instructor absenteeism in twelve school systems in New York and found the absentee rate to be twenty percent higher in districts with limited sick leave accumulation policies.

In another school system, calculations of sick leave usage for 1970-71 revealed that the five hundred instructional staff members were absent 3,847 days for personal illness, family illness, personal reasons, absence with deductions, and excused absences. In an effort to reduce sick leave usage, the administration offered the instructors' association three additional insurance benefits for specified reductions in leave usage during 1972-73:

1. seventy-five reduced absences—the Blue Cross "Extended 365," or its equivalent
2. six hundred reduced absences—the Blue Cross "Extended 365," and Prescription Drug Plan ($1.00 deductible), or their equivalent
3. one thousand reduced absences—the Blue Cross "Extended 365," Prescription Drug Plan, and the Blue Shield Dental Plan, or their equivalent.

Tabulations of sick leave usage during 1972-73 revealed that the absences increased by 58.5 days over those recorded for 1970-71 (Stemnock, 1973).

Fearen (1972) reported that "prostitution of sick leave" was a legal and moral issue. The literature suggested at least two categories of plans to prevent misuse of sick leave provisions:

1. offering rewards or bonuses for not using sick leave
2. elimination of psychological and medical reasons for sick leave abuse

Fearen (1972) identified one method of reducing sick leave abuse, providing a bonus day for each ten days of unused sick leave.
Another agreement provided for a sick leave bank into which instructors could deposit unused sick leave and withdraw it in accordance with rules established by the instructors' association (Campbell, 1970).

A third method included unused sick leave added to the instructor's total years of employment as a means of augmenting retirement pay on a credible service plan (Scheflen et al., 1971).

Boyle (1977) reported that in 1968 Sweden had introduced a new law declaring that all employees should receive ninety percent of their salary from the Public Insurance system when away from work. The money was paid from the first day off the job and a physician's certificate was required only for a period longer than a week. Since the law went into effect, the number of days employees had been absent increased dramatically, resulting in an estimated $3.6 billion loss in the Swedish Gross National Product.

Elliott and Manlove (1977) agreed that increased instructor absences had come with more generous sick leave policies bargained by instructor groups. They wondered if we had bargained away student progress with more instructor "sick days."

The time allowed by contract for Indiana instructor absences has been increasing. In 1975-76 the total number of days Indiana instructors could be absent without loss of pay showed a mean for first-year instructors of 14.47 days with a high of twenty-five days and a low of nine days. The mean number of sick days allowed for second-year instructors was 13.06; the range was nine to twenty-four days. Six Indiana superintendents indicated in 1976 that there was no longer any limit to the number of paid absences instructors in their districts could accumulate.
Elliott and Manlove (1977) reported that most educators believed collective bargaining had increased paid released-time days. Yet only one $150 contribution had been received in an attempt from an instructor bargaining unit to assist with the instructional problems resulting from increased instructor sick leave. Strong evidence exists that some instructors have abused their absence privileges.

Reportedly, when William Wirt was superintendent of the Gary, Indiana, schools, instructors determined who was paid for an absence. Funds for payment of substitutes were given to the instructor committee in September; any surplus funds were distributed to all the instructors in June. The system had its flaws; but instructor absences were few.

Although "sickness" has been the major cause of absenteeism (78% of the lost days), an employee benefit plan report (1979) suggested that employees might not be sick as often if stricter controls existed. A British survey of absenteeism suggested that new or improved sick pay programs tended to increase absenteeism. The survey, made by Incomes Data Services, called attention to the experience of Dupont, where the rate of absenteeism rose from 5.8 percent to 7.8 percent following the introduction of sick pay paid from the first day (High Rate of Absenteeism, 1979).

Improved sick pay plans in the automobile industry resulted in increases in absence rates as well.

Although some collective bargaining agreements allowed and enforced employee discharges for excessive absence, historically organized labor has preferred to not be involved with employee absence problems. Union attitude began to change during World War II when labor did not wish to
be accused of being unpatriotic nor did they want Congressional legislative measures. Many unions continue to be helpful in controlling employee absenteeism.

Reports have indicated that such assistance takes the form of admonitory talks by union representatives with chronic absentees, refusal to defend habitual offenders when disciplined, investigation of cases of absenteeism, and assisting management to formulate disciplinary procedures. Such cooperative union/management ventures were often successful in minimizing employee absenteeism, although occasional problems in the cooperative venture were apparent.

Some union officials considered it their function to champion their members in every way. They did not believe it was their duty to judge the conduct of members or participate in disciplinary actions for conduct which management did not approve.

Unions have frequently stated that increasing social security payments allowed employees to remain at home when they were really sick; therefore increasing absenteeism figures were a good sign. Management has tended to disagree with this philosophy.

Recent amendments to the social security law in Norway have created interest. Prior to July 1, 1978, the Norwegian social security system paid a cash sickness benefit up to ninety percent of the employee's income, after allowing for taxes and social security contributions, payable starting with the fourth day of absence (High Rate of Absenteeism, 1979).

On July 1, 1978, the system was changed so that social security paid a benefit equal to gross pay (subject to taxes) starting with the
eleventh day of absence. The employer was then responsible for paying the full benefit for the first ten days. The report indicated that unemployment and absenteeism were closely related.

It was noted that a reduction in absenteeism from 8.3 percent to 5.3 percent would enable 55,000 additional jobs to be created in the French economy (High Rate of Absenteeism, 1979).

Analogies can be made with the economy of the United States.

Age Differences in Absence Rates

Several studies have examined the relationship between age and absenteeism. Jackson (1944) identified a curvilinear relationship between age and absenteeism, with younger and older workers incurring higher absenteeism than middle-age workers. Schenet (1945) found age and absenteeism to be unrelated in a sample of factory workers, while Naylor and Vincent (1959) found a similar lack of relationship for female clerical workers. De la Mare and Sergean (1961) and Cooper and Payne (1965) reported positive relationships between age and absenteeism.

Hedges (1977) found that age affected the differences between employee absence rates. Among men, incidence and inactivity rates were highest for teenagers; the rates gradually declined through the group aged thirty-five to forty-four years, then rose again. In contrast, women aged twenty-five to thirty-four years had higher incidence and inactivity rates than either younger or older women. Absence for personal reasons was higher among women ages twenty-five to thirty-four than for any group, most likely due to family responsibilities.
Although workers in their teens or early twenties were more likely than those twenty-five years of age and older to be absent for a few days, they were less likely to be absent a week or more. Time lost by workers in their early twenties was the same as for workers aged twenty-five to forty-four, and less than for workers aged forty-five or older. Teenage workers lost a higher proportion of time than did workers aged twenty-five to fifty-four, but they lost less time than did workers fifty-five years old and older.

Hodgson (1972) found that young workers accounted for more short-duration absences and older workers accounted for more long-duration absences.

Research related to employee absences as correlated with employee age has been inconclusive.

**Industrial Studies**

A number of studies have been conducted in industry concerning the problem of employee absenteeism. Some of the more significant studies have been summarized.

A national survey of some two hundred organizations conducted by the Bureau of National Affairs (Baum, 1978) revealed that seventy-nine percent of the respondents believed absenteeism was their most serious disciplinary problem and twenty-five percent of the respondents believed disciplinary problems were more serious at the time of the survey than they were five years previously. Despite the widespread use of management sanctions in business organizations reported by the various researchers, evidence supporting their effectiveness in attendance control was limited
largely to anecdotal case studies.

William Noland (1945a) conducted a study exploring employee attitudes. His most significant finding was that absenteeism appeared to be more of an in-shop than an out-shop problem with job satisfaction as the most important in-shop area. Noland's findings probably differed from other research findings because he studied all absences rather than isolating extreme cases.

In another study Noland (1945b) studied poor versus good attenders. Poor attenders tended to believe the foreman was difficult to get along with and treated them unfairly, while good attenders tended to believe the opposite. While at first glance the high absentees appeared to be a different group, it was also possible that foremen were treating good versus poor attenders differently.

Christiansen (1947) studied industrial absenteeism and concluded that no simple nor complete cure was possible because many factors were involved with the problem and workers could not maintain peak production indefinitely. When the "faithful" become "unfaithful," however, management should note a danger signal. Christiansen found absenteeism to be a symptom of workers' attitudes, reflecting attention by management in problem-solving. The worker must feel appreciated and valuable to the organization. Reduction of absenteeism must be a cooperative venture.

Floyd Mann and Howard Baumgartel (1950) studied white and blue-collar workers in an Electric Power Company. The study concluded that accessability of supervisors to employees, free discussion, promotion, and recognition all tended to decrease employee alienation and absence.
When the work performed held an intrinsic personal interest, employee enthusiasm and satisfaction increased. Satisfaction with wages was determined by both the amount of financial need one felt and the possibilities the employee saw in the work situation for satisfying that need.

In 1951-52, Willard Kerr, George Koppelmeier, and James Sullivan studied absenteeism, turnover, and morale in a Metals Fabrication factory. The study concluded that managerial tolerance for a moderate amount of absenteeism may help sustain worker morale. Employees in jobs of limited freedom and psychic reward used unexcused absenteeism as a compensating escape device to make tolerable their vocational experience.

A National Industrial Conference Board study (Seybold, 1954) laid much responsibility on company practices for control of employee absences. Mann and Sparling (1956) studied the relationship between absence and supervisory behavior. They concluded that absences were related to how workers felt about their supervisor and people in their work group as well as the kind of work performed, job and financial status.

Two British studies identifying voluntary absence from work researched by Hilde Behrend (1951) disagreed in major findings on the factor of distance from home to work. One study found no relationship between traveling time and absence in general. The other found a difference when traveling time exceeded sixty minutes. Behrend suggested economic forces and "external cause" of absence. Similar studies of factory workers concluded that workers traveling less than an hour daily had fewer absences than those traveling further.

Alfred G. Larke surveyed the whole field of absence in 1956 and
placed great stress on the New York Telephone Company studies (Plummer's concept of absence-proneness and the University of Michigan study at Detroit Edison). He believed the difference between the New York Telephone Company and the Detroit Edison results may have been due to the higher proportion of women workers in the telephone company. In fact, the University of Michigan found no correlation between job satisfaction and absence in women employees they studied as reported by Gaudet (1963).

This valid point was equally applicable to the Noland study conducted at the Morse Chain Company of Ithaca, where employees were mostly males. The New York Telephone Company found a small number of male employees accounting for a large portion of absences (Attendance: The upstate, 1960).

Nothing in the Detroit Edison study implied any contradiction to the New York Telephone Company studies. Employees in both companies suffered from psychosocial stress. Employees in both companies enjoyed and suffered from both good and poor management practices.

Plummer and Hinkle studied health factors which took them into psychological-psychosocial aspects of health as their studies probed deeper (1955).

Mann and Sparling, both psychologists, studied behavior, particularly the behavior of managerial personnel. Both approaches are necessary. Multi-approaches of study are needed to evaluate all aspects of absenteeism.

Brayfield and Crockett (1955) and Herzberg, Mausner, Peterson, and Capwell (1957) all found evidence of a strong relationship between employee dissatisfaction and absenteeism. Brayfield and Crockett (1955)
specifically found that negative employee attitudes toward their job context were significantly related to absenteeism. Herzberg et al. (1957) found that related factors as the nature of the social work group were important in employee decisions to participate. Subsequent research has substantiated this concept.

Few studies have been found considering job satisfaction related specifically to employee absenteeism. Talacchi (1960) and Waters and Roach (1971) found a significant inverse relationship between job satisfaction and absenteeism among office workers.

Vroom (1964) reviewed the literature concerning job satisfaction and withdrawal, reinforcing previous conclusions. Vroom found a somewhat negative relationship between job satisfaction and absenteeism. In other words, workers who were highly attracted to their jobs maintained higher rates of attendance.

More recent evidence concerning the impact of job satisfaction on withdrawal, particularly turnover, was consistent with the earlier findings of Brayfield and Crockett (1955), Herzberg et al., (1957), and Vroom (1964). The major asset of more recent findings was increased methodological rigor.

Kilbridge (1961) found absenteeism to be somewhat higher on the more repetitive jobs although job conditions as group pressures and opportunities to earn incentive pay appeared to have a greater influence than task repetitiveness on withdrawal.

Youngberg (1963) found that increased realism of job expectations was significantly related to job satisfaction. Lyons (1972) concluded that individuals less tolerant of role ambiguity tended to quit at a higher
rate if their roles were left relatively unspecified. These two studies represent good research methodology.

No conclusions can be drawn concerning the effect of role clarity on absenteeism due to a lack of investigations on the subject.

Although insufficient evidence was available to draw conclusions concerning absenteeism, turnover has been found to be positively related to dissatisfaction with the content of the job among both blue- and white-collar workers. Available data do tend to indicate that both absenteeism and turnover are positively associated with task repetitiveness, although such a conclusion may represent an oversimplification of the relationship (Hulin and Blood, 1968). Hulin and Blood (1968) agreed that merely enlarging or enriching jobs would not necessarily result in reduced alienation and withdrawal from work.

Turner and Lawrence (1968) found a direct positive relationship between the amount of autonomy and responsibility allowed on a job and attendance. A strong positive relation has been found consistently between absenteeism and a perceived lack of sufficient job autonomy.

The impact of several job dimensions on absenteeism was studied by Hackman and Lawler (1971). Absenteeism was found to be significantly and inversely related to autonomy and task identity, but not to variety or feedback. Strong support was shown for the potential moderating effect of higher order need strengths on absenteeism; apparently, where the job provided a means by which employees desirous of higher order need satisfaction could work toward satisfaction of such needs, resulting job satisfaction could be evidenced through increased attendance.
Porter and Steers (1973) built on previous reviews and cited more recent literature previously uncovered. They categorized the "internal factors" that could be involved with absence behavior including:

a. organization-wide factors  
b. immediate work environment factors  
c. job content factors  
d. personal factors  

Throughout the review they were concerned with the potential role that "met expectations" may have on withdrawal behavior. The concept of "met expectations" was viewed as the discrepancy between what a person encountered on the job in relation to positive and negative experiences and what she/he expected to encounter. They concluded that when one's expectations were not met, propensity to withdraw increased.

Taken as a whole, these reviews and their conclusions identified job satisfaction as a central factor in employee absenteeism.

Hill and Trist (1955) found little variation in absenteeism rates among workers with different amounts of tenure. Baumgartel and Sobol (1959), on the other hand, found a negative relationship between increased tenure and absenteeism among male blue-collar workers; but they found a positive relationship between tenure and absenteeism among female blue-collar workers and among white-collar employees of both sexes. More investigation into such contradictory findings is certainly warranted, as no solid conclusions can be drawn concerning the impact of tenure on absenteeism due to conflicting results.

Manifest anxiety has been found to be significantly related to ab-
senteeism among industrial workers (Sinha, 1963).

Naylor and Vincent (1959) and Stone and Athelstan (1969) studied absence and turnover, respectively, among female samples and found that increases in family size were related to increased tendencies to withdraw. Family size and responsibilities were generally found to be positively related to absenteeism among women, while their impact on men appeared to be mixed.

Little can be concluded about the impact of family-related factors on absenteeism due to a general lack of available information.

De la Mare and Sergean (1961) and Cooper and Payne (1965) both found age among blue-collar workers to be positively related to frequency and duration of absences.

The majority of studies investigating the relationship between personality traits and withdrawal centered around turnover, so no conclusions can be drawn about their relation to absenteeism.

A study of the perceived equity of compensation as related to absenteeism was conducted by Patchen (1960) among oil refinery workers. Conclusions were that the perceived fairness of pay and promotion rather than amount or rapidity was a factor in absenteeism.

Several studies fairly consistently pointed out the importance of perceived equity and met expectations as important forces in employee behavior. Size of a pay raise or promotion, while important in and of themselves, were, in addition, weighed by an employee in light of expectations related to self-perceived contribution. Resulting lack of satisfaction may motivate an employee to search for preferable job alternatives. Telly, French, and Scott (1971) speculated that when employees perceived
inequitable treatment, they may have felt frustrated and would not contribute their best efforts toward primary organizational goals. If the perceived inequity became excessive, separation from the organization was desirable by the employee.

Lawler and Hackman (1969) found that imposed incentive plans to reward good attendance had much less impact than plans developed by the work groups themselves even when the plans were identical. Further, removal by higher management of a plan mutually agreed to among workers served to destroy the norm of good attendance established by the group. A follow-up study by Scheflen, Lawler, and Hackman (1971) further substantiated the fact that attention by management solely to the mechanical aspects of a pay plan may be insufficient to insure success of the plan. Employee participation has a greater impact.

Porter and Lawler (1965) reviewed twelve studies dealing with the impact of unit size on absenteeism. In ten of the twelve studies, a positive linear relationship was found between increased absenteeism and increases in unit size (Action Society Trust, 1953; Baumgartel and Sobol, 1959; Hewitt and Parfitt, 1953; Indik and Seashore, 1961; Kerr, Koppelmeier, and Sullivan, 1951; Metzner and Mann, 1953; Revans, 1958). These results were only found among blue-collar workers, however. In the only study found investigating both blue- and white-collar workers, absences identified no relationship between unit size and absenteeism among white-collar employees. A possible explanation for the trend in findings among blue-collar employees could be that increases in unit size resulted in increased dissatisfaction with available intrinsic rewards as group cohe-
siveness, higher task specialization, and communications. Such results would complicate fulfillment of one's expectations, resulting in increased dissatisfaction and withdrawal. Blue-collar workers would be more susceptible due to job inflexibility.

Argyle, Gardner, and Cioffi (1958) found a curvilinear relationship between unit size and absenteeism. The lowest absence rates were found to occur in the middle-size groups.

In 1975, Kuzmits studied group size and absenteeism with a sample of one hundred sixty-four keypunch operators employed by the Department of Administration Services in Georgia. He found no significant difference between the mean absence rate of large and small work groups, although the mean absence rate of heterogeneous work groups was significantly less than the mean absence rate of large homogeneous work groups and small homogeneous work groups. Implications were that work group size was not a reliable measure of absenteeism.

Much diversity of opinion has resulted from consideration of the efficacy of punishments in absence controls (Greenwood, 1951; Taylor, 1969a; Jones, 1970; Buzzard and Liddell, 1958). Employees often took longer, fewer absences following disciplinary interviews due to poor attendance. Only more recent writers have supported their arguments with empirical evidence. Results generally appeared to show that employees could adopt a "rational" strategy toward the imposition of sanctions and opt for more acceptable forms of absence rather than show the desired overall decrease in absence.

George Odiorne (1955) used a sample of two factories to investigate the effects of poor equipment maintenance on employee job behavior. The
study concluded that employees who worked on inefficient machines not only attempted to "escape" from them, but they also had and expressed hostility toward management and peers in various ways.

A study of employee attitudes and absence rates with two Detroit Edison Company departments conducted by Metzer and Mann (1953) in which white- and blue-collar peace-time workers were sampled concluded that employee absence rates varying from 2 to 17% in various departments indicated that something may be wrong with management. Additional investigation was needed to determine whether this conclusion was valid and what the specific absence-causing actions were. Results suggested that the key to absence control was delegating more responsibility for consequences to the individual.

Seatter (1961) studied a disciplinary attendance control program and concluded that it was impossible to separate the program's effects from the multitude of exogenous variables that could have accounted for the resultant improvement in attendance.

Managerial approaches to curbing absenteeism were researched by Rosen and Turner (1971). A "hard-line" company orientation was found to be more effective than a "supportive" approach. As Behrend (1951) reasoned, punishment systems were likely to be at their most effective level during times of high unemployment, when threats of dismissal have greatest deterrent value. Since it was possible that Rosen and Turner's sample would be particularly susceptible to "threat," the generalizability of their findings was extremely limited.

In a study of Porter and Steers' (1973) on absenteeism of the margin-
al worker, job design, work environment improvements, more effective reward systems, and general long-time policies designed to enhance job satisfaction and intrinsic motivation were determined as being important to minimize employee absenteeism.

An experimental study was conducted by Pedalino and Gamboa (1974) with hourly employees at a manufacturing/distribution facility. The overall absentee rate achieved as a result of the incentive program intervention was 2.46 percent. Removal of the incentive program increased absence rates from 2.3 to 3.9%. When the incentive was reinstituted, absenteeism immediately dropped to and remained at 2.4%. Over a four-month period, an 18.27% reduction in the absenteeism rate of 215 unionized employees was achieved.

Although further work is necessary relative to the long-range maintenance of such behavior, it appears unlikely that a control system based on positive reinforcements similar to the lottery system could sufficiently attract chronic absentees to alter their absence patterns. While it is still open to question, results of this study do suggest that rigorously enforced sanctions are effective in reducing absence rates of chronic absentees.

A study conducted by Nicholson (1976) on management sanctions and absence control with female hourly-paid food-processing factory workers revealed that a simple tightening of an absence-control system may produce changes in attendance behavior that are not necessarily in the desired direction of attenuated absence levels. Results confirmed a trade-off of "illegitimate-type" absences for "legitimate" absences. These
findings did not support Taylor's (1969a) view that punishments "tend to have least effect among the worst offenders." A practical implication of this study was to cast doubt on the usefulness of medical certification as the key of absence-control systems. Evidence suggested that the abandonment of the external legitimization of absence was essential in more effective control.

White (1976) studied the effect of flexible working hours on absenteeism and job satisfaction and the relationship between locus of controls and utility of flexible working hours in a large bank division. Job satisfaction and absenteeism did not change significantly either among the personnel of the total division or at different levels within the division, although results were inconclusive making the value of flexible working hours rather questionable in reducing absence.

Muchinsky and Garrison (1977) evaluated the concept of absentee-proneness with two measures of absence (paid and unpaid). Conclusions were that fifty percent and fifty-eight percent of the employees were responsible for ninety percent of paid and unpaid absences, respectively. Thus there was evidence that suggested a "core" of employees was responsible for absenteeism in any one quarter, but that "core" changed from quarter to quarter. As such, the data supported Henderson's statement (1975) that (because the core changed over time) "we are left with no more clearly defined or hard core absenteeism prone group of employees than a consistent group of accident-prone employees."

Baum (1978) studied the effectiveness of an attendance control policy in reducing chronic absenteeism in a large manufacturing organization.
Results supported the effectiveness of the attendance control policy among chronically absent workers, although the policy did not lead to improvements in attendance among regular workers with average attendance. Absenteeism can thus be reduced meaningfully by mandating more regular attendance as a condition for continued organizational participation. This method provided no incentive to exceed minimum standards, however.

The study attempted to extend Baum and Youngblood's 1975 findings by assessing the effectiveness of an attendance control policy based on the imposition of legitimate management sanctions in those instances in which workers violated the attendance norms by engaging in excessive absenteeism. The attendance control policy was based on the motivational pattern of legal compliance proposed by Katz and Kahn (1966). As long as those conditions were correctly perceived (authority and penalty for rule violations), workers recognized and accepted the legitimacy of the control policy and desired to remain in the organization.

Buzzard and Radforth (1964) have shown that quite large changes in absence levels can artifactually arise from minor alterations in the method of rate calculation and time base used.

Since recent interviews with discount store managers throughout the country Farrant (1978) indicated that their number one headache was "personnel" and more specifically people who failed to show up for work, research is needed to help managers cope with their personnel absentee problems. Maris (1978) agreed that absenteeism must be controlled through management.

Several studies have pointed to the importance of supervisory style
as a major factor in turnover (Porter and Steers, 1973). Apparently when one's expectations concerning what the nature of supervision should be remained substantially unmet, propensity to leave increased.

The early neglect of absenteeism studies is rather surprising considering the widely accepted notion of the centrality of the supervisor as a factor in such withdrawal.

Educational Studies

Educational studies relating to instructor absenteeism were relatively few in comparison with the industrial studies conducted. Instructor absenteeism has become a concern only within the past few years. The most significant studies are outlined below

- Instructor Absence
- Instructor Satisfaction
- Management Styles

Harnischfegar and Wiley (1975) expressed concern over reports on the lack of effects of schooling. Rising costs, energy and budget cutbacks, instructor strikes and absenteeism all have decreased the amount of schooling and instruction available for students. Research on learning has traditionally concentrated on the determinants of learning rate. The investigation of learning time was neglected, although learning time and learning rate play crucial roles. Minimal scheduled learning time was further reduced through instructor absenteeism.

A modification of a half hour in the school day (nine percent) changed vocabulary and mathematics achievement by about thirteen percent
and reading comprehension by about twenty-six percent. Augmenting average daily attendance from eighty-eight to ninety-five or decrementing it to eighty-one percent modified these achievements about twelve percent and twenty-three percent, respectively. If we simultaneously changed the lengths of the school year and day and average daily attendance by these amounts, the consequent twenty-four percent change in total hours of schooling would result in thirty-four and sixty-six percent gains or losses in achievement. Decrements in schooling time thus imply serious consequences. Use of instructor substitutes represents a comparable loss of learning time. Thus we are able to show that the hours of school instruction a child receives has a tremendous effect on learning achievement. Since our nation cannot survive significant drops in student achievement, maximal instructor attendance is vital.

Manganiello (1972) studied the relationship of instructor self-acceptance and related variables to instructor absence behavior. Data collected from a sample of Dade County, Florida, elementary instructors revealed that the relationship under investigation did not appear to be significant. Therefore, the self-concept of instructors was not reflected in their absence behavior. Neither did personal characteristics as sex, marital status, family status and age nor environmental factors such as type of teaching, level of teaching, length of service, and distance from home to school affect absence frequency.

Carranza (1973) was interested in life changes as related to instructor performance. Evidence indicated that high life changes with high school instructors were associated with less desirable aspects of the
instructor performance variables. The study thus added evidence to support the thesis that life changes and selected instructor performance variables were significantly correlated.

Absence of instructors in the School District of Philadelphia was investigated by Bland (1974). Bland found that eighty-nine percent of the instructors in the study were absent one-half or more days during the 1970-71 school year. In 1971-72, ninety-two percent of the instructors were absent. Absence per absentee averaged 10.7 days in 1970-71. There were no significant differences in the absence nor duration of absences of instructors according to sex, experience in years of teaching, marital status, family status or "breadwinner" status, or number of children. There were no significant differences in the absence of instructors for personal illness in relation to any of the instructor classifications. Illness in the family was the cause for absence for seven percent of instructors while death in the family was the cause for five percent. Significant differences in the absence of instructors were found in relation to age, month of the year, and for personal leave in relation to sex and marital status in 1970-71.

Implications of the findings suggested possible malingering, since the majority of instructors were absent from school at least three times for a duration of less than three days. The amount of absence varied inversely with the numbers of instructors absent. The average number of days of absence for instructors (9.4 and 9.7) was higher than the number found in previous research. Personal illness was the reason given for the majority of absences. The average duration of absence (2.5 days)
may have been limited by the fact that a physician's certificate was required for more than three days absence.

In 1974, Slick investigated the relationship of organizational factors that influenced morale and other selected variables to absence frequency in Philadelphia elementary and secondary schools. No significant relationships were found between instructor absence frequency and rapport with the principal, perceived level of satisfaction with teaching salary, disengagement, hindrance, instructor status, esprit, principal aloofness, climate designation, production emphasis, number of instructors, or community support for education.

Baum and Youngblood (1975) conducted an experimental study of the impact of an organizational control policy on absenteeism, performance, and satisfaction. The sample included two hundred ninety-seven Purdue students assigned to eight different sections of accounting by computerized scheduling. Potential instructor differences in teaching style were experimentally controlled by counter-balancing the assignment of instructor sections to the treatment conditions. A control policy based on the Katz and Kahn 1966 motivational pattern of legal compliance with established organizational norms was found to significantly improve attendance without adversely affecting satisfaction levels. The legalistic control policy also increased performance. Future research is needed to assess the varied impact and long-term effectiveness of legalistic policies on different subgroups of people within the same organization although these findings may be interpreted as providing support for the potential effectiveness of control policies.
The State of New York Office of Education Performance Review (1974) evaluated instructor absenteeism in New York City and the cost-effectiveness of substitute instructors. It was found that there were no effective central or district efforts to provide direction and necessary information to control instructor absenteeism in New York City. Absentee rates were found to vary significantly throughout the city by type of absence and day of week. No apparent relationship was found between an instructor's absence rate and performance rate. The rate of discretionary absence was generally twice as high as the rate for illnesses requiring a medical certificate. Instructor discretionary absence rates were approximately twenty-one percent higher for Mondays and Fridays. Central absence reports were not promptly provided to school districts for review, comparison, and corrective action. Implications are that instructor absenteeism is highest where the educational need is greatest, particularly discretionary absence. Despite the high cost of hiring substitute instructors and general agreement that they were ineffective, New York City continued their general use. Steps must be taken to improve instructor attendance and administrative actions must be utilized to control instructor absence.

