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Transformational Leadership: An Integrative Review of the Literature

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TRANSFORMATIONAL LEADERSHIP: AN INTEGRATIVE REVIEW OF THE LITERATURE

by

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TRANSFORMATIONAL LEADERSHIP: AN INTEGRATIVE REVIEW OF THE LITERATURE

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Transformational leadership was introduced by James MacGregor Burns in 1978. This new paradigm described the leader and follower interaction as a mutually elevating process which Bernard Bass later described as performance beyond normal expectations. Transformational leadership theory has been expanded and extended by numerous authors and has been the focus of numerous research studies over the years.

Bass and his colleagues have been the most prolific researchers on the subject. The Multifactor Leadership Questionnaire (MLQ) (Bass, 1985) was developed to measure the extent to which a leader demonstrates transformational and transactional leadership. The MLQ also provides a measure of the relationship between demonstrated leadership style and perceived leader effectiveness, follower satisfaction with the leader and the willingness of the follower to put forth extra effort for the leader.

This study was undertaken for the purpose of expanding the knowledge of transformational leadership by examining the existing epistemology. A variety of studies have been

conducted beyond the Bass vein of research that provide additional insight to and understanding of the construct. The primary goal of the study was to analyze and synthesize the body of transformational leadership research into a cohesive whole.

The method employed was an integrative literature review. This procedure included an exhaustive literature search, a rigorous coding frame, precise meta-analytic techniques and data analysis. Qualitative research studies were utilized to enrich and expand upon the quantitative analysis.

The results of the meta-analysis indicated transformational leadership is practiced and preferred to a greater extent than transactional leadership. The meta-analysis indicated transformational leadership is associated with higher levels of perceived leader effectiveness, follower satisfaction with the leader and a greater willingness to put forth extra effort.

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Joseph Mark Gasper

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CHAPTER I

INTRODUCTION

In 1978 Burns offered a perspective that resulted in the evolution of a new paradigm of leadership. He defined leadership "as leaders inducing followers to act for certain goals that represent the values and motivations--the wants and needs, the aspirations and expectations--of both followers and leaders" (Burns, 1978, p. 19). The paradigm was expanded by his description of what he referred to as transforming leadership. He contended that this type of leadership occurs when the interaction of leaders and followers results in their elevation to higher levels of motivation and morality.

Burns (1978) used the term transcending to describe leadership which engages and elevates followers. As the followers become more active, they form "new cadres of leaders" (p. 20). According to Burns, leaders forge a change in the makeup of the followers' motivation base and satisfy new motives. However, Burns's initial presentation of transforming leadership was somewhat abstract and open to interpretation.

Statement of Problem

An overarching problem evinced by this study was the lack of synthesized data from the transformational leadership research literature. This lack of synthesized data contributed to a lack of awareness and thorough understanding of a form of leadership that has been hypothesized to bring about significant individual and organizational transformation. In the absence of this knowledge, the theorized positive effects of such leadership would go mainly unrealized.

Transformational leaders have been described by various authors from different viewpoints. Burns (1978) described actions and effects on followers, Bass (1985) characteristics and behavior, and Schein (1985) effect upon organizational culture. Transformational leadership has been studied through a variety of research techniques. These include questionnaires, interviews, and historical exposes.

Although leadership and transforming are generic terms, there are different definitions and theories of what the combination of the terms mean. Leaders have been identified for centuries; however, the term leadership is rather recent to the English language (Yukl, 1989a). Yukl contended there are almost an infinite number of definitions of leadership. His contention is supported by

Stogdill's (1974) extensive review of leadership research. Nevertheless, leadership in generic form is commonly understood as involving the actions of a leader.

Lockland (1973) defined transformation as a physiological and psychological process involving the assimilation of external items into a reformulation. This results in modified behavior based on internal and external responses. He contended that the absence of alternatives to growth results in regression.

Lockland's (1973) generic view of transformation is congruent with Lewin's (1951) theory of organizational change. Lewin described the stages of change as the unfreezing, moving, and refreezing of the organization. His force field analysis demonstrates how internal and external forces both come into play in the change process.

W.J. Cook's (1990) concept of organizational change lies in the notion of an evolution from points zero to 10. At point 10 the alternatives are either to recreate point zero or regress. He contended that an organization cannot continue at a 10 and that only recreation or decline are possible.

