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**A STUDY OF THE RELATIONSHIP BETWEEN TRANSFORMATIONAL
LEADERSHIP AND SCHOOL CLIMATE**

by

Christine L. Jensen

**A Dissertation
Submitted to the
Faculty of The Graduate College
in partial fulfillment of the
requirements for the
Degree of Doctor of Education
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**Western Michigan University
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A STUDY OF THE RELATIONSHIP BETWEEN TRANSFORMATIONAL LEADERSHIP AND SCHOOL CLIMATE

Christine L. Jensen, Ed.D.

Western Michigan University, 1995

The study investigated the relationship between transformational leadership and school climate in elementary schools in west Michigan with enrollments of 200-800 students. Eighteen school districts with 294 participating teachers completed two questionnaires.

The independent variable of transformational leadership was investigated by using the Multifactor Leadership Questionnaire to measure teachers' perceptions of leadership factors. The dependent variable of school climate was investigated by using the Organizational Climate Descriptor Questionnaire-Revised Elementary. The questionnaire was used to determine teachers' perceptions of principal openness, teacher openness, and overall school climate.

As a result of the data analysis, the investigation supported that there was a relationship between outcome measures of transformational leadership and teacher openness. There was also a positive correlation between transformational leadership behaviors and school climate and the sum of transformational leader behaviors and leadership outcome factors and school climate.

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CHAPTER I

INTRODUCTION

Transformational leadership theory first took on a mature form with the work of political scientist Burns (1978). Burns stated that transformational leadership "occurs when one or more persons engage others in such a way that leaders and followers raise one another to higher levels of motivation and morality" (p. 20). Since then the investigation of transformational leadership behaviors has been extended in noneducational organizations by Bass (1985) and others. While the evidence is building that transformational leadership makes a difference, few studies have occurred in the educational setting with the consequence that "very little empirical evidence is available about its nature and consequence in such contexts" (Leithwood, 1992, p. 9).

Statement of the Problem

The extent to which a principal promotes a positive school climate is "critical in developing a healthy work environment for teachers and administrators. . . . [Thus,] the climate of the school is a potential means for making schools more productive, as well as an important end in itself" (Hoy, Tarter, & Kottkamp, 1991, p. 2). It would be a distinct advantage to educational leaders if leadership behaviors which contribute to a positive school climate could be identified.

Therefore, the following question was posed: Is there a relationship between the constructs of leadership and climate in the school setting? To answer the question, the climates of schools were observed for variation as a presumed result of variation in leadership of the principals (Kerlinger, 1986).

Researchers outside education have identified a form of leadership, termed transformational leadership, which has contributed to successful operations in the areas of business and politics (Bass, 1985; Bennis & Nanus, 1985; Burns, 1978; Conger & Kanunga, 1988). The Multifactor Leadership Questionnaire (MLQ) was developed by Bass and Avolio (1990). It measures the degree of presence of transformational attributes through subjects expressing agreement or disagreement with the presence of the attributes on a 5-point scale.

A study of school climate defines the shared perceptions of teachers regarding the work environment. The Organizational Climate Descriptor Questionnaire (OCDQ-RE), revised by Hoy et al. (1991), measures the attributes of school climate through subjects' agreement to statements on a 4-point scale.

Purpose of the Study

Since there are few studies documenting transformational leadership behaviors in educational settings (Leithwood, 1992), and the management of the climate is the responsibility of the leader (Likert, 1967; Selznick, 1957), it was the purpose of this study to investigate the relationship between transformational leadership behaviors of elementary school principals and the organizational climate of their

elementary schools. The results should provide insights for elementary principals as they evaluate their leadership, the work place, and the potential for change (Hoy et al., 1991).

CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction to Leadership

Leadership as a construct has been widely studied and defined (Stogdill, 1974). The efforts of organizational scholars since the 1960s to explain leadership in terms of situations and leadership style (Blake & Mouton, 1964; Fiedler, 1967) have come under criticism for neglecting to determine the substance of leadership (Sergiovanni & Starratt, 1983). Additional attempts to define leadership in terms of leader-follower relations, with little regard for goal attainment, have also been criticized (Bass, 1985; Burns, 1978). As attempts to define leadership have continued, so has the effort to measure leadership effectiveness. A common measure of leadership effectiveness continues to be the extent of successful task performance and goal attainment (Yukl, 1989).

Those who have studied and defined leadership in terms of substance and goal attainment have identified factors which contribute to effective leadership. One factor is the ability of the leader to recognize the needs of the follower in order to determine how to motivate the follower to work beyond expectation. A second is the leader's ability to understand the organizational culture in order to realign that culture to prepare the organization for change. A review of research related to the constructs of leadership, motivation, and culture which follows will

assist in developing a definition of the constructs and their relationship in this study.

Leadership and Motivation

While some theories of motivation discount the effect of the leader (Vroom, 1964), Maslow (1954) proposed that the needs of individuals have a hierarchical ranking, and higher order needs cannot be reached until lower level needs are satisfied. Maslow theorized that the highest level of need was for self-actualization, or becoming all that one is capable of being. Although need levels were considered hierarchical, they were recognized as overlapping and interdependent; one level need not be completed before the next emerged (Bass, 1985).

Herzberg (1966) theorized that motivation is determined by two levels of needs, intrinsic and extrinsic. The leader who satisfies lower level extrinsic needs will have followers who lack dissatisfaction, but in order to have satisfaction among followers, it was necessary for the leader to address higher order (intrinsic) needs.

A leader is obliged to understand needs from the perspective of the organization, in terms of goals and objectives, as well as from the perspective of the individual who works in the organization. It is the successful interpretation, management, and elevation of those needs which determines the effectiveness of the leader and the organization. "Followers' attitudes, beliefs, motives and confidence need to be transformed from a lower to a higher plane of arousal and maturity. To achieve follower performance beyond the ordinary limits, leadership must be transformational" (Bass, 1985, p. xiii).

Leadership and Organizational Culture

An understanding of behaviors of followers may be discovered in the context of the organization, the organizational culture. Schneider (1990) referred to the problem of defining culture as "trying to nail Jell-O to the wall!" (p. 1). Part of the difficulty of defining culture also lies in the newness of the construct.

Pettigrew (1979) proposed that the anthropological concept of culture (symbolism, ritual, myth, etc.) could be applied to the study of organizations. That proposal was acted on in 1982 by Deal and Kennedy in their widely read book, Corporate Cultures: Rites and Rituals of Corporate Life, and by Peters and Waterman (1982) in their book, In Search of Excellence. These works reinforced Ouchi's (1981) Theory Z, which called for a "redirection of attention to human relations in the corporate world" (p. 165). The significance of these studies is that the soft side of organizations (human resources) was demonstrated to be important to leaders. It was clear "that an organizational culture that stifles innovation and hard work may be the biggest stumbling block to adapting to uncertain times" (Owens, 1991, p. 168).

The studies cited above also helped to clarify major themes when defining culture: "behavioral norms, 'how we do things around here'; shared values, 'what is important': and beliefs, 'what we think is true'" (Owens, 1991, p. 170). Common to all definitions of culture is the idea that culture is a common set of shared meanings or understandings about the group/organization and its problems, goals, and practices. These shared understandings are the result of learned responses to the

group's problems of survival and internal integration. They are also internalized and subconscious. For the leader, it is necessary to investigate causes (a previous leader, societal context) and effects (organizational performance or goal attainment) of the organization's culture (Schneider, 1990).

Researchers have determined that innovative companies are marked by a "culture of pride and a climate of success" (Kanter, 1983, p. 149). The leader who determines that the norms of his or her organization do not support success may alter norms by creating new traditions in order to break old habits, or through modeling the appropriate values in the daily life of an organization or school (Bass & Avolio, 1994; Owens, 1991). Those behaviors of creating new traditions and modeling values are characteristic of the transformational leader. As the culture of an organization is understood and refined by the leader, the organization will be better prepared for change.

Summary

Effective leadership, which maximizes goal attainment, is characterized by a leader who motivates followers to work beyond expectation, while managing the culture of the organization. These behaviors are characteristic of transformational leadership, initially characterized by Burns (1978) as occurring when "one or more persons engage with others in such a way that leaders and followers raise one another to higher levels of motivation and morality" (p. 20). A discussion of the development of transformational leadership theory in its development and practice follows.