Bundren (1974) studied the influence of situational and demographic factors on the absentee patterns of instructors. This causal-comparative study investigated instructor absentee patterns in relation to the time frames preceding and following the enactment of collective bargaining legislation in the Clark County School District, Las Vegas, Nevada. Findings indicated that instructor absentee rates increased significantly
following collective bargaining enactment. Situational factors as time of year, days of the week, size of faculty, grade level assignment, and academic ability level of students did not emerge as statistically significant factors affecting instructor absenteeism. Likewise, demographic factors of age, gender, salary, length of continuous employment, and marital status lacked statistical significance for influencing instructor absenteeism. Consistently discriminate patterns reflected that days preceding and following weekends had the highest proportion of absenteeism, and elementary instructors reflected a greater degree of absenteeism than secondary instructors. One may conclude from the review of literature that increased instructor absenteeism is universal; many districts are not conducting studies related to absenteeism; and such diverse methods of organizing and reporting absentee data currently exist as to seriously limit the subsequent utility of the tabulated data. Additional research and experimentation is imperative since current instructors are better paid, have smaller classes, and are generally more appropriately assigned and yet instructor absenteeism continues to soar. Collective bargaining legislation should be reviewed to determine if "in good faith negotiations" is inherent in the construct of the document. Standardized formats for gathering and reporting absenteeism data should be instituted to insure improved information utility.

Coller (1975) analyzed instructor absenteeism as related to instructor morale and demographic characteristics of instructors. His sample of instructors from Michigan was divided into two groups. Sample Group L was comprised of one hundred ninety-eight instructors who had been absent
3.5 or less days and Sample Group H was comprised of two hundred twenty-six instructors who had been absent 9.0 or more days in each of two schools sampled. Results indicated that the variances of the scores for the two groups were significant for total morale and all sub-factors except "instructor salary" and "curriculum issues." A statistically significant relationship was found between instructor absenteeism and all of the selected demographic characteristics of sex, marital status, level of teaching, years of teaching experience, and school district of residence.

Conclusions were that instructor morale is significantly related to instructor absenteeism. Specifically, low absence instructors had higher morale than high absence instructors. Specifically, the demographic data indicated that male instructors tended to have lower absence records than female instructors; married instructors tended to have lower absence records than single instructors; elementary instructors tended to have higher absence records than either junior or senior high instructors; instructors who lived in the school district in which they taught tended to have lower absence records than instructors who did not live in the district; instructor absenteeism was not significantly related to instructor age.

Frank (1975) investigated the association of selected instructor-reported job attributes and instructor absence frequency. The study used a conflict model which viewed short-term absence as the result of a decision between competing forces. Central to the decision-making process were legitimacy and authenticity. Legitimacy referred to whether the reason for absence was appropriate or "correct," and ranged along a con-
tinuum from "yes" to "no." Authenticity dealt with whether or not the absence would be fair. The study focused on legitimacy of amounts of absence rather than particular absences. Independent variables derived from thirteen selected instructor-reported job attributes included fair rate of pay; fair treatment by the school board and school administration; adequate professional recognition and opportunity for professional self-expression; opportunity for administrative positions; calibre of students; regard for teaching by one's family and friends, by the majority of instructors, by well-known instructors, and by society at large; and instructor reports of a reasonable number of days and fair number of times per year to be absent from work. The sample included sixty-five elementary instructors in a large urban district in New York. Responses by each subject's preferred and actual peers were weighted according to the peer's ranking and summed by category. The subject's score was then multiplied by each summation, resulting in two interaction terms. These four items, treated as independent variables, together with subject reports made five variables per subject for each attribute. The strongest relationships ($p < .001$) were found for subject reports and the interaction with actual peers termed from "regard for teaching by family and friends." The greatest percentage of variance was accounted for by a joint relationship of subject reports, sum of weighted reports of actual peer associates, and the interaction with actual peer termed from "regard for teaching by family and friends," and subject reports about a "reasonable number of days absent per year." Data for absences of three days or more and for total days absent were also gathered and tested in the
model. Results confirmed the usefulness of short-duration absence as the dependent variable in studies of this type. Analysis of findings showed that interaction terms were most often the best predictors of variance, followed by the summed peer reports, and then subject reference groups. It was concluded that in studies of discretionary absenteeism, the normative value systems and reference groups of employees were fundamental areas which should not be excluded.

A predictive approach with group size as a moderator of the relationship between biographic data and the rate of absenteeism was the topic of exploration for Kuzmits (1975). Findings revealed that the moderator effect did not provide a valid, predictive key for either the large group nor the small group. Kuzmits concluded that there was no difference between the mean absence rate of employees in large work groups and small work groups although there was a difference between the mean absence rate of mixed work group employees and the mean absence rate of employees of all keypunch work groups, both large and small, employed at the Department of Administrative Services, Georgia.

Marchant (1976) studied the effects of selected variables on instructor absenteeism, environmental variables of instructor perception of school climate, school size, and previous educational experience of instructors were thought to relate to instructor absenteeism. Demographic traits of instructors found to relate to instructor absence behavior included the sex, age, race, and marital status of instructors. Data analysis indicated that the environmental and demographic traits were not related statistically to absence rates of instructors with the exception
of instructor age. As age increased, absence rate increased. Administrative intervention concerning the absence problem in the Virginia elementary schools sampled was believed to have influenced a decline in instructor absenteeism during the 1975-76 school session as opposed to that in the previous year. Further study is needed.

Douglas (1976) looked at social-psychological correlates of instructor absenteeism. Out of twenty-seven potential predictor variables, nine appeared to be the best predictors of high absenteeism among Ohio public school instructors: "role conflict" years teaching experience, job during summer, inner-city vs. suburban school, academic degree, psychasthenia-MMPI, Cornell Index Score, Hypochondriasis, job satisfaction. Job satisfaction would predict negatively. Organizational stress has a predictive relationship to instructor absenteeism. This study, contrary to other studies, indicated that the older, more experienced instructor was more likely to use sick leave. Results represented a selection process wherein relationships between variables were established rather than cause and effect. Findings that organizational stress had a predictive relationship with instructor absenteeism was consistent with other studies on role conflict and role ambiguity. In all settings previously investigated, where role conflict was high, job satisfaction and confidence in the organization decreased while job threat and anxiety increased (Kahn et al., 1964). One of the obvious responses to high stress was absence.

Marlin (1976) analyzed instructor absenteeism and utilization of sick leave by selecting full-time ten-month professional personnel in a
semi-rural school system. Marlin found that female instructors were absent significantly more than male instructors; instructors teaching disadvantaged students were absent significantly more than instructors teaching regular students; elementary instructors were absent significantly more than secondary instructors; mean absenteeism for tenure instructors was slightly higher than for non-tenure instructors; mean absenteeism for married instructors was higher than for unmarried instructors; mean absenteeism for black instructors was higher than for white instructors; mean absenteeism for the thirty-one to thirty-five year age level was higher than for the remaining age levels; mean instructor absenteeism for Friday was higher than for other days; and mean absenteeism for May was higher than for other months of employment. This study indicated that demographic variables had an influence on instructor absenteeism.

Foster (1977) investigated selected factors in schools with high versus low instructor absenteeism in a New York City community school district. Foster found schools with high and low instructor absenteeism to be complementary in percentages of low-income and minority students to the total population. Black and Hispanic students had a significant effect on instructor absenteeism as reflected in the percentages of black and Hispanic students to the total population in the schools studied. There were no discernible effects on the average class means of the combined class reading and math achievement test scores in schools with high versus low instructor absenteeism in the schools studied. Morale among instructors in schools with high versus low instructor perception of instructor rapport with other instructors and the principal affected
job satisfaction. The percentages of instructors filing school level grievances did not have a significant effect on the ratios of instructor absenteeism in the schools with high versus low instructor absenteeism. Student population composition appeared to affect instructor absenteeism while other factors as rapport with other instructors and principal did not affect instructor absenteeism.

Schroeder (1977) analyzed relationships between instructor perception of managerial behavior, instructor satisfaction, and instructor absenteeism in the metropolitan New Orleans area. Schroeder found that the principal's managerial behavior patterns of demand reconciliation, tolerance of uncertainty, persuasiveness, initiation of structure, tolerance of freedom, role retention, consideration, production emphasis, predictive accuracy, integration, and superior orientation were significantly related to instructor job satisfaction. The managerial behavioral patterns of consideration and integration were significantly related to the instructors' satisfaction with promotions. The principal's managerial behavior patterns of demand reconciliation, tolerance of uncertainty, persuasiveness, initiation of structure, tolerance of freedom, role retention, consideration, production emphasis, predictive accuracy, and integration were significantly related to instructors' satisfaction with co-workers. The twelve patterns of the principal's managerial behavior were not significantly related to instructor absenteeism nor instructor satisfaction with pay although they were related to instructors' satisfaction with supervision. Instructors' satisfaction with pay and instructor absenteeism were significantly related. The more dissatisfied
instructors were with their pay, the more likely they were to be absent. According to this study, managerial behavior did not necessarily affect instructor absenteeism.

Walter (1977) conducted a study of administrative attitudes toward absenteeism and their relationship to selected characteristics of effective instructor absence control programs. A random sample of twenty-eight suburban school districts in the Northeastern New Jersey-New York Area was selected. None of the districts in the study were found to have both administrators with unfavorable attitudes toward absenteeism. Characteristics of instructor absence control programs were measured by the Teacher Absence Control Program Checklist. Using characteristics of absence control programs drawn from a United States Government report, eight characteristics were selected by a national panel of educational personnel administrators as essential for an effective instructor absence, absence control program. Findings revealed that instructor absence control programs in eleven districts, in which both administrators had favorable attitudes toward absenteeism, lacked at least one of the characteristics of effective instructor absence control programs. Instructor absence control programs in seventeen districts, in which one administrator had favorable attitudes towards absenteeism, lacked at least one of the characteristics of effective instructor absence control programs. Characteristics of instructor absence control programs varied from district to district. Few personnel administrators viewed instructor union involvement in their instructor absence control programs as a positive force. The majority of participating school districts did not
have a comprehensive instructor absence control program. There was a lack of written and verbal communication regarding absenteeism between chief school officers and personnel administrators in a majority of the school districts in the study. No empirical evidence was found to prove that the administration of instructor absence control programs was effective enough to influence the absence pattern of instructors. Until such programs improve, changes in instructor absence behavior appear unlikely.

Sharma (1972) studied the relationship between principal effectiveness, instructor satisfaction, and school climate with a random sample of rural and urban schools. Results indicated that both principal effectiveness and instructor satisfaction were significantly and positively related to school climate. The principal who tried to motivate instructors through an example personally set and the principal who treated instructors humanly was rated high on the principal effectiveness scale. Principal effectiveness and instructor satisfaction were both significantly positively related to school climate. Principal effectiveness may be assumed to be a significant indicator of school climate. More specifically, principal behavior as an effective leader played a pivotal role in determining school climate. Principal effectiveness, as rated by instructors, may not be accepted at face value as an ideal effectiveness score; but if it is regarded as desirable that instructors feel their principal is effective, then it is a useful criterion. Previous studies supported this implication. Sharma (1972) reported that "headmaster" effectiveness was a significant predictor of school climate. Others have reported the same pattern of relationship between school climate
scores and instructor satisfaction and principal effectiveness.

Bosson (1977) studied instructor involvement in participatory management. The study validated the assumption that instructors desired to be involved to a greater degree than currently existed in the decision making processes of curriculum, school management, and personnel matters. Instructors perceived a disparity between desired management practices and current practices.

Medaugh (1977) investigated the relationship between management styles and perceived discipline problems in selected secondary schools. Indices on the principal's management style were obtained by using total style scores plus component scores of philosophy, planning, implementation, and evaluation. Inventory results indicated that principals tended to perceive themselves as most frequently employing team style of management (9/9 on Blake-Mouton's Management Grid). When correlated with actions taken in discipline problems, the results tended to indicate that principals most frequently employed a middle-of-the-road style that they practiced. No significant difference was found between the principal's style of management and frequency of disciplinary action. A significant difference was found between the principal's style of management and the severity of disciplinary actions.

Conflicting findings between many of the studies certainly merits further research concerning causes of instructor absenteeism.
Leadership and Management Systems and Styles

Concern for and interest in leadership dates back many years. Leadership has been one of the most interesting and complicated subjects in the behavioral sciences concerning all of society. Torabi (1971) identified approximately 1,362 studies completed between 1965 and 1971 related to leadership.

Fiedler (1967) defined leadership as "a personal relationship in which one person directs, coordinates and supervises others in the performance of a common task." Katz and Kahn (1966) described leadership as going beyond required performance and above "mechanical compliance with routine directives of the organization."

Jacobs (1970) identified leadership as "an interaction between persons in which one presented information of a sort and in such a manner that the other became convinced that outcomes would be improved if he behaved in the manner suggested or desired."

Haimann and Scott (1970) termed leadership "a process by which people are directed, guided, and influenced in choosing and achieving goals."

Leadership is utilized to obtain specific results and is the effort of one member to change or alter the behavioral motivation of other members (Bass, 1971; Brown, 1967). The criterion for leadership is whatever the leader does to help the group achieve its objectives, define its goals, and maintain group cohesiveness (Knezevich, 1969). The leader will be followed if the followers believe the leader can best provide the satisfaction for which they strive, within the limits of time, place, and the followers' abilities (Koontz and O'Donnel, 1972).
Fiedler (1967) demonstrated that an effective leader in one situation would not always be effective in another situation. Many factors were related to a group's performance.

Yuhl (1967) examined the relationship between personality and situational variables and the behavior of the formal leader. Results of Yuhl's examination suggested that situational variables were stronger determinants of leadership effectiveness than personality variables. Leader behavior was therefore a more effective measure of leadership than personality variables.

A study by Sanford (1952) indicated that a preference for a leader who would meet group psychological needs was evident. Sometimes the needs could be relatively independent of the immediate situation, as the need for approval. Preferred leaders appeared to be those who could give physiological structure and satisfaction to individuals, although a "nice guy" type of leader may be eliminated when the group was confronted in a major challenge. The selected leader in a social organization, therefore, depended on the needs of the followers and the style, needs, and abilities of the leader.

In the educational process both administrators and instructors assume primary leadership roles. The administrator relationship would therefore appear to be a central factor in effective educational institution management. The school building principal or director is generally considered the designated leader in the school. The principal or director typically influences instructors toward institutional goal achievement.
Decision-making has traditionally been a key function of leaders. Organizational effectiveness has been dependent on the decision-making process.

A leader is responsible for more work than one individual can accomplish. Therefore, the successful accomplishment of work by a leader depends on the leader's ability to obtain assistance from followers in job completion. Therefore, the successful leader is a manager of people.

Research (Marrow, Bowers, and Seashore, 1967) and modern organization theory (Likert, 1967) supported the thesis that a significant relationship existed between organizational productivity and leader/manager behavior. Likert (1961), Argyris (1964), and McGregor (1960) agreed that in a highly productive organization leader/manager behavior was a variable for both high productivity and organizational behavior.

Due to the extreme importance of leader/managerial behavior to organizational success, various theories of organizational management have been developed.

Classical organizational theory was based on the concept that a formal organization was a system of coordinated group activities with participants cooperatively working toward a common goal under authority and leadership (Scott, 1967). Barnard (1938) emphasized participant willingness to accept authority. According to Etzioni (1964), the classical approach contained both a theory of motivation and one of organization. Division of labor was balanced by a unity of control resulting in a hierarchy (Smith, 1776; Gulick and Urwick, 1937).

The scientific management approach introduced by Taylor (1923) sig-
nificantly contributed to the explanation for motivation. This theoretical approach emphasized the interaction between human characteristics and social and task environments presented by an organization. Early studies employed the analysis of time spent in the production process. The studies were based on a view of the human organism as a simple machine whose efficiency could be maximized by a detailed program of behavior (Gilbreth, 1914). The scientific management theory incorporated studies of physiological constraints over physical activity and led to increased precision of routine tasks (March and Simon, 1958). The administrative structure role was seen as a device for increasing task performance efficiency (Gulick and Urwick, 1937). Power of administrators was viewed as necessary to maintain order and get people to act against their nature (Scott, 1967). The common goal of organization members was an increased level of productivity. The central theme of scientific management was that if material rewards were closely related to work efforts, the worker would respond with the maximal performance that he was capable of (Etzioni, 1964).

Criticisms of the theory included viewing the employee as passive, failing to see variability of employees, and overemphasizing the anatomy of organizations. The division of labor necessary was presumed by the critics to depersonalize the worker's activities and result in a feeling of aloneness in the worker.

Since depersonalization of work at the operative level could easily have disfunctional outcomes for the organization (Merton, 1950), remedies should include employee participation in the decision-making processes
and improved upward communication.

The human relations movement thus began attempting to introduce behavior modifications into classical theory. The employee was now viewed as good and capable of wide individual variation (Davis, 1962). Members were assumed to bring their attitudes, values, and goals to the organization (March and Simon, 1958). The Hawthorne studies (Roethlisberger and Dickson, 1939) suggested that interpersonal factors were more influential in productivity than were physical factors within the working situation.

A systems approach proposed by Katz and Kahn (1966) emphasized the functions of organizational units, viewing the organization as an energy input-output system in which the energetic return from the output reactivated the system.

Likert (1961, 1967) designed a model for distinguishing the style of management within an organization. He set up a continuum of four management styles: System I, exploitive authoritative; System II, benevolent authoritative; System III, consultative; and System IV, participative. The System IV management approach is presented as a workable management system which can be used by any organization to achieve high productivity, improved human relationships, and organizational coordination. Three basic concepts provided a basis for the System IV management approach -- the principles of supportive relationships, group decision-making, and high organizational performance goals.

All four systems of management described by Likert were developed on the basis of three types of organizational variables -- causal variables,
intervening variables, and end result variables.

The causal variables were independent variables which determined the course of developments within an organization and the results achieved by the organization. Causal variables included only those which could be altered or changed by the organization, however, such as organizational structure and management policies, decisions, business strategies, leadership patterns, skills and behavior. Intervening variables reflected organizational internal state and health, as loyalties, attitudes, motivations, performance goals, perceptions of all organization members and their collective capacity for decision-making, employee absenteeism and turnover level. The end result variables were the variables that reflected organizational achievements, as productivity, costs, earnings, or quality of services rendered as reported in Table 1 (Likert, 1967).

Halpin (1966) viewed leader behavior as having two dimensions:

1. **Initiating Structure**—delineating relationship between the leader and work group members, establishing well-defined patterns of organization, communication and procedures; and

2. **Consideration**—behavior indicative of friendship, mutual trust, respect and warmth between leader and staff members

Effective leaders were those who scored high on both dimensions of leader behavior. Halpin's model appeared to be patterned after the organizational view that would characterize System I, II or possibly III organizations in Likert's model. Likert's system evaluated organizations, while Halpin's model measured administrators.

Davis (1957) defined participation as "the mental and emotional involvement of a person in a group situation which encouraged the indivi-
Table 1. Organizational variables within a public organization, e.g., a state college, as affected by an open or closed system of management (Adapted from Likert, 1967).

**CAUSAL VARIABLES**

**Administrator(s)**
- Well organized plan of operation
- High performance goals
- High technical competence among administrators and assistants

**Style of Management**
- **Closed System**
  - Direct hierarchical pressure
- **Open System**
  - Supportive relationships
  - Group decision-making and supervision

**Organizational Characteristics**
- Less institutional loyalty
- Lower performance goals
- Greater conflict; less cooperation
- Less use of academic expertise among peers
- Less favorable attitudes toward administrators and students
- Limited communication, mostly downward
- Lower motivation to provide excellent teaching
- Less involvements with institution

**INTERVENING VARIABLES**
- Greater institutional loyalty
- Higher performance goals
- Greater cooperation
- Greater use of academic expertise among peers
- More favorable attitudes toward administrators and students
- Extensive lateral and vertical communication
- Higher motivation to provide excellent teaching
- Greater spirit of community

**Organizational Achievements**
- Lower quality service; minimal student learning
- Higher costs of services rendered
- Lower professional standards
- Poor student-college relations
- Lessened impact on general public
- Poor image to legislators and governor
- Greater difficulty in obtaining public funds

**END-RESULT VARIABLES**
- Higher quality service; maximal student learning
- Lower costs for services rendered
- Higher professional standards
- Improved student relations
- Greater impact on general public
- Better image to legislators and governor
- Less difficulty in obtaining public funds
dual to contribute to group goals and share responsibilities in them."

Research investigating participatory leadership has received an increasing amount of attention in the literature. Understanding the process of participatory leadership necessitates a knowledge of the individuals involved in the organization and the ways in which they interact. Since participatory leadership is intended to make people feel more useful and important to the organization, today's psychologists and behavioral scientists recommend greater participation by subordinates in the problem-solving and decision-making process. Vroom (1973) reported a positive relationship between individual performance and the amount of influence administrators permit employees in decisions that affect them. Dettre (1970) indicated that if instructor satisfaction and effectiveness are to be maintained and increased, it would appear desirable that instructor participation in the decision-making process be increased.

Research evidence is supportive of the participative model. Participatory leadership which attempts to maximize the initiative of an individual or to increase self-generated motivation is more likely to be effective in meeting objectives than leadership that imposes control of an individual in an authoritative manner (McGregor, 1960; Heller, 1969). The effectiveness of an organization in meeting the needs of its members would be enhanced if the persons who would be affected by the decisions would be involved in the making of those decisions (Likert, 1967).

According to McGregor (1960), the effectiveness of an organization in meeting the needs of employees would be enhanced if persons affected by decisions participated in the making of those decisions. Studies
(Katz, Maccoby, and Morse, 1950; Katz, Gurin, and Floor, 1951) indicated that if an employee was permitted to participate in the decision-making process, employee performance would increase. A close association has been found between the amount of control an employee has over the work situation and positive job performance.

Argyris (1957) stated that the consequences of participation resulted in:

1. greater feelings of cohesiveness
2. greater productivity whether the leader is present or not
3. increased job satisfaction and morale
4. relatively broader time perspective
5. greater flexibility in behavior

Davis (1957) believed the principal advantages of participation were utilization of the creative potential of all employees, encouragement of personnel to accept responsibility, better decision-making, improved team work and morale, higher motivation, and restored human dignity and mutual interest.

Participation may take place at all levels of supervision. The amount and kind of participation which occurs will depend upon the organization, the administrators, and the type of decisions made (McGregor, 1960).

Participatory leadership has been found to be related to such variables as productivity, turnover, morale, and job satisfaction reflected in employee absenteeism.

Examination by several writers of the participation of employees in
the planning process points out improvements in individual performance (McGregor, 1960).

Examination by several writers of the participation of subordinates in the planning process points out improvements in the performance of the individual (McGregor, 1960; Maier, 1963; Likert, 1959).

Research from business organizations (Marrow, Bowers, and Seashore, 1967) and modern organizational theory (Likert, 1967) supports the thesis that there is a significant relationship between organizational productivity and leader behavior. Likert's (1961) research indicated that in a highly productive organization, leader behavior was a variable for both high productivity and organizational behavior. This was consistent with Argyris' (1964) and McGregor's (1960) organizational theories of an ideal organization.

Instructors appeared to be exhibiting a proclivity for increased participation in the policy development that directly affected their work. Although instructor participation in decision-making was a process whereby instructors may contribute to a joint activity with a purpose (Sears, 1950), instructors may resent excessive committee work or consultation concerning decisions they believe the administrator should make. Instructors appeared to have a "zone of indifference" within which the administrator's decisions were readily accepted. Instructors tended to resent and oppose their involvement in decision-making within this category (Bridges, 1967).

Yet, the desire of instructors for involvement in educational decision-making has resulted in increasing numbers of states passing
mandatory negotiation laws. The recent emergence of the national "instructor militancy" trend has been evidenced through strikes and other sanctions. The goals of the instructor militancy movement transcend bread-and-butter unionism, i.e., wages, hours, and conditions of work; many instructors believe they have been limited in or eliminated from participation in the decision-making process in their schools (Muth, 1972; Dettre, 1970). Various studies indicated that instructors who reported opportunities to participate regularly and actively in making policies were much more likely to be enthusiastic about their school systems than those who reported limited opportunity to participate (Dettre, 1970). Berg (1973) asserted that instructor strikes may be related to lack of involvement in the decision-making process.

While many administrators appeared to have faith in the participatory process, they did not tend to believe in the decision-making capabilities of their employees (Haire, Ghiselli, and Porter, 1966). Miles (1966) reported that managers were not consistent in their acceptance of participation.

Administrators and school boards have previously made decisions for instructors in anticipation that appreciation would be expressed for the service rendered. Instructors, however, believed they were well-qualified to participate in educational decision-making. Furthermore, they considered it just that they should participate in decision-making that affected them and their jobs.

Hill and Martin (1971) conducted in-service training for secondary instructors to gather information on decision-making by utilizing pre-
and post-test instruments. They determined that training sessions made the participants more aware of the steps in the decision-making process and enabled them to express this awareness in their response to a specific situation.

Eye, Gregg, Lipham, Netzer, and Grancke (1966), under a project financed by the U.S. Office of Education, attempted to answer the question: "To what extent do administrators and instructors in a given school system tend to agree or disagree in their perceptions of decision-making roles and responsibilities?" One of the most significant findings was that to successfully change the curriculum, consideration was a more valuable behavior for the superintendent to exhibit than initiating structure behavior.

According to Boyan (1966), the principal in his leadership role no longer has an expertise differential over the instructor. Many of the instructors are better prepared to teach than the principal. Today's instructors know their subject matter, they understand student behavior and motivation, and they know how to teach. Many of these instructors know more about their jobs than their administrator (Ball, 1968). As a result, the instructors have become more militant and less receptive to the administrator's desire for exercising instructional leadership (Corwin, 1968). This attitude of instructors is characteristic of the problems with which administrators must cope if a leadership role is to be exercised among professionals.

A study by Lapossa (1971) compared the quality of decisions and the decision-making behavior of teaching teams and individual instructors.
Results indicated that the quality of the decisions reached by the teaching teams did not differ markedly from those reached by individual instructors. Team members, however, were much more harsh than individuals in the evaluation of instructor behavior.

Siegel and Ruh (1973) found the correlation between participatory decision-making and job involvement to be significantly more positive for individuals with higher education than for those with less education. These results were consistent with the work of Schein (1971) who suggested that education influenced one's expectations and desires to participate in decision-making that affects that individual.

Morgan (1973) suggested that for participation to be effective, the psychological climate of the organization must be conducive to encouraging and providing the means whereby an employee can participate. Two-way communication must exist between the administrator and employee.

Administrators in our educational systems vary widely in academic background, interests, and experience as managers. This disparity precludes utilization of a standard procedure by administrators that could increase leadership effectiveness and decision-making. Some administrators utilized partial participatory management as a means of decreasing instructor resistance to formal authority. Others attempted to reach better decisions through participatory management.

Haythorn (1958) conducted a laboratory study in which he found it important to match the personality of the leader with that of the employees, particularly if one was to generate satisfied personnel, high morale, and lower group conflict levels. Anderson and Fiedler (1964)
indicated that quantity of output tended to be higher under participative leadership.

Many administrators would invite participation after they made the decision based on the idea that it would be good for individuals to have a feeling of participation by talking about the "questions." Employees become dissatisfied when they discovered that their participation had not had any influence in the decision-making, however (Haire, 1964). Administrators utilizing the participatory approach to decision-making must be ready to consider areas of interest among organizational personnel that had not been anticipated. Evidence from industry indicated that genuine participation can pay dividends. An organization giving participation lip service only may find it more of a liability than an asset (Bennis, 1959).

Miles (1966) stated that some administrators utilized authoritarian approaches because they failed to understand how participatory leadership can be applied. Brown (1966) reported that other leaders permitted colleagues to participate as a favor to the manager rather than as a favor to the participants.

Bridges (1964) selected principals from a school system in the Midwest to study instructor participation in decision-making. Principals were divided into "open-minded" and "closed-minded" categories. Based on Rokeach's work (1960), it was believed that principals with open belief systems would involve instructors more significantly in participation in the decision-making process than those principals who had closed belief systems. The study reported that open-minded principals did not involve instructors to a greater extent than closed-minded principals. Bridges
found that the level of participation was related to the age and experience of the principal. He described his rationale for this phenomenon as follows:

Older, experienced principals are the ones who encouraged the greatest teacher participation, which is not surprising, for they are the principals who are most likely to be secure in their positions, to be less eligible for promotion, and to have the patience to use the admittedly slow participation process. On the other hand, their participative behavior may reflect the older, experienced principal's desire to maintain a stable situation through increasing the teacher's voice in matters of central concern to the teacher.