These examples represent commonalities in different applications of transformation. In discussing leadership, Bass (1990a) described commonalities among the plethora of leadership taxonomies. They include: (a) clarifying the mission and goals of the individual or organization, (b)

energizing and directing others in pursuit of the goals, (c) providing tangible support for the effort, (d) helping to resolve conflicting views, and (e) evaluating individual contributions.

The common elements of transformation and leadership form the basis of a type of leadership that seeks to bring about change. Leaders may seek to change the processes and the people of an organization; in either case this change is sought to bring about greater effectiveness in goal attainment, which measures organizational success.

Purpose of Study

The primary purpose of this study was to analyze and synthesize the transformational leadership research literature to provide a better understanding of this type of leadership, and further, to understand better the impact these leaders have upon the people and processes of the organization. Transformational leadership has been commonly contrasted with transactional leadership (Bass, 1985; Burns 1978). Therefore, all but one of the research questions that provided direction to the study relate to a comparison and contrast of transformational and transactional leadership.

The first research question asked whether transformational leadership exists to a greater extent than transactional leadership. In other words, do individuals who are

identified as leaders demonstrate more transformational or more transactional leadership behavior in the view of their subordinates?

The second research question asked whether subordinates prefer transformational or transactional leadership. Underlying this question is the assumption that a leader who demonstrates preferred leadership behavior with subordinates will evoke in those subordinates certain desirable responses. These responses constitute the bases for the next three research questions.

The third research question, then, sought to identify whether a relationship exists between leadership behavior and the degree to which a leader who demonstrates the behavior is viewed effective by subordinates. The premise here is that transformational leadership behavior will be viewed as being more effective than transactional leadership behavior.

The fourth research question asked whether a relationship exists between leadership behavior and the degree of subordinate satisfaction with a leader who demonstrates the leadership behavior. Follower satisfaction with the leader cannot be simply based on congruence between preferred and actual leadership demonstrated; the relationship between follower and leader is more complex. The fifth research question extends the previous questions into the area of effort on the part of subordinates: Does subordinate

willingness to put forth extra effort on the job relate to the behavior demonstrated by the leader?

Finally, the last research question asked whether there is a relationship between leadership behavior and the processes of the organization, which will be referred to as culture. Does one type of leadership behavior promote positive culture more than another? Taken in combination, this series of questions asks what effect leadership behavior has upon the people and processes of the organization. The answers to such questions provide insight into the type of leadership that must be developed for organizations to be successful, now and in the future.

Methodological Considerations

The primary purpose of this study was to further an understanding of transformational leadership through an analysis of the existing epistemology found in the literature. Although primary research receives most of the emphasis in epistemological efforts, the secondary analysis of existing research data can be useful. Glass (1976) defined primary analysis as the original analysis of data. In contrast, he defined secondary analysis as the reanalysis of data to answer new questions with old data.

The methodological premise was that data yielded from quantitative and qualitative research could provide answers to questions which follow up on their original purpose.

Glaser and Strauss (1967) supported including the use of qualitative data, especially written materials, in their description of these sources as "voices begging to be heard" (p. 163).

Raudenbush (1991) acknowledged the legitimate use of such data in his review of the meta-analysis debate. The secondary analysis of data does not simply negate the need for the n+1 study. He contended the purpose is to supplement and clarify the existing epistemology on which to base further research.

The method employed in this study was a secondary analysis of data derived from a review of transformational leadership literature. The purpose was to synthesize the findings to advance the understanding of the construct. H.M. Cooper (1982a) referred to a synthesis of separate findings into a coherent whole as an integrative research review. Jackson (1980) described investigators who undertake such reviews as being "primarily interested in inferring generalizations about substantive issues from a set of studies directly bearing on those issues" (p. 438).

This study was conducted as an integrative review as described by H.M. Cooper (1982a) and included the purpose of inference according to Jackson (1980). Cooper's design was followed to ensure robustness in statistical analysis with qualitative studies used to add richness to the findings and conclusions.

Methodology Rationale

There is an ongoing debate regarding the value of qualitative versus quantitative research (Miller & Fredericks, 1991; Smith & Heshusuis, 1986). Guba (1981) suggested that quantitative and qualitative techniques can be used in combination. However, there are different views regarding the value of purely qualitative versus qualitative-quantitative methods (T.D. Cook & Leviton, 1980; Miles & Huberman, 1984b). Considering these issues, it is important to provide a rationale to support the choice of the integrative review.