Transformational and Transactional Leadership

Burns (1978), in his Pulitzer Prize winning book, Leadership, introduced a new paradigm of leadership which he termed transformational leadership. The theory described leadership as an interaction between leader and follower which resulted in a mutually elevating process. The two types of interactive behaviors described in this theory were termed transactional leadership and transformational leadership.

The transactional leader accomplishes goals through an exchange process, offering something that satisfies a need in the follower in exchange for an act of compliance by the follower, which could be anything from getting a job done to casting a vote. Burns (1978) stated "such transactions comprise the bulk of the relationships between leaders and followers" (p. 4). The transformational leader does more than set up simple exchanges or agreements.

Transformational leadership is defined in terms of the performance of the leader and his or her effect on the follower. It is in evidence when leaders:

stimulate interest among colleagues and followers to view their work from new perspectives, generate awareness of the mission or vision of the team and organization, develop colleagues and followers to higher levels of ability and potential, and motivate colleagues and followers to look beyond their own interests toward those that will benefit the group. (Bass & Avolio, 1994, p. 2)

Researchers agree that the effect of transformational leadership is the empowerment of followers who accomplish goals far beyond what could have been reasonably expected or predicted (Bass, 1985; Bennis & Nanus, 1985; Burns, 1978). There is "a relation of mutual stimulation

and elevation that converts followers into leaders and may convert leaders into moral agents" (Burns, 1978, p. 4). The effect is brought about when "the transformational leader looks for potential motives in followers, seeks to satisfy higher needs, and engages the full person of the follower" (Burns, 1978, p. 4). Bennis and Nanus (1985) described the transformative leadership process as one that produces "change agents." This occurs as the leader communicates a vision, gives it meaning resulting in the empowerment and increased stakeholder participation in the organization.

According to House (1977), the act of creating vision is indicative of charismatic leadership. For those studying social science, charisma is an "endowment of an extremely high degree of esteem, value, popularity, and/or celebrity status attributed by others" (Bass, 1985, p. 39). House described creating vision as a dynamic interactive process resulting in the leader relating work and mission to values shared by the organizational culture. The vision and mission are clear and commitment is made to the vision by the followers.

Charisma by itself is not sufficient to account for the transformational process (Bass, 1985). While both the charismatic and transformational leader will inspire followers, the transformational leader will more "likely accomplish it as a teacher, mentor or coach; the charismatic who is not transformational will appear in the role of a celebrity, shaman, miracle worker or mystic" (Bass, 1985, p. 52). There is a difference between the charismatic who trains followers to be blindly led and the charismatic/transformational leader who encourages followers to think on their own (Avolio & Gibbons, 1988).

Studies of extraordinary leaders, those who have influenced followers to perform beyond expectation, frequently refer to world class charismatics, such as Lee Iacocca, but the concept is not limited to world class leaders. Bass (1985) and Bass and Avolio (1988) contended that charisma can occur all through complex organizations, among professionals, educational administrators, and industrial managers. Bass (1985) also emphasized that the effective leader is more likely one who accomplishes goals through an authentic assessment of the followers' needs and through intellectual rather than emotional persuasion.

Burns (1978) was specific that transformational leadership must be a moral leadership. Others disagree and cite a dark side of transformational leadership, which is depicted by such leaders as Adolf Hitler or the Rev. Jim Jones of the Jonestown massacre (Bass, 1985; Conger & Kanungo, 1988).

Tichy and Devanna (1986) defined transformational leadership as a process which is dependent on seven identified attributes, while Bass's (1985) perspective defined the leadership style in terms of leaders' effects on followers. Burns (1978) described transformational leadership as the opposite end of a single continuum from transactional leadership, while Bass (1985) posited that the patterns which leaders exhibit are interactive and varied; leaders practice both forms of leadership in differing amounts.

Bass's 1985 work, Leadership and Performance Beyond Expectation, expands transformational theory and operationalizes the theory through the Multifactor Leadership Questionnaire (MLQ), which is a measure of transformational and transactional leadership behaviors

(Avolio, Waldman, & Yammarino, 1991). A discussion specific to Bass's theory follows.

Transactional and Transformational Theory

Transactional leadership occurs when

the leader rewards or disciplines the follower depending on the adequacy of the follower's performance. Transactional leadership depends on contingent reinforcement, either positive contingent reward or the more negative active or passive forms of management by exception. (Bass & Avolio, 1994, p. 4)

The contingent reward method involves a leader and follower agreeing on what needs to be done. The leader then "promises rewards or actually rewards others in exchange for satisfactorily carrying the assignment" (Bass & Avolio, 1994, p. 4). A nonmaterial form of reward, feedback, is most common. While the feedback may come from co-workers, the portion that comes from the leader, material or nonmaterial, is transactional (Bass, 1985). Positive contingent reward may be in the nonmaterial form such as praise, or the material form such as pay increase, or public reward and recognition. Contingent aversive reinforcement may be a small reminder of a deviation or clarification of expectation. The more severe measures such as fines, reprimands, or suspensions are less likely to promote effectiveness. Bass (1985) noted that managers who wait for failure before intervention are practicing management by exception which is a form of aversive contingent reinforcement.

Management by exception is not as effective in motivating employees but may be required in some instances. The leader may practice

this in an active or passive role. In the active role, the leader actively monitors for deviances and takes action; in the passive role, he or she waits passively for errors and then takes action. Whether active or passive, the leader is managing as a controller, someone who is watching what is happening but not intervening unless there is a deviation. That intervention is delivered in varying forms of negative feedback (Bass, 1985).

Laissez-faire leadership, a form of nonleadership, is found at the opposite end of the transformational continuum. It is not transactional or transformational. Under this type of supervision, employees are discouraged from taking initiative. There is minimal pressure to produce and communication is severely curtailed. When employees do not perform as expected, the laissez-faire leader is likely to withdraw from or leave the situation (Bass, 1985).

A leader's decision to shift from transactional to the more potent transformational style is dependent upon the task or resulting behaviors needed from the follower (Bass, 1985; Burns, 1978). Since transformational leadership is dependent on the transactional leadership behaviors already being practiced to some extent, the transformational factors, specific to Bass's theory have been isolated from the model for the purposes of this study.

Bass, in his 1985 book, Leadership and Performance Beyond Expectations, drew several conclusions about transformational behaviors from his research about the fundamental structure of transformational leadership. These behaviors have been further defined in Improving Organizational Effectiveness Through Transformational Leadership (Bass

& Avolio, 1994) as the Four I's: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. A fifth factor, attributed charisma, is also measured but is independent of the training model since charismatic qualities of leaders are attributed to the leader by the follower, and are assumed to be in evidence to some degree when transformational leadership behaviors are found.

Developing transformational leadership, in what is termed full range leadership training, involves a continuum ranging from the inactive and ineffective laissez-faire leadership through the highly effective transformational model (Bass & Avolio, 1994). Following is a discussion of the transformational components of Bass's theory.

Idealized Influence

Transformational leadership is seen as a moral leadership, which "helps followers see the real conflict between competing values, the inconsistencies between espoused values and behavior and the need for realignment in values, changes in behavior or transformations of institutions" (Bass, 1985, p. 182). The fulfillment of real needs is dependent upon moral leadership which "contributes to an organization's well-being and goes hand in hand with the integrity of leaders" (Bass, 1985, p. 184). The leader then becomes a role model for his or her followers. Leaders who are admired, respected, and trusted are emulated by their followers. A contributing factor to this process is the leader

considering the needs of others over his or her own personal needs. The leader shares risks with followers and is consistent rather than arbitrary. He or she can be counted on to do the right thing, demonstrating high standards of ethical and

moral conduct. He or she avoids using power for personal gain only when needed. (Bass & Avolio, 1994, p. 3)

Inspirational Motivation

Inspirational motivation adds nonintellectual emotional qualities to the influence process, and engenders belief in the vision of the organization. The follower is moved to believe that what is being asked is justified, not because of a promised extrinsic reward, but because of the prospect of contributing to the organization or cause. This process is dependent upon the leaders and followers already having shared common beliefs and values (Bass, 1985).