Tannenbaum and Schmidt (1963) suggested that a successful leader be acutely aware of the atmosphere surrounding him/her and be able to detect employee readiness to participate and grow. If direction was required, the leader should provide this direction; but if participatory freedom was required, the administrator should provide the necessary release. Employees should participate more favorably if they have a relatively high independence need, the necessary knowledge to deal with the problems, a readiness to assume responsibility, and an identity with the organizational goals (Spotts, 1971). Bridges (1967) found that instructors preferred administrators who involved them in decision-making, although certain instructors desired independence from decision-making.

Instructor statements describing the leadership behavior of their administrators are excellent sources from which to draw inferences relative to the nature of the leadership existing in the school. The nature of leadership in any school would be revealed in the transactions between the behavior of the leader and the perceptions of those lead.

Feitler's (1972) research in school organizations showed a signifi-
cant relationship between organizational processes and the principal's leader behavior.

Miner (1973) stated that "not a single major firm in the United States had applied the participative approach in its totality on a truly large scale, although a number of companies had utilized aspects of the approach or introduced it in certain locations." Miner indicated that companies utilizing participatory approaches tended to have a high proportion of professional employees. Perhaps while much has been written concerning the advantages of participative leadership, many administrators still have insufficient knowledge of the approach to use it effectively.

Participation can occur only when individuals have an opportunity to take part in the organizational decision-making that affects them. The environment for participation must be created by the administrator, who shares the responsibilities with the employees (Likert, 1961).

In summary, concern for and study of leadership is as old as our history, but it has accelerated in pace within recent years. Research from business supports the thesis that a significant relationship exists between organizational productivity and leader behavior. Participatory leadership is a phrase utilized in management circles to describe modern management theory. Participatory leadership means that administrators provide an opportunity for employees to participate in those organizational decisions that affect them. The successful administrator will adapt his/her leadership style to the existing situation. Studies indicated than an administrator who involved instructors in the decision-
making process would have a more productive, satisfied group. The success of an organization depends upon satisfying employee needs. Participatory leadership is one method of meeting needs of employees.

The literature on participation and decision-making is voluminous. Only a part of it has been reviewed in this investigation. Attention has been focused on instructor participation and the role of the administrator in the educational organization setting.

In the final analysis, educational administrators must be the decision formulators. Their leader effectiveness is dependent on making the "right" decision, which is dependent on utilization of the best ideas from individuals involved in the decision-making process.

No single effective leadership style appeared to be ideal for every situation. In some situations an authoritarian leader may be most effective, while in many situations effectiveness results from a democratic style of leadership. Flexibility to meet the needs of the situation is critical to success.

Instructor Job Satisfaction

Increasing instructor strikes and negotiation demands have forced all individuals interested in today's educational system to examine instructor job satisfaction. Studies are not conclusive, but it appeared that certain instructors who desired greater participation in the decision-making process had lower levels of satisfaction. Others desired less participation than they were currently receiving and reported higher levels of satisfaction. Instructors reporting the lowest levels of satisfaction
also reported the most militant attitudes toward such aggressive actions as joining unions and striking. Thus, low levels of satisfaction may pose serious potential problems for educational organizations in their efforts to secure and retain the necessary human resources (Moyer, 1955).

Moskowitz (1950) in a study of New York City instructors found that over 50 percent of the instructors sampled desired participation in budget preparation and planning of staff meetings.

Blumberg and Amidon (1963) found that opportunity for participation in decision-making that affected them was the most important factor in instructor job satisfaction.

Panttaja's (1966) findings indicated a wide difference between individual perceptions of the educational administrator. He found that employees rarely perceived decision-making as a terminal process but as a continual and ongoing process. Findings suggested an association between job satisfaction and participation in the decision-making process. Findings seemed to indicate a difference between desired participation and perceived participation. Evidence was given to indicate that morale was higher if instructors felt they had some participation in decisions, regardless of whether they actually participated (Dettre, 1970).

Perceptions of the individual played a very important role in many studies. Perception was defined as the way instructors felt about their involvement and responsibilities. Individual perceptions determined reality for that individual. Dealing with perceptions is difficult because each individual differs in the perception of a given situation.

Involvement of the classroom instructor in the general decision-
making process has not occurred in the past. Recently we have seen instructor militancy emerge as a national trend demanding participation in the decision-making process in their schools.

Participatory leadership may be viewed as an organizational process in which instructors should be involved. Evidence indicated that instructors strongly desired to participate in the decision-making process.

Wendlandt (1970) investigated the relationship between the number of years school personnel had been involved in collective negotiations and the extent of faculty involvement in the decision-making process. The study attempted to ascertain whether a difference existed between instructors' and superintendents' perceptions regarding faculty members' roles in decision-making. Wendlandt's findings resulted in the following conclusions:

1. There appears to be a significant difference between superintendents' perceptions and instructors' perceptions regarding the role of faculty members in the decision-making process.

2. Superintendents appear to perceive faculty members to be involved in decision-making to a greater extent than instructors perceive their own involvement.

3. Instructors appear to desire to be involved in decision-making to a greater extent than superintendents desire to have faculty involved.

4. When instructors are involved in the decision-making process, they appear to be primarily involved by recommending a decision.

The study supported instructor involvement in the decision-making process. Administrators need to recognize that instructors are demanding increased involvement in decision-making.

Belasco and Alutto (1972) found that by increasing the participative
power of instructors, their attitudes, satisfaction, and productivity could be enhanced positively. Belasco and Alutto (1972) indicated from their study that decisional climate was a factor influencing instructor job satisfaction. Supposedly those instructors who were most willing to leave their present position possessed the highest level of decisional deprivation. Those instructors believed the genuine authority rested in the central office. Younger male instructors appeared to consider themselves the most deprived in the decision-making process. Older female elementary instructors tended to be more satisfied or believed that they had enough decisions to make already. Those instructors who were most satisfied were also least militant.

The majority of the studies reviewed urged involvement of instructors in the decision-making process. Chase (1952) and Bridges (1964) noted that some administrators failed to realize that instructors do not want to become involved every time the administrator was faced with a decision. Instructors may express resentment toward excessive committee work and being consulted on decisions they believe administrators should make.

Change will continue in relationships between instructors and administrators if recent research studies, increased bargaining power, and passage of new laws is any indication. Sufficient evidence has been provided to indicate instructors desire participation in the decision-making process. Instructors have been seeking recognition and more powerful roles in policy formation and administrative decision-making.

A number of authors have suggested a need to emphasize training of administrators in problems of educational administration.
The training must consider the context of the social system. Administrators must consider needs, demands, and aspirations of instructors as professionals.

The role of the administrator has changed dramatically within recent years. As the instructor's representative, the administrator must support them and relay their position when a decision is pending. When instructors do not believe they are properly represented, they bypass the immediate administrator and utilize their own representatives. Instructors will participate one way or another until they are satisfied (Ambrosie and Heller, 1972).

Evidence suggested that leadership styles can be determined through studying behavioral characteristics of individuals. A relationship appeared to exist between the style of leadership of an individual and the involvement of employees in decision-making. Perceived behavior was more important than actual behavior, since this was actually what influenced the action of employees.

Leadership studies have demonstrated that those in authority who use participatory styles of leadership are likely to have employees with higher morale and higher productivity (McGregor, 1960). The success of an administrator is dependent upon the successful adaptation of his/her leadership characteristics to the existing organization.

The literature on participation and decision-making is extensive. Attention in this investigation has focused on instructor participation in decision-making and the role of the administrator in the educational institution organizational setting.
Summary

The importance of instructor job satisfaction cannot be overemphasized. The literature reviewed in this chapter has been highly beneficial in shedding light on all aspects of employee absence.

Although many factors may be involved in instructor absence, the literature supports the concept that the administrative style utilized by the administrator may have had an effect on instructor job satisfaction and attendance.

This study has been designed to supplement and complement the methods and conclusions of many researchers.
CHAPTER III. METHODOLOGY

This chapter presents the procedures adopted for the study. The procedures have been divided into the following sections.

1. Purpose of the Study
2. Methods and Procedures
3. Questions to be Answered
4. Objectives of the Study
5. Hypotheses and Analyses
6. Pilot Sample Selection and Administration
7. Identification of Population and Sample
8. Description of Concepts Used to Develop the Questionnaire
9. Review of Previous Instruments
10. Demographic Variables
11. Development of Instrument
12. Major Data Analysis and Procedures

Purpose of the Study

The purpose of this study was to identify discrepancies in perceived management styles and roles of administrators and identify administrative management styles that maximized instructor job satisfaction and instructor attendance.

This chapter describes the methods and procedures used in the collection and analysis of the data that are necessary to fulfill the objectives of the study.
Methods and Procedures

This study was conducted as follows. The researcher:

1. Identified the total population of post-secondary Indiana Vocational Technical Colleges and Indiana Secondary Area Career Centers and feeder high schools.

2. Identified the Vice-Presidents and Deans of Instruction of each Indiana Vocational Technical College (IVTC).

3. Identified the Vocational Director of each Indiana Secondary Area Career Center (ISACC).

4. Identified the largest comprehensive high school feeding into each ISACC.

5. Designed a suitable questionnaire instrument to be completed by the administrator and instructor respondents.

6. Conducted a pilot study with high school principals and instructors not included in the final study sample (twelve high schools that do not feed into ISACC).

7. Analyzed pilot study data.

8. Made necessary revisions in the questionnaire instrument.

9. Called each Vice-President, Director of Instruction, Vocational Director, or Principal for the following reasons:
   a. to explain the study
   b. to request the administrator's participation in the study
   c. to inquire as to instructor participation in the study
   d. to request instructor absence data necessary for the study
   e. to set up an appointment for the researcher to come to the
10. Wrote to the administrator to confirm the intent of the study, the procedures, and the appointment date. Two enclosures (see Appendix A) were included:
   a. Instructor Absence Record Sheet
   b. Instructor Low and High Absence Sheet
11. Administered the questionnaire in person to the sample of:
   a. 200 to 300 ISACC instructors and 25 ISACC Vocational Directors
   b. 200 to 300 high school instructors and 25 or more high school Principals and Vice- Principals
   c. 130 IVTC instructors and 13 IVTC Directors of Instruction
   d. 16 instructors in a small Indiana university and four Department Heads

The total number of administrators in the sample was 57; the total number of instructors in the sample was 686. The total sample of ISACC, comprehensive feeder high school, and IVTC administrators and instructors resulted in 743 respondents.

Questions to be Answered
1. Do instructors' descriptions agree with their administrator's description of management currently being used by their administrator?
2. Do educational units whose instructors and administrators agree on the management style currently being used by the administrator have lower instructor absenteeism?
3. Which management style maximizes instructor job satisfaction?
4. Which management style most effectively minimizes instructor absenteeism?

Objectives of the Study

The objectives of this study were to:

1. identify the management style currently being used by the school administrator
2. identify instructor absentee rates in the high schools and community colleges selected for the study
3. identify any discrepancies between instructors' and administrators' perceptions of the management style being used by the administrator
4. determine any relationships between the administrator's role perceptions of his/her management style and instructors' perceptions of the administrator's management style as related to absenteeism
5. identify linear relationships between perceived management style of the administrator and instructor satisfaction
6. identify the most effective management style as related to instructor absenteeism control
Hypotheses and Analyses

1. There are no significant differences among the means of high and low absence instructors' ratings and the administrators' mean ratings on the Administrative Policy subscale of the Instructional Environment Scale. This hypothesis was tested by means of the F-test at the .05 level.

2. There are no significant differences among the means of high and low absence instructors' ratings and the administrators' mean ratings on the Instructor Services subscale of the Instructional Environment Scale. This hypothesis was tested by means of the F-test statistic at the .05 level.

3. There are no significant differences among the means of high and low absence instructors' ratings and the administrators' mean ratings on the Personnel Services subscale of the Instructional Environment Scale. This hypothesis was tested by means of the F-test statistic at the .05 level.

4. The product-moment correlation between average Instructor Services subscale ratings by high absence instructors and administrators does not differ significantly from zero beyond that expected by chance at the 95 percent confidence level. This hypothesis was tested by the t-statistic at the .05 level.

5. The product-moment correlation between average Instructor Services subscale ratings by low absence instructors and administrators does not differ significantly from zero beyond that expected by chance at the 95 percent confidence level. This hypothesis was tested by the t-
statistic at the .05 level.

6. The product-moment correlation between average Instructor Services subscale ratings by combined instructor groups and administrators does not differ significantly from zero beyond that expected by chance at the 95 percent confidence level.

7. The product-moment correlation obtained in hypotheses four and five above do not differ beyond that expected by chance alone at the 95 percent confidence level.

8. The product-moment correlation between average Administrative Policy subscale ratings by high absence instructors and administrators does not differ significantly from zero beyond that expected by chance at the 95 percent confidence level.

9. The product-moment correlation between average Administrative Policy subscale ratings by low absence instructors and administrators does not differ significantly from zero beyond that expected by chance at the 95 percent confidence level.

10. The product-moment correlation obtained in hypotheses seven and eight above do not differ beyond that expected by chance alone at the 95 percent confidence level.

11. The product-moment correlation between the average Personnel Services subscale ratings by high absence instructors and administrators does not differ significantly from zero beyond that expected by chance at the 95 percent confidence level.

12. The product-moment correlation between the average Personnel Services subscale ratings by low absence instructors and administrators
does not differ significantly from zero beyond that expected by chance at the 95 percent confidence level.

13. The product-moment correlation obtained in hypotheses ten and eleven above do not differ beyond that expected by chance alone at the 95 percent confidence level.

14. When regressing the total instructor absence rate on a combination of the Instructional Environment subscale mean ratings of instructors, the semi-partial correlation coefficient for each subscale will not depart significantly from zero.

15. When regressing the total instructor absence rate on a combination of the Instructional Environment subscale ratings of administrative self ratings, the semi-partial correlation coefficient for each subscale will not depart significantly from zero.

**Exploratory Hypotheses**

1. There is no significant correlation between the variance of high absence instructor mean ratings on the Instructor Services subscale and total instructor absenteeism recorded for an educational unit.

2. There is no significant correlation between the variances of low absence instructor mean ratings on the Instructor Services subscale and total instructor absenteeism recorded for an educational unit.

3. There is no significant correlation between the variances of combined high and low absence instructor mean ratings on the Instructor Services Subscale and total instructor absenteeism recorded for an educational unit.

4. There is no significant correlation between the variance of high ab-
sense instructor mean ratings on the Administrative Policy subscale and total instructor absenteeism recorded for an educational unit.

5. There is no significant correlation between the variance of low absence instructor mean ratings on the Administrative Policy subscale and total instructor absenteeism recorded for an educational unit.

6. There is no significant correlation between the variance of combined high and low absence instructor mean ratings on the Administrative Policy subscale and total instructor absenteeism recorded for an educational unit.

7. There is no significant correlation between the variance of high absence instructor mean ratings on the Personnel Decisions subscale and total instructor absenteeism recorded for an educational unit.

8. There is no significant correlation between the variance of low absence instructor mean ratings on the Personnel Decisions subscale and total instructor absenteeism recorded for an educational unit.

9. There is no significant correlation between the variance of combined high and low absence instructor mean ratings on the Personnel Decisions subscale and total instructor absenteeism recorded for an educational unit.

Pilot Sample Selection and Administration

A sample of fourteen comprehensive high schools in southwestern Indiana was identified by James Nickell, Coordinator of Vocational Teacher In-Service Education, Indiana State University. Comprehensive high schools were selected for the sample to reserve all the high schools
The researcher called each high school principal identified to participate in the pilot study for the following five reasons:

1. to explain the study to the principal
2. to request principal participation in the pilot study
3. to inquire as to instructor participation in the pilot study
4. to request the instructor absence data necessary for the study
5. to set up an appointment for the researcher to come to the high school to collect the pilot data

The researcher followed up the telephone call with a letter confirming the intent of the study, the procedure, and the appointment date. Two enclosures (see Appendix A) were included:

1. Instructor Absence Record Sheet
2. Instructor Low and High Absence Sheet

Both forms were to be completed by the time of the arrival of the researcher at the high school.

Individual responses of principals varied. Differentiation between administrators could be observed in terms of the method of data collection utilized within each high school and principal responses to the investigator.

The principal responses varied from one principal's refusal to permit the researcher to collect the data in his high school to principals verbally expressing immense interest in the study and thanking the researcher for conducting such a worthwhile study.

Two of the fourteen originally identified principals called in to...
cancel the appointment for the researcher's arrival previously arranged by telephone. The principal reported having visited with the superintendent who reportedly preferred not to get involved. The researcher questioned the report, however, since another principal in the same district was able to keep the appointment with no problem.

The other principal met with the school board and a decision was reached to decline participation in the study for the following reasons:

1. They did not wish to release instructor absence data without instructor consent.
2. They wanted the instructors to be aware of the reason for their being selected to participate in the study.

The principals' approaches to their instructors concerning the study varied from not informing the instructors at all to asking instructors to report to school fifteen minutes early the morning the researcher was scheduled to arrive and allowing them to leave fifteen minutes early on the same day.

Three principals wrote notes to the selected instructors similar to the following note asking the instructors if they would be willing to participate.

Mr/Ms **********:
Indiana State University is in the process of conducting a survey pertaining to job satisfaction among teachers. In the near future Madalyn Binger will be in our school and will ask you to fill out a questionnaire. All responses are confidential.
Would you mind cooperating with this project?
Thanks.

One principal who had not notified the instructors of the research-
er's arrival personally took the researcher to the classrooms of the selected instructors to introduce the researcher to the instructors.

After making the introduction, the principal left to ensure privacy while the researcher explained the study to the instructors.

Another principal who had not notified the instructors of the researcher's arrival sent a student assistant with the researcher to assist in locating the selected instructors.

All principals provided a student assistant to help the researcher locate instructors and classrooms. In only one high school was it necessary for the researcher to ask for a student assistant after experiencing difficulty in trying to identify the correct instructors.

Faculty responses ranged from several instructors anxiously awaiting the arrival of the researcher in the main office at one high school to instructor disgust in one school in which they had not been notified in advance.

Instructors generally welcomed the researcher and the questionnaire. Instructors tended to express genuine interest in seeing the results of the study and acting upon the results.

Principal responses to the questionnaire varied from nervous apprehension concerning the results of the study to remarks such as "this looks like some valuable research for a change; I hope you do something with it."

The researcher noted that some principals informed the instructors that they would be participating while other principals asked the instructors if they would mind participating.
In three of the high schools, the researcher explained the questionnaire to the selected instructors as a group. In two of those three schools, the researcher suggested that the principal call the instructors together by intercom due to the fact that the appointment for the researcher was set for later afternoon when school was to be dismissed. The third principal decided to call the instructors in as a group before school started because the researcher was scheduled to arrive before classes started.

In the remaining nine high schools, the researcher went to each individual instructor's classroom to personally deliver and explain the questionnaire. The instructors were given an option of leaving the completed questionnaire in the main office with the secretary, leaving it in their boxes, or having the researcher return to the classroom at a specific convenient time to personally pick up the completed questionnaire. Approximately half of the instructors left their completed questionnaires in the main office for the researcher to collect.

In two of the high schools, instructors could not complete their questionnaires the same day, so these instructors were to leave their questionnaires with the secretary in the main office to be mailed to the researcher when all questionnaires had been received by the secretary.

Only one instructor in one school promised to mail the questionnaire to the researcher and neglected to do so. Therefore, all distributed questionnaires were received by the researcher with the exception of one.

In only two of the high schools was the researcher required to collect the instructor absence data, which required one hour of her time.
Several schools did not have the data collected when the researcher arrived but had a secretary in the main office collect the data while the researcher waited.

Overall response of administrators and instructors to the study was very positive, in the opinion of the researcher.

During the pilot study data collection, the researcher recorded the following information:

1. instructor absence categories utilized within each high school
2. the researcher's total in-service time (date, day, time)
3. number of completed questionnaires collected (Low/High Absence Instructors)
4. time required to collect instructor absence data
5. location of instructor absence records

The above information was collected to assist the researcher in anticipating the estimated amount of time needed to collect the data, any problems that could occur in the data collection, and to ensure that professional and personal categories of instructor absence were appropriately identified.

Identification of Population and Sample

The population for this study consisted of all high school principals and instructors employed full-time in Indiana and all Indiana Vocational Technical College administrators and full-time instructors. The entire population of thirteen Indiana Vocational Technical Colleges (IVTC) and twenty-six Secondary Area Career Centers in Indiana were used as the
sample. A sample of matching comprehensive feeder high schools was selected from the total population of Indiana high schools to correspond with the total number of Indiana Secondary Area Career Centers (ISACC). Thus twenty-six feeder high schools were used in the sample to match the twenty-six Secondary Area Career Centers. The largest feeder high school was selected from the total population of feeder high schools to function as a match for the ISACC.

Each ISACC Vocational Director was requested to provide the researcher with a list of their feeder high schools and the principal's name. The population of each feeder high school was then checked by the researcher in the Indiana 1979-80 Educational Directory. The feeder high schools with the largest numbers of students were then selected as the sample.

In addition, one small Indiana university was selected as part of the sample due to its student enrollment and vocational program being similar to that of the IVTC.

One administrator and eight instructors from each educational institution were desired as the minimal number of participants per institution for this study. Additional instructor and administrator respondents were welcomed when they could be available to the researcher. This minimal size of the instructor groups meets Stogdill's (1963) standard for the number of respondents for the Leadership Behavior Description Questionnaire - XII (LBDQ-XII). Although the LBDQ-XII has not been used as an instrument in this study, its standard deviation of five was anticipated to be similar to that of the questionnaire developed for use in this
Instructors participating in this study were to be selected by the participating administrators from their faculty on the basis of lowest and highest absence rates within the September - December, 1979, school semester. If secondary administrators were not willing to provide high and low instructor absence information, the researcher utilized two alternative methods to obtain the high and low instructor participants. One of the following two alternate methods was selected depending on which method the cooperating administrator preferred:

1. approaching all instructors with a questionnaire as they reported to the school building and checked their boxes before classes started in the morning; the researcher asked the instructors to return the completed questionnaire to the researcher by noon of the same day.

2. randomly selecting instructors who had planning periods when the researcher was scheduled to arrive at the school building and asking them to return the questionnaire completed either on the same day or at a future date scheduled by the researcher for a return trip.

Twenty to forty respondents were desirable when these two later methods of data collection were utilized to assure a minimum of three to four respondents in the high and low absence groups.

When the entire faculty was smaller than twenty, the researcher attempted to be scheduled at a faculty meeting so all instructors could respond to the questionnaire. This method was useful particularly with
educational institutions that could not or would not identify high/low instructor groups of instructors.

Each instructor respondent was asked to complete one 10 - 15 minute questionnaire. Each administrator respondent was asked to complete a corresponding 10 - 15 minute questionnaire plus a total instructor absence sheet and a high/low instructor absence sheet. The subjects were assured that all information obtained was confidential. Although "names of instructors" appeared on the high/low instructor absence sheet, if names were provided, they were immediately returned to the administrator to assure confidentiality.

In completing the total instructor absence information sheet, the administrators were instructed to include all instructor absences except those required by the administrator for professional purposes. Absences of one-half day or more were to be recorded.

Description of Concepts Used to Develop the Questionnaire

The administrator's management style was believed to include three major categories including instructor services, administrative policy, and personnel services.

Concept 1

Instructor services included instructor responsibilities such as instruction, discipline of students, homeroom, cafeteria supervision, hall duty, bus monitoring, student counseling and guidance, and PTA.
Concept 2

Administrative policy included rules and regulations concerning what is to be done when various phenomenon occur, such as student misbehavior and absence, instructor absence, instructor personal behavior and operation of vehicles and equipment, transfer and admission policies, class scheduling, instructor arrival and departure times, parental contacts, assemblies, suspension and expulsion of students.

Concept 3

Personnel decisions included all administrative functions relating to personnel such as in-service training, professional leave and travel, salaries, assignment coordination, promotion, and convention attendance.

These three categories analyzed individually and collectively determined the management style being used by the administrator.

Additional variables related to instructor and school characteristics were believed to influence instructor job satisfaction and instructor absenteeism. Job satisfaction was divided into the following categories.

Concept 4

Job satisfaction as related to relationships with other instructors. The relationship which instructors had with each other was believed to influence the degree to which an instructor was satisfied with his/her job. The more positive the relationship with other instructors, the higher the instructor job satisfaction was estimated to be.

Concept 5

Job satisfaction as related to relationships with students. The relationship which instructors had with their students was believed to
influence the degree to which an instructor was satisfied with his/her job. The more cooperative the students, the higher the instructor job satisfaction was estimated to be.

**Concept 6**

Job satisfaction as related to relationships with administrators. The relationship which instructors had with their administrators was believed to influence the degree to which an instructor was satisfied with his/her job. The more open the communication between administrator and instructor and the greater the amount of feedback between instructor and administrator, the greater the job satisfaction.

**Concept 7**

Job satisfaction as related to relationships with the community. The relationship which instructors had with community members was believed to influence the degree to which an instructor is satisfied with his/her job. The more supportive the community was of the instructor and the role of the instructor as a community leader, the greater the job satisfaction of the instructor.

**Concept 8**

Job satisfaction as related to instructor salary. The degree to which the instructor felt s/he was being paid adequately for services rendered was believed to influence the degree to which an instructor was satisfied with his/her job. Although job satisfaction was not considered to increase with higher salaries, when an instructor was being paid an amount of salary commensurate with individual aspirations, satisfaction was believed to increase.
Concept 9

Job satisfaction as related to class schedule. The degree to which an instructor was satisfied with his/her teaching schedule was believed to influence the degree to which an instructor was satisfied with his/her job. The greater the degree to which an instructor's schedule coordinated with the individual instructor's personal desires, the greater the degree of job satisfaction.

The following subscales were developed during the pilot study analysis as a result of the factor analysis and reliability analyses of items derived from the above concepts:

1. Instructor Services A, Job Assignment Attributes (ISA)
2. Instructor Services B, Personal Potency (ISB)
3. Personnel Services A, Evaluation (PSA)
4. Personnel Services B, Professional Development and Operational Structure (PSB)
5. Combined scales PSA and PSB
6. Combined scales ISA and ISB

The above subscales were believed to be an important part of the administrator's management style. The revised Pilot Instructional Environment Scale can be found in Appendix D. Three subscales included in the scale were:

1. Administrative Policy
2. Combined Instructor Services
3. Combined Personnel Services

The items included in each of these subscales and the indication of
scoring direction are found in Appendix C.

Review of Previous Instruments

Several studies measured similar data to be included in this study. The instruments used in other studies were evaluated for use in this study. The following instruments were given strongest consideration:

1. Organizational Climate Description Questionnaire
2. Purdue Teacher Opinionnaire
3. Leader Behavior Description Questionnaire - XII

Descriptions of these instruments follows.

On the basis of an extensive review of the literature concerning industrial absence, instructor absence, and climate of organizations, studies involving morale and administrative styles, it was hypothesized that factors associated with organizational climate and instructor morale would relate to instructor absence frequency. Such an hypothesis needed to be tested with an instrument that would measure organizational climate of the educational institution and instructor morale within the school. The Organizational Climate Description Questionnaire developed by Andrew Halpin and Donald Croft and the Purdue Teacher Opinionnaire developed by Ralph Bentley and Averno Rempel were thus considered.

The Purdue Teacher Opinionnaire was designed as a one-hundred (100) item instrument to provide a measure of instructor morale. The opinionnaire yielded a total score indicating the general level of a teacher's morale (Bentley and Rempel, 1970). It provided meaningful subscores which subdivided morale into ten categories:
1. Instructor Rapport with Principal
2. Satisfaction with Teaching
3. Rapport Among Instructors
4. Instructor Salary
5. Instructor Load
6. Curriculum Issues
7. Instructor Status
8. Community Support of Education
9. School Facilities and Services
10. Community Pressures

Internal consistency item analysis with Kuder-Richardson internal consistency coefficients ranged from .79 to .98 with an overall reliability of .96. The one hundred forty-five (145) item instrument was validated against peer judgments made by fellow instructors. On the basis of peer judgments, "high," "middle," and "low" instructor morale groups were identified. To determine the instrument's validity against the peer judgment criterion, mean Opinionnaire scores were calculated for each of these groups. Differences among the three groups were in the expected direction and significant beyond the .05 level of significance. Due to the fact that the questionnaire did not measure administrative management styles, however, and was unsuitable for the combination of educational institutions in our sample, the questionnaire could not be utilized for this study.

Leader Behavior Description Questionnaire - XII

The Leader Behavior Description Questionnaire - XII (LBDQ-XII) was
considered for usage in this study. It was developed for use in obtaining descriptions of superiors from the group members under their supervision. According to Stogdill (1963), its developer, the LBDQ-XII:

> can be used to describe the behavior of ... leaders in any type of group or organization, provided the followers have had an opportunity to observe the leader in action as a leader of their group.