There are different techniques for meta-analysis or the secondary analysis of data. The rationale for using an integrative review in this study was based on certain limiting conditions found in other approaches. The following are examples of some of these limitations.

Glass's (1976) meta-analysis requires an adherence to rules that eliminate literature lacking quantitative findings. While best-evidence synthesis (Slavin, 1986) includes a provision for qualitative findings, it lacks clarity of definition in the quality of evidence required (Joyce, 1987). Finally, strict adherence to the case survey method (Yin & Yates, 1974) also requires data not available in all qualitative literatures.

The value and use of qualitative findings is supported

by several researchers. The comparative qualitative analysis of Glaser and Strauss (1967) is inherent in Merriam's (1988) case study. Her description of the case study design includes an accommodation of a variety of disciplinary and philosophical perspectives. Multivocal literature reviews are a relatively new technique. These reviews include a design utilizing data derived from writings and research on a common topic.

Ogawa and Malen (1991) defined multivocal literatures as all of the "accessible writings on a common, often contemporary topic" (p. 265). These writings appear in different forms and are of different purposes. The intent of Ogawa and Malen in their multivocal approach was to incorporate rigor in reviews of literature. Rigor involves "adherence to principles and procedures, methods, and techniques that minimize bias and error in the collection, analysis, integration and reporting of data" (Ogawa & Malen, 1991, p. 267).

Ogawa and Malen (1991) contended the standards found in the exploratory case survey method of Yin and Yates (1974) are robust sensitizing devices that complement multivocal literature reviews. This method includes inter-analyst agreement on a fixed set of closed-ended questionnaire items. As in literature reviews, decision rules for the inclusion and exclusion of literatures are also required in content analysis.

Content analysis refers to research techniques used for making inferences from written and spoken sources. This analysis involves a quantitative, systematic, and objective analysis of specified data (Berelson, 1952; Krippendorff, 1980; Stone, Dunphy, Smith, & Ogilvie, 1966). When taken in combination, multivocal literatures and content analysis are akin to integrative literature reviews.

Integrative Literature Reviews

There are different types of literature reviews with different purposes. Light and Smith (1971) described integrative reviews as efforts to gather data from a set of disparate yet related studies. Their typology includes four categories of integrative reviews.

In the first type, studies are categorized by factors that had an effect upon a dependent variable in at least one study. The second category of reviews only includes studies that support a given point of view. The third type involves categorizing studies according to a designated statistic yielded from a common hypothesis test that is averaged across all studies. In the fourth, vote taking is employed to categorize and count results.

Light and Smith (1971) proposed a fifth type, involving studies with a common focus. In this approach, studies are stratified and analyzed according to the "different

characteristics of subjects, treatment, contextual variables, and effects of interaction among these" (Light & Smith, 1971, p.440). In addition to these techniques, there are other ways to categorize integrative reviews.

In general, the nature of literature reviews can be qualitative, quantitative, or both. Pillemer and Light (1980, p. 177) pointed out two approaches. The first involves reading through the findings and reaching impressionistic conclusions. In the second, precise analytic procedures are applied to the studies. Although the qualitative approach yields rich descriptions, Pillemer and Light suggested the quantitative approach is more systematizing and in keeping with scientific tradition.

Jackson (1980) described four purposes of integrative reviews. The first is to size up new methodological or substantive developments in a field. The second is to verify existing or to develop new theories. The third purpose is to synthesize knowledge.

The final type involves "inferring generalizations about substantive issues from a set of studies directly bearing on those issues" (Jackson, 1980 p. 438). This last type is consistent with this study. The approach is to infer generalizations regarding the effects of the behaviors of the leader who is demonstrating transformational leadership.

In summary, integrative reviews involve the synthesis

of data derived from qualitative or quantitative analysis. Qualitative data analysis (Miles & Huberman, 1984b) includes data reduction, data display, and conclusions. Data reduction involves the collection and synthesis of data. Data display is the descriptive presentation of the data. Conclusion drawing and verification bring the various findings of the analysis together.