The transformational leader provides

meaning and challenge to their follower's work. Team spirit is aroused. Enthusiasm and optimism are displayed. The leader gets followers involved in envisioning attractive future states. The leader clearly communicates expectations that followers want to meet and also demonstrates commitment to goals and the shared vision. (Bass & Avolio, 1994, p. 3)

These behaviors by the leader and the effects of those behaviors become especially important in competitive environments when commitment is necessary, or work is discouraging or dangerous (Bass, 1985).

Intellectual Stimulation

Intellectual stimulation, which Bass (1985) noted does not imply scholarly stimulation, is evidenced in a change in the follower's awareness of the process of problem solving. This change occurs through innovating, finding alternatives and strategic planning. A new problem-solving process which contributes to the transformational process is

produced.

The difference between transactional and transformational leadership may be seen in the way the leader approaches problem solving. The transformational leader looks for innovation and risk taking, and takes a proactive perspective. The transactional leader has a reactive approach to the problem, intending to find a solution that keeps the organization running.

The proactive approach reinforces that the leader is concerned with ideas. Ideas are not criticized because they are different from the leader's nor is there any public criticism of individual's mistakes. Instead, the leader projects ideas as images or symbols which excite subordinates and colleagues. The images and symbols carry new attitudes and beliefs of the organization. "Introducing and establishing a new and enduring stable system of values, beliefs and associations is the epitome of effective transformational leadership" (Bass, 1985, p. 109).

Individualized Consideration

This factor of transformational leadership is characterized by the leader paying special attention to an individual with a developmental (coaching) or mentoring orientation towards the subordinate. Individual attention is paid in actual one-to-one conversations in which the leader listens effectively. In practice "new learning opportunities are created along with a supportive climate. Individual differences in terms of needs and desires are recognized. The leader's behavior demonstrates acceptance of individual differences" (Bass & Avolio, 1994, p. 4).

"Management by walking around" is practiced because it facilitates understanding the needs of the individual. It is the face-to-face meeting that encourages personalized interactions with the follower. The leader sees the individual as a whole person, rather than just a subordinate. As a means of developing followers, the leader delegates tasks which are monitored to see if additional support or direction is needed. Ideally followers do not feel checked on. This type of mentorship provides for restoration of self-esteem if the protégé meets defeat (Bass, 1985; Bass & Avolio, 1994).

The Multifactor Leadership Questionnaire

A description of transformational leadership theory in terms of behaviors was completed by Bass (1985) in order to operationalize the theory for a pilot study. As a result of the study, 73 of the items were selected for a revised questionnaire. The most recent revision (Bass & Avolio (1994) has 87 items, which test for behavior variables identified as transformational and transactional, as well as three outcome variables. The MLQ survey can be used to isolate transformational behaviors and measure the degree to which those behaviors (idealized influence, intellectual stimulation, individualized consideration, and inspirational motivation) are practiced. The degree of attributed charisma is also indicated. Bass and Avolio (1988) pointed out that transformational leaders are assumed to be charismatic to some degree.

Summary

The perspective of studying leadership in terms of goal attainment, motivation, and culture has spawned studies of extraordinary leaders, those who have influenced followers to perform beyond expectation. Transformational leadership theory, first proposed in a mature form by Burns (1978), described how the extraordinary leader accomplishes goals. In concept, Burns differentiated the more ordinary form of leadership, transactional leadership, from the extraordinary form of leadership, transformational leadership. A further refinement of transformational theory by Bass (1985) resulted in the development of the Multifactor Leadership Questionnaire (MLQ), which in effect operationalized transformational leadership theory. The development and subsequent refinement of the MLQ offers the researcher an opportunity to determine and examine the followers' perceptions of their leader's transformational and transactional leadership behaviors. Transformational factors may be isolated in order to research whether there is a relationship between transformational leadership and another construct, such as climate. As previously noted, it would be of great advantage to educational leaders to determine if such a relationship exists, because the climate of a school contributes to the potential for productivity in the school (Hoy et al, 1991). Discourse on the construct climate further defines the study.

Introduction to Climate

The construct of climate reflects a long history in the study of organizational behavior. It began with Lewin, Lippitt, and White's (1939) study of the relationship between leadership style and climate. Ensuing studies through the early 1960s considered climate as a correlate to work, motivation, and productivity (Argyris, 1958; Forehand & Gilmer, 1964; McGregor, 1960). These studies did not contribute to a common definition of climate and it was determined that the essence of climate needed to be defined. Pettigrew (1990), in retrospect, offered the explanation that researchers were trying to prove that climate did exist, first by measuring it, and were then left to make sense of the mass of data collected in such an atheoretical fashion.

Organizational Climate

The nature of the climate construct and early findings were first published in the works of Tagiuri (1968). The idea of organizational climate was still relatively new when a research conference regarding the concept was convened at the Harvard Business School in 1967. As a result of the conference, climate became a topic for discussion and development.

Tagiuri (1968) pointed out in his essay, which was a product of the conference, that the study of climate came about because researchers turned to studying the organization as a determinant of behavior. Some researchers viewed organizational climate as a list of characteristics that influence and define the organization (Forehand & Gilmer,

1964). Tagiuri (1968) believed that the definition did not place enough emphasis on the perceptions of the members of the organization.

Tagiuri (1968) offered what he termed a "crude definition" stating: "Climate is the relatively enduring quality of the total environment that (a) is experienced by the occupants, (b) influences their behavior, [and] (c) can be described in terms of the values of a particular set of characteristics (or attributes) of the environment" (p. 27). Specifically, the environment was internal and was experienced from within the organization.

Tagiuri (1968) then identified four descriptive dimensions or characteristics of the organization's climate--ecology, milieu, social system, and culture--which would account for differences in organizational climates. Culture and climate, which now are treated as separate constructs, are interrelated in the sense that the culture of an organization manifests itself in the climate of an organization. "Culture refers to the behavioral norms, assumptions and beliefs of an organization, whereas, climate refers to perceptions of persons in the organization that reflect those norms, assumptions and beliefs" (Owens, 1991, p. 171). Researching organizational climate is "the study of perceptions that individuals have of various aspects of the environment of an organization (Owens, 1991, p. 175).

The study of climate has been driven by an implicit focus emphasizing a particular dependent variable or strategic interest (Ekvall, 1987; Schneider, 1990). MacGregor (1960) researched what he termed "managerial climate" one of participation and control; Litwin and Stringer (1968) explored leadership as a determinant of organizational climate

and motivation; Zohar (1980) investigated aspects of the workplace as they related to a climate for safety; Schneider (1990) researched climate and issues related to service. The focus, or strategic interest, therefore, is the setting in which climate is investigated. It is this focus which binds the construct in a way that facilitates assessment of climate or as the participants' "perceptions of the events, practices, and procedures and the kinds of behaviors that get rewarded, supported, and expected in a setting" (Schneider, 1990, p. 384).

School Climate

School climate has been of interest to researchers for some time. The work of Halpin and Croft (1963), who made the first efforts to define and measure the dimensions of school climate, drew the attention of researchers who practiced in the areas of business and organizational studies (Tagiuri, 1968).

The four dimensions identified by Tagiuri (1968) have served as a method of examining the literature on school climate (Anderson, 1982; Miskel & Ogawa, 1988). As applied to the school setting, ecology refers to physical or building characteristics, such as building age, decoration, care, or school size. Milieu refers to the characteristics of persons and groups within the school environment such as teachers and student body. Culture refers to the values and belief systems of various groups within the school. Social systems deals with the patterns of relationships between individuals and groups in the school (Anderson, 1982; Hoy et al., 1991; Tagiuri, 1968).

Most studies of school climate focus on either cultural systems or social systems (Anderson, 1982), the former termed the organization culture, the later the organizational climate. Studying organizational climate requires measurement of the perceptions that individuals have of various aspects of the school (Owens, 1991).

Eliciting and measuring perceptions have led researchers of the social systems of schools to depend heavily on questionnaires. Beginning with Halpin and Croft's (1962) pioneering study, it was shown that the organizational climate of an elementary school could be systematically assessed. The authors emphasized that while perceptions were not necessarily an objective reflection of reality, it was whatever people perceive that must be described.