With appropriate modification, the instrument can also be used by a leader to describe his/her own behavior (Stogdill, 1963). The instrument was an outgrowth of the Ohio State Leadership Studies initiated in 1945. The instrument has evolved through several stages from its initial inception in 1949 to the present LBDQ-XII.

The Ohio State University Leadership Studies developed a list of approximately 1,800 items describing different aspects of leader behavior. This list was reduced to 150 items on nine subscales of leader behavior, from which the first LBDQ was developed (Stogdill, 1963). The original LBDQ was later refined to actually represent two aspects of leader behavior, i.e., consideration and initiation of structure. This LBDQ with two subscales consisted of 40 questions with 15 items to measure consideration, 15 items to measure initiation of structure, and 10 buffer items (Halpin, 1966).

Stogdill (1963), however, contended that it was unreasonable to expect only two factors to account for all the observed variance in leader behavior. Stogdill stated (1963): "results of research and experimentation tend to support the theoretical formulation" of the LBDQ-XII. As a result, the number of items in the LBDQ which measured initiating structure and consideration were reduced, and 10 new subscales were added.
The 12 subscales gave rise to the multidimensional LBDQ-XII.

The LBDQ-XII consists of 100 items describing leader behavior. Each item was answered by one of five possible responses: always, often, occasionally, seldom, and never. Each item is scored on a 1 to 5 or 5 to 1 scale. The score for each subscale was determined by summing up the total items for that subscale. The following twelve dimensions of leader behavior were defined in the LBDQ-XII: representation, demand reconciliation, tolerance of uncertainty, persuasiveness, initiation of structure, tolerance of freedom, role assumption, consideration, production emphasis, predictive accuracy, integration, and superior orientation.

Stogdill (1963) explained the procedure for obtaining the reliability of the subscales as follows:

The reliability of the subscales was determined by a modified Kuder-Richardson formula. The modification consists in the fact that each item was correlated with the remainder of the items in its subscale rather than with the subscale score including the item. This procedure yields a conservative estimate of subscale reliability.

The LBDQ-XII reliability has been measured in use by the military, education, and industry. The resulting reliability coefficients ranged from .54 to .91 for eight different groups of leaders.

Statisticians found coefficients for one-, two-, and three-month intervals to vary between .57 and .72 for Structure and between .71 and .79 for Consideration. Overall, test-retest reliability of the Ohio scales has not been adequately demonstrated (Kerr and Schriesheim, 1974).

While the four versions were substantially different psychometrically, they all required additional validation evidence before it can be concluded that they measured what they purported to measure (Kerr and Schriesheim,
Due to low reliability and validity evidence, the LBDQ-XII was not used in this study.

Demographic Variables

On the basis of the findings in the review of literature, certain demographic variables were believed to have an effect on instructor job satisfaction and absence. The demographic variables considered in this study include sex, age, marital status, number of children, number of years teaching in the present school system, total number of years teaching experience, size of school, number of years anticipating staying in the system, highest level of educational preparation, union activity or commitment, major discipline taught, average class size, number of hours spent on professional duty per week, instructor health and administrator health, number of formal special education courses taken, status of personal professional development plans, distance from residence to school and method of transportation to place of work, number of hours spent in additional employment per week, average number of classes taught.

The following effects were anticipated:

1. larger schools would have higher rates of instructor absenteeism
2. larger classes would tend to increase instructor absenteeism
3. union strength would tend to increase instructor absenteeism
4. adequacy of resources minimized instructor absenteeism
5. satisfaction was greater when desired subjects were taught
6. greater numbers of years of teaching tended to reduce absentee-
ism

7. females were expected to have higher absentee rates than males
8. older instructors were expected to have higher rates of absence
9. proximity of residence to school minimized instructor absence
10. the higher the educational level, the lower the absentee rate observed
11. the greater the number of voluntary service hours, the lower the absence rate observed

Development of Instrument

Due to the lack of a suitable instrument for usage in this study, a questionnaire was developed by writing a collection of items to be used in writing the questions. The questionnaire was developed after analysis of the literature on instructor absence, administrator management styles, and educational institution climate. The questionnaire was designed to obtain background information concerning the educational institution, the administrators, and the instructors.

The list of items was examined by Dr. William Miller and the researcher for content inclusion essential for the instrument being developed for the study.

The items to be included were then written in question format appropriate for the sample being used.

All items were divided in three categories of

1. IS (Instructor Services)
2. AP (Administrative Policy)
3. PS (Personnel Services)
Classification of the items into categories was based on intra and inter rater reliability of the researcher and her major professor.

Two different forms of the instrument were developed. One form was developed for instructors and one form was developed for administrators. The questions were matched when corresponding questions were asked of both instructors and administrators. On the pilot questionnaire, Part A, numbers 1 - 49 matched, Part B, Part C, and Part D, numbers 1 - 16 matched. Questions pertaining to only instructors or administrators were added at the end of each section (see Appendix B).

Eight instructors and five administrators were asked to review the instrument for suitability. In addition, a panel of nine Ph.D. graduate students in the Educational Administration Department at Indiana State University was asked to review the instrument for suitability.

Responses resulted in reorganization of the pilot questionnaire of eight pages into the final questionnaire of six pages (see Appendix D).

Analysis of the pilot questionnaire

Construction of conceptual categories The researcher and her major professor found it helpful to break the three initial subscales down further into sixteen specific categories including:

1. Operational Structure: Written policies and procedures concerning personnel recruitment and retention, legal requirements, fiscal requirements, physical facilities, student admission and instruction.

2. Operational Processes: Administrative procedures used to hire, assign and promote personnel, allocate funds, develop curricula, evaluate personnel, insure safety, schedule activities, disseminate information, and insure accountability.

3. Administrator Relationships: Relationships between supervisor and supervisee including communications, support, trust, and
perceptions of competence, fairness and knowledge of each other.

4. **Job Assignment Attributes**: Characteristics of one's job such as difficulty, boredom, feelings of competence and security, distractions, achievement and freedom of decisions.

5. **Peer Relations**: Faculty peer relationships involving communication, approval, shared responsibility, morale, competence, competition and support.

6. **Faculty-Student Relations**: Faculty attitudes and perceptions of students including student abilities, discipline, rapport, numbers of students, student's parents, fear of students and approval of students.

7. **Physical Plant Attributes**: Characteristics of the physical plant such as adequacy of space, repair condition, location, appropriateness, appearance and physical comfort.

8. **Equipment and Supplies**: Attributes included are adequacy, amount, quality and availability.

9. **Personnel Organizations**: This category is descriptive of professional and social organizations of faculty and includes purposes of an organization, degree of participation, homogeneity of members' values, size of the organization and effectiveness.

10. **Professional Employee Characteristics**: These items are descriptive of staff levels of training, years of experience, breadth of experience, participation in professional organizations, and levels of expertise.

11. **Homogeneity of Purpose**: Schools may be described by the degree to which their academic program varies in purpose such as terminal versus preparatory, breadth of course offerings, region of standards for achievement and specialization of staffing.

12. **Vocational-Professional Emphasis**: Indicators of the degree to which the academic program is oriented to vocational preparation versus general or professional preparation including percentage of vocationally certified instructors, vocational courses, vocational expenditures and percentage of students entering non-professional employment.

13. **Student Characteristics**: Biographical descriptions of the student body including ethnic composition, sex composition, parental incomes, average achievement, mobility, values, etc.
14. **Non-academic Services:** The degree to which the educational institution provides housing, health, food, recreational, religious, police, and psychological services to students.

15. **Student Orientation:** The degree to which the institution permits student self-advising, freedom to determine their own curriculum, requirements for attendance, self-government, independent study, etc.

16. **Faculty Attitudes:** The degree to which instructors exhibit high or low morale, perceive positive or negative general working atmosphere and value orientation.

**Reliability analysis**

The Cronbach Alpha reliability coefficient was obtained for each subscale using the Model-Alpha reliabilities program of SPSS.

**Multiple correlation**

Both simple and multiple correlation analyses were performed to establish predictive validity of the redefined subscales. The criterion of interest to validate the instrument was the instructor absence rate, which was correlated with each of the three new subscales and the demographic data also believed to contribute to the prediction of instructor absence.

**Analysis of variance**

Since several of the hypotheses of this study were concerned with the relationship of administrators' self-perceptions to those of their supervised instructors, a one-way analysis of variance was performed to examine the differences among the mean scale scores obtained by administrators, high absence instructors, and low absence instructors. Scale A included administrators while subscales PSA, PSB, ISA, and ISB included only low and high absence instructors. Analyses of variance were per-
formed for each subscale.

The results of the pilot data statistical analysis can be found in Chapter 4. Based on the factor analytic results, it was established that additional items were required in two of the major classifications, IS and PS. These items were constructed and the questionnaires were revised.

Instructional Environment Scale

The Instructional Environment Scale that was developed on the basis of the pilot questionnaire analysis included the following subscales:

1. Administrative policy
2. Instructor services
   a. Job assignment attributes
   b. Personal potency
3. Personnel services
   a. Evaluation
   b. Professional development

Items were added so the revised scale included twenty-nine Administrative items; nine Instructor Services A, Job Assignment Attributes; nine Instructor Services B, Personal Potency Attributes; nine Personnel Services A, Evaluation items; and fifteen Personnel Services B, Professional Development items.

Scoring

All items in Part A were scored by a number of 1 to 5 representing the following:
1 = strongly disagree
2 = disagree
3 = neither agree nor disagree
4 = agree
5 = strongly agree

All items in Part B and the Demographic Data were scored by a multiple choice selection ranging from A to E. The four items in Part C were scored on a continuum of A to E, according to the scale below.

<table>
<thead>
<tr>
<th>Very little</th>
<th>Somewhat</th>
<th>Quite a bit</th>
<th>Very much</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>E</td>
</tr>
</tbody>
</table>

One item in Part C was scored on the following continuum:

Predominantly by Administrators

Cooperatively by Faculty and Administrators

<table>
<thead>
<tr>
<th>Predominantly by</th>
<th>Cooperatively by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrators</td>
<td>Faculty and Administrators</td>
</tr>
<tr>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>C</td>
<td>D</td>
</tr>
<tr>
<td>E</td>
<td></td>
</tr>
</tbody>
</table>

Coding

All test scores, instructor and administrator ratings, and demographic data were coded on optical scan sheets and later transformed to magnetic tape images. The instructor absence data was key punched.

Major Data Analysis Procedures

Prior to performing the tests of hypotheses 1 to 15 described on pages 153 to 155 and analyses for the exploratory hypotheses 1 to 9 (pages 155 and 156), the following analyses were performed:

1. a principal component factor analysis and varimax rotation of the 92 items of the Instructional Environment Scale using PA2
of SPSS.

2. a reliability analysis of each of the three subscales using the model Alpha of the SPSS RELIABILITIES program.

3. the calculation of means and standard deviations for the high absence and low absence teacher groups within each school on the three subscales of the IES.

4. calculation of the three subscales of the IES for each school administrator.

5. calculation of the ratio of absences to number of faculty for each day of the week across the months of September, October, November, and December in each school.

Following the above preliminary computations, the results obtained for each school were coded and processed using the Educational Statistics Programs (Miller, 1979) on an Altair 8800A Microcomputer.

Hypotheses 1 to 3 were tested by the F-statistic obtained from a single classification (one-way) analysis variance. Hypotheses 4 to 13 were tested using the t-statistic for the null hypothesis that a population correlation equals zero (0). The formula used was

\[ t = \frac{r}{\sqrt{\frac{r-r^2}{N-2}}} \]  

(See Hays, 1963, page 521)

Hypotheses 14 and 15 were tested using the F-statistic obtained from multiple regression analysis. All tests performed were completed at the .05 level of significance.

A final analysis performed was a multiple regression analysis of self-reported instructor absence on the biographical items 72-91 of the IES.
CHAPTER IV. PILOT DATA ANALYSIS AND FINDINGS

The research results are summarized in two parts. Chapter IV reports the completion of the pilot study and develops a theoretical framework for the major data analyses. Chapter V reports the results of analyses for testing the major hypotheses of the study.

Objectives of the Pilot Study

The objectives of the pilot study included the following:

1. to test the data collection procedures and instrument acceptability
2. to determine the face validity of the conceptual subscales
3. to obtain empirical validity for the conceptual subscales
4. to obtain a reliability estimate of the subscales
5. to determine predictive validity of the subscales
6. to determine congruence of self and other subscale ratings
7. to revise and expand the original questionnaire instrument

Classification analysis

Judges were obtained to classify each of the questionnaire items into the "most likely category" and the "next most likely category" among the sixteen categories constructed on the basis of item content (see Chapter III, pages 174-176).

The judges included nine graduate students from Iowa State University's Industrial Education Department and five graduate students from Indiana State University's Educational Administration Department. The directions and the instrument given to the judges can be found in
Appendix C.

The criterion of at least fifty percent of correct classification was arbitrarily selected for validation of the items in each of the categories. Forty-eight of the sixty-nine items fell above the fifty percent cutoff.

Factor analysis

In addition to the use of judges to validate the placement of items into intended conceptual scales, a principal components factor analysis with varimax rotation was performed on data obtained from twelve pilot test sites. The factor analysis program PAI from the SPSS package was used to analyze the items. Seventeen factors containing two or more items were obtained.

The minimum eigenvalue selected to stop factoring was 1.0. The initial communality estimates used were equal to one. A more complete description of the pilot test sites and administration of the pilot instrument was provided in the section entitled Pilot Sample Selection and Administration in Chapter III.

Factor analysis of the items resulted in a major factor, labeled "administrative relations," that contained items in common with the conceptually defined subscale three, "administrator relationships."

All items except three previously classified by the judges were contained in this scale. Two of the items had been placed by the judges into subscale category sixteen, but loaded on subscale three more than on any of the other subscales. Therefore, the two items were added into subscale three. The items of this factor, their correlations with the factor, and their corresponding conceptual subscale categories are listed in the
Table 2. The following items were included in the Administrative Relations subscale; pilot and final questionnaire items numbers, conceptual categories, descriptive statements, factor loadings, and item-total correlations are provided.

<table>
<thead>
<tr>
<th>Final Questionnaire Item No.</th>
<th>Pilot Questionnaire Item No.</th>
<th>Conceptual Categories</th>
<th>Descriptive Statement</th>
<th>Factor Loading</th>
<th>Item-Total(r)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>65</td>
<td>3</td>
<td>administrators interested in instructor success</td>
<td>.80</td>
<td>0.740</td>
</tr>
<tr>
<td>64</td>
<td>68</td>
<td>3</td>
<td>character and amount of interaction between administrators and instructors</td>
<td>.78</td>
<td>0.707</td>
</tr>
<tr>
<td>(revised)</td>
<td>62</td>
<td>3</td>
<td>rating of overall central administrative support</td>
<td>.77</td>
<td>0.709</td>
</tr>
<tr>
<td>64</td>
<td>66</td>
<td>3</td>
<td>administrator knowledge of instructors' problems</td>
<td>.73</td>
<td>0.647</td>
</tr>
<tr>
<td>(revised)</td>
<td>58</td>
<td>3</td>
<td>freedom to talk to supervisor about academic matters</td>
<td>.72</td>
<td>0.617</td>
</tr>
<tr>
<td>-</td>
<td>57</td>
<td>3</td>
<td>confidence and trust in administrators</td>
<td>.71</td>
<td>0.710</td>
</tr>
<tr>
<td>64</td>
<td>57</td>
<td>3</td>
<td>meetings relating to professional ethics/behavior</td>
<td>.67</td>
<td>0.687</td>
</tr>
<tr>
<td>(revised)</td>
<td>81</td>
<td>3</td>
<td>team work versus each working for self</td>
<td>.67</td>
<td>0.658</td>
</tr>
<tr>
<td>14</td>
<td>24</td>
<td>3</td>
<td>administrator behavior to encourage discussions about work</td>
<td>.67</td>
<td>0.663</td>
</tr>
<tr>
<td>70</td>
<td>74</td>
<td>3</td>
<td>information widely sought and shared</td>
<td>.66</td>
<td>0.700</td>
</tr>
<tr>
<td>12</td>
<td>23</td>
<td>3</td>
<td>instructors asked for input before decisions made that affect them</td>
<td>.65</td>
<td>0.630</td>
</tr>
<tr>
<td>10</td>
<td>22</td>
<td>3</td>
<td>methods of handling disagreements/differences</td>
<td>.61</td>
<td>0.621</td>
</tr>
<tr>
<td>59</td>
<td>55</td>
<td>3</td>
<td>administrator help in professional development</td>
<td>.59</td>
<td>0.688</td>
</tr>
<tr>
<td>-</td>
<td>59</td>
<td>3</td>
<td>freedom to talk with supervisor about non-academic matters</td>
<td>.57</td>
<td>0.589</td>
</tr>
<tr>
<td></td>
<td></td>
<td>16&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Description</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---------------</td>
<td>------------------------------------------------------------------------------</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>65</td>
<td>69</td>
<td></td>
<td>morale contribution of decision-making process</td>
<td>.56</td>
<td>0.592</td>
</tr>
<tr>
<td>43</td>
<td>43</td>
<td>16&lt;sup&gt;a&lt;/sup&gt;</td>
<td>activities well organized</td>
<td>.55</td>
<td>0.475</td>
</tr>
<tr>
<td>49</td>
<td>48</td>
<td>3</td>
<td>interdepartmental communication</td>
<td>.54</td>
<td>0.569</td>
</tr>
<tr>
<td>31</td>
<td>36</td>
<td>3</td>
<td>getting ideas/suggestions across to administrator</td>
<td>.46</td>
<td>0.481</td>
</tr>
<tr>
<td>28</td>
<td>34</td>
<td>3</td>
<td>influencing administrator's decisions</td>
<td>.45</td>
<td>0.562</td>
</tr>
<tr>
<td>35</td>
<td>39</td>
<td>3</td>
<td>administrator assistance in difficult situations</td>
<td>.44</td>
<td>0.470</td>
</tr>
<tr>
<td>3</td>
<td>7</td>
<td>3</td>
<td>instructors encouraged to act the same around administrators as around peers</td>
<td>.39</td>
<td>0.328</td>
</tr>
<tr>
<td>29</td>
<td>35</td>
<td>3</td>
<td>administrator asking instructor's opinion in problem</td>
<td>.38</td>
<td>0.503</td>
</tr>
<tr>
<td>5</td>
<td>15</td>
<td>3</td>
<td>administrator telling instructor how well instructor is performing</td>
<td>.34</td>
<td>0.380</td>
</tr>
</tbody>
</table>

<sup>a</sup> While these items were classified as 16 in the "most likely category," the second "most likely category" was category 3.
Table 3. The following items were included in the Instructor Services, Job Assignment Attributes (ISA) subscale; item numbers, conceptual categories, descriptive statements, factor loadings, and item-total correlations (r) are provided.

<table>
<thead>
<tr>
<th>Final Questionnaire Item No.</th>
<th>Pilot Questionnaire Item No.</th>
<th>Conceptual Categories</th>
<th>Descriptive Statement</th>
<th>Factor Loading</th>
<th>Item-Total (r)</th>
</tr>
</thead>
<tbody>
<tr>
<td>69</td>
<td>73</td>
<td>4</td>
<td>extent instructors determine what hours they will teach</td>
<td>.70</td>
<td>0.473</td>
</tr>
<tr>
<td>67</td>
<td>70</td>
<td>4</td>
<td>extent instructors determine what subject courses they will teach</td>
<td>.66</td>
<td>0.646</td>
</tr>
<tr>
<td>-</td>
<td>72</td>
<td>4</td>
<td>extent instructors determine what sections they will teach</td>
<td>.66</td>
<td>0.405</td>
</tr>
<tr>
<td>17</td>
<td>26</td>
<td>4</td>
<td>extent to which position provides opportunity to teach preferred subjects</td>
<td>.63</td>
<td>0.619</td>
</tr>
<tr>
<td>15</td>
<td>25</td>
<td>4</td>
<td>administrator and instructors cooperatively determine courses taught</td>
<td>.57</td>
<td>0.696</td>
</tr>
</tbody>
</table>

OVERALL ISA RELIABILITY 0.792
Table 4. The following items were included in the Instructor Services, Personal Potency (ISB) subscale; item numbers, conceptual categories, descriptive statements, factor loadings, and item-total correlations are provided.

<table>
<thead>
<tr>
<th>Final Questionnaire Item No.</th>
<th>Pilot Questionnaire Item No.</th>
<th>Conceptual Categories</th>
<th>Descriptive Statement</th>
<th>Factor Loading</th>
<th>Item-Total(r)</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 (revised)</td>
<td>61</td>
<td>6</td>
<td>extent instructors determine responsibilities regarding student discipline and honesty</td>
<td>.70</td>
<td>0.485</td>
</tr>
<tr>
<td>8</td>
<td>19</td>
<td>16</td>
<td>dread coming to work each day</td>
<td>.50</td>
<td>0.465</td>
</tr>
<tr>
<td>68</td>
<td>71</td>
<td>16</td>
<td>extent instructors determine what subject content they will teach</td>
<td>.45</td>
<td>0.437</td>
</tr>
<tr>
<td>1</td>
<td>4</td>
<td>16</td>
<td>instructors have clear planned goals for their teaching</td>
<td>.45</td>
<td>0.288</td>
</tr>
<tr>
<td>26</td>
<td>33</td>
<td>16</td>
<td>instructors have influence on what goes on in the school</td>
<td>.36</td>
<td>0.519</td>
</tr>
</tbody>
</table>

OVERALL ISB RELIABILITY 0.671
Table 5. The following items were included in the Personnel Services, Evaluation (PSA) subscale; item numbers, conceptual categories, descriptive statements, factor loadings, and item-total correlations (r) are provided.

<table>
<thead>
<tr>
<th>Final Questionnaire Item No.</th>
<th>Pilot Questionnaire Item No.</th>
<th>Conceptual Categories</th>
<th>Descriptive Statement</th>
<th>Factor Loading</th>
<th>Item-Total (r)</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>32</td>
<td>2</td>
<td>administrator holds &quot;loss of job&quot; over instructor's head as incentive to work hard and improve</td>
<td>.75</td>
<td>0.592</td>
</tr>
<tr>
<td>22</td>
<td>31</td>
<td>2</td>
<td>quite likely that administrator will evaluate instructor's performance lower than it should be</td>
<td>.63</td>
<td>0.549</td>
</tr>
<tr>
<td>56</td>
<td>14</td>
<td>2</td>
<td>promotion or raise evaluation is known by instructor</td>
<td>.57</td>
<td>0.450</td>
</tr>
<tr>
<td>47</td>
<td>47</td>
<td>2</td>
<td>administrator is rarely receptive to instructor ideas and suggestions</td>
<td>.50</td>
<td>0.431</td>
</tr>
<tr>
<td>20</td>
<td>27</td>
<td>2</td>
<td>administrator is good in dealing with people</td>
<td>.46</td>
<td>0.439</td>
</tr>
<tr>
<td>51</td>
<td>49</td>
<td>2</td>
<td>if department or school performance drops, release or transfer is likely</td>
<td>.39</td>
<td>0.282</td>
</tr>
</tbody>
</table>

OVERALL PSA RELIABILITY 0.719
Table 6. The following items were included in the Personnel Services, Professional Development and Operational Structure (PSB) subscale; item numbers, conceptual categories, descriptive statements, factor loadings, and item-total correlations (r) are provided.

<table>
<thead>
<tr>
<th>Final Questionnaire Item No.</th>
<th>Pilot Questionnaire Item No.</th>
<th>Conceptual Categories</th>
<th>Descriptive Statement</th>
<th>Factor Loading</th>
<th>Item-Total(r)</th>
</tr>
</thead>
<tbody>
<tr>
<td>55</td>
<td>54</td>
<td>1</td>
<td>financial support available for professional development</td>
<td>.80</td>
<td>0.458</td>
</tr>
<tr>
<td>53</td>
<td>53</td>
<td>1</td>
<td>release time available for professional development</td>
<td>.57</td>
<td>0.467</td>
</tr>
<tr>
<td>39</td>
<td>40</td>
<td>1</td>
<td>written and verbal policies in contradiction</td>
<td>.52</td>
<td>0.587</td>
</tr>
<tr>
<td>45</td>
<td>44</td>
<td>1</td>
<td>instructors told essentials needed to perform in best possible way</td>
<td>.45</td>
<td>0.394</td>
</tr>
<tr>
<td>54</td>
<td>9</td>
<td>1</td>
<td>written school policies contradictory</td>
<td>.41</td>
<td>0.600</td>
</tr>
</tbody>
</table>

OVERALL PSB RELIABILITY 0.738
order of factor loadings from highest to lowest in Table 2. Tables 3 through 6 present the items and their factor loadings for the remaining four factors obtained in the factor analysis.

Reliability analyses

Each of the five subscales derived from the classification and factor analyses were analyzed for internal consistency reliability using the RELIABILITIES program of SPSS. The Cronbach Alpha reliabilities obtained for each subscale are presented in Table 7 below:

Table 7. Pilot questionnaire subscale reliability

<table>
<thead>
<tr>
<th>Scale</th>
<th>Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Administrative Relations</td>
<td>.923</td>
</tr>
<tr>
<td>2. Instructor Services A (ISA), Job Assignments</td>
<td>.792</td>
</tr>
<tr>
<td>3. Instructor Services B (ISB), Personal Potency</td>
<td>.671</td>
</tr>
<tr>
<td>4. Personnel Services A (PSA), Evaluation</td>
<td>.719</td>
</tr>
<tr>
<td>5. Personnel Services B (PSB), Professional Development</td>
<td>.738</td>
</tr>
<tr>
<td>6. Combined PSA and PSB</td>
<td>.763</td>
</tr>
<tr>
<td>7. Combined ISA and ISB</td>
<td>.810</td>
</tr>
</tbody>
</table>

Due to the increased reliability obtained by combining PSA and PSB or ISA and ISB, these combinations were utilized in the final data collection.

Multiple correlation

In order to establish predictive validity of the redefined subscales, both simple and multiple correlation analyses were performed. The
criterion of interest to validate the instrument was the absence rate observed among instructors. This criterion was correlated with each of the three new subscales and demographic data thought to also contribute to the prediction of instructor absence (see Table 8).

The product-moment correlations between instructor absence and each of the five subscales are reported below.

Table 8. Product-moment correlations between instructor absence and each of the five subscales (N=136)

<table>
<thead>
<tr>
<th>Title</th>
<th>Scale</th>
<th>Pearson Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative Relations</td>
<td>A</td>
<td>-.22*</td>
</tr>
<tr>
<td>Instructor Services</td>
<td>ISA</td>
<td>-.00</td>
</tr>
<tr>
<td></td>
<td>ISB</td>
<td>-.25*</td>
</tr>
<tr>
<td>Evaluation</td>
<td>PSA</td>
<td>.02</td>
</tr>
<tr>
<td>Professional Development and Operational Structure</td>
<td>PSB</td>
<td>-.10</td>
</tr>
</tbody>
</table>

* Probability < .05.

Multiple regression results for predicting absence by a combination of each scale and the demographic data are reported in Table 9.

It may be observed that significant correlations were obtained between absence and subscales Administrative Relations (A), Job Assignment Attributes (ISA), and demographic items concerning health (104), age (90), anticipated years in the system (95), and level of preparation (96).