H.M. Cooper's (1982b) integrative reviews which synthesize data from both qualitative and quantitative analysis techniques include five stages. The five stages include: "(1) problem formulation, (2) data collection, (3) evaluation of data points, (4) data analysis and interpretation, and (5) presentation of results" (p. 291).

Introduction to Leadership

Burns (1978) defined leadership as leader actions which influence the actions of followers. The motivation for these actions is the attainment of commonly held goals that represent mutual values. Goal attainment is the ultimate measure of effective leaders and organizations.

In their description of the effective leader Bennis and Nanus (1985) stated "Effective leadership can move organizations from current to future states, create visions of potential opportunities for organizations, instill within employees commitment to change and instill new cultures and strategies in organizations that mobilize and

focus energy and resources" (p. 17). This description implies that employees will actively participate in the processes of the organization.

Participative management practices appear in theories of leadership offered by McGregor (1960), Likert (1961), Argyris (1971) and Ouchi, (1981). Burns (1978) supported the participation of followers in functions like goal setting and decision making. He described the participatory process, involving the leader and follower, as reciprocal elevation which constitutes transforming leadership.

As the transforming leader engages in this mutual elevation, the focus is on the people of the organization and their motivation to perform. The interaction impacts the organizational processes that the people engage in or stimulate. The ultimate result is an effect upon the processes which contribute to the culture.

Transformational Leadership

Leadership is an elusive concept that has many definitions (Owens, 1991; Stogdill, 1974; Yukl, 1989a). Leadership can be the influence the leader has upon followers. However, in a broader context, leadership can be defined as leader actions which affect and influence the behavior of followers and the processes of the organization. The manner in which influence is exerted and the underlying motives of the leaders differentiate styles of leadership.

Burns (1978) indicated that transformational leadership "occurs when one or more persons engage with others in such a way that leaders and followers raise one another to higher levels of motivation" (p. 20). This raises the levels of performance and aspiration of the leader and follower. He contended transformational leaders seek to raise the consciousness of followers by appealing to higher ideals and moral values.

Bennis and Nanus (1985) described transformative leadership as followers being transformed into leaders and leaders into change agents. Burns (1978) preferred to describe the leader as a moral agent and referred to this process as transcendental. The interaction in both examples is clear: The leader engages followers in a mutually elevating process.

Bennis and Nanus (1985) saw this occurring by the leader communicating a vision and giving it meaning. They concluded the result of leadership is empowerment through increased stakeholder participation in organizational functions. This supports Burns' (1978) contention that anyone in the organization, in any type of position, may exhibit leadership. Any individual may influence peers, superiors, or subordinates. It can occur in the day-to-day acts of ordinary people, but transformational leadership is not ordinary or common.

Transformational Theory: Bass

Bass and his colleagues continue to be the most active in testing and refining transformational leadership theory. The Bass (1985) transformational theory contends that follower performance is contingent upon the meeting of a set of reordered needs. He used the terms intellectual stimulation, individual consideration, and charisma to describe the means by which the leader brings this about. The first two elements describe leader behavior in the form of actions. The latter involves leader behavior that is the manifestation of inherent characteristics.

Intellectual Stimulation

Intellectual stimulation involves the leader behavior of raising the follower's levels of awareness concerning the importance of certain outcomes and ways of reaching them. This may be done by communicating a vision of an improved state of organizational effectiveness. The challenge for the leader is to inspire followers to share in the meaning and inherent values of the vision.

The leader must induce followers to transcend their own self-interests for the sake of the team, organization, or larger entity. The desired outcome is for the followers to expand or reorder their portfolio of needs and wants.

Successful intellectual stimulation results in the congruence of the intrinsic need values of followers and the extrinsic organizational needs.

Individual Consideration

Individual consideration involves the leader behavior of stimulating extra effort which enhances the performance of followers. In this process the leader builds the confidence of followers in their ability to perform the tasks necessary to realize the goals of the vision. The leader also demonstrates how the enhanced performance will respond to the reordered needs of the follower.

Individual consideration has a positive focus and may take on many forms. Leaders may express appreciation for a job well done. Follower assignment to special projects that require their special talents may promote self-confidence. Followers may also receive learning opportunities to enhance existing or developing new skills.