As previously noted in the discussion of climate, there is a specific focus or strategic interest from which climate is studied. The attention of educational researchers, and more recently educational practitioners, has been drawn to the construct of climate as they struggle with the need to make improvements in schools (Wilson & McGrail, 1987). The emphasis on the need for changing school conditions has been encouraged by reform movements such as the National Commission on Excellence in Education (1983), and most recently in Michigan, revisions of the School Improvement Act P.A. 25 by P.A. 335 and P.A. 339.

While the purpose of the reform movements is to improve student learning, and there is suggestion that there is significant correlation between school climate and student performance, there is little empirical evidence linking school climate as a construct with academic achievement (Purkey & Smith, 1983). Hoy et al. (1991) reasoned that school

climate is important in its own right, that "the extent to which the school atmosphere promotes openness, collegueship, professionalism, trust, loyalty, committment, pride . . . and cooperation is critical in developing a healthy work environment for teachers and administrators" (p. 2).

Research on organizational climate most frequently has been accomplished by using questionnaires, the results of which are aggregated to provide descriptions of dimensions of the organization. The questionnaires are specific to life in the organization and contain statements which the individual reacts to on a scale according to the extent to which the individual believes the statement applies. A mean is usually derived from the answers to sets of questions which then provides an organizational measure. The sample of members of the organization must be representative since it is the common perception that constitutes the organizational climate (Ekvall, 1987). In this study, a questionnaire specific to schools was used to determine the perceptions of teachers.

Sumniary

The organizational climate of a school, a manifestation of the culture of a school, is a potential means for making schools more productive as well as an important end in itself (Hoy et al., 1991). A study of the relationship of transformational leadership and school climate has the potential for providing a means for principals, through their leadership, to enhance school climate.

CHAPTER III

METHODOLOGY

This chapter presents the design and methodology of the study. It includes information on the population, instrumentation, research design, procedure, and statistical techniques selected for data analysis. The confirmation of protocol of the research design by the Western Michigan University Human Subjects Institutional Review Board relative to this study is in Appendix F.

Population of the Study

The population of the study included school districts within commuting distance in Oceana, Osceola, Mecosta, Newaygo, and Muskegon Counties in Michigan. This region is representative of urban, suburban, and rural elementary schools with student populations ranging from 200 to 800. Grade levels in the schools ranged from preschool through sixth grade. Proximity to schools was important to facilitate attendance at afternoon staff meetings to explain the study.

School districts in the sample each had one or more elementary schools with populations of 200 or more students. A minimum population of 200 was set so that a 50% response rate would predict an adequate number of respondents (a minimum of six). Excluding one school district (the researcher's employer), 18 school districts fell into this category in the 1993-94 school year. The school districts which

met criteria were identified from descriptions in the Michigan Educational Directory 1994 (Michigan Educational Directory, Inc., 1993).

Professional endorsement of the study was obtained from Lawrence Stancliff, Superintendent of the Oceana Intermediate School District (Appendix B). A copy of the endorsement letter was included with the request for approval which was mailed to each district superintendent included in the study.

Permission to survey the staff was obtained from each district's superintendent or through procedures established by the district. Principals were then contacted to relate to them how the climate and leadership surveys could be used for their own personal information in planning for school improvement.

Principals who agreed to have their schools participate in the study received packets containing an instructional cover letter. It was recommended that someone other than the principal distribute the surveys and collect the scoring sheets. The packet also included a book for the school's library with an inscription thanking the teachers for their participation. A postage paid return envelope for surveys was provided. Each teacher received a cover letter with instructions and a thank you for his or her participation, two surveys, and two Scantron scoring sheets coded by school (Appendices D and E). The surveys were distributed and collected by someone other than the principal, then mailed to the researcher.

Survey results for each individual school were sent to the principal only. It was the principal's decision whether or not to further

disseminate results. District and school anonymity were protected since individual districts were not identified in the analysis.

Instrumentation

The purpose of this study was to examine school climate as a dependent variable and to measure the relationship between the independent variable, transformational leadership behaviors, and the dependent variable, school climate. Two survey instruments were employed: the Multifactor Leadership Questionnaire (Form 5X--Rater) and the Organizational Climate Descriptor Questionnaire-Revised Elementary. A discussion of the rationale for selection of the climate survey will further define school climate and the variables measured in this study of school climate.

Climate Measure

The selection of a climate measure for this study involved consideration of the purpose for data collection, the manner in which the data were to be collected, what climate variables were to be assessed, whose perceptions were to be sought, the length of time required to complete the survey, and the reliability and validity of instrument. The response to those considerations narrowed the field of surveys to be considered.

The manner and method of data collection needed to be fiscally responsible, time efficient, and yield quantitative data which lent itself to developing a mean score for interschool comparisons. The targeted population, elementary teachers, precluded surveys which included parents and students. (Inclusion of those other populations was not

pertinent to the perceptions of individuals as internal components of the school.)

The reliability and validity of the instrument were important to the internal and external validity of the research. A final consideration was that data should be easily shared and understood by school personnel, so that results could be used by participating schools. The survey instrument which best met all qualifications was the Organizational Climate Descriptor Questionnaire-Revised Elementary (Hoy et al., 1991). Permission to use this questionnaire was granted by the authors in the text of Open Schools/Healthy Schools (Hoy et al., 1991).

The Organizational Climate Descriptor Questionnaire-Revised Elementary (OCDQ-RE)

Early researchers into school climate were Halpin and Croft (1963). Their interest in the construct resulted in a pioneering study of elementary schools. They determined that basic patterns in school climate did exist (Halpin & Croft, 1962, 1963).

The researchers determined patterns through the development of the Organizational Climate Descriptive Questionnaire (OCDQ) which measured climate in two forms of interactions, teacher-teacher and teacher-principal. Six prototypic profiles of climate were derived. Individual schools were mapped along a continuum according to characteristics of those six basic school climates (Halpin & Croft, 1963).

Hoy et al. (1991) believed that the OCDQ required revision and that it should be thought of as a measure of managerial climate since student perceptions are not included. The Organizational Climate

Descriptive Questionnaire-Revised Elementary (OCDQ-RE) was the product of that revision.

The definition of school climate accompanying the OCDQ-RE is: "School climate is the relatively enduring quality of the school environment that is experienced by participants, affects their behavior, and is based on their collective perception of behavior in schools" (Hoy et al., 1991, p. 10).

The revision of the instrument involved evaluation of the old instrument and new item generation. A study based on a between school analysis dealt with the conceptual validity of items. The study of 70 elementary schools included urban, suburban, and rural schools with 10 or more teachers, 4 of whom were randomly selected to respond. The authors used a series of empirical, conceptual, and statistical tests to reduce the bank of statements to 42 items and determined six dimensions of school climate measured in two categories of behavior. Three of these behaviors depicted principal behavior and three depicted teacher behavior. Principal behavior was termed "principal openness" and the teacher behavior was termed "teacher openness." The degree of principal openness and teacher openness are relatively independent of each other. The combination of the six behaviors was used to derive an overall school climate score (Hoy et al., 1991).

Terms describing the three dimensions of principal openness were supportive, directive, and restrictive behaviors. The three dimensions of teacher openness identified in the factor analysis were collegial, intimate, and disengaged behaviors. Reliability scores for the scales of principal behavior were: supportive, .95; directive, .89; and

restrictive, .80. Reliability scores for the scales of teachers' behaviors were: collegial, .90; intimate, .85; and disengaged, .75.

A factor analysis supported the construct validity of the six measures of school climate. A second-order factor analysis determined the subscales were relatively independent of each other and the dimensions are viewed along an open-closed continuum (Hoy et al., 1991; Kerlinger, 1986).

The authors of the OCDQ-RE defined the three principal dimensions as follows:

Supportive principal behavior reflects a basic concern for teachers. The principal listens and is open to teacher suggestions. Praise is given genuinely and frequently, and criticism is handled constructively. The competence of the faculty is respected, and the principal exhibits both personal and professional interest in teachers.

Directive principal behavior is rigid, close supervision. The principal maintains constant monitoring and control over all teacher and school activities, down to the smallest detail.