Individual items and demographic data which correlated significantly (.05 level) with absence are presented in Table 10.
Table 9. Multiple regression of absence on demographic variables and subscales of the pilot questionnaire

\[ R^2 = .289 \quad F_{21,92} = 1.782^* \]

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beta</th>
<th>Std. Error B</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>0.22589</td>
<td>0.14011</td>
<td>4.612*</td>
</tr>
<tr>
<td>Administrative relations</td>
<td>-0.43617</td>
<td>0.01001</td>
<td>7.897*</td>
</tr>
<tr>
<td>Years staying in system</td>
<td>-0.23423</td>
<td>0.12815</td>
<td>5.638*</td>
</tr>
<tr>
<td>Age</td>
<td>-0.15225</td>
<td>0.09038</td>
<td>1.903</td>
</tr>
<tr>
<td>Highest level preparation</td>
<td>0.22165</td>
<td>0.14027</td>
<td>4.146*</td>
</tr>
<tr>
<td>Instructor Services, Job Assignment attributes</td>
<td>0.20677</td>
<td>0.02421</td>
<td>3.358*</td>
</tr>
<tr>
<td>Average class size</td>
<td>0.17520</td>
<td>0.08148</td>
<td>3.233</td>
</tr>
<tr>
<td>Union activity</td>
<td>-0.07433</td>
<td>0.10225</td>
<td>0.548</td>
</tr>
<tr>
<td>Sex</td>
<td>0.13505</td>
<td>0.17372</td>
<td>1.910</td>
</tr>
<tr>
<td>Years in present school</td>
<td>-0.16119</td>
<td>0.12323</td>
<td>1.504</td>
</tr>
<tr>
<td>Distance from residence to school</td>
<td>-0.10516</td>
<td>0.08848</td>
<td>1.135</td>
</tr>
<tr>
<td>Personnel Services Professional Development and Operational Structure</td>
<td>0.11455</td>
<td>0.02620</td>
<td>0.935</td>
</tr>
<tr>
<td>Number of children</td>
<td>0.07026</td>
<td>0.12565</td>
<td>0.423</td>
</tr>
<tr>
<td>Personnel Services Evaluation</td>
<td>0.10092</td>
<td>0.02741</td>
<td>0.695</td>
</tr>
<tr>
<td>Marital status</td>
<td>0.07364</td>
<td>0.23347</td>
<td>0.541</td>
</tr>
<tr>
<td>Number classes taught per day</td>
<td>0.04649</td>
<td>0.15010</td>
<td>0.242</td>
</tr>
<tr>
<td>Additional employment</td>
<td>-0.06498</td>
<td>0.07819</td>
<td>0.369</td>
</tr>
<tr>
<td>Drive self to school</td>
<td>-0.05430</td>
<td>0.31976</td>
<td>0.323</td>
</tr>
<tr>
<td>Hours spent on duty</td>
<td>0.05998</td>
<td>0.10821</td>
<td>0.329</td>
</tr>
<tr>
<td>Total years teaching experience</td>
<td>0.08490</td>
<td>0.18681</td>
<td>0.344</td>
</tr>
<tr>
<td>Instructor Services Personal Potency</td>
<td>-0.05569</td>
<td>0.03507</td>
<td>0.203</td>
</tr>
</tbody>
</table>

* \( p \leq .05 \).
Table 10. Correlations between individual items or demographic data and absence

<table>
<thead>
<tr>
<th>Pilot Questionnaire Item</th>
<th>Description</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>adequate unscheduled time to complete work</td>
<td>-0.1988</td>
</tr>
<tr>
<td>4</td>
<td>clear, planned teaching goals and objectives</td>
<td>-0.1950</td>
</tr>
<tr>
<td>20</td>
<td>coworkers look forward to coming to work daily</td>
<td>-0.2849</td>
</tr>
<tr>
<td>29</td>
<td>parents are supportive of instructors</td>
<td>-0.2264</td>
</tr>
<tr>
<td>30</td>
<td>unforeseen institutional problem negatively affecting instructor's position</td>
<td>-0.2122</td>
</tr>
<tr>
<td>34</td>
<td>influence on what goes on in the school</td>
<td>-0.2323</td>
</tr>
<tr>
<td>35</td>
<td>administrator asks instructor opinion when problem arises involving instructor's work</td>
<td>-0.2602</td>
</tr>
<tr>
<td>36</td>
<td>difficult to get ideas across to administrator</td>
<td>-0.2147</td>
</tr>
<tr>
<td>68</td>
<td>interaction between instructors and administrators</td>
<td>-0.2180</td>
</tr>
<tr>
<td>69</td>
<td>contribution of decision-making process to morale</td>
<td>-0.2311</td>
</tr>
<tr>
<td>85</td>
<td>in-service program planning</td>
<td>0.2437</td>
</tr>
</tbody>
</table>

Analysis of variance

Since several of the hypotheses of this study were concerned with the relationship of administrators' self perceptions to those of their supervised instructors, a one-way analysis of variance was performed to examine the differences among the mean scale scores obtained by administrators, high absence instructors, and low absence instructors. The Scale A analysis included administrators while analyses for subscales PSA, PSB, ISA, and ISB included only low and high absence instructors.

Results of these analyses of variances are reported in Tables 9 to
13. Significant results were obtained for Administrative Relations, Professional Development and Operational Structure, and Personal Potency.

Table 11a. One-way analysis of variance for Administrative Relations

<table>
<thead>
<tr>
<th>Source</th>
<th>D.F.</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F Ratio</th>
<th>F Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>2</td>
<td>1556.9370</td>
<td>778.4683</td>
<td>4.385</td>
<td>0.0144</td>
</tr>
<tr>
<td>Within Groups</td>
<td>130</td>
<td>23078.5991</td>
<td>177.5277</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>132</td>
<td>24635.5352</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 11b. Summary statistics for the three respondent groups

<table>
<thead>
<tr>
<th>Group</th>
<th>Count</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrators</td>
<td>12</td>
<td>82.8333</td>
<td>7.7323</td>
</tr>
<tr>
<td>Low Absence Instructors</td>
<td>59</td>
<td>77.9322</td>
<td>12.4911</td>
</tr>
<tr>
<td>High Absence Instructors</td>
<td>62</td>
<td>72.4516</td>
<td>14.8054</td>
</tr>
<tr>
<td>Total</td>
<td>133</td>
<td>75.8195</td>
<td>13.6614</td>
</tr>
</tbody>
</table>

Table 12a. Analysis of variance for Variable PSA (Evaluation)

<table>
<thead>
<tr>
<th>Source</th>
<th>D.F.</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F Ratio</th>
<th>F Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>1</td>
<td>6.8410</td>
<td>6.8410</td>
<td>0.463</td>
<td>0.4975</td>
</tr>
<tr>
<td>Within Groups</td>
<td>119</td>
<td>1757.4736</td>
<td>14.7687</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>120</td>
<td>1764.3145</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 12b. Summary statistics for the two instructor respondent groups

<table>
<thead>
<tr>
<th>Instructor Group</th>
<th>Count</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Absence</td>
<td>59</td>
<td>23.1695</td>
<td>4.0775</td>
</tr>
<tr>
<td>High Absence</td>
<td>62</td>
<td>22.6935</td>
<td>3.6059</td>
</tr>
<tr>
<td>Total</td>
<td>121</td>
<td>22.9256</td>
<td>3.8344</td>
</tr>
</tbody>
</table>

Table 13a. Analysis of variance for Variable PSB (Professional Development)

<table>
<thead>
<tr>
<th>Source</th>
<th>D.F.</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F Ratio</th>
<th>F Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>1</td>
<td>66.3701</td>
<td>66.3701</td>
<td>4.514</td>
<td>0.0357</td>
</tr>
<tr>
<td>Within Groups</td>
<td>119</td>
<td>1749.7695</td>
<td>14.7039</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>120</td>
<td>1816.1396</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 13b. Summary statistics for the two instructor respondent groups

<table>
<thead>
<tr>
<th>Instructor Group</th>
<th>Count</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Absence</td>
<td>59</td>
<td>15.2881</td>
<td>3.6296</td>
</tr>
<tr>
<td>High Absence</td>
<td>62</td>
<td>13.8065</td>
<td>4.0198</td>
</tr>
<tr>
<td>Total</td>
<td>121</td>
<td>14.5289</td>
<td>3.8903</td>
</tr>
</tbody>
</table>
Table 14a. Analysis of variance for Variable ISA (Job Assignments)

<table>
<thead>
<tr>
<th>Source</th>
<th>D.F.</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F Ratio</th>
<th>F Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>1</td>
<td>11.1647</td>
<td>11.1647</td>
<td>0.663</td>
<td>0.4173</td>
</tr>
<tr>
<td>Within Groups</td>
<td>119</td>
<td>2005.3872</td>
<td>16.8520</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>120</td>
<td>2016.5518</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 14b. Summary statistics for the two instructor respondent groups

<table>
<thead>
<tr>
<th>Instructor Group</th>
<th>Count</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Absence</td>
<td>59</td>
<td>11.5593</td>
<td>3.6068</td>
</tr>
<tr>
<td>High Absence</td>
<td>62</td>
<td>10.9516</td>
<td>4.5283</td>
</tr>
<tr>
<td>Total</td>
<td>121</td>
<td>11.2479</td>
<td>4.0993</td>
</tr>
</tbody>
</table>

Table 15a. Analysis of variance for Variable ISB (Personal Potency)

<table>
<thead>
<tr>
<th>Source</th>
<th>D.F.</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F Ratio</th>
<th>F Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>1</td>
<td>103.9483</td>
<td>103.9483</td>
<td>11.936</td>
<td>0.0006</td>
</tr>
<tr>
<td>Within Groups</td>
<td>119</td>
<td>1036.3081</td>
<td>8.7085</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>120</td>
<td>1140.2563</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 15b. Summary statistics for the two instructor respondent groups

<table>
<thead>
<tr>
<th>Instructor Group</th>
<th>Count</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Absence</td>
<td>59</td>
<td>19.3220</td>
<td>2.7695</td>
</tr>
<tr>
<td>High Absence</td>
<td>62</td>
<td>17.4677</td>
<td>3.1138</td>
</tr>
<tr>
<td>Total</td>
<td>121</td>
<td>18.3719</td>
<td>3.0826</td>
</tr>
</tbody>
</table>
Concordance analysis

A possible contribution to instructor absence was the discrepancy between the perception that instructors had of a given administrative management style and how that administrator viewed his or her own style. To examine this concordance of self and other perceptions, the mean administrative relations score was obtained for each administrator using the scores of instructors supervised by the administrator. These mean scores were then correlated with the administrators' scores on the Administrative Relations Scale. A product moment correlation of .29 was obtained. Based on a sample of only twelve administrators, the correlation was not found to depart significantly from zero at the .05 level of significance.

It is also possible that the variability of instructor ratings may relate to administrator self-ratings. To examine this possibility, a product moment correlation was computed between administrator self-ratings and standard deviations of instructor ratings. The correlation between administrator ratings and standard deviations of instructors' scores was -.12, which was not significant at the .05 level of significance.

Summary and Conclusion

The conclusions of the pilot study include the following:

1. The instrument was generally acceptable based on the cooperation of instructors and administrators in its completion and return. Instructor and administrator questionnaires required revision to produce instruments with corresponding items. The three original subscales were altered to include five, based on factor analysis of instructor responses to the items. Further analysis led to combin-
ing four of the subscales into two (combined ISA with ISB and PSA with PSB).

2. A percentage of correct classifications of items into categories conceptualized by the researcher and her major professor was obtained. Sufficient agreement on item classification was found to exist to substantiate face validity of the instrument.

3. Empirical validity was established for the original three categories of items with the exception of Personnel Services. Items of this latter scale resulted in two separate subscales tentatively labeled
   a. Evaluation
   b. Professional Development and Operational Structure.

4. Reliability of these new subscales, which were developed by a combination of conceptual and empirical methods, were determined to have coefficients sufficiently high to yield adequate estimates of the true scores for the intended populations.

5. Predictive validity was established for the Administrative Relations subscale and was partially established for the Instructor Services A (Job Assignment Attributes and Personal Potency), (ISA) subscale when added to the multiple regression analysis. Additional predictive validity is anticipated due to the addition of new items constructed to maximally relate with existing subscale items.

6. The results indicated that administrator and instructor ratings were not correlated for the sample of twelve administrators studied.

7. Based upon the factor analytic results and judge classifications of existing items, it was established that additional items were re-
quired in two of the major classifications, Instructor Services and Personnel Services (IS and PS) areas. For this reason, items were constructed and the questionnaires were revised. The new questionnaires developed appear in Appendix D.

8. It was deemed advisable in the pilot analysis to validate the mean scale differences of instructors classified as having high absence and low absence by their respective administrators. To this end, analyses of variance were performed for each subscale. Results indicated that the classifications were significantly related to subscale means for three of the new subscales.

In conclusion, the researcher, based upon data, observed that sufficient validity and reliability have been established to complete the data collection analysis using the data analysis scales generated from this pilot study analysis.
CHAPTER V. DATA ANALYSIS AND FINDINGS

Introduction

Results of the hypotheses presented in Chapter III are summarized in this chapter. The revised Instructional Environment Scale was utilized in completing these analyses. The reliabilities of the revised scales of the Instructional Environment Scale (IES) are as follows:

<table>
<thead>
<tr>
<th>Scale</th>
<th>Alpha Reliability</th>
<th>No. of Items</th>
<th>Means</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative Policy</td>
<td>0.924</td>
<td>29</td>
<td>108.3091</td>
<td>7.9206</td>
</tr>
<tr>
<td>Combined Personnel Services</td>
<td>0.751</td>
<td>24</td>
<td>71.5636</td>
<td>7.0363</td>
</tr>
<tr>
<td>Combined Instructor Services</td>
<td>0.719</td>
<td>19</td>
<td>71.8182</td>
<td>6.2199</td>
</tr>
</tbody>
</table>

In addition to verifying the reliability of the revised scales, a principal components factor analyses (PA2 in SPSS) with varimax rotation was completed on the 92 items of the new instrument. Nine (9) factors were found corresponding to eigenvalues of 1.0 or greater. These nine factors accounted for 71 percent of total matrix variance. Results of the varimax rotation for factors one through nine are presented in Appendix E. Items initially found to load on the Administrative Relations Scale in the pilot data analysis were confirmed by their common loadings on Factor 1 (renamed Administrative Policy in the final form) of the new factor analysis. Items in Combined Personnel Services (COMBPS) and Combined Instructor Services (COMBIS) were spread over other factors in the new analysis. No attempt has been made to interpret these new factors.

The desired sample of educational units for this study totaled 65
Of the 13 post-secondary Indiana Vocational Technical Colleges desired in the sample, nine agreed to participate. Response rates varied among the nine educational units whose administrators agreed to participate in the study. Three (3) of the post-secondary educational units provided complete data. In five of the post-secondary educational units, completed instructor and administrator questionnaires were obtained although instructor absence data was not available due to the fact that these educational units did not collect instructor absence data. All completed questionnaires were utilized in this study.

Of the 26 desired Secondary Area Career Centers to be included in the sample of the study, 22 agreed to participate. Fifteen (15) Secondary Area Career Centers actually provided complete data. Sixteen (16) of these educational units provided instructor and administrator questionnaire data while seventeen (17) provided completed instructor questionnaire data only.

Since the vocational administrative system in the state of Indiana mandated approval of the Vocational Director prior to contacting the feeder high school principals, the number of participating feeder high schools was limited to the number of Vocational Directors of Area Career Centers in Indiana who were willing to participate in the study. Of the twenty-six (26) matching feeder high schools, a total of seventeen (17)
provided complete data including instructor absence data, administrator questionnaire responses, and both high and low absence instructor questionnaire responses. A total of nineteen (19) feeder high schools provided administrator and both high and low absence instructor questionnaire responses.

A total of fifty-six (56) educational units provided instructor questionnaire responses. Sixteen (16) of these educational units were eliminated in the analyses, which required complete data for both high and low instructor groups and administrator questionnaire responses. An additional five (5) educational units were eliminated in analyses requiring absence data in addition to complete instructor and administrator data.

A summary of the sample sizes employed in the data analyses are presented in the table below.

Table 16. Sample sizes used in data analyses

<table>
<thead>
<tr>
<th>Type of Educational Unit</th>
<th>High &amp; Low Instructors</th>
<th>Administrators</th>
<th>Instructor Absence Data</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>% of Pop.</td>
<td>Number</td>
</tr>
<tr>
<td>Post-secondary Vocational</td>
<td>5</td>
<td>38.5</td>
<td>5</td>
</tr>
<tr>
<td>Secondary Vocational</td>
<td>17</td>
<td>65.4</td>
<td>16</td>
</tr>
<tr>
<td>Secondary Non-vocational</td>
<td>19</td>
<td>73.1</td>
<td>19</td>
</tr>
<tr>
<td>Total</td>
<td>41</td>
<td>63.1</td>
<td>40</td>
</tr>
</tbody>
</table>

The number of instructors responding from each educational institution varied. This fact was due to differing numbers of instructors in different educational institutions and the sampling technique which en-
couraged more than the minimal requirement of four (4) instructors to respond from each institution.

Since the primary unit of analysis in this study was the educational unit, means of instructors' responses were employed as the observations for each educational unit; thus the effect of differing sample sizes within educational units was minimized.

Analysis of the Data Related to the Hypotheses

The fifteen major hypotheses and nine exploratory hypotheses which guided this study were tested by comparing the derived product-moment correlation coefficients with values necessary for statistical significance. All hypotheses were written in the null form and were tested at the .05 level of significance.

The first thirteen major hypotheses posited relationships between high, low, and combined instructor groups ratings and administrator ratings on the three subscales of the Instructional Environment Scale including Administrative Policy, Instructor Services, and Personnel Services subscales. The last two major hypotheses correlated instructor absence with instructor mean ratings and administrator self-ratings on the Instructional Environment Scale. The nine exploratory hypotheses correlated instructor absence with the variance of high, low, and combined instructor group mean ratings on each of the three Instructional Environment subscales (Administrative Policy, Instructor Services, and Personnel Services).

Results are presented for each hypothesis.
Hypothesis 1 stated that there are no significant differences among the means of high and low absence instructors' ratings and the administrators' mean ratings on the Administrative Policy subscale of the Instructional Environment Scale. This hypothesis was tested by means of the F-test at the .05 level.

A repeated measures analyses of variance was completed for this hypothesis. Each of the scores (administrator rating on the Administrative Policy subscale, average high absence instructor ratings on the Administrative Policy subscale, and average low absence instructor ratings on the Administrative Policy subscale) was considered a replication within an educational unit. The Analyses of Variance table follows:

Table 17a. Analyses of variance on administrative policy ratings of high and low absence instructors and administrators

<table>
<thead>
<tr>
<th>Source</th>
<th>D.F.</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between</td>
<td>39</td>
<td>7,084.63</td>
<td>181.66</td>
<td>3.023*</td>
</tr>
<tr>
<td>Treatment</td>
<td>2</td>
<td>7,472.88</td>
<td>3,736.44</td>
<td>62.171*</td>
</tr>
<tr>
<td>Residual</td>
<td>78</td>
<td>4,687.75</td>
<td>60.10</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>119</td>
<td>19,245.30</td>
<td>161.73</td>
<td></td>
</tr>
</tbody>
</table>

* p < .05.

Table 17b. Descriptive statistics for administrative policy ratings

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrators</td>
<td>108.675</td>
<td>8.297</td>
</tr>
<tr>
<td>High Absence Instructors</td>
<td>90.282</td>
<td>11.823</td>
</tr>
<tr>
<td>Low Absence Instructors</td>
<td>94.330</td>
<td>9.656</td>
</tr>
</tbody>
</table>

Conclusion: The means on the Administrative Policy subscale differ
significantly among administrator, low absence instructors, and high absence instructors ratings within educational units. Educational units are also found to differ significantly on the combined Administrative Policy subscale measure. Since a significant relation was found, Hypothesis 1 can be rejected.

Hypothesis 2 stated that there are no significant differences among the means of high and low absence instructor ratings and the administrators' mean ratings on the Instructor Services subscale of the Instructional Environment Scale. This hypothesis was tested by means of the F-test statistic at the .05 level.

A repeated measures analyses of variance was completed for this hypothesis. Each of the scores (administrator rating on the Instructor Services subscale, average high absence instructor ratings on the Instructor Services subscale, and average low absence instructor ratings on the Instructor Services subscale) was considered a replication within an educational unit. The Analyses of Variance table (ANOVA) follows:

Table 18a. Analyses of variance on Instructor Services subscale ratings of high and low absence instructors and administrators

<table>
<thead>
<tr>
<th>Source</th>
<th>D.F.</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between</td>
<td>39</td>
<td>2,672.13</td>
<td>68.52</td>
<td>2.633*</td>
</tr>
<tr>
<td>Treatment</td>
<td>2</td>
<td>885.38</td>
<td>442.69</td>
<td>18.023*</td>
</tr>
<tr>
<td>Residual</td>
<td>79</td>
<td>1,915.88</td>
<td>24.56</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>119</td>
<td>5,473.38</td>
<td>45.99</td>
<td></td>
</tr>
</tbody>
</table>

* p < .05.
Table 18b. Descriptive statistics for Instructor Services ratings

<table>
<thead>
<tr>
<th>Instructor Services Subscale Ratings</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrators</td>
<td>71.275</td>
<td>6.552</td>
</tr>
<tr>
<td>High Absence Instructors</td>
<td>68.793</td>
<td>4.939</td>
</tr>
<tr>
<td>Low Absence Instructors</td>
<td>70.218</td>
<td>3.447</td>
</tr>
</tbody>
</table>

Conclusion: The means on the Instructor Services subscale differ significantly among the administrator, high absence, and low absence measures within educational units. Educational units differed significantly among themselves on the Instructor Services measures. Since significant differences were found, Hypothesis 2 can be rejected.

Hypothesis 3 stated that there are no significant differences among the means of high and low absence instructors' ratings and the administrators' mean ratings on the Personnel Services subscale of the Instructional Environment Scale. This hypothesis was tested by means of the F-test statistic at the .05 level.

A repeated measures analysis of variance was completed for this hypothesis. Each of the scores (administrator rating on the Personnel Services subscale, average high absence instructor ratings on the Personnel Services subscale, and average low absence instructor ratings on the Personnel Services subscale) was considered replications within an educational unit. The Analysis of Variance table (ANOVA) follows:
Table 19a. Analysis of variance on Personnel Services subscale ratings of high and low absence instructors and administrators

<table>
<thead>
<tr>
<th>Source</th>
<th>D.F.</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between</td>
<td>39</td>
<td>1,755.19</td>
<td>45.00</td>
<td>2.633*</td>
</tr>
<tr>
<td>Treatment</td>
<td>2</td>
<td>124.00</td>
<td>62.00</td>
<td>3.627*</td>
</tr>
<tr>
<td>Residual</td>
<td>79</td>
<td>1,333.19</td>
<td>17.09</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>119</td>
<td>3,212.38</td>
<td>26.99</td>
<td></td>
</tr>
</tbody>
</table>

* p < .05

Table 19b. Descriptive statistics for Personnel Services ratings

<table>
<thead>
<tr>
<th>Personnel Services Subscale Ratings</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrators</td>
<td>71.600</td>
<td>7.242</td>
</tr>
<tr>
<td>High Absence Instructors</td>
<td>65.172</td>
<td>6.512</td>
</tr>
<tr>
<td>Low Absence Instructors</td>
<td>66.912</td>
<td>4.774</td>
</tr>
</tbody>
</table>

Conclusion: The means on the Personnel Services subscale differ significantly among the administrator, high instructor and low instructor measures within educational units. Educational units differed significantly among themselves. As a result of the differences among means, Hypothesis 3 must be rejected.

Hypothesis 4 stated that the product-moment correlation between average Instructor Services subscale ratings by high absence instructors and administrators does not differ significantly from zero beyond that expected by chance at the 95% confidence level. This hypothesis was tested by the t-statistic at the .05 level.

The observed correlation (r) was .334; the t-statistic yielded the following value:
Conclusion: Across educational units, the average Instructor Services subscores of high absence instructors correlated significantly with administrator self-ratings. Instructors and administrators, therefore, tended to agree on the Instructor Services environment in the school. Hypothesis 4 is rejected.

Hypothesis 5 stated that the product-moment correlation between average Instructor Services subscale ratings by low absence instructors and administrators does not differ significantly from zero beyond that expected by chance at the 95% confidence level. This hypothesis was tested by the t-statistic at the .05 level.

The observed correlation (r) was .371; the t-statistic yielded the following value:

\[
\frac{t}{d.f.=(N-2)} = \frac{r}{\sqrt{1-r^2}} = \frac{.371}{\sqrt{.862359}} = 2.463^* \\
\]

*p < .05.

Conclusion: Across educational units, the average Instructor Services subscores of low absence instructors correlated significantly with administrator self-ratings. The low absence instructors and administrators, therefore, tended to agree on the Instructor Services environment in the educational unit. Hypothesis 5 is rejected.

Hypothesis 6 stated that the product-moment correlation between
average Instructor Services subscale ratings by combined instructor
groups and administrators does not differ significantly from zero beyond
that expected by chance at the 95% confidence level. This hypothesis was
tested by the t-statistic at the .05 level.

The observed correlation (r) was -.218183, which was not significant
for a t with 33 degrees of freedom (d.f.). The t-statistic yielded the
following value:

Using \[ t = \frac{-218183}{\sqrt{1-(.218183)^2}} \]
\[ d.f. = (N-2) \]
\[ = -1.284 \]

Conclusion: When high and low absence instructors were combined,
their average scores on the Instructor Services subscale did not correlate
with administrator self-ratings on Instructor Services beyond that ex­
pected by chance. Therefore, Hypothesis 6 cannot be rejected.

Hypothesis 7 stated that the product-moment correlations obtained in
Hypotheses 4 and 5 above do not differ beyond that expected by chance
alone at the 95% confidence level. These product-moment correlations
were compared using the Z-test for differences between two pearson
coefficients from related samples (Roscoe, 1975):

\[ Z = \frac{\sqrt{N-1} (r_{12} - r_{13})}{\sqrt{\frac{(1-r_{12}^2)^2 + (1-r_{13}^2)^2 - 2r_{12}r_{13}(2r_{12}r_{13}-r_{12}r_{13})(1-r_{12}^2-r_{13}^2-r_{12}r_{13})}{(1-r_{12}^2)^2 + (1-r_{13}^2)^2 - 2r_{12}r_{13}(2r_{12}r_{13}-r_{12}r_{13})(1-r_{12}^2-r_{13}^2-r_{12}r_{13})}}}} \]

\[ = \frac{.39 (.334 - .371)}{\sqrt{.7893 + .7437 - .2688 - (.1044 - .1239) (1.116 - .1376 - .2623)}} \]
\[ = \frac{-2311}{.8243} = .255 \]
Conclusion: Correlations of Instructor Services average subscores of high and low absence instructors with administrator Instructor Services ratings do not differ beyond chance. There are no significant differences between high and low absence instructor average rating correlations with administrator ratings on the Instructor Services subscale. Hypothesis 7 cannot be rejected.

Hypothesis 8 stated that the product-moment correlation between average Administrative Policy subscale ratings by high absence instructors and administrators does not differ significantly from zero beyond that expected by chance at the 95% confidence level. This hypothesis was tested by the t-statistic at the .05 level.

The observed correlation (r) was .241, which was a nonsignificant correlation. The t-statistic yielded the following value:

\[
\frac{r}{\sqrt{1-r^2}} = \frac{.241}{\sqrt{1-.241^2}} = \frac{.241}{\sqrt{.94192}} = \frac{.241}{.9705} = 1.531
\]

d.f.=(N-2)

Conclusion: Across educational units, the average Administrative Policy subscores of high absence instructors correlates insignificantly with administrator self-ratings. The scores, therefore, tend to lack agreement on the Administrative Policy environment in the educational unit. Hypothesis 8 thus cannot be rejected.

Hypothesis 9 stated that the product-moment correlation between average Administrative Policy subscale ratings by low absence instructors and administrators does not differ significantly from zero beyond that expected by chance at the 95% confidence level. This hypothesis was tested by the t-statistic at the .05 level.
The observed correlation \( r \) was .418678; the t-statistic yielded the following value:

\[
\begin{align*}
\text{Using } t &= \frac{r}{\sqrt{\frac{1-r^2}{N-2}}} \\
\text{d.f.} = (N-2) &= \frac{.418678}{\sqrt{\frac{.82471}{38}}} = 2.842^* \\
* p < .05.
\end{align*}
\]

Conclusion: Across educational units, the average Administrative Policy subscores of low absence instructors correlated significantly with administrator self-ratings. The scores, therefore, tended to agree on the Administrative Policy environment in the school. Hypothesis 9 must, therefore, be rejected.

Hypothesis 10 stated that the product-moment correlation obtained in Hypotheses 7 and 8 above do not differ beyond that expected by chance alone at the 95% confidence level. These product-moment correlations were compared using the Z-test for differences between two pearson coefficients from related samples (Roscoe, 1975):

\[
Z_1 = \frac{\sqrt{N-1} (r_{1,2} - r_{1,3})}{\sqrt{(1-r_{1,2}^2)(1-r_{1,3}^2)(1-r_{2,3}^2) - (2r_{1,2} - r_{1,3})r_{2,3}(1-r_{2,3}^2)}} \\
= \frac{\sqrt{40-1} (.241 - .419)}{\sqrt{.8872 + .6797 - .3581 - (.2020)(.4487)}} = -1.1116 \\
= -1.051
\]

The obtained Z value was insufficient to reject the null hypothesis.

Conclusion: The correlation between administrator Instructor Service subscale ratings and low absence instructor ratings and the correlation of administrator and high absence instructor ratings on the Instructor Service subscale do not differ beyond chance.
Hypothesis 11 stated that the product-moment correlation between the average Personnel Services subscale ratings by high absence instructors and administrators does not differ significantly from zero beyond that expected by chance at the 95% confidence level. This hypothesis was tested by the t-statistic at the .05 level.