Charisma

Bass (1985) described the transformational leader's effect on followers. Followers may feel trust, admiration, loyalty, and respect toward the leader. This results in motivation to do more than they originally expected to do. Bass identified this leader effect upon followers as charisma.

According to Bass (1985), "charisma is a necessary ingredient of transformational leadership, but by itself it is not sufficient to account for the transformational process" (p. 31). Transformational leaders influence followers by arousing in them strong emotions and identifying with them. They may also transform followers on an interpersonal level by serving as teacher, coach, or mentor.

The Bass (1985) concept of charisma was derived from an extension of House's (1977) theory of charismatic leadership. This theory involves the effect of the personal attraction, inspiration, and influence of the leader on the follower. House's indicators of charismatic behavior focus on the leader's interaction with the follower. They indicate that followers are attracted to the personality and beliefs of the leader.

House's theory of charismatic leadership describes leader behavior and traits. Traits include the need for power, self-confidence, and strong convictions. Behaviors include impression management, articulation of vision, communication of high expectations, and confidence. These leaders set examples and arouse followers.

House (1977) described a charismatic leader as one who arouses followers by communicating an appealing vision. Vision is also described in the works of Bennis and Nanus (1985), as well as Tichy and DeVanna (1986). Vision is

communicated in the hope that it appeals to the follower in a manner that is inspirational. The focus of the charismatic leader is clearly upon influencing the follower. This relationship results in followers admiring leaders. However, leaders may have positive or negative intentions or motives for influencing followers.

Bass (1985) when viewing the charismatic leader, was not concerned with the positive or negative intentions, as long as transformation takes place. Therefore, Bass would accept Adolf Hitler and James Jones, of the Jamestown massacre, as transformational leaders. Bass saw charisma as a dichotomy having a potential dark side. In contrast, Burns (1978) only acknowledged charisma as generating good.

Conger and Kanungo (1987) presented a charismatic leadership theory based on the assumption that charisma is an attributive phenomenon. Behaviors include advocating appealing vision, unconventionality, and risk taking. Traits include self-confidence, impression management, cognitive assessment, and empathy. Charismatic leaders are also likely to have a strong need for power, with strong self-confidence. This results in a leader possessing magnetic qualities that induce behavior on the part of the follower (Bass, 1990b; Yukl, 1989a).

Leadership: Transformational Versus Transactional

The proper perspective of the transformational leader

requires a consideration of its antithesis. The contrast, drawn by several authors, is integral to the discussion. The common differentiation is made with transactional leadership. The definition of transformational is almost deficient without this qualifying and revealing reference.

The Contrast of Burns

When Burns (1978) introduced transformational leadership, he included a contrast of the transactional and transformational leader. He described the transactional leader as engaging in simple exchanges with followers to cause performance contributing to goal attainment. In contrast, transformational leaders engage in interactions with followers, based on common values, beliefs, and goals. This encourages performance which results in goal attainment. He described this relationship as mutually elevating and beneficial.

As a political scientist, Burns (1978) pointed to social-political leaders such as Mahatma Ghandi. He described the transformational Ghandi as attempting to elevate the basic desired needs of followers to levels they did not seek before leader induced motivation. He contrasted this to the transactional political leader who motivates followers by appealing to their existing personal interests.

Burns (1978) described exchanging jobs, subsidies, and

lucrative government contracts for votes and campaign contributions as politically motivated transactions. He compared these political transactions to corporate leaders exchanging pay and status for work performance. Pay and status represent values of the follower, while performance represents values to the leader. Burns contended that transactional leadership involves the values of the leader and follower. A response to these values comes through a reciprocal exchange process.

The Contrast of Bass

Bass (1985) offered two models that differentiate the transformational and transactional leader. He viewed transactional leadership as a process of management by exception and contingent reinforcement. In management by exception the leader does not respond to issues unless they involve unsatisfactory performance. The result is to ignore anything positive and only focus on the negative or disruptive. In contingent reinforcement the leader and follower agree on actions to be rewarded and punished.

The Bass (1985) model of transactional leadership consists of several interactive steps between the leader and follower. In the first step, the leader identifies the role the follower is expected to perform. Concurrently, the leader identifies the needs of the follower. Then the leader clarifies the role to the follower and how the

designated performance will be exchanged for consideration that meets follower needs.