Restrictive principal behavior is behavior that hinders rather than facilitates teacher work. The principal burdens teachers with paperwork, committee requirements, routine duties, and other demands that interfere with their teaching responsibilities. (Hoy et al., 1991, p. 32)

The dimensions of teacher behaviors were defined as follows:

Collegial teacher behavior supports open and professional interactions among teachers. Teachers are proud of their school, enjoy working with their colleagues, and are enthusiastic, accepting and mutually respectful of their colleagues.

Intimate teacher behavior is cohesive and strong social relations among teachers. Teachers know each other well, are close personal friends, socialize together regularly, and provide strong social support for each other.

Disengaged teacher behavior signifies a lack of meaning and focus to professional activities. Teachers simply are putting in time in nonproductive group efforts; they have no common goals. In fact, their behavior often is negative and

critical of their colleagues and the school. (Hoy et al., 1991, p. 32)

The openness indices were determined in the second order factor analysis. The indices were interpreted in the same way as the subtest scores (Hoy et al., 1991).

The OCDQ-RE questionnaire has 42 items. Teachers respond on a 4-point Likert-type scale. The scale describes their school behavior in categories of rarely occurs, sometimes occurs, often occurs, and very frequently occurs. The entire survey was administered as prescribed by the authors (Hoy et al., 1991).

Multifactor Leadership Questionnaire (MLQ)

The instrument used to measure transformational leadership was the Multifactor Leadership Questionnaire (Form 5X--Rater), copyrighted by Bass and Avolio (1990) and revised in January 1994. This instrument has been used extensively with leaders from all levels of organizations in a wide range of organizational settings (Bass & Avolio, 1994). First developed in 1985, research has continued to improve the MLQ's measurement properties. The MLQ (Form 5X--Rater) is being distributed for dissertations, theses, etc. instead of the commercial Form 8Y ranking. For this study the questionnaire was reproduced and used with the permission of the authors, Bass and Avolio (1994) (Appendix A).

The MLQ was developed specifically to measure the extent to which a leader demonstrates transformational and transactional leadership behaviors. The MLQ was developed by first surveying executives to identify items which described transformational and transactional

leadership styles. After piloting the survey, and a factor analysis, the original 142 items were reduced to 73. Those 73 items tested three transformational factors (charisma, individual consideration, and intellectual stimulation) and two transactional factors (contingent reward and management by exception). Bass (1985) reported reliabilities, as assessed by coefficient alphas, as follows: charisma, .83; individual consideration, .84; intellectual stimulation, .78; contingent reward, .74; and management by exception, .60. Waldman, Bass, and Einstein (1987) reported similar results, as did Hoover (1991) and Bass and Yammarino (1991).

The survey also contains three outcome variables; effectiveness of the leader is measured with three items, satisfaction with the leader with two items, and extra effort a follower is willing to put forth for the leader by three items. These combined items formed an index with an estimated Spearman-Brown reliability of .84 (Bass, 1985). The reliabilities were supported by Hoover (1991).

With permission of the authors, only the scales for transformational leadership behaviors in the MLQ (Form 5X--Rater), attributed charisma, idealized influence, inspirational leadership, intellectual stimulation, and individualized consideration, and the outcome measures of perceived leader effectiveness, follower satisfaction with the leader and the willingness of the follower to put forth extra effort for the leader, were used in this study.

Survey respondents were asked to rate how frequently they had observed their leader displaying behaviors with a range of five responses: (1) frequently, if not always; (2) fairly often; (3) sometimes;

(4) once in a while; and (5) not at all (scored from 4 to 0, respectively).

Table 1 contains number of items for each transformational factor and outcome measures.

Table 1
Number of Items for Each Transformational Factor
and Outcome Measures

Transformational factor	Item
Attributed charisma	8
Individualized consideration	9
Intellectual stimulation	10
Idealized influence	10
Inspirational leadership	9
Extra effort	3
Effectiveness	4
Satisfaction	2

Hypotheses

Hypotheses were developed to examine the relationship between transformational leadership and school climate. The hypotheses were written in the conceptual and null forms, scoring procedures were determined, then they were operationalized.

Conceptual Hypotheses

The following conceptual hypotheses were tested:

1. There is a relationship between school climate and transformational leadership behaviors.
2. There is a relationship between teacher openness and transformational leadership behaviors.
3. There is a relationship between principal openness and transformational leadership behaviors.
4. There is a relationship between teacher openness and transformational leadership outcome measures.

Null Hypotheses

The following null hypotheses were tested to determine the tenability of the six operationalized hypotheses:

1. There is no difference between schools with above average standardized mean school climate scores and schools with below average mean school climate scores as measured by the OCDQ-RE and the mean transformational leadership scores of those schools as measured by the MLQ.
2. There is no difference between schools with above average standardized mean teacher openness scores and schools with below average standardized mean teacher openness scores as measured by the OCDQ-RE and the mean transformational leadership scores of those schools as measured by the MLQ.

3. There is no difference between schools with above average standardized mean principal openness scores and schools with below average standardized mean principal openness scores as measured by the OCDQ-RE and the mean transformational leadership scores of those schools as measured by the MLQ.

4. There is no difference between schools with above average standardized mean teacher openness scores and schools with below average standardized mean teacher openness scores as measured by the OCDQ-RE and the means of combined leadership outcome measures (extra effort expended, satisfaction with the principal's leadership, and the effectiveness of the principal) of those schools as measured by the MLQ.

5. The correlation of the means of standardized school climate scores as measured by the OCDQ-RE and mean of the school's transformational leadership scores as measured by the MLQ is zero.

6. The correlation of the means of school's standardized school climate scores as measured by the OCDQ-RE and the mean of the school's combined transformational leadership and leadership outcome scores as measured by the MLQ is zero.

Procedures

The procedures described were followed for the purpose of testing six hypotheses. The scores were used to measure the test statistic t for independent means and Pearson product-moment correlation coefficients.

The climate scores were standardized for this study as recommended by the authors of the OCDQ-RE. Standardized scores afforded the participating schools the opportunity to not only compare themselves to schools in the study but also to the schools in the New Jersey study by Hoy et al. (1991).

Scoring the OCDQ-RE

Subscales of the OCDQ-RE were used to define the six dimensions of the instrument. Each questionnaire was scored individually. The school scores for the items included in each subtest were then averaged to derive a mean for each of the six dimensions for each school, the school being the unit of analysis. The means for principal openness and teacher openness were derived by standardizing each of the dimension scores, and then applying the respective formulas as specified in the text Open Schools/Healthy Schools by Hoy et al. (1991). The school's mean climate score was calculated by adding the mean of principal openness and the mean of teacher openness.

While mean scores for principal openness, teacher openness, and school climate were derived from the data in the New Jersey study, the researcher determined that using the means of the openness scores and climate scores of the 18 schools in this sample was an appropriate way to dichotomize means for the t tests in this study. In a telephone conversation with Dr. Wayne Hoy, professor with the Educational Policy and Leadership Department at Ohio State University and co-author of the OCDQ-RE, it was confirmed that the decision was appropriate.

Scoring of the MLQ

The MLQ survey, adapted for this study, contained 55 questions which were ranked on a Likert-type scale from 0 to 5. Each survey item was scored, and total scores for the two categories, transformational leadership behaviors and outcome variables, were derived. The transformational leadership behaviors included attributed charisma, individualized consideration, intellectual stimulation, idealized influence, and inspirational leadership. Outcome measures included extra effort, effectiveness of the leader, and satisfaction with the leader. The mean of transformational leadership behaviors for each school was derived by averaging the scores of each respondent on the factors of transformational leadership. The mean of outcome measures for each school was derived by averaging the scores of each respondent from a building on the factors of the outcome measures. .

Operational Hypotheses

The following were the operational hypotheses of this study:

1. There is a difference in the means of schools with above average standardized school climate scores as measured by the OCDQ-RE, the means of schools with below average standardized scores as measured by the OCDQ-RE, and mean transformational leadership scores as measured by the MLQ. The difference in climate scores can be measured by the test statistic t for independent means exceeding the appropriate critical value for the test statistic t with an alpha level of .05.

2. There is a difference in the means of schools with above average standardized teacher openness scores as measured by the OCDQ-RE, means of schools with below average standardized teacher openness scores as measured by the OCDQ-RE, and the school's mean transformational leadership scores as measured by the MLQ. The difference in climate scores can be measured by the test statistic t for independent means exceeding the appropriate critical value for the test statistic t with an alpha level of .05.