The observed correlation (r) was .085, which was a non-significant correlation. The t-statistic yielded the following value:

Using
\[ t = \frac{r}{\sqrt{\frac{1-r^2}{N-2}}} = \frac{.085}{\sqrt{\frac{1-.085^2}{38}}} = .526 \]

Conclusion: Across educational units, the average Personnel Services subscores of high absence instructors do not correlate significantly with administrator self-ratings. The scores, therefore, tend to lack agreement on the Personnel Services environment in the school. Hypothesis 11 cannot be rejected.

Hypothesis 12 stated that the product-moment correlation between the average Personnel Services subscale ratings by low absence instructors and administrators does not differ significantly from zero beyond that expected by chance at the 95% confidence level. This hypothesis was tested by the t-statistic at the .05 level.

The observed correlation (r) was .044; the t-statistic yielded the following value:

Using
\[ t = \frac{r}{\sqrt{\frac{1-r^2}{N-2}}} = \frac{.044}{\sqrt{\frac{1-.044^2}{38}}} = .2715 \]
Conclusion: Across educational units, the average Personnel Services subscores of low absence instructors do not correlate significantly with administrator self-ratings. These scores, therefore, tend to disagree on the Personnel Services environment in the educational unit. Hypothesis 12 thus cannot be rejected.

Hypothesis 13 stated that the product-moment correlation obtained in Hypotheses 11 and 12 above do not differ beyond that expected by chance alone at the 95% confidence level. These product-moment correlations were compared using transformation.

\[
Z = \frac{\sqrt{40-1} \times (0.085 - 0.044)}{\sqrt{(1-0.085^2)^2 + (1-0.044^2)^2 - 2(0.4004^3) - (2.4004) - 0.085 \times 0.044)}
\]

\[
= \frac{0.25604}{\sqrt{(0.9856) + (0.9961) - 0.1284 - (0.7971)(0.8305)}
\]

\[
= \frac{0.25604}{1.092} = 0.235
\]

Conclusion: There are no significant differences between low and high absence instructor average rating correlations with administrator ratings on the Personnel Services subscale. Hypothesis 13 thus cannot be rejected.

Hypothesis 14 stated that when regressing the total instructor absence rate on a combination of the Instructional Environment mean ratings of instructors, the partial regression coefficients for each subscale will not depart significantly from zero.
$H_0: B_1 = B_2 = B_3 = 0 \quad \text{in } \hat{y} = B_1Z_1 + B_2Z_2 + B_3Z_3$

$R^2_{Y,123} = .0576 \quad F_{3,36} = .734$

where $Y$ is predicted absence in educational unit by instructors,

$Z_1$ is standardized administrative (average) scores of combined high and low instructors,

$Z_2$ is standardized average PS subscores of combined instructors

$Z_3$ is standardized average IS subscores of combined instructors

Conclusion: The instructor absence rate does not correlate with instructor mean ratings on the Instructional Environment Scale. Hypothesis 14 thus cannot be rejected.

Hypothesis 15 stated that when regressing the total instructor absence rate on a combination of the Instructional Environment self-ratings of administration, the partial regression coefficient for each subscale will not depart significantly from zero.

$H_0: B_1 = B_2 = B_3 = 0 \quad \text{in } Y = B_1Z_1 + B_2Z_2 + B_3Z_3$

$R^2_{Y,123} = .0818 \quad F_{3,36} = 1.069$

where $Y$ = predicted educational unit absence

$Z_1$ = standardized administrator rating on Administrative Policy subscale

$Z_2$ = standardized administrator rating on Instructor Services subscale

$Z_3$ = standardized administrator rating on Personnel Services subscale

Conclusion: The instructor absence rate does not correlate with administrator self-ratings on the Instructional Environment Scale. Hypothe-
sis 15 thus cannot be rejected.

Exploratory Hypotheses

**Exploratory Hypothesis 1** stated that there was no significant correlation between the variance of high absence instructor mean ratings on the Instructor Services subscale and total instructor absenteeism recorded for an educational unit. This hypothesis was tested by the t-statistic at the .05 level.

The observed correlation (r) was -.313519, which was a nonsignificant correlation. The t-statistic yielded a value of 1.897. This correlation suggested an absence of a relationship between the variance of high absence instructor mean ratings on the Instructor Services subscale and total instructor absenteeism recorded in the educational unit. Thus Exploratory Hypothesis 1 cannot be rejected because the correlation is nonsignificant.

**Exploratory Hypothesis 2** stated that there was no significant correlation between the variance of low absence instructor mean ratings on the Instructor Services subscale and total instructor absenteeism recorded for an educational unit. This hypothesis was tested by the t-statistic at the .05 level.

The observed correlation (r) was .0433, which was a nonsignificant correlation. The correlation suggested that no relationship exists between low absence instructor mean ratings on the Instructor Services subscale and total instructor absenteeism recorded in the educational unit. Exploratory Hypothesis 2 cannot be rejected.

**Exploratory Hypothesis 3** stated that there was no significant correla-
tion between the variance of combined high and low absence instructor mean ratings on the Instructor Services subscale and total instructor absenteeism recorded for an educational unit. This hypothesis was tested by the t-statistic at the .05 level.

The observed correlation (r) was -.13685, which was a nonsignificant correlation. There appears to be little relationship between the variance of combined high and low absence instructor mean ratings on the Instructor Services subscale and total instructor absenteeism recorded in educational units. Exploratory Hypothesis 3 cannot be rejected.

**Exploratory Hypothesis 4** stated that there was no significant correlation between the variance of high absence instructor mean ratings on the Administrative Policy subscale and total instructor absenteeism recorded for an educational unit. This hypothesis was tested by the t-statistic at the .05 level.

The observed correlation (r) was -.0863, which was not a significant correlation. There does not appear to be any relationship between the variance of high absence instructor mean ratings on the Administrative Policy subscale and total instructor absenteeism recorded for an educational unit. Therefore, Exploratory Hypothesis 4 cannot be rejected.

**Exploratory Hypothesis 5** stated that there was no significant correlation between the variance of low absence instructor mean ratings on the Administrative Policy subscale and total instructor absenteeism recorded for an educational unit. This hypothesis was tested by the t-statistic at the .05 level.

The observed correlation (r) was -.0265, a nonsignificant correlation. A relationship did not appear to exist between the variance of
low absence instructor mean ratings on the Administrative Policy subscale and total instructor absenteeism recorded for an educational unit. Therefore, Exploratory Hypothesis 5 cannot be rejected.

**Exploratory Hypothesis 6** stated that there was no significant correlation between the variance of combined high and low absence instructor mean ratings on the Administrative Policy subscale and total instructor absenteeism recorded for an educational unit. This hypothesis was tested by the t-statistic at the .05 level.

The observed correlation (r) was -.1747, which was not a significant correlation. Although a negative coefficient was observed between the variance of combined high and low absence instructor mean ratings on the Administrative Policy subscale and total instructor absenteeism recorded for an educational unit, it was not large enough to be significant. Thus, Exploratory Hypothesis 6 cannot be rejected.

**Exploratory Hypothesis 7** stated that there was no significant correlation between the variance of high absence instructor mean ratings on the Personnel Decisions subscale and total instructor absenteeism recorded for an educational unit. This hypothesis was tested by the t-statistic at the .05 level.

The observed correlation of .0116 failed to reach significance, suggesting that a correlation does not exist between the variance of high absence instructor mean ratings on the Personnel Decisions subscale and total instructor absenteeism recorded for an educational unit. Therefore, Exploratory Hypothesis 7 cannot be rejected.

**Exploratory Hypothesis 8** stated that there was no significant correlation between the variance of low absence instructor mean ratings on the
Personnel Decisions subscale and total instructor absenteeism recorded for an educational unit. This hypothesis was tested by the t-statistic at the .05 level.

The observed correlation of .0586 failed to reach significance. There does not appear to be any relationship between the variance of low absence instructor mean ratings on the Personnel Decisions subscale and total instructor absenteeism recorded for an educational unit. Exploratory Hypothesis 8 cannot be rejected.

**Exploratory Hypothesis 9** stated that there was no significant correlation between the variance of combined high and low absence instructor mean ratings on the Personnel Decisions subscale and total instructor absenteeism recorded for an educational unit. This hypothesis was tested by the t-statistic at the .05 level.

The correlation of .0888 suggests no relationship between the variance of combined high and low absence instructor mean ratings on the Personnel Decisions subscale and total instructor absenteeism recorded for an educational unit. The correlation was not significant. Exploratory Hypothesis 9 cannot be rejected.

**Additional Exploratory Analyses**

In addition to the above analyses, fifteen (15) one-way classification analyses of variance (ANOVA's) were completed to examine differences among the three education unit types. Means and standard deviations had been obtained on the three IES subscales for high, low, combined high and low groups of instructors; and scale scores were obtained for each administrator. A total of 15 means, standard deviations and administrator
ratings constituted the set of variables to use in examining the differences among the three educational unit types (Post-secondary Indiana Vocational Technical Colleges, Indiana Secondary Area Career Centers, and matching Comprehensive High Schools). No significant differences were observed among these educational unit types for any one of the fifteen dependent variables (using the .05 level of significance).

In addition to the hypotheses specified in Chapter III, a regression analysis was performed between self-reported absence (Item Number 21 of the demographic characteristics) and the remaining demographic variables plus the three subscores of the IES. Table 20 presents the regression coefficients and the F-values for each of the demographic variables in the analysis.

Tables 17a, 18a, and 19a presented analyses of variance results on differences among forty (40) educational units on the means obtained on each of the three (3) subscales of the IES. Since a total of fifty-six (56) educational units actually had provided instructor ratings on the same subscales, a separate analysis of variance was performed to examine differences among educational units. Tables 21, 22, and 23 present these ANOVA results.

Results obtained in a number of the previous analyses suggested significant differences among educational units on ratings of the instructional environment. In addition, some relationships were observed that are predictive of instructor absence. Chapter VI will discuss these results in greater detail and draw conclusions concerning instructor absence as related to administrative management style and instructional environment.
Table 20. Regression analysis of self-reported absence on demographic characteristics of instructors

<table>
<thead>
<tr>
<th>Variable</th>
<th>Demo. Item No.</th>
<th>Beta</th>
<th>Simple r</th>
<th>Cumulative $R^2$</th>
<th>$F$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combination PS</td>
<td>--</td>
<td>-.125</td>
<td>-.153</td>
<td>.024</td>
<td>6.006*</td>
</tr>
<tr>
<td>Health</td>
<td>13</td>
<td>.132</td>
<td>.125</td>
<td>.040</td>
<td>11.681*</td>
</tr>
<tr>
<td>Union Activity</td>
<td>9</td>
<td>.126</td>
<td>.140</td>
<td>.055</td>
<td>10.684*</td>
</tr>
<tr>
<td>Residence Distance</td>
<td>18</td>
<td>.128</td>
<td>.123</td>
<td>.069</td>
<td>11.666*</td>
</tr>
<tr>
<td>Hours/Week</td>
<td>12</td>
<td>-.108</td>
<td>-.082</td>
<td>.079</td>
<td>7.993*</td>
</tr>
<tr>
<td>Sex</td>
<td>1</td>
<td>.117</td>
<td>.079</td>
<td>.091</td>
<td>8.862*</td>
</tr>
<tr>
<td>No. Years in School</td>
<td>5</td>
<td>.176</td>
<td>.077</td>
<td>.095</td>
<td>11.570*</td>
</tr>
<tr>
<td>Yrs. Teaching Experience</td>
<td>6</td>
<td>-.118</td>
<td>-.007</td>
<td>.104</td>
<td>4.843*</td>
</tr>
<tr>
<td>Age</td>
<td>2</td>
<td>-.088</td>
<td>-.083</td>
<td>.108</td>
<td>3.492</td>
</tr>
<tr>
<td>Anticipated Years</td>
<td>7</td>
<td>-.066</td>
<td>-.035</td>
<td>.112</td>
<td>3.059</td>
</tr>
<tr>
<td>Marital Status</td>
<td>3</td>
<td>.045</td>
<td>.030</td>
<td>.114</td>
<td>1.237</td>
</tr>
<tr>
<td>Special Education</td>
<td>14</td>
<td>.055</td>
<td>.006</td>
<td>.116</td>
<td>2.038</td>
</tr>
<tr>
<td>No. Classes Taught</td>
<td>20</td>
<td>.031</td>
<td>.043</td>
<td>.117</td>
<td>.523</td>
</tr>
<tr>
<td>Education Plan</td>
<td>15</td>
<td>.030</td>
<td>.059</td>
<td>.118</td>
<td>.556</td>
</tr>
<tr>
<td>Combs.</td>
<td>--</td>
<td>.038</td>
<td>-.108</td>
<td>.119</td>
<td>.569</td>
</tr>
<tr>
<td>Additional Employment</td>
<td>19</td>
<td>.026</td>
<td>.048</td>
<td>.119</td>
<td>.455</td>
</tr>
<tr>
<td>Level of Preparation</td>
<td>8</td>
<td>.024</td>
<td>-.040</td>
<td>.120</td>
<td>.367</td>
</tr>
<tr>
<td>Administration</td>
<td>--</td>
<td>.028</td>
<td>-.118</td>
<td>.120</td>
<td>.233</td>
</tr>
<tr>
<td>Spec. Ed. Inservice</td>
<td>16</td>
<td>.018</td>
<td>.075</td>
<td>.120</td>
<td>.189</td>
</tr>
<tr>
<td>Class Size</td>
<td>11</td>
<td>.014</td>
<td>.040</td>
<td>.121</td>
<td>.113</td>
</tr>
<tr>
<td>Drive to School</td>
<td>17</td>
<td>.013</td>
<td>.021</td>
<td>.121</td>
<td>.112</td>
</tr>
<tr>
<td>Number of Children</td>
<td>4</td>
<td>.013</td>
<td>-.016</td>
<td>.121</td>
<td>.088</td>
</tr>
<tr>
<td>Vocat./Non-Vocat.</td>
<td>10</td>
<td>.011</td>
<td>.065</td>
<td>.121</td>
<td>.064</td>
</tr>
</tbody>
</table>

OVERALL $F = 3.96$ with 23 and 662 degrees of freedom.

* $p < .05$. 
Table 21. ANOVA of Administrative Policy mean instructor ratings among all educational units sampled in the population

<table>
<thead>
<tr>
<th>Source</th>
<th>D.F.</th>
<th>Sum of Squares</th>
<th>Mean Square</th>
<th>F</th>
<th>Probability of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>55</td>
<td>85,145.493</td>
<td>1,548.100</td>
<td>7.201</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Within Groups</td>
<td>630</td>
<td>135,446.116</td>
<td>214.954</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>685</td>
<td>220,591.610</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 22. ANOVA of Personnel Services mean instructor ratings among all educational units sampled in the population

<table>
<thead>
<tr>
<th>Source</th>
<th>D.F.</th>
<th>Sum of Squares</th>
<th>Mean Square</th>
<th>F</th>
<th>Probability of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>55</td>
<td>18,880.647</td>
<td>343.284</td>
<td>4.434</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Within Groups</td>
<td>630</td>
<td>48,773.710</td>
<td>77.419</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>685</td>
<td>67,654.357</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 23. ANOVA of Instructor Services mean instructor ratings among all educational units sampled in the population

<table>
<thead>
<tr>
<th>Source</th>
<th>D.F.</th>
<th>Sum of Squares</th>
<th>Mean Square</th>
<th>F</th>
<th>Probability of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>55</td>
<td>9,867.546</td>
<td>179.410</td>
<td>2.919</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Within Groups</td>
<td>630</td>
<td>38,716.366</td>
<td>61.455</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>685</td>
<td>48,583.912</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
CHAPTER VI. CONCLUSIONS AND RECOMMENDATIONS

Chapters I. - V. delineated this research study. This chapter summarizes the procedures and details, discusses conclusions, and presents recommendations for further research.

Summary

The purpose of this study was to identify discrepancies in perceived management styles and roles of administrators and identify administrative management styles that maximize instructor job satisfaction and instructor attendance.

Significant findings include:

Hypothesis 1:

Ratings by administrators, high absence instructors and low absence instructors differed concerning administrative policy.

Discussion Varying means obtained from the ANOVA suggested that administrators and instructors did not concur on the Administrative Policy subscale ratings. Low absence instructor ratings concurred with administrator ratings more closely than did the ratings of the high absence instructors, although both groups of instructors concurred more closely than either instructor group did with administrator ratings. These varying means between the three respondent groups suggest that a gap in communication may exist between administrators and instructors.

Administrators tended to view overall central administrative support more favorably than instructors (item 62, Appendix F), which is understandable since the administrators worked together much more than instructors and central administrative personnel. Instructors from individual
educational units frequently remarked that their responses on the question-naire would be much different for central administrative personnel versus immediate supervisors or administrators. Lack of communication may have facilitated the negative attitude toward central administration.

Administrators tended to believe that a greater amount of interaction existed between administrators and instructors than did either of the two instructor groups (item 64, Appendix F).

Administrators rather than instructors generally reported that greater levels of confidence and trust existed in the administrators' working relationship with instructors (item 64, Appendix F). Instructors as a whole did not indicate that they believed administrators encouraged discussion about their work (item 70, Appendix F) to the extent that administrators believed they did. Neither did instructors believe that administrators were as knowledgeable of instructor problems as administrators believed they were (item 23, Appendix F). This lack of communication appeared frequently, which may reflect a tendency toward more autocratic versus participative management style. Communication is a characteristic of the participative management style.

Administrators appeared to view the faculty as working together in a team (item 14, Appendix F) with information widely sought and shared more frequently (item 12, Appendix F) than did the instructors. Administrators believed they asked for instructor input prior to decision-making more often than instructors believed they did (item 10, Appendix F). The two groups differed in the manner in which they believed disagreements and differences were handled (item 59, Appendix F). This difference between administrators and instructors in resolving disagree-
ments and differences may be reflected in the difference between the two groups' responses concerning morale contribution of the decision-making process (item 65, Appendix F). The findings agreed with those of Likert (1967) and Halpin (1966) in that decision-making, problem-solving, consideration, and initiation of structure processes influence the morale contribution of employees in any organization.

Administrators believed they were more helpful in instructor professional development than instructors believed administrators were (item 34, Appendix F). Instructors did not believe activities were as well organized as did administrators (item 43, Appendix F).

Instructors indicated that interdepartmental communication was less frequent than did administrators (item 49, Appendix F). Administrators also believed they were communicating instructor performance more than instructors believed the administrators were (item 5, Appendix F). Administrators believed they solicited instructors' opinions concerning problems more frequently than did instructors (item 29, Appendix F). Administrators believed they assisted instructors in difficult situations more frequently than did instructors (item 35, Appendix F). Instructors did not believe they influenced administrators' decisions as frequently as administrators believed they did (item 28, Appendix F). Instructors also believed it was more difficult to get suggestions and/or ideas across to administrators than did administrators (item 31, Appendix F).

Finally, instructors did not agree with administrators that administrators encouraged instructors to act the same around administrators as with peers (item 3, Appendix F).
Hypothesis 2:

Mean ratings by administrators and high and low absence instructors differed significantly on Instructor Services subscale ratings.

Discussion Differing means obtained from the ANOVA suggested that administrators and instructors differed on Instructor Services subscale ratings. Although none of the three groups completely agreed with each other, the low absence instructor groups agreed more closely with the administrators than they did with the high absence instructors. The difference in the means of low and high absence instructors suggested a closer congruence between low absence instructors and administrators than between low and high absence instructor groups. Administrators and low absence instructors believed instructors determined the hours, subject content and courses they would teach more frequently than the high absence instructors. The overall means being lower for low absence instructors on the Instructor Services subscale suggested that low absence instructors believed their position offered an opportunity to teach preferred subjects and they determined their responsibilities regarding student discipline and honesty while high absence instructors did not believe they had as much freedom. We suspect that low absence instructors believed they had more influence on what went on in the school than did high absence instructors. Fewer administrators than instructors dreaded coming to work each day.

Hypothesis 3:

Ratings by administrators, high absence instructors and low absence instructors differ on Personnel Services environment in the educational unit.
Discussion  The means for the Personnel Services ratings indicated that administrators viewed this subscale quite differently than either of the instructor groups. Instructors did not agree with administrators that financial support was available for professional development (item 55, Appendix F). Instructors indicated that promotion or raise evaluation was often unknown to them versus administrator ratings indicating that such information was known to instructors (item 56, Appendix F). Administrators' ratings indicated that they might evaluate instructor performance significantly lower than instructors believed it should be rated (item 22, Appendix F). Instructors believed administrators held "loss of job" over instructors' heads as an incentive to improve more frequently than did administrators (item 24, Appendix F).

Administrators believed they were more receptive to instructor ideas and suggestions than instructors believed administrators were (item 47, Appendix F). Administrators believed they were better in dealing with people than instructors believed they were (item 20, Appendix F).

Instructors did not believe they were told the essentials they needed to know for best performance as frequently as administrators believed they were (item 44, Appendix F). Instructors found written and verbal policies contradictory more frequently than did administrators (items 39 and 54, Appendix F).

Hypotheses 4:

Administrators and high absence instructor ratings on Instructor Services subscale correlate.

Discussion  Although low absence instructor ratings correlated
with administrator ratings more closely than did the high absence instructor ratings, all three groups correlated on this subscale.

**Hypothesis 5:**

Administrators and low absence instructor ratings on Instructor Services subscale correlate.

**Discussion** Across educational units, correlations were observed among the Instructor Services subscale ratings by the three groups. There were significant differences among the means of the three groups, however. This would indicate that there are differences among educational units that are identifiable regardless of which group is sampled. The mean ratings, however, would differ according to the group sampled.

**Hypothesis 9:**

Administrators and low absence instructor ratings on the Personnel Services subscale correlate.

**Discussion** Although the correlation between low and high instructor groups was much higher than the correlation between low absence instructor groups and the administrator group, a significant correlation existed.

The following questions were addressed:

1. Do instructors' descriptions agree with their administrator's description of management currently being used by their administrator?

Although some correlations existed between instructor and administrator group subscale responses on Personnel Services and Instructor Services subscales, no correlations were observed between instructors and administrators on the Administrative Policy subscale, which was the subscale measuring the administrative or management style practiced by the
administrator. While no relationship existed between instructors and administrators, there was a significant correlation (.562) between low and high absence instructors. Thus consistency exists between instructors as to ratings of administrative style. This suggests that perhaps the perception of administrators may be inaccurate reflections of the administrative style they practice as perceived by instructors.

2. Do educational units whose instructors and administrators agree on the management style currently being used by the administrator have lower instructor absenteeism?

This question was examined by regressing educational unit absence data on the three subscores obtained for the administrators, high absence instructors, and low absence instructors. Results of the analysis for the thirty-five (35) educational units analyzed indicated that the Instructor Services subscale produced a significant semi-partial correlation-coefficient with absence (r = .135).

Since Instructor Services was primarily a measure of the institutional environment rather than management style, the researcher must conclude that disagreement on ratings of administrative style (Administrative Policy subscale) had little relationship to absence.

3. Which management style maximizes instructor job satisfaction?

Items 64 and 65, which measure the amount of interaction with administrators and the effect of the decision-making process on instructor morale, were considered to reflect instructor job satisfaction or morale. These two items correlated .65 and .63 respectively with remaining Administrative Policy subscale combined items.
4. Which management style most effectively minimizes instructor absenteeism?

Instructor absenteeism did not correlate with the use of any particular management style. It correlated with certain demographic variables as health, union activity, distance of residence from the work place, hours of outside employment, and number of years in the educational unit.

Measurement of Management Style and Instructional Environment

Management styles of administrators can rarely be characterized along a single dimension such as autocratic vs. participative. Most administrators practice a style of management that includes features of many styles of management. For example, the LBDQ-XII includes initiating structure and consideration as two dimensions of management style. Other dimensions such as introversion, extroversion, knowledgeability, sense of humor, etc., may be necessary to adequately describe management style. Administrative Policy subscale of the IES may make a potent instrument for the measurement of management style in future research studies.

In this study and other studies, an assumption has been made that administrative style has a practical impact on instructor behavior. From the relationships reported in this and other research, one must ask whether the cost for producing "ideal management style" among administrators is justifiable. It may be that the frequency of contact and the duration of contact between instructors and administrators is of minor importance as compared with instructor-student or instructor-facility or instructor-community interactions. Although administrators want to...
believe they have a major impact upon instructors, as instructors want to believe they have an impact upon students, the research data suggest that individual behavior is more a choice of the individual than those who may be in a position to influence the individual. Other aspects of the instructional environment have as much or more influence.

Limitations

Implications made from the results of this study should be made cautiously. Factors related to the confidential nature of the data collected in the study prevented some educational units from participating. Perhaps the educational units with the most autocratic administrators elected not to participate in the study. Thus their administrative style may have been a factor in their refusal to participate, which would omit some educational units from the sample that were needed to obtain accurate results. Many of the educational units failing to participate had been involved with faculty strikes and administrative problems that caused the administrator to refuse to have anything to do with a study related to instructor job satisfaction. The administrator was extremely hesitant to get involved with a study that could in any way reflect negatively on the administrator.

Perhaps higher correlations would have been found if high absence instructor groups could have been sampled in each educational unit. Due to dependence upon the administrator for cooperation and identification of the high absence as well as the low absence group of instructors, the chronic high absence instructors may not have been included in the sample due to the administrator's hesitance to identify those instructors either
for fear of negative instructor reaction to completing a questionnaire or fear of a negative attitude toward the administrator.

Another confounding variable was the fact that high absence instructors may have been absent and thus they did not complete the questionnaire when the researcher was scheduled to arrive at the educational unit. One school reported the recent dismissal of the two chronic high absence instructors, which also would confound the results.

Consistency was not observed between high instructor self-reported absence rates and administrative records provided for the high absence instructors. Sometimes the inconsistency between days absent reported between administrative records and instructor self-reported absence days was ten to twenty days. Consequently, because instructor names could not be identified to protect their privacy, instructor self-reported absence rates were utilized in the study although they were inaccurate in some cases.

Post-secondary educational units rarely kept absence information for instructors. Absence records were impractical for them to keep on file due to evening classes and functioning much like a university system where the class would not be held when an instructor failed to report. Arrangements would have to be made to make up the class.

A combination of educational unit problems which varied greatly from one to another prevented inclusion of some educational units. The absence of these possibly atypical units from a study of this type may have seriously limited the observation of stronger relationships among the variables studied.
Recommendations for Further Research

The following recommendations for further research are made to strengthen and expand the data collected in this study:

1. The State Department should conduct a similar study to control for selection of high and low absence instructors and total population involvement.

2. A detailed case study is needed considering the demographic variables of union activity, health, hours worked in outside employment, distance from residence to place of employment, personal problems, etc., that correlate closely with instructor absence.

3. Student learning preferences and instructor teaching preferences have been the subject of studies related to student achievement. A similar study examining instructor management style preferences and administrator management style preferences could examine the relationship between preference differences and instructor job satisfaction, morale and absence.

4. An indepth study is recommended on the fringe benefits available to instructors with particular emphasis on absence policy. Experiments in which costs of absence are reduced by alternative incentive plans (such as payment for good attendance) should be included as part of the study. Similar experiments conducted by industries as reported in the review of literature had varying effectiveness in control of employee absences.

5. A study is recommended which investigates instructor self-concepts of professional competence, peer and student ratings of instructor competence as related to instructor absence, morale, satisfaction, and perceptions of administrative style. It may be hypothesized that instructors who are perceived by self or others as ineffective educators may
project their dissatisfaction with self in the form of negative attitudes and conduct toward others.

6. It may be speculated that the administrator who has had experience in a variety of professional roles may be rated as more effective by professional peers. It is recommended that a study be performed which examines the length and variety of experiences to ratings of administrative style.

7. A study of the trends and categories of instructor absence as related to economic, political and personal change should be pursued to identify other contributions to absence.

Conclusions

School absence rates for instructors correlate with combinations of instructor or administrator ratings of the institutional environment (Administrative Policy, Instructor Services, or Personnel Services). The degree of correlation, however, was minimal and of limited practical use. Individual instructor's absence rates were predictable using a combination of demographic data and one of the Instructional Environment Scale ratings. The accuracy of prediction indicates little practical application such as in recruiting or promotion.

In conclusion, individual absence is perhaps a function primarily of specific factors of the individual instructor rather than of the educational institution or the administrator's leadership style. Differences in overall instructor absence rates did not reflect administrative style in the analysis of this study. While differences existed among the
educational institutions on the ratings, such differences failed to correlate with differences on instructor absence rates.
BIBLIOGRAPHY

Absenteeism: How much is too much? The Management Review, January 1956, 45, 15-16 (Abstracted from Employee Relations Bulletin No. 484, National Foremen's Institute, Inc.).


Absenteeism in war plants. The Industrial Bulletin, August 1943, 22(8), 303-308.


Ballet for backaches cuts absenteeism. **Industrial Relations News**, April 18, 1959, 9, 3.


Better, but still far to go—how chemical companies score absenteeism today. **Chemical Week**, December 4, 1954, 75(23), 32.


Coates, Charles B. Combating needless absenteeism. Factory Management and Maintenance, November 1942, 100(11), 92-97.


The concentration of illness and absenteeism in one segment of a working population. *Industrial Medicine and Surgery,* August 1952, 3, 365-375.


Fiedler, Fred E. Predicting the effects of leadership training and experience from the contingency model. *Journal of Applied Psychology*, 1972, 56, No. 2, 114-119.


Harpster, Charles. High absence rate reported for teachers. Des Moines Register, April 26, 1979, 14A.


How to reduce absenteeism and increase production. *Industrial Welfare Division, Department of Labour and National Service* (Melbourne, Australia), Booklet No. 1, 1943, 64.


Information on absences and the administration of absence policies. *Personnel Planning Department, Detroit Edison Company*, Detroit, Michigan, August 1953.


Keffer, Ralph. Group sickness and accident insurance. Transactions, Actuarial Society of America, Chicago, May 19-20, 1927, 28(77), 5-34.


Kilbridge, M. D. Turnover, absence and transfer rate as indicators of employee dissatisfaction with repetitive work. Industrial and Labor Relations Review, 1961, 15, 21-32.


Naylor, J. E., and Vincent, N. L. Predicting female absenteeism. Personnel Psychology, 1959, 12, 81-84.


Noland, E. W. Attitudes and industrial absenteeism: A statistical appraisal. American Sociological Review, August 1945, 10, 503-510. (a)

Noland, E. William. Foreman and absenteeism. Personnel Journal, June 1945, 24(2), 73-76. (b)


Robins, James. Firms try newer way to slash absenteeism as carrot and stick fail. Wall Street Journal, March 14, 1979, 193(51), 1.


Schwartz, Leon. Factors contributing to the excessive use of sick leave. Industrial Medicine, August 1945, 14, 646-649.


Sickness absenteeism under GM Corporation group insurance plan. Monthly Labor Review, January 1952, 73, 38-40. The quotation is from an address delivered by Gillen to the General Motors Medical Conference, Atlantic City, N. J., April 23, 1961. The address was entitled: Non-occupational disability in General Motors.


Stogdill, Ralph M. Manual for the leader behavior description questionnaire. Columbus, Ohio: Bureau of Business Research College of Commerce and Administration, Ohio State University, 1963.


Three-way solution offered by WMC to reduce absenteeism. Iron Age, February 4, 1943, 151, 82.


Turner, A. N., and Lawrence, P. R. Industrial jobs and the worker. Cambridge, Massachusetts: Harvard University Graduate School of Business Administration, 1968.


Worker attitudes and industrial absenteeism: A statistical approach.  
American Sociological Review, August 1945, 10(4), 503-510.


APPENDIX A

Letters to Directors
Instructor Absence Record Sheet
Instructor Low and High Absence Sheet
The following letter was mailed to the Vocational Directors:

Gerald Kirby
Charles Fields
John Clerk
Delmar Johnson
Don Piper
H. Ross Brown
Marvin Copes
Robert Hoffman
James Hixson

Dear Mr.__________:

I appreciated the opportunity to visit with you last Thursday morning concerning our research project on instructor absenteeism and instructor job satisfaction. Thank you for your interest in the project.

I need the following information from you by Monday, November 5, 1979.

1. How many programs do you have in your Area Vocational School? (Examples: Building Trades, Agriculture Mechanics, Health Occupations, etc.)
   a. Please list the programs
   b. List the number of instructors in each program

2. Names and addresses of your high school feeder principals.

3. Please return both questionnaires you received last Thursday when you send us the above information.

Thank you for your cooperation and assistance. We are looking forward to your participating in our final data collection next January. It is a pleasure to work with you.

Sincerely,

Madalyn Bigger
Vocational In-Service Educator
Indiana State University
1. How many programs do you have in your Area Vocational School? (Examples: Building Trades, Agriculture Mechanics, Health Occupations, etc.)

   a. Please list the programs.

   b. Please list the number of full-time instructors in each program.

   c. Please list the number of part-time instructors in each program.

2. Names and addresses of the high school feeder principals.

3. I have enclosed both questionnaires I received last Thursday.

   Thank you so much.
The following letter was mailed to the participating administrators including high school Principals, secondary Vocational Directors, and Indiana Vocational Technical College Administrators.

Dear Mr./Ms. ________:

I enjoyed visiting with you by telephone today and am looking forward to seeing you on (day), (date), (time) in (place).

Enclosed please find a copy of the Instructor Absence Record Sheet and the Instructor Low and High Absence Sheet to be completed by your office prior to my arrival. Upon my arrival, I will need the following information:

1. The Instructor Absence Record Sheet completed.

2. The Instructor Low and High Absence Sheet completed. Please note that the instructors will not be told that the basis for their selection as participants in the study is their absence days. RESPONSES ARE CONFIDENTIAL. Names are to be identified only to assist in separating questionnaires of the high and low absence groups for response comparison purposes. Each group is anticipated to respond differently. When an instructor has completed the questionnaire, his/her name will be checked off and the sheet will be returned to your office on the same day. Only total group results will be tabulated and reported, not individual instructor nor school data.

3. Please notify the identified instructors that they have been selected to identify their ideas concerning instructor job satisfaction which will require fifteen (15) minutes of their time on (day), (date).

Thank you for your cooperation. I am looking forward to working with you on (day), (date), at (time).

Sincerely,

Madalyn Binger
Vocational In-Service Educator
T.A.W. 200
Indiana State University
Terre Haute, Indiana 47809
INSTRUCTOR ABSENCE RECORD SHEET

Please provide absence data exclusive of professional development or professional activities leave for September-December, 1979.

<table>
<thead>
<tr>
<th>Day</th>
<th>September</th>
<th>October</th>
<th>November</th>
<th>December</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
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<tr>
<td>Tuesday</td>
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<td>Wednesday</td>
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<td>Thursday</td>
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<tr>
<td>Friday</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Total Instructor Absences</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Number of Faculty</th>
<th></th>
</tr>
</thead>
</table>

A. I have used the following procedures to minimize instructor absence in our institution:  (Circle the one most preferred.)

a. instructor must call in personally to report illness  
b. instructor must report to the principal following illness  
c. instructor must complete a questionnaire when absent due to illness specifying nature and extent of illness and medication  
d. health nurse service visit to instructor's home  
e. non-reimbursement for unvalidated sick leave  
f. instructor consultation in faculty meetings addressing the problem and possible recommended solutions  
g. strict, stern reminders of the importance of attendance  
h. contests between departments for high attendance rates  
i. prizes or financial reimbursement for teachers maintaining high attendance rates.  
j. other (please explain method used)  

B. What portion of the day must your instructors be away from their scheduled work place before they are classified as "absent?"

1-2 hours  3-4 hours  5-6 hours
INSTRUCTOR LOW AND HIGH ABSENCE SHEET

Please note that although I need completed questionnaires from only four instructors in each category, I am asking you to identify six instructors in each category in anticipation that one or two may not be able to participate.

### SIX LOWEST ABSENCE INSTRUCTORS

<table>
<thead>
<tr>
<th>Name</th>
<th>No. of Days Absent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
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<tr>
<td>2.</td>
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<td>3.</td>
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<td>4.</td>
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<td>5.</td>
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<td>6.</td>
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</tbody>
</table>

### SIX HIGHEST ABSENCE INSTRUCTORS

<table>
<thead>
<tr>
<th>Name</th>
<th>No. of Days Absent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
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<tr>
<td>2.</td>
<td></td>
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<td>3.</td>
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<td>4.</td>
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<td>5.</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td></td>
</tr>
</tbody>
</table>

Please circle the correct alternative:

1. Where are your instructor absence records housed?
   - A. Your high school
   - B. Central office

2. How much time did you spend in collecting this information?
   - A. Less than 30 min.
   - B. 1 hour
   - C. 2-3 hours
   - D. more than 3 hours

3. Please attach a faculty schedule to this list so I will easily be able to locate the instructors. I will return both to you before I leave. Thanks so much.       ________ attached.
APPENDIX B: PILOT QUESTIONNAIRES
Dear Instructor:

Instructor satisfaction is an important factor in quality education. Consequently, the Industrial Education Department at Iowa State University is conducting a study to identify relationships between high school and vocational technical teacher satisfaction variables.

Your help is very important in our study because only you can reflect your ideas. Response time is 10-15 minutes.

Responses are confidential. The community name in which your school is located has been identified on the return envelope only to provide assistance in tabulating information by community size.

If you have any questions relative to this study or about the questionnaire, please write or call me. An addressed, postage-paid envelope is enclosed for your convenience. Please respond by November 16, 1979.

Thank you for your prompt attention.

Sincerely,

Madalyn Singer
Vocational Teacher
In-Service Educator
Indiana State University
T.A.W. 200
Terre Haute, Indiana 47809
(812) 232-6311 Extension 2811

William Miller, Professor
Coordinator of Graduate Studies
106 Industrial Education Bldg. 2
Iowa State University
Ames, Iowa 50011
(515) 294-1033

INSTRUCTIONAL ENVIRONMENT SCALE FOR INSTRUCTORS

Part A
The following statements may be related to instructor satisfaction. Please select one of the following numbers to represent the extent of your agreement or disagreement with each of the statements below:
1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, and 5 = strongly agree.

1. I have adequate unscheduled time to complete my work.
2. I do not know how much authority I have.
3. I perform tasks that are too easy or too boring.
4. I have clear, planned goals and objectives for my teaching.
5. I have little freedom in how I complete required tasks.
6. School guidelines and policies are rarely helpful to me.
7. Instructors are encouraged to act the same around administrators as they do around peers.
8. My administrator gives praise or correction when I least expect it.
9. Written school policies are sometimes contradictory.
10. I often receive an assignment without sufficient time to complete it.
11. My general responsibilities are not clearly defined.
12. I sometimes have to bend rules to complete an assignment.
13. I usually receive assignments that are within my training and capability.
14. I do not know how I will be evaluated for a raise promotion.
15. My administrator tells me how well I am performing my job.
16. I do not have adequate equipment and resources to work with.
17. Equipment in workshops and laboratories is well maintained.
18. My administrator attempts to improve working conditions for instructors.
19. I dread coming to work each day.
20. I believe that most of my coworkers look forward to coming to work each day.
21. All in all, I am well-satisfied with my job.
22. Instructors affected by administrative decisions are asked for their input before the decision is made.
23. Information is widely sought and shared in your institution so that those who make decisions have access to all available expertise.
24. In our institution administrators and faculty work as a team rather than "each working for oneself."
25. My administrator and I cooperatively determine which courses I will teach each time.
26. My job provides an opportunity for me to teach the subjects I prefer.
27. My immediate administrator is not good in dealing with people.
28. I am satisfied with my current salary.
29. Parents are generally very supportive of instructors in your institution.
30. It is quite likely that a major institutional problem now unforeseen will negatively affect my job within the next year or so.
31. It is quite likely that my administrator will evaluate my performance significantly lower than I think it should be rated.
32. My administrator holds "loss of job" over my head as an incentive to work hard and improve my performance.
33. In general, I have a great deal of influence on what goes on in my school.
34. I can influence my immediate administrator's decisions a great deal regarding items of concern to me.
35. My administrator rarely asks my opinion when a problem arises involving my work.
36. When I have a suggestion for job improvement or change, it is very difficult to get my ideas across to my immediate administrator.
37. In my opinion, the staff in our department are well qualified.
38. My administrator is very helpful in professionally developing staff and preparing them for higher positions.
39. My administrator rarely assists any one member of the staff in a difficult situation.
40. Written and verbal school policies are sometimes in contradiction.
41. I have a professional development plan.
42. My administrator is concerned about the welfare of the families of faculty members.
43. Activities in our institution are not very well organized.
44. I am almost always told what I need to know to do my job in the best possible way.
45. Instructors usually keep each other informed about important events and situations.
46. The amount of information I get concerning other departments is adequate for my full cooperation.
47. My administrator is rarely receptive to my ideas and suggestions.
48. My administrator keeps me well informed about important events and situations in other departments.
49. If the performance of my department or school drops significantly in the next year, it is likely that I will be fired, demoted, or transferred.
50. I sometimes receive incompatible requests from two or more administrators.
51. Some assignments involved with my work conflict with my ethical values.
52. I agree that my pay is comparable to my departmental contribution.
53. Release time is available for professional development.
54. Financial support is available for professional development.

Part B
Please circle the letter of the alternative that most nearly describes your work situation, as you view it.

1. How are differences and disagreements handled in your institution?
   A. usually avoided, denied
   B. sometimes avoided, denied
   C. usually accepted and suppressed
   D. almost always accepted as necessary and desirable and worked through

2. How often do you seek to be friendly and supportive to instructors in your department and/or teachers in other departments?
   A. rarely
   B. sometimes
   C. often
   D. almost always

3. How much confidence and trust do you have in your administrators?
   A. practically none
   B. a slight amount
   C. a considerable amount
   D. a very great deal

4. How free do you feel to talk to your supervisor about academic matters?
   A. not free
   B. slightly free
   C. quite free
   D. very free

5. How free do you feel to talk to your supervisor about non-academic matters?
   A. not free
   B. slightly free
   C. quite free
   D. very free

6. Who in your institution holds the highest standards for academic performance?
   A. school board
   B. administrators
   C. instructors
   D. all hold equally high standards

7. To what extent do you determine your responsibilities regarding student discipline and honesty?
   A. very little
   B. somewhat
   C. quite a bit
   D. very much

8. When a student is caught cheating, who typically deals with the problem?
   A. counselor
   B. administrator
   C. instructor
   D. all of the above

9. How would you rate the ability of the majority of your student population?
   A. superior
   B. good
   C. average
   D. below average

10. How would you rate the professionalism of your peers?
    A. superior
    B. good
    C. average
    D. below average
11. How would you rate your overall central administrative support?
   A. superior    C. average
   B. good        D. below average

12. How well does your administrator know the problems faced by faculty?
   A. not well     C. quite well
   B. somewhat     D. very well

13. How much are your administrators interested in your success?
   A. very little   C. quite a bit
   B. somewhat     D. very much

14. What is the character and amount of interaction between you and the administrators?
   A. very little interaction; usually with fear and distrust
   B. little interaction
   C. moderate interaction; often with fair amount of confidence and trust
   D. extensive, friendly interaction with high degree of confidence and trust

15. In general, what does the decision-making process contribute to your morale?
   A. not very much, often weakens it
   B. relatively little
   C. some contribution
   D. substantial contribution

---

**Part C**

On the lines below each item, please place a check (✓) at the point which most closely describes your institution. Treat each horizontal line as continuous from the extreme at one end to the extreme at the other. Do not think of the vertical lines as barriers.

1. To what extent do you determine what you will teach?
   a. Subject courses
      - Very little
      - Somewhat
      - Quite a bit
      - Very much
   b. Subject content
      - Very little
      - Somewhat
      - Quite a bit
      - Very much
   c. Sections
      - Very little
      - Somewhat
      - Quite a bit
      - Very much
   d. Hours
      - Very little
      - Somewhat
      - Quite a bit
      - Very much

2. To what extent does your administrator behavior in ways that encourages you to discuss important things about your work with him/her?
   - Very little
   - Somewhat
   - Quite a bit
   - Very much

---

**Part D**

On the line beside each item, please indicate the number of meetings you have participated in during the last semester relating to the following identified topics.

a. student discipline
b. student absenteeism
c. teacher absenteeism
d. transfer of students
e. admission of students
f. class scheduling
---

**INSTRUCTOR DEMOGRAPHIC CHARACTERISTICS**

Please circle all that apply:

1. Sex
   a. male
   b. female
2. Do you drive yourself to school?
   a. yes
   b. no
3. Age
   a. 30 or younger
   b. 31-40
   c. 41-50
   d. 51-60
   e. 61 or older
4. Marital status
   a. single
   b. married
5. Number of children
   a. 0
   b. 1-2
   c. 3-4
   d. more than 4
6. Number of years teaching in present school
   a. less than 1
   b. 2-3
   c. 4-5
   d. over 6
7. Total number of years teaching experience
   a. less than 1
   b. 2-3
   c. 4-5
   d. over 6
8. Number of years anticipating staying in current system
   a. 1-2
   b. 3-4
   c. indefinitely
   d. don't know
9. Highest level of preparation
   a. BS or BA
   b. MS or MA
   c. Specialist (30 hours past Master's Degree)
10. Union activity or commitment
    a. none
    b. membership
    c. very active
    d. officer
11. Major discipline taught
    a. Biological Science
    b. Math
    c. Social Sciences (Sociology, English, History)
    d. Vocational Educ. (HL, LEd, Ag)
    e. Music, Physical Educ., Art
12. Average class size
    a. less than 15
    b. 15-20
    c. 20-30
    d. more than 30
13. Distance from residence to school
    a. less than 1 mile
    b. 2-10 miles
    c. 11-20 miles
    d. more than 20 miles
14. Number of hours spent on professional duty per week
    a. 30
    b. 40
    c. 50
    d. over 60
15. Number of hours per week worked in additional employment
    a. none
    b. 1-10
    c. 11-20
    d. 21-30
    e. over 30
16. Average number of classes taught per day
    a. less than 2
    b. 2-3
    c. 4-5
    d. over 6
17. How do you rate your health
    a. excellent
    b. very good
    c. average
    d. poor
18. Number of days absent during 1979 fall semester
    a. none
    b. 1-2 days
    c. 3-4 days
    d. 5-6 days
Dear Administrator:

Instructor satisfaction is an important factor in quality education. Consequently, the Industrial Education Department at Iowa State University is conducting a study to identify relationships between high school and vocational technical teacher satisfaction variables.

Your help is very important in our study because only you can reflect your ideas. Response time is 15-20 minutes.

Responses are confidential. The community name in which your school is located has been identified on the return envelope only to provide assistance in tabulating information by community size.

If you have any questions relative to this study or about the questionnaire, please write or call me. An addressed, postage-paid envelope is enclosed for your convenience.

Please respond by November 16, 1979.

Thank you for your prompt attention.

Sincerely,

Madalyn Binger
Vocational Teacher
Indiana State University
T.A.W. 200
Terre Haute, Indiana 47809
(812) 232-6311 Extension 2811

William Miller, Professor
Coordinator of Graduate Studies
106 Industrial Education Bldg. 2
Iowa State University
Ames, Iowa 50011
(515) 294-1033

INSTRUCTIONAL ENVIRONMENT SCALE FOR ADMINISTRATORS

Part A

The following statements may be related to teacher satisfaction. Please select one of the following numbers to represent the extent of your agreement or disagreement with each of the statements below: 1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, and 5 = strongly agree.

1. My instructors are given adequate time to complete their work.  
2. Instructors do not know how much authority they have.  
3. The instructors are bored by their work.  
4. Instructors have clear, planned goals for their teaching.  
5. Instructors have little freedom in how to do required tasks.  
6. School policies and guidelines are rarely helpful to instructors.  
7. Instructors are encouraged to act the same around me as they act around peers.  
8. I correct or praise instructors when they least expect it.  
9. Written school policies are sometimes contradictory.  
10. Instructors receive assignments without manpower to complete them.  
11. Instructor responsibilities are not clearly defined.  
12. Instructors sometimes must bend rules to complete an assignment.  
13. Instructors are assigned responsibilities within their training and capacity.  
14. Instructors do not know how they will be evaluated for raises and promotions.  
15. I tell instructors how well they are doing.  
16. Instructors do not have adequate equipment and resources to work with.  
17. Equipment in workshops and laboratories is well maintained.  
18. I attempt to improve the working conditions of the instructors.  
19. I dread coming to work each day.  
20. I believe that most of our teachers look forward to coming to work each day.  
21. All in all, I am well-satisfied with my job.  
22. Instructors affected by administrative decisions are asked for their input before the decision is made.  
23. Information is widely sought and shared in your institution so that those who make decisions have access to all available expertise.  
24. In our institution administrators and faculty work as a team rather than "each working for oneself."  
25. I work cooperatively with teachers to determine which courses they will teach each term.  
26. Teachers are provided the opportunity to teach the subjects they prefer.  
27. I am not good in dealing with people.  
28. Instructors are satisfied with their salaries generally.
1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, and 5 = strongly agree.

29. Parents are generally very supportive of instructors in your institution.

30. It is quite likely that a major institutional problem now unforeseen will necessitate dismissal of some instructors within a year.

31. I am often forced to evaluate instructors' performance lower than they think it should be rated.

32. I use "loss of job" over instructors' heads as an incentive to work hard and improve their performance.

33. In general, instructors have a great deal of influence over what goes on.

34. Instructors can influence my decisions a great deal regarding items of concern to them.

35. I rarely ask instructors' opinions when a problem arises involving their work.

36. When instructors have suggestions for job improvement or change, it is very difficult to actually utilize their ideas.

37. In my opinion, the staff in our institution is well qualified.

38. I am very helpful in professionally developing faculty and preparing them for higher positions.

39. I rarely assist any one member of the staff in a difficult situation.

40. I am concerned about the welfare of the families of faculty members.

41. Activities in our institution are not very well organized.

42. I almost always tell instructors what they need to know to do their jobs in the best way possible.

43. Instructors usually keep each other informed about important wants and situations.

44. The amount of information instructors get concerning other departments is adequate for full cooperation.

45. I am rarely receptive to instructor ideas and suggestions.

46. I keep instructors well informed about important events and situations in other departments.

47. The majority of teachers at this institution have a professional development plan.

48. Release time is available for professional development for instructors.

49. Financial support is available for professional development.

Part B

Please circle the letter of the alternative that most nearly describes your work situation, as you view it.

1. How are differences and disagreements handled in your institution?
   A. usually avoided, denied  C. usually accepted and worked through
   B. sometimes avoided, denied  D. almost always accepted as necessary and desirable

2. How often do instructors seek to be friendly and supportive to other instructors in your institution?
   A. rarely  C. often
   B. sometimes  D. almost always

3. How much confidence and trust do instructors have in you?
   A. practically none  C. a considerable amount
   B. a slight amount  D. a very great deal

4. How freely do your instructors talk to you about academic matters?
   A. not at all  C. quite freely
   B. somewhat freely  D. very freely

5. How freely do your instructors talk to you about non-academic matters?
   A. not at all  C. quite freely
   B. somewhat freely  D. very freely

6. Who in your institution holds the highest standards for academic performance?
   A. school board  C. instructors
   B. administrators  D. all hold equally high

7. To what extent do teachers determine their responsibilities regarding student discipline and honesty?
   A. very little  C. quite a bit
   B. somewhat  D. very much

8. When a student is caught cheating, who typically deals with the problem?
   A. counselor  C. instructor
   B. administrator  D. all of the above

9. How would you rate the ability of the majority of your student population?
   A. superior  C. average
   B. good  D. below average

10. How would you rate the professionalism of your instructors?
    A. superior  C. average
    B. good  D. below average

11. How would you rate your overall central administrative support of instructors?
    A. superior  C. average
    B. good  D. below average.
12. How well do you know problems faced by your faculty?
   A. not well    C. quite a bit
   B. somewhat    D. very much

13. How much do your instructors feel you are really trying to help them with their problems?
   A. very little    C. quite a bit
   B. somewhat    D. very much

14. What is the character and amount of interaction between you and your instructors?
   A. very little interaction; usually with fear and distrust
   B. little interaction
   C. moderate interaction, more confidence and trust
   D. extensive, friendly interaction, much trust

15. In general, what does the decision-making process contribute to your morale?
   A. not very much, often weakens it    C. some contribution
   B. relatively little    D. substantial contribution

---

Part C
On the lines below each item, please place a check (✓) at the point which most closely describes your institution. Treat each horizontal line as continuous from the extreme at one end to the extreme at the other. Do not think of the vertical lines as barriers.

1. To what extent do you determine what you will teach?
   a. Subject courses
   Very little    Somewhat    Quite a bit    Very much

2. To what extent does your administrator behave in ways that encourages you to discuss important things about your work with him/her?
   Very little    Somewhat    Quite a bit    Very much

---

Part D
On the line beside each item, please indicate the number of meetings you have participated in during the last semester relating to the following identified topics.

- a. student discipline
- b. student absenteeism
- c. teacher absenteeism
- d. transfer of students
- e. admission of students
- f. class scheduling
- g. professional ethics and behavior
- h. parental notification and contact
- i. student suspension
- j. student expulsion
- k. in-service program planning
- l. professional leave policy
- m. personnel decisions

---

Part E
Please place a check (✓) by the Yes or No response. Have you consciously made any efforts to control instructor absence in your institution? Yes No (If no, omit the next question).

---

Part F
Please check (✓) all the procedures you have used. Circle the one most preferred.

- a. instructor must call in personally to report illness
- b. instructor must report to the principal following illness
- c. instructor must complete a questionnaire when absent due to illness specifying nature and extent of illness and medication
- d. health nurse service visit to instructor's home
- e. non-reimbursement for unvalidated sick leave
- f. instructor consultation in faculty meetings addressing the problem and possible recommended solutions
- g. strict, stern reminders of the importance of attendance
- h. contests between departments for high attendance rates
- i. prizes or financial reimbursement for teachers maintaining high attendance rates
- j. other (please explain method used)

Additional comments may be made in this space.
ADMINISTRATOR DEMOGRAPHIC CHARACTERISTICS

Please circle all that apply

1. Sex
   a. male  
   b. female

2. Age
   a. 30 or younger  
   b. 31-40  
   c. 41-50  
   d. 51-60  
   e. 61 or older

3. Marital status
   a. single  
   b. married

4. Number of children
   a. 0  
   b. 1-2  
   c. 3-4  
   d. more than 4

5. Number of years in present position as principal
   a. less than 1  
   b. 1-2  
   c. 3-4  
   d. over 6

6. Total number of years in administrative positions
   a. less than 1  
   b. 1-2  
   c. 3-4  
   d. over 6

7. Number of years anticipating staying in current system
   a. 1-2  
   b. 3-4  
   c. indefinitely  
   d. don't know

8. Highest level of preparation
   a. BS or BA  
   b. MS or MA  
   c. Specialist (30 hours past Master's Degree)

9. Teacher union activity or commitment
   a. none  
   b. membership  
   c. very active

10. Type of school
    a. High School  
    b. Vocational-Technical Institution  
    c. Community College

11. Major discipline background
    a. Biological Science  
    b. Math  
    c. Social Sciences (Sociology, English, History)  
    d. Vocational Education (HE, TED, Ag)  
    e. Music, Physical Education, Art

12. Average class size
    a. less than 15  
    b. 15 - 20  
    c. 21 - 25  
    d. 26 - 30  
    e. over 30

13. Size of community in which educational institution is located
    a. 20,000 - 40,000  
    b. 41,000 - 60,000  
    c. 61,000 - 80,000  
    d. 81,000 - 100,000  
    e. over 100,000

14. Number of assistant principals
    a. none  
    b. 1  
    c. 2  
    d. more than 3

15. Number of assistant principals
    a. none  
    b. 1  
    c. 2  
    d. more than 3

16. Total student enrollment
    a. 200-500  
    b. 501-800  
    c. 801-1000  
    d. 1000-1500  
    e. 1501-2000  
    f. 2001-3000  
    g. 3001-4000  
    h. 4001-5000  
    i. 5001-6000  
    j. 6001-7000  
    k. 7001-8000  
    l. 8001-9000  
    m. 9001-10000  
    n. 10001-12000  
    o. 12001-14000  
    p. 14001-16000  
    q. 16001-18000  
    r. 18001-20000  
    s. 20001-22000  
    t. 22000-25000  
    u. 25000-28000  
    v. 28000-30000  
    w. 30001-32000  
    x. 32001-35000  
    y. 35001-38000  
    z. 38001-40000

17. Number of teachers whom you supervise
    a. 100 or fewer  
    b. 101-150  
    c. 151-200  
    d. 201-250  
    e. over 251

18. How do you rate your health
    a. excellent  
    b. good  
    c. average  
    d. poor

Part G

Please provide the following information concerning instructor absen­ces from your files as completely as is possible.

INSTRUCTOR ABSENCE RECORD

<table>
<thead>
<tr>
<th></th>
<th>September</th>
<th>October</th>
<th>November</th>
<th>December</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>MONDAY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TUESDAY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WEDNESDAY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>THURSDAY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FRIDAY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL INSTRUCTOR ABSENCES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please check that you have responded to every item.