3. There is a difference in the means of schools with above average standardized principal openness scores as measured by the OCDQ-RE, mean of schools with below average standardized principal openness scores as measured by the OCDQ-RE, and the mean of the school's transformational leadership scores as measured by the MLQ. The difference in principal openness scores can be measured by the test statistic t for independent means exceeding the appropriate critical value for the test statistic t with an alpha level of .05.

4. There is a difference in the means of schools with above average standardized teacher openness scores as measured by the OCDQ-RE, means of schools with below average standardized teacher openness scores as measured by the OCDQ-RE, and mean leadership outcome measures scores as measured by the MLQ. The difference in teacher openness scores can be measured by the test statistic t for independent means exceeding the appropriate critical value for the test statistic t with an alpha level of .05.

5. There is a positive relationship between the means of standardized school climate scores as measured by the OCDQ-RE and the

school's mean transformational leadership scores as measured by the MLQ that can be measured by a Pearson product-moment correlation coefficient with an alpha of .05.

6. There is a positive relationship between the means of school's standardized school climate scores as measured by the OCDQ-RE and the school's mean combined transformational leadership and leadership outcome scores as measured by the MLQ that can be measured by a Pearson product-moment correlation coefficient with an alpha of .05.

Summary

Chapter III contains information on the population of the study, instrumentation, research design, and procedure. The sample was comprised of elementary school teaching staffs in 34 elementary schools with populations in excess of 200 located in 16 school districts in western Michigan. Two instruments were used to collect the data. Six null hypotheses were derived to determine the tenability of the operational hypotheses.

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CHAPTER IV

PRESENTATION AND ANALYSIS OF THE DATA

Presented in this chapter are the general characteristics of the population and a description of the schools in the sample. Results of hypotheses testing and data analysis are presented.

Purpose

The purpose of this study was to determine if there is a relationship between transformational leadership behaviors and school climate. The Multifactor Leadership Questionnaire (MLQ, Bass & Avolio, 1991) was used to measure transformational leadership behaviors, and the Organizational Climate Descriptor Questionnaire-Revised Elementary (OCDQ-RE, Hoy et al., 1991) was used to measure school climate. The target population was 34 elementary schools in western Michigan.

To ascertain if there were relationships between transformational leadership behaviors practiced in schools and the aspects of school climate, Pearson product-moment correlations were used. The t test is often used to compare the means of two groups (Hinkle, Wiersma, & Jurs, 1988). The .05 level was selected as the level at which significance would be attained. The test administered was two-tailed with independent samples. The Pearson product-moment correlation is used to determine the correlation of the means of two groups (Hinkle et al., 1988).

General Description of the Sample

The population consisted of 34 elementary schools located in 16 school districts in western Michigan. The schools, with student enrollments ranging from 200 to 800, had varying grade levels covering preschool through sixth grade. The districts reflected urban, suburban, and rural populations.

Response Rate

The 16 superintendents were contacted first by mail the week of April 25, 1994. The researcher then contacted them by telephone a week later to determine if they would approve of the study being conducted in their districts. Fifteen of the 16 superintendents agreed to allow the research to be conducted in his or her district, each leaving the final decision to the building principal. The superintendent who declined stated that the principals and teachers in the district were already involved in a school improvement project that was very time consuming.

The 15 participating districts had 28 elementary schools with enrollments of 200 or more students. The principals of those schools were contacted by telephone. The nature of the study was explained and further documentation was offered. Of the 28 principals contacted, 19 agreed to participate in the study. The reasons given by those principals declining to participate included: A climate survey had recently been completed, the questions on the survey would be offensive to staff, the teachers were already stressed due to moving their classrooms for a remodeling project, and the information would not interest them.

The principals who agreed to participate in the survey were interested in using the information to improve the climate of their schools and their leadership. The participating principals included 11 males and 8 females.

The participating principals determined the number of certified teaching staff working in their buildings. On May 10, 1994, the principals were mailed the appropriate number of surveys, ranging from 12 to 37 with response sheets coded by building.

Each principal determined the timing for distribution and collection. The only stipulation was that the surveys had to be completed by the last teacher day in his or her district.

The response from the staff ranged from 12% to 100%. The school with the 12% response rate had less than six participants, so the school was excluded from the study, leaving 18 participating elementary staffs. There were 456 potential teachers in the study; a total of 294, or 64%, of the potential respondents participated.

Tests of the Hypotheses

This section presents results of the tests of the hypotheses and is organized in the same manner the hypotheses were originally proposed. The independent variable in the study was transformational leadership behaviors. The dependent variable was school climate. The t tests had the established alpha level of .05. The alpha for the Pearson product-moment correlations was referenced at .05.

The Relationship Between Transformational Leadership Behaviors and School Climate

The first hypothesis proposed that there were differences between the means of transformational leadership behaviors and the schools with above and below average standardized climate scores. This hypothesis was tested using a t test of independent means. The results of the t test did not support the hypothesis that the means were different at an alpha value of .05 ($t = .44$, $p = .665$, $df = 16$). Table 2 summarizes the test of the first operational hypothesis.

Table 2
Test of Difference for Independent Means:
School Climate Scores

Pooled variance estimate						
Variable	No. of cases	Mean	<u>SD</u>	<u>df</u>	<u>t</u> value	2-tailed prob.
Schools with above average transformational leadership behaviors	9	105.99	5.65	16	0.44	.655
Schools with below average transformational leadership behaviors	9	104.63	7.28			

The Relationship Between Transformational Leadership Behaviors and Openness in Teacher Behavior

The second hypothesis proposed that there were differences between the means of transformational leadership behaviors and schools

with above and below average standardized teacher openness scores. This hypothesis was tested using a t test of independent means. The result of the t test did not support the hypothesis that the means were different at an alpha value of .05 ($t = -.08$, $p = .938$, $df = 16$). Table 3 summarizes the test of the second operational hypothesis.

Table 3
Test of Difference for Independent Means: Independent
Variable Transformational Leadership Behavior,
Dependent Variable Teacher Openness

				Pooled variance estimate		
Variable	No. of cases	Mean	<u>SD</u>	<u>df</u>	<u>t</u> value	2-tailed prob.
Schools with above average transformational leadership behaviors	7	105.16	6.24	16	-0.08	0.94
Schools with below average transformational leadership behaviors	11	105.41	6.74			

The Relationship Between Transformational Leadership Behaviors and Openness in Principal Behavior

The third hypothesis proposed that there were differences between means of leadership behaviors and schools with above and below average standardized principal openness scores. This hypothesis was tested using a t test of independent means. The results of the t test did not support the hypothesis that the means were different at an alpha

value of .05 ($t = 1.78$, $p = .10$, $df = 10.8$). The homogeneity of variances between the two groups was not accepted using Levine's test for equality of variances ($F = 5.54$, $p = .10$, $df = 8.8$). Therefore, a separate variance estimate was used. Table 4 summarizes the test of the third operational hypothesis.

Table 4
Test of Difference for Independent Means:
Principal Openness

Separate variance estimate						
Variable	No. of cases	Mean	<u>SD</u>	<u>df</u>	<u>t</u> value	2-tailed prob.
Schools with above average transformational leadership behaviors	9	107.82	3.31	10.8	1.78	.10
Schools with below average transformational leadership behaviors	9	102.80	7.80			

The Relationship Between Transformational Leadership
Outcome Measures and Openness
in Teacher Behavior

The fourth hypothesis proposed that there were differences between the means of outcome measures of transformational leadership and schools with above and below average teacher openness scores. The hypothesis was tested using a t test of independent means. The result of the t test supported the hypothesis that the means were

different at an alpha level of .05 ($t = -2.38$, $p = .03$, $df = 16$). Table 5 summarizes the test of the fourth operational hypothesis.

Table 5
Test of Difference for Independent Means: Independent
Variable Outcome Measures, Dependent
Variable Teacher Openness

				Pooled error variance		
Variable	No. of cases	Mean	<u>SD</u>	<u>df</u>	<u>t</u> value	2-tailed prob.
Schools with above average outcome measures	7	19.24	3.07	16	-2.38	.03*
Schools with below average outcome measures	11	23.45	3.97			

*Significant at the .05 level.