Thank you for your help. Your response will aid in identifying sources for instructor satisfaction. Results of this study will be shared in your state.
APPENDIX C:
ITEMS CLASSIFIED ACCORDING TO CONCEPTUAL CATEGORIES
**Items Classified into Subscales**
*(Predominant Classifications by Fourteen Judges)*

<table>
<thead>
<tr>
<th>Specific Categories &quot;Most Likely&quot; Preference</th>
<th>Item Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Operational Structure:</td>
<td>6, 9, 40</td>
</tr>
<tr>
<td>2. Operational Processes:</td>
<td>49, 54</td>
</tr>
<tr>
<td>4. Job Assignment Attributes:</td>
<td>1, 2, 3, 5, 10, 12, 26</td>
</tr>
<tr>
<td>5. Peer Relations:</td>
<td>37, 45, 46, 56, 64</td>
</tr>
<tr>
<td>6. Faculty-Student Relations:</td>
<td>61, 62</td>
</tr>
<tr>
<td>7. Physical Plant Attributes:</td>
<td>17</td>
</tr>
<tr>
<td>8. Equipment and Supplies:</td>
<td></td>
</tr>
<tr>
<td>9. Personnel Organizations:</td>
<td></td>
</tr>
<tr>
<td>10. Professional Employee Characteristics:</td>
<td>41</td>
</tr>
<tr>
<td>11. Homogeneity of Purpose</td>
<td>60</td>
</tr>
<tr>
<td>12. Vocational-Professional Emphasis:</td>
<td></td>
</tr>
<tr>
<td>13. Student Characteristics:</td>
<td>63</td>
</tr>
<tr>
<td>14. Non-academic Services</td>
<td></td>
</tr>
<tr>
<td>15. Student Orientation</td>
<td></td>
</tr>
<tr>
<td>16. Faculty Attitudes:</td>
<td>8, 19, 20, 21, 30, 33, 51, 69</td>
</tr>
</tbody>
</table>

Note: Items underlined have been reversed in scoring.
<table>
<thead>
<tr>
<th>Item</th>
<th>Most Likely Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I have adequate unscheduled time to complete my work.</td>
<td>* 4 7/14</td>
</tr>
<tr>
<td>2. I do not know how much authority I have.</td>
<td>* 4 8/14</td>
</tr>
<tr>
<td>3. I perform tasks that are too easy or too boring.</td>
<td>* 4.9/14</td>
</tr>
<tr>
<td>4. I have clear, planned goals and objectives for my teaching.</td>
<td>10 4/14</td>
</tr>
<tr>
<td>5. I have little freedom in how I complete required tasks.</td>
<td>4 5/14</td>
</tr>
<tr>
<td>6. School guidelines and policies are rarely helpful to me.</td>
<td>* 1 7/14</td>
</tr>
<tr>
<td>7. Instructors are encouraged to act the same around administrators as they do around peers.</td>
<td>3 4/14</td>
</tr>
<tr>
<td>8. My administrator gives praise or correction when I least expect it.</td>
<td>* 3 7/14</td>
</tr>
<tr>
<td>9. Written school policies are sometimes contradictory.</td>
<td>* 1 9/14</td>
</tr>
<tr>
<td>10. I often receive an assignment without sufficient time to complete it.</td>
<td>4 6/14</td>
</tr>
<tr>
<td>11. My general responsibilities are not clearly defined.</td>
<td>4 4/14</td>
</tr>
<tr>
<td>12. I sometimes have to bend rules to complete an assignment.</td>
<td>4 5/14</td>
</tr>
<tr>
<td>13. I usually receive assignments that are within my training and capability.</td>
<td>4-10 4/14</td>
</tr>
<tr>
<td>14. I do not know how I will be evaluated for a raise promotion.</td>
<td>3 4/14</td>
</tr>
<tr>
<td>15. My administrator tells me how well I am performing my job.</td>
<td>* 3 12/14</td>
</tr>
<tr>
<td>16. I do not have adequate equipment and resources to work with.</td>
<td>* 8 8/14</td>
</tr>
</tbody>
</table>

Note: Items underlined are reversed in scoring. Asterisks indicate items with fifty percent (50%) or more agreement among the judges.
Table C.1 (Continued)

<table>
<thead>
<tr>
<th>Item</th>
<th>Most Likely Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>17. Equipment in workshops and laboratories is well maintained.</td>
<td>* 8 8/14</td>
</tr>
<tr>
<td>18. My administrator attempts to improve working conditions for instructors.</td>
<td>* 3 7/14</td>
</tr>
<tr>
<td>19. I dread coming to work each day.</td>
<td>*16 10/14</td>
</tr>
<tr>
<td>20. I believe that most of my coworkers look forward to coming to work each day.</td>
<td>*16 8/14</td>
</tr>
<tr>
<td>21. All in all, I am well satisfied with my job.</td>
<td>*16 11/14</td>
</tr>
<tr>
<td>22. Instructors affected by administrative decisions are asked for their input before the decision is made.</td>
<td>* 3 7/14</td>
</tr>
<tr>
<td>23. Information is widely sought and shared in your institution so that those who make decisions have access to all available expertise.</td>
<td>*13 6/14</td>
</tr>
<tr>
<td>24. In our institution, administrators and faculty work as a team rather than &quot;each working for oneself.&quot;</td>
<td>13 5/14</td>
</tr>
<tr>
<td>25. My administrator and I cooperatively determine which courses I will teach each time.</td>
<td>* 3 8/14</td>
</tr>
<tr>
<td>26. My job provides an opportunity for me to teach the subjects I prefer.</td>
<td>4 5/14</td>
</tr>
<tr>
<td>27. My immediate administrator is not good in dealing with people.</td>
<td>* 3 11/14</td>
</tr>
<tr>
<td>28. I am satisfied with my current salary.</td>
<td>16 5/14</td>
</tr>
<tr>
<td>29. Parents are generally very supportive of instructors in your institution.</td>
<td>6 4/14</td>
</tr>
<tr>
<td>30. It is quite likely that a major institutional problem now unforeseen will negatively affect my job within the next year or so.</td>
<td>16 6/14</td>
</tr>
<tr>
<td>31. It is quite likely that my administrator will evaluate my performance significantly lower than I think it should be rated.</td>
<td>* 3 7/14</td>
</tr>
</tbody>
</table>
Table C.1 (Continued)

<table>
<thead>
<tr>
<th>Item</th>
<th>Most Likely Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>32. My administrator holds &quot;loss of job&quot; over my head as an incentive to work hard and improve my performance.</td>
<td>* 3 10/14</td>
</tr>
<tr>
<td>33. In general, I have a great deal of influence on what goes on in my school.</td>
<td>*16 8/14</td>
</tr>
<tr>
<td>34. I can influence my immediate administrator's decisions a great deal regarding items of concern to me.</td>
<td>* 3 9/14</td>
</tr>
<tr>
<td>35. My administrator rarely asks my opinion when a problem arises involving my work.</td>
<td>* 3 14/14</td>
</tr>
<tr>
<td>36. When I have a suggestion for job improvement or change, it is very difficult to get my ideas across to my immediate administrator.</td>
<td>* 3 12/14</td>
</tr>
<tr>
<td>37. In my opinion, the staff in our department are well qualified.</td>
<td>* 5 9/14</td>
</tr>
<tr>
<td>38. My administrator is very helpful in professionally developing staff and preparing them for higher positions.</td>
<td>* 3 9/14</td>
</tr>
<tr>
<td>39. My administrator rarely assists any one member of the staff in a difficult situation.</td>
<td>* 3 13/14</td>
</tr>
<tr>
<td>40. Written and verbal school policies are sometimes in contradiction.</td>
<td>* 1 10/14</td>
</tr>
<tr>
<td>41. I have a professional development plan.</td>
<td>*10 12/14</td>
</tr>
<tr>
<td>42. My administrator is concerned about the welfare of the families of faculty members.</td>
<td>* 3 11/14</td>
</tr>
<tr>
<td>43. Activities in our institution are not very well organized.</td>
<td>16 5/14</td>
</tr>
<tr>
<td>44. I am almost always told what I need to know to do my job in the best possible way.</td>
<td>* 3 7/14</td>
</tr>
<tr>
<td>45. Instructors usually keep each other informed about important events and situations.</td>
<td>* 5 10/14</td>
</tr>
</tbody>
</table>
Table C.1 (Continued)

<table>
<thead>
<tr>
<th>Item</th>
<th>Most Likely Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>46. The amount of information I get concerning other departments is adequate for my full cooperation.</td>
<td>* 5 7/14</td>
</tr>
<tr>
<td>47. My administrator is rarely receptive to my ideas and suggestions.</td>
<td>* 3 10/14</td>
</tr>
<tr>
<td>48. My administrator keeps me well informed about important events and situations in other departments.</td>
<td>* 3 12/14</td>
</tr>
<tr>
<td>49. If the performance of my department or school drops significantly in the next year, it is likely that I will be fired, demoted, or transferred.</td>
<td>* 2 7/14</td>
</tr>
<tr>
<td>50. I sometimes receive incompatible requests from two or more administrators.</td>
<td>3 6/14</td>
</tr>
<tr>
<td>51. Some assignments involved with my work conflict with my ethical values.</td>
<td>*16 7/14</td>
</tr>
<tr>
<td>52. I agree that my pay is comparable to my departmental contribution.</td>
<td>4 3/14</td>
</tr>
<tr>
<td>53. Release time is available for professional development.</td>
<td>4 5/14</td>
</tr>
<tr>
<td>54. Financial support is available for professional development.</td>
<td>2 6/13</td>
</tr>
<tr>
<td>55. How are differences and disagreements handled in your institution?</td>
<td></td>
</tr>
<tr>
<td>A. usually avoided, denied or suppressed</td>
<td></td>
</tr>
<tr>
<td>B. sometimes avoided, denied or suppressed and sometimes accepted and worked through</td>
<td></td>
</tr>
<tr>
<td>C. usually accepted and worked through</td>
<td></td>
</tr>
<tr>
<td>D. almost always accepted as necessary and desirable and worked through</td>
<td>3 8/11</td>
</tr>
<tr>
<td>56. How often do you seek to be friendly and supportive to instructors in your department and/or instructors in other departments?</td>
<td></td>
</tr>
<tr>
<td>A. rarely</td>
<td>C. often</td>
</tr>
<tr>
<td>B. sometimes</td>
<td>D. almost always</td>
</tr>
</tbody>
</table>
Table C.1 (Continued)

<table>
<thead>
<tr>
<th>Item</th>
<th>Most Likely Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>57. How much confidence and trust do you have in your administration?</td>
<td></td>
</tr>
<tr>
<td>A. practically none</td>
<td>C. a considerable amount</td>
</tr>
<tr>
<td>B. a slight amount</td>
<td>D. a very great deal</td>
</tr>
<tr>
<td>58. How free do you feel to talk to your supervisor about academic matters?</td>
<td></td>
</tr>
<tr>
<td>A. not free</td>
<td>C. quite free</td>
</tr>
<tr>
<td>B. slightly free</td>
<td>D. very free</td>
</tr>
<tr>
<td>59. How free do you feel to talk to your supervisor about non-academic matters?</td>
<td></td>
</tr>
<tr>
<td>A. not free</td>
<td>C. quite free</td>
</tr>
<tr>
<td>B. slightly free</td>
<td>D. very free</td>
</tr>
<tr>
<td>60. Who in your institution holds the highest standards for academic performance?</td>
<td></td>
</tr>
<tr>
<td>A. school board</td>
<td>C. instructors</td>
</tr>
<tr>
<td>B. administrators</td>
<td>D. all hold equally high standards</td>
</tr>
<tr>
<td>61. To what extent do you determine your responsibilities regarding student discipline and honesty?</td>
<td></td>
</tr>
<tr>
<td>A. very little</td>
<td>C. quite a bit</td>
</tr>
<tr>
<td>B. somewhat</td>
<td>D. very much</td>
</tr>
<tr>
<td>62. When a student is caught cheating, who typically deals with the problem?</td>
<td></td>
</tr>
<tr>
<td>A. counselor</td>
<td>C. instructor</td>
</tr>
<tr>
<td>B. administrator</td>
<td>D. all of the above</td>
</tr>
<tr>
<td>63. How would you rate the ability of the majority of your student population?</td>
<td></td>
</tr>
<tr>
<td>A. superior</td>
<td>C. average</td>
</tr>
<tr>
<td>B. good</td>
<td>D. below average</td>
</tr>
<tr>
<td>64. How would you rate the professionalism of your peers?</td>
<td></td>
</tr>
<tr>
<td>A. superior</td>
<td>C. average</td>
</tr>
<tr>
<td>B. good</td>
<td>D. below average</td>
</tr>
<tr>
<td>Item</td>
<td>Most Likely Category</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>65. How would you rate your overall central administrative support?</td>
<td>* 3 9/12</td>
</tr>
<tr>
<td>A. superior</td>
<td>C. average</td>
</tr>
<tr>
<td>B. good</td>
<td>D. below average</td>
</tr>
<tr>
<td>66. How well does your administrator know the problems faced by faculty?</td>
<td>* 3 11/12</td>
</tr>
<tr>
<td>A. not well</td>
<td>C. quite well</td>
</tr>
<tr>
<td>B. somewhat</td>
<td>D. very well</td>
</tr>
<tr>
<td>67. How much are your administrators interested in your success?</td>
<td>* 3 9/12</td>
</tr>
<tr>
<td>A. very little</td>
<td>C. quite a bit</td>
</tr>
<tr>
<td>B. somewhat</td>
<td>D. very much</td>
</tr>
<tr>
<td>68. What is the character and amount of interaction between you and the administrators?</td>
<td>* 3 9/12</td>
</tr>
<tr>
<td>A. very little interaction; usually with fear and distrust</td>
<td>C. moderate interaction; often with fair amount of confidence and trust</td>
</tr>
<tr>
<td>B. little interaction</td>
<td>D. extensive, friendly interaction with high degree of confidence and trust</td>
</tr>
<tr>
<td>69. In general, what does the decision-making process contribute to your morale?</td>
<td>*16 9/12</td>
</tr>
<tr>
<td>A. not very much, often weakens it</td>
<td>C. some contribution</td>
</tr>
<tr>
<td>B. relatively little</td>
<td>D. substantial contrib-</td>
</tr>
</tbody>
</table>
APPENDIX D: FINAL QUESTIONNAIRES
Dear Instructor:

Instructor satisfaction is an important factor in quality education. Consequently, the Vocational Teacher In-Service Division at Indiana State University and the Industrial Education Department at Iowa State University are conducting a joint study to identify relationships among instructor satisfaction variables.

Your help is very important in our study because only you can reflect your ideas. Response time is 10-15 minutes. Questions referring to "your administrator" mean your Vocational Director if you are in a Secondary Area Vocational Center or Post-Secondary IVY Tech School. The word "administrator" refers to your principal if you are in a high school without a Vocational Director.

Responses are confidential. Individual school names have been coded only to assist in collecting completed questionnaires from randomly selected instructors.

If you have any questions relative to this study or about the questionnaire, please write or call me.

Thank you for your prompt attention.

Sincerely,

Madalyn Binger
Vocational Teacher
In-Service Educator
Indiana State University
T.A.W. 200
Terre Haute, Indiana 47809
(812) 232-6311 Extension 2811

William G. Miller, Professor
Coordinator of Graduate Studies
106 Industrial Education Bldg. 2
Iowa State University
Ames, Iowa 50011
(515) 294-1033

<table>
<thead>
<tr>
<th>Part A</th>
<th>The following statements may be related to instructor satisfaction. Please select one of the following numbers to represent the extent of your agreement or disagreement with each of the statements below: 1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, and 5 = strongly agree.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I have clear, planned goals and objectives for my teaching.</td>
<td>CC 9</td>
</tr>
<tr>
<td>2. Instructors have a minimum of babysitting and monitoring duties in our institution.</td>
<td>CC 10</td>
</tr>
<tr>
<td>3. Instructors are encouraged to act the same around administrators as they do around peers.</td>
<td>CC 11</td>
</tr>
<tr>
<td>4. We need more in-service programs directly related to specific subject areas.</td>
<td>CC 12</td>
</tr>
<tr>
<td>5. My administrator tells me how well I am performing my job.</td>
<td>CC 13</td>
</tr>
<tr>
<td>6. The in-service training provided has adequately met my needs.</td>
<td>CC 14</td>
</tr>
<tr>
<td>7. My administrator attempts to improve working conditions for instructors.</td>
<td>CC 15</td>
</tr>
<tr>
<td>8. I dread coming to work each day.</td>
<td>CC 16</td>
</tr>
<tr>
<td>9. In-service programs should be provided for administrators.</td>
<td>CC 17</td>
</tr>
<tr>
<td>10. Instructors affected by administrative decisions are asked for their input before the decision is made.</td>
<td>CC 18</td>
</tr>
<tr>
<td>11. Instructors are expected to maintain strict discipline among students, but my administrator does not support me.</td>
<td>CC 19</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>School</th>
<th>A/T</th>
<th>Seq. No.</th>
<th>H/L</th>
<th>F/S/C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
31. When I have a suggestion for
30. My assignments look unattractive
29. My administrator rarely asks
28. I can influence my immediate
27. Sometimes I feel I have the
26. In general, I have a great
deal of influence on what goes on in my school.
25. Each day as I go home, I wonder if I can face another day.
24. My administrator holds “loss of job” over my head as an incentive to work hard and improve my performance.
23. My administrator appears to
22. It is quite likely that my administrator will evaluate my performance significantly lower than I think it should be rated.
21. My peers would probably rate me higher as an instructor than other instructors.
20. My administrator is very helpful in professionally developing staff and preparing them for higher positions.
19. My administrator rarely assists any one member of the staff in a difficult situation.
18. More time should be appropriated for in-service.
17. Superior instructor performance in financially unrewarded in this institution.
16. In-service programs directed toward increasing student motivation would be helpful.
15. Written and verbal school policies are sometimes in contradiction.
14. Superior instructor performance is not acknowledged in any way in this institution.
13. I have a professional development plan.
12. While this institution encourages professional development, it does not provide for it.
11. Activities in our institution are not very well organized.
10. In-service programs have often been a waste of time.
9. I am almost always informed of what I need to know to do my job in the best possible way.
8. Compared with other instructors, I resolve day to day conflicts better than most.
7. I am able to work through bureaucratic red tape in this institution quite well.
6. My administrator is rarely receptive to my ideas and suggestions.
5. The problems in this institution rarely appear to be too big for anyone to handle.
4. My administrator keeps me well informed about important events and situations in other departments.
3. The students frequently appear to be more than I can cope with.
2. If the performance of my department drops significantly in the next year, it is likely that I will be fired, demoted, or transferred.
1. In-service programs should cover a few topics in depth rather than skim the surface of broad areas.

Part B
Please circle the letter of the alternative that most nearly describes your work situation, as you view it.

59. How are differences and disagreements handled in this institution?
A. usually avoided, denied or suppressed
B. sometimes avoided, denied or suppressed and sometimes accepted and worked through
C. almost always accepted as necessary and desirable and worked through
D. very little accepted and worked through

60. How free do you feel to talk to your supervisor about non-academic matters?
A. not free
B. slightly free
C. quite free
D. very free

61. To what extent do you determine your responsibilities regarding student discipline and honesty?
A. very little
B. somewhat
C. quite a bit
D. very much

62. How would you rate your overall central administrative support?
A. superior
B. average
C. good
D. below average

63. When I find myself in a problem situation at school, I typically
A. resolve it myself
B. work it out with one or more other instructors
C. talk to other instructors
D. ask my administrator for assistance
64. What is the character and amount of interaction between you and the administrators?  
A. very little interaction; usually with fear and distrust  
B. little interaction  
C. moderate interaction; often with fair amount of trust and confidence  
D. extensive, friendly interaction with high degree of trust and confidence
65. In general, what does the decision-making process contribute to your morale?  
A. not very much, often weakens it  
B. relatively little  
C. some contribution  
D. substantial contribution
66. Student, peer, self and administrator evaluations are often used in a school. How many of the above methods are utilized in making evaluations of your teaching?  
A. none  
B. one  
C. two  
D. three  
E. all are used

Part C
On the lines below each item, please make a check (✓) at the point which most closely describes your institution. Treat each horizontal line as continuous from the extreme at one end to the extreme at the other. Do not think of the vertical lines as barriers.

To what extent do you determine what you will teach?

67. Subject courses  

<table>
<thead>
<tr>
<th>Very little</th>
<th>Somewhat</th>
<th>Quite a bit</th>
<th>Very much</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
</tr>
</tbody>
</table>

68. Subject content  

<table>
<thead>
<tr>
<th>Very little</th>
<th>Somewhat</th>
<th>Quite a bit</th>
<th>Very much</th>
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<tbody>
<tr>
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<td>C</td>
<td>D</td>
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69. Hours  

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70. To what extent does your administrator behave in ways that encourage you to discuss important things about your work with him/her?  

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<td>C</td>
<td>D</td>
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71. Indicate on the scale below the manner in which most of the administrative decisions are reached in your institution.  

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<th>Predominantly by Administrators</th>
<th>Cooperatively by Faculty and Administrators</th>
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<td>D</td>
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Please check to see that you have responded to every item. Thank you for your help.
Dear Administrator:

Instructor satisfaction is an important factor in quality education. Consequently, the Vocational Teacher In-Service Division at Indiana State University and the Industrial Education Department at Iowa State University are conducting a joint study to identify relationships among instructor satisfaction variables.

Your help is very important in our study because only you can reflect your ideas. Response time is 10-15 minutes.

Responses are confidential. Individual school names have been coded only to assist in collecting completed questionnaires from randomly selected instructors.

If you have any questions relative to this study or about the questionnaire, please write or call me.

Thank you for your prompt attention.

Sincerely,

Madelyn Binger
Vocational Teacher
Indiana State University
T.A.W. 200
Terre Haute, Indiana 47809
(812) 232-6311

William G. Miller, Professor
Coordinator of Graduate Studies
105 Industrial Education Bldg. 2
Iowa State University
Ames, Iowa 50011
(515) 294-1033

INSTRUCTIONAL ENVIRONMENT SCALE FOR ADMINISTRATORS

Part A
The following statements may be related to instructor satisfaction. Please select one of the following numbers to represent the extent of your agreement or disagreement with each of the statements below: 1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, and 5 = strongly agree.

1. Instructors have clear, planned goals for their teaching. ____
2. Instructors have a minimum of babysitting and monitoring duties in our institution. ____
3. Instructors are encouraged to act the same around me as they act around peers. ____
4. We need more in-service programs directly related to specific subject areas. ____
5. I tell instructors how well they are performing their jobs. ____
6. The in-service training provided has adequately met instructor needs. ____
7. I attempt to improve the working conditions of the instructors. ____
8. I dread coming to work each day. ____
9. In-service programs should be provided for administrators. ____
10. Instructors affected by administrative decisions are asked for their input before the decision is made. ____
11. Instructors are expected to maintain strict discipline among students, but I do not support them. ____
12. Information is widely sought and shared in my institution so that those who make decisions have access to all available expertise. ____
13. Student evaluations of instructor teaching performance are used in determining their salary. ____
14. In our institution administrators and faculty work as a team rather than "each working for oneself." ____
15. I work cooperatively with instructors to determine which courses they will teach each term. ____
16. My instructors feel that my evaluations of their teaching performance are usually accurate. ____
17. Instructors are provided the opportunity to teach the subjects they prefer. ____
18. Instructors given time for professional development are the ones who least need it. ____
19. Instructor evaluations have little influence on salary increases or assignments. ____
20. I am not good in dealing with people. ____
21. In-service programs are needed on how to handle student discipline problems. ____
22. I am often forced to evaluate instructors' performance lower than they think it should be rated.

23. I know current in-service needs of instructors.

24. I hold "loss of job" over instructors' heads as an incentive to work hard and improve performance.

25. Each day as I go home, I wonder if I can face another day.

26. In general, instructors greatly influence what goes on in this school.

27. Sometimes I feel I have the most difficult assignment in the school.

28. Instructors can influence my decisions a great deal regarding items of concern to them.

29. I rarely ask instructors' opinions when a problem arises involving their work.

30. My assignments look unattractive when compared with those of other administrators.

31. When instructors have suggestions for job improvement or change, it is very difficult to actually utilize their ideas.

32. In-service programs that summarize research related to professional areas would be helpful.

33. My peers would probably rate me higher as an administrator than other administrators.

34. I am very helpful in professionally developing faculty and preparing them for higher positions.

35. I rarely assist any one member of the staff in a difficult situation.

36. More time should be appropriated for in-service.

37. Superior instructor performance is financially unrewarded in this institution.

38. In-service programs directed toward increasing student motivation would be helpful.

39. Written and verbal school policies are sometimes in contradiction.

40. Superior instructor performance is not acknowledged in this institution.

41. The majority of instructors in this institution have a professional development plan.

42. While this institution encourages professional development, it does not provide for it.

43. Activities in our institution are not very well organized.

44. In-service programs have often been a waste of time.

45. I almost always inform instructors of what they need to know to do their jobs in the best possible way.

46. Compared with other administrators, I resolve day to day conflicts better than most.

47. I am rarely receptive to instructor ideas and suggestions.

48. The problems in this institution rarely appear to be too big for anyone to handle.

49. I keep instructors well informed about important events and situations in other departments.

50. The students frequently appear to be more than I can cope with.

51. If the performance of any department drops significantly in the next year, it is likely that some will be fired, demoted, or transferred.

52. Instructors are able to work through bureaucratic red tape in this institution quite well.

53. Release time is available for professional development.

54. Written school policies are sometimes contradictory.

55. Financial support is available for professional development.

56. Instructors do not know how they will be evaluated for a raise or promotion.

57. In-service programs should cover a few topics in depth rather than skim the surface of broad areas.

58. I have consciously made efforts to control instructor absence in this institution.

Part B
Please circle the letter of the alternative that most nearly describes your work situation, as you view it.

59. How are differences and disagreements handled in this institution?
   A. usually avoided, denied C. usually accepted and worked through
   B. sometimes avoided, denied D. almost always accepted as necessary and desirable and worked through

60. How free do your instructors feel to talk to you about non-academic matters?
   A. not free C. quite free
   B. slightly free D. very free

61. To what extent do your instructors determine their responsibilities regarding student discipline and honesty?
   A. very little C. quite a bit
   B. somewhat D. very much

62. How would you rate your overall central administrative support?
   A. superior C. average
   B. good D. below average
63. When instructors find themselves in problem situations at school, they typically:
A. resolve it as an individual
B. work it out with one or more instructors
C. talk to other instructors
D. ask you for assistance

64. What is the character and amount of interaction between you and the instructors?
A. very little interaction; usually with fear and distrust
B. little interaction
C. moderate interaction; often with fair amount of confidence and trust
D. extensive, friendly interaction with high degree of confidence and trust

65. In general, what does the decision-making process contribute to your morale?
A. not very much, often weakens it
B. relatively little
C. some contribution
D. substantial contribution

66. Student, peer, self and administrator evaluations are often used in a school. How many of the above methods are utilized in making evaluations of your instructors' teaching?
A. none
B. one
C. two
D. three used
E. all are used

Part C

On the lines below each item, please make a check (X) at the point which most closely describes your institution. Treat each horizontal line as continuous from the extreme at one end to the extreme at the other. Do not think of the vertical lines as barriers.

67. Subject courses

To what extent do your instructors determine what they will teach?

A. very little
B. somewhat
C. quite a bit
D. very much

68. Subject content

To what extent do you behave in ways that encourage your instructors to discuss important things about their work with you?

A. very little
B. somewhat
C. quite a bit
D. very much

69. Hours

To what extent do you behave in ways that encourage your instructors to discuss important things about their work with you?

A. very little
B. somewhat
C. quite a bit
D. very much

70. To what extent do you behave in ways that encourage your instructors to discuss important things about their work with you?

A. very little
B. somewhat
C. quite a bit
D. very much

71. Indicate on the scale below the manner in which most of the administrative decisions are reached in your institution.

A. Administrators
B. Faculty and Administrators
C. Predominantly by
D. Cooperatively by

Please check to see that you have responded to every item. Thank you for your help.
APPENDIX E:

RESULTS OF THE VARIMAX ROTATION FOR FACTORS 1 - 9
Table E.1 Results of the varimax rotation for factors 1 - 9

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APPENDIX F:

ITEM MEANS AND STANDARD DEVIATIONS OF THE INSTRUCTIONAL ENVIRONMENT SCALE FOR ADMINISTRATIVE AND COMBINED INSTRUCTOR ABSENCE GROUPS
Table F.1 Means and standard deviations of individual items of the IES by administrators and combined instructors

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APPENDIX G:
ADMINISTRATOR SCORES AND MEANS AND STANDARD DEVIATIONS
OF INSTRUCTOR SCORES FOR IES SUBSCALES
WITHIN EDUCATIONAL UNITS
Table 6.1 Administrator scores and means and standard deviations of instructor scores for IES subscales within educational units

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