The Correlation Between Transformational Leadership Behaviors and School Climate

The fifth hypothesis proposed a correlation between the independent variable of transformational leadership and the dependent variable of school climate. A Pearson product-moment correlation was calculated to test this hypothesis. The results, $r = .5871$ ($n = 18$, $p = .01$), supported a moderate positive correlation (Hinkle et al., 1988). Table 6 summarizes the test of the fifth operational hypothesis.

Table 6
Correlation Coefficient of Transformational Leadership
Behaviors and School Climate
($n = 18$)

Variable	Mean	<u>SD</u>	<u>r</u>	2-tailed significance
Transformation leadership behaviors	105.31	6.46	.587	.01 *
School climate	1,132.92	21.51		

*Significant at the .05 level.

The Correlation of the Sum of Transformational Leadership
Behaviors and Leadership Outcome
Factors and School Climate

The sixth hypothesis proposed a correlation between the independent variable of the sum of transformational leadership behaviors and outcome factors and the dependent variable of school climate. The results, $r = .676$ ($n = 18$, $p = .002$), supported a moderate positive correlation (Hinkle et al., 1988). Table 7 summarizes the test of the sixth operational hypothesis.

In Tables 6 and 7 a small standard deviation suggests a small variation around the mean and considerable homogeneity. "As a group under study becomes more homogeneous, the correlation coefficient decreases" (Hinkle et al., 1988, p. 115). The restriction on scores limits the magnitude of the correlation coefficient and the r would not be representative of the relationship between the variables over a wider range of scores (Hinkle et al., 1988).

Table 7
Correlation Coefficient of Total Transformational
Leadership Factors and School Climate
($n = 18$)

Variable	Mean	<u>SD</u>	<u>r</u>	2-tailed significance
Total transformation leadership factors	127.12	7.47	.676	.002*
School climate	1,132.92	21.51		

*Significant at the .05 level.

Summary of the Tests of Hypotheses

The first hypothesis proposed a relationship between transformational leadership behaviors and the climate of schools with above average and below average climate scores. No support was found.

The second hypothesis proposed that there was a relationship between transformational leadership behaviors and schools with above average and below average teacher openness scores. No support was found.

The third hypothesis proposed that there was a relationship between transformational leadership behaviors and schools with above and below average principal openness scores. No support was found.

The fourth hypothesis proposed that there was a relationship between the leadership outcome measures and schools with above average and below average teacher openness scores. Support was found for this hypothesis. The p value was .03.

The fifth hypothesis proposed that there was a correlation between transformational leadership behaviors and school climate. There was moderate support for this hypothesis. The p value was .01.

The sixth hypothesis proposed there was a correlation between the sum of transformational leadership behaviors and leadership outcome factors. There was found to be moderate support for this hypothesis with a p value of .002.

As a result of hypotheses testing, conclusions could be reached indicating that the data analysis supported the study in part. A discussion of the results and recommendations follow in Chapter V.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Introduction

This study was designed to determine if there was a relationship between transformational leadership behaviors practiced in elementary schools and school climate. The independent variable was transformational leadership behaviors. The dependent variable was the school climate of elementary schools. Chapter V discussion and conclusions are based on the results of the study. Suggestions for future research and a summary of the study are also included.

Conclusions

As a result of testing the hypotheses, conclusions were reached indicating that the data analysis did not support the study's first three hypotheses that a relationship exists between transformational leadership behaviors and school climate, teacher openness, and principal openness. Regardless, it cannot be concluded (due to the potential for committing a Type II error) that there is no relationship between transformational leadership factors, school climate, teacher openness, and principal openness.

The conclusions reached as a result of testing the remaining three hypotheses indicate the data analysis supports that there is a relationship between the outcome measures of transformational leadership and

teacher openness. Also, the conclusion may be reached that there is a positive correlation between transformational leadership behaviors and school climate, and the sum of transformational leadership behaviors and outcome factors and school climate.

Discussion of Results

The literature review previously cited, especially the work of Bass and Avolio (1994) and Hoy et al. (1991), gives cause to speculate that there is a relationship between transformational leadership behaviors and school climate. The results of three of the hypotheses in this study give support to that speculation.

The relationship of the outcome measures of extra effort expended by the teacher, effectiveness of the leader and satisfaction with the leader to the teacher openness dimension of school climate was investigated. The results of the t test of the relationship between outcome measures and schools with above average and below average means of teacher openness was a -2.38 with a two-tailed probability of .03, indicating it is statistically significant and unlikely to be a function of chance. The OCDQ-RE has an average teacher openness score which was used as a break-off point resulting in uneven groups of 7 and 11. This method of determining groups may have been a factor in the results that the means were different, but not in the anticipated direction.

The possibilities of a correlation between the variables of transformational leadership, the sum of transformational leadership behaviors and outcome variables, and school climate were investigated. The results of the Pearson product-moment correlation which investigated the

correlation between the independent variable, transformational leadership, and the dependent variable, school climate, found an r of .587, which is a moderate positive correlation (Hinkle et al., 1988). The second Pearson product-moment correlation investigated the correlation between the independent variable, the sum of transformational leadership behaviors and the outcome measure of extra effort expended by the teachers; effectiveness of the leader; and satisfaction with the leader. The r of this correlation was .676, which indicated a moderate positive correlation. It should be noted that this correlation is approaching the interval of high positive correlation (Hinkle et al., 1988).

This correlation is significant in light of mandated changes such as the 1995 Federal reauthorization of Title I and Michigan's PA 25, 335, and 339. Typically these reforms require staff to expend extra time and effort to develop school improvement plans and to become site-based decision makers. As staff works to meet reform requirements, the leadership of the principal and collegiality of the staff are critical to building an effective team. The results of this study indicate that the perceptions of schools whose principals practice transformational leadership are that there are "open and professional interactions among teachers . . . and are accepting and mutually respectful of their colleagues. The principal displays supportive behaviors with both personal and professional interest in teachers" (Hoy et al., 1991, p. 32). The staffs of those schools are also more likely to expend the extra effort required to meet the challenge of reforms.

The original premise of this study was that the organizational climate of a school is a potential means for making schools more

productive as well as being an important end in itself (Hoy et al., 1991). "The extent to which the school atmosphere promotes openness, collegueship, professionalism, trust, loyalty, committment, pride . . . and cooperation is critical in developing a healthy work environment for teachers and administrators" (p. 2).

The results of this study indicate that there is a relationship between the practice of transformational leadership behaviors and school climate. The relationship cannot be said to be causal at this time, but further research may give reason to advance that conclusion.

Recommendations

As cited earlier in this study, there is limited research available on the practice and effect of transformational leadership in the educational community (Leithwood, 1992). While this study has added to the research, additional investigation would be appropriate.

Due to the sample size of this study, limited conclusions can be drawn. A larger study, investigating the correlation of the aspects of transformational leadership factors and school climate, is recommended. Further it is suggested that an investigation of the correlation of transformational leadership behaviors and teacher perceptions of school climate be conducted on an individual rather than school wide basis by pairing the surveys.

This study identified principals with a mean openness factor which was significantly greater than the mean calculated in the study of 71 New Jersey schools as the OCDQ-RE was normed (Hoy et al., 1991). It may be, in a similarly sized sample of Michigan schools, there is a

significant difference in the means of school climate dimensions.

It is further recommended that future research include a researcher-designed instrument to gather personal data. Data suggested to be included in the inquiry are: age, male or female, length of administrative experience, advanced degrees in progress or earned, and professional development and training.

Summary

This study investigated the relationship between transformational leadership and school climate in schools in western Michigan with enrollments of 200 to 800 students. Eighteen school districts with 294 participating teachers completed two questionnaires.

Transformational leadership was defined in terms of the performance of the leader and the effect of the leader on the follower. It is in evidence when leaders:

stimulate interest among colleagues and followers to view their work from new perspectives, generate awareness of the mission or vision of the team and organization, develop colleagues and followers to higher levels of ability and potential, and motivate colleagues and followers to look beyond their own interests toward those that will benefit the group. (Bass & Avolio, 1994, p. 2)

School climate was defined as "the relatively enduring quality of the school environment that is experienced by participants, affects their behavior, and is based on their collective perception of behavior in schools (Hoy & Miskel, 1987; Tagiuri, 1968)" (Hoy et al., 1991, p. 10).

The independent variable of transformational leadership was investigated by using the Multifactor Leadership Questionnaire (Bass & Avolio, 1991) to measure teachers' perceptions of leadership factors.

The dependent variable of school climate was investigated by using the Organizational Climate Descriptor Questionnaire-Revised Elementary (Hoy et al., 1991). The questionnaire was used to determine teachers' perceptions of principal openness, teacher openness, and overall school climate.

As a result of the data analysis, the investigation supported that there was a relationship between outcome measures of transformational leadership and teacher openness. There was also a positive correlation between transformational leadership behaviors and school climate and the sum of transformational leader behaviors and leadership outcome factors and school climate.

APPENDICES

Appendix A
Permission to Use the MLQ



CENTER FOR LEADERSHIP STUDIES

Director:

Bernard M. Bass
Distinguished Professor
Management

Fellows:

Leanne E. Atwater
Assistant Professor
Management

Bruce J. Avolio
Associate Professor
Management

Surinder Kahai
Assistant Professor
Management

William D. Spangler
Associate Professor
Management

Francis J. Yammarino
Associate Professor
Management

Eduard A. Ziegenhagen
Professor
Political Science

Advisory Board:

E. Kay Adams
Executive Director
UnIPEG

Linda J. Battaglini
Corporate Planner
United Health Services

Ronald S. Carlson
Manager, Technical Resource
Development
IBM

Juanita Crabb
Mayor
City of Binghamton

Eugene J. Eckel
President & CEO (Retired)
AT&T Network Sys. Int'l
Hilversum, Netherlands

David S. Fischel
Assistant Superintendent
Maine-Endwell Schools

Gian Franco Gambigliani
Chief Executive Officer
ISVOR-Fiat
Turin, Italy

Michael J. Hastrich
Controller
Revere Corning Glass
Corning, NY

Jim D. Jones
Manager, Electric Div.
NYSEAG
Auburn, NY

Peter V. McGinn
Vice President, Human Res.
Johns Hopkins Hospital
Baltimore, MD

Paul E. Slobodian
Vice President, Total Quality
& Human Resources
Universal Instruments

John G. Spencer
Executive Director
United Way

March 15, 1994

Ms. Christine Jensen
Box 216 Tyler Road
Hart, MI 49420

Dear Ms. Jensen:

This is in reply to your request to use the MLQ in your study.

Enclosed please find a copy of an experimental form 5X for self and raters and the scoring key. They should be reproduced only for your own research use.

You should use the instruments in their entirety. Also, please be sure to cite the title and authors on the lead page of our survey. You must also indicate the copyright at the bottom of each page e.g., © Bass & Avolio, 1991, if you are inserting the MLQ in a larger survey. If absolutely necessary to reduce, please eliminate entire scales rather than some items from some scales.

We will appreciate also receiving a copy of the results of your research effort. In addition, please provide us with the raw data on the MLQ on a 3 1/2" disk, so that we would be able to add it to our normative data base.

If you have the budget to do so, or are supported by a grant, we would appreciate your making a contribution to the Center for Leadership Studies of \$2.00 U.S. for each of the copies of 5x you reproduce. You can do this by making a check payable to:

RESEARCH FOUNDATION
ACCT # 240-1586A

Cordially,

Bruce J. Avolio /sb

Bruce J. Avolio, Ph.D.

BJA/sb
(jensen.for)

Enclosure: Form 5X and key

We now distribute MLQ 5x for dissertations, theses, etc. instead of the Form 8Y ranking.

School of Management, State University of New York at Binghamton, P.O. Box 6000, Binghamton, NY 13902-6000
Telephone (607) 777-3007, -4028; FAX (607) 777-4188; BITNET BG1584@BINGVMB

Appendix B
Superintendent Endorsement Letter

Oceana Intermediate School District

844 Griswold Street

Hart, Michigan

49420

Office of Superintendent

Phone 873-5651

April 20, 1994

Dear Superintendent:

I am writing on behalf of Mrs. Chris Jensen. She is working on her doctoral dissertation and would very much appreciate your support with your administrators and staff in completing her research surveys. I believe the information on transformational leadership and school climate which will ultimately be provided to your building administrators, and at their discretion, with others on the staff, could be very helpful to you as well as to Mrs. Jensen and her research.

Again, I would request you to encourage your people to participate in this survey. Thank you.

Sincerely,



Lawrence Stancliff
Superintendent

Michigan ISDs: Helping Schools Help Students

Appendix C
Cover Letter to Superintendents

April 22, 1994

Dear _____

I am writing to you to describe a research opportunity for the elementary schools in your district. As a doctoral student at Western Michigan University, Department of Educational Leadership, I am in the process of gathering research material for my dissertation which is a study of the relationship of school climate and leadership behaviors.

Your staff's participation in this study would include filling out two surveys, the Organizational Climate Descriptor Questionnaire-Revised Elementary (1991), and the Multifactor Leadership Questionnaire (1991). To protect the identity of the respondents, individual staff members responses would not be identified. The surveys, which would be supplied at no cost, would require approximately 30 minutes to complete, and would need to be filled out before the last day of school.

The data from these surveys would be shared only with building principals who may share it with staff at their own discretion. The data would include indices of teacher openness and teacher-principal openness. Additionally, each principal would be rated by teaching staff according to their perception of the leadership behaviors practiced by the principal. All of this data should prove to be valuable as a self-study tool for determining potential for improving employee effort, as an indicator of the overall school climate, and as a way for principals to learn about the teachers perceptions of the principal as a leader.

Should you have any questions or concerns, please contact me at 873-2331, or my faculty advisor, Dr David Cowden, at 387-3883. You may also contact the Chair, Human Subjects Institutional Review Board or the Vice President of Research if questions or problems arise during the course of the study. I will be contacting you shortly to discuss this proposal.

Sincerely,

Christine Jensen
Principal

Appendix D
Letter to Participating Principals

May 10, 1994

Dear Principals:

Thank you to you and your staff for agreeing to take part in my study. Enclosed you will find a survey packet for each of your teachers. Should you need extras please contact me. I have also enclosed a book for your school library as a thank you to you and your teachers.

It is recommended that someone other than yourself pass out and collect the surveys, possibly your secretary. A postage paid envelope is enclosed for returning the surveys. The only time constraint is that the surveys be completed by the last teacher day.

The results of this study should be available to you late this summer or early this fall. The results will be mailed to you along with comparison results with districts in Michigan and those in a study in New Jersey. I hope this information will be valuable to you. Should you have any questions about the surveys, please contact me.

Sincerely,

Christine Jensen
454 W. Tyler Rd.
Hart, MI 49420
873-4121

C O P Y

Appendix E
Letter to Participating Teachers

454 W. Tyler Rd.
Hart, MI 49420
May 9, 1994

Dear Faculty Member:

The questionnaires attached to this letter are part of a research project investigating the relationship between school climate and leadership behaviors. There are two surveys attached which will measure the variables. Your assistance in completing these surveys is very much appreciated. No individuals will be identified. The Scantron answer sheets are coded by school only and the name of your school will not be identified in my dissertation. The results of the research will be shared with your principal at his or her request.

Thank you for taking time from the hectic schedule you have this time of year to assist with this research. Your generosity may make a big difference for fellow educators.

Sincerely,

Chris Jensen

C O P Y

Appendix F
Human Subjects Institutional Review Board Approval

Human Subjects Institutional Review Board



Kalamazoo, Michigan 49008-3899
616 387-8293

WESTERN MICHIGAN UNIVERSITY

Date: April 20, 1994

To: Christine Jensen

From: M. Michele Burnette, Chair

Re: HSIRB Project Number 94-04-16

This letter will serve as confirmation that your research project entitled "A study of the relationship of school climate and transformational leadership" has been **approved** under the exempt category of review by the Human Subjects Institutional Review Board. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the application.

You must seek reapproval for any changes in this design. You must also seek reapproval if the project extends beyond the termination date.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: April 20, 1995

xc: Cowden, Ed. Leadership

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