In the last step of the interchange, the leader builds follower confidence in the ability to perform the required functions. The leader also reinforces the follower's confidence that the outcomes have value to the follower, especially in responding to needs. The result of the exchange is that the follower is motivated by a reward and performs according to the leader's desires.

The Bass (1985) transformational model is similar to the transactional model but adds one important step that is the primary difference between the two. The initial steps in both models are the same. The leader identifies the performance and the current needs of the follower. It is at this point where the two models differ.

In the second step of the transformational model, the leader attempts to induce the follower to reorder needs by transcending self-interests. The leader's purpose is to have the follower adjust needs as in Maslow's (1954) hierarchy. The leader then clarifies the relationship between reordered needs and the required role. Performance will be exchanged for consideration, which meets the reordered needs of the follower.

Finally the leader reinforces the follower's ability to perform the role. The leader builds the confidence of the follower by reinforcing the follower's self-determined

probability of success. The leader also provides assurance the outcomes have value commensurate with the follower's elevated needs. This is a crucial step in the model.

In this model the leader transcends from a simple to a more complex exchange process involving the higher order needs of the follower. Therefore, the type of exchange determines the type of leadership, either transactional or transformational. If the transformational steps have been successful, the follower is motivated and performs accordingly.

Contrast Similarities of Bass and Zaleznik

Bass (1985) added support to his linear dimension of transactional and transformational leadership from the work of Zaleznik (1977). Zaleznik contrasted leaders and managers through clinical observations. Bass likened Zaleznik's description of leaders to transformational leadership and managers to transactional leadership.

Zaleznik (1977) described managers as passive role players in contrast to the active and involved leader. He saw leaders generating strong feelings from followers, communicating purpose and mission, and generating excitement through images and meaning. Bass (1985) viewed these behaviors as charisma.

Bass (1985) discerned his individual stimulation in Zaleznik's (1977) leader who cultivates intense one-to-one

relationships with followers. He equated intellectual stimulation with Zaleznik's leader being more concerned with ideas that can translate into images rather than processes. Bass also saw congruence with his transactional factors and Zaleznik's manager.

Zaleznik (1977) described his manager as freely using punishment and rewards which Bass (1985) equated with his factor of contingent reward. Zaleznik observed the manager concerned with maintaining a controlled, rational, and equitable system that Bass termed management by exception.

Transactional Leadership According to Sergiovanni

Zaleznik (1977), Bass, (1985) and Burns (1978) are joined in this contrast of leaders by Sergiovanni (1990). Sergiovanni also viewed transactional leadership as focusing on basic and largely extrinsic motives and needs. He saw the transactional leader and follower agreeing to exchange a response to needs for services to accomplish objectives. The leader and follower reach this agreement based on the assumption they share a common stake in the organization.

Sergiovanni (1990) likened this to striking a bargain or trade involving the independent wants and needs of the follower and leader. Positive reinforcement is exchanged for good work, merit pay for increased performance, promotion, and collegiality for cooperation.

A Comparison of the Contrasts

There are contrasts in the Burns (1978), Bass (1985), and Sergiovanni (1990) views of transactional and transformational leadership. All three viewed transactional leadership as an exchange of rewards for compliance. However, Bass added and emphasized the leader action of clarifying the work required to obtain rewards. He contended that theories such as the vertical dyad linkage theory (Dansereau, Graen, & Haga, 1975) and the path-goal theory of House and Mitchell (1974) serve as descriptors of transactional leadership.

In Yukl's (1989a) analysis of Burns (1978) and Bass (1985), he referred to Bass as drawing transactional and transformational leadership as different but not mutually exclusive processes. Bass recognized that the same leader may use both types of leadership at different times in different situations. Thus, the leader may cross back and forth over the line. This gives rise to the thoughts common to situational leadership theory, which is in large part transactional. Nevertheless, leadership behavior involves motivating the follower toward a specific performance.

Leadership and Motivation

Bennis and Nanus (1985) included four management

strategies which enhance follower motivation when leaders embrace and include followers in the leadership process. Burns (1978) related Maslow's (1954) need hierarchy to transformational leaders activating higher-order needs in followers. The result finds followers elevated from their everyday selves to their better selves.

The transformational leader, according to Burns (1978), is cognizant of the need to motivate employees. Bennis and Nanus (1985), and Tichy and DeVanna (1986) suggested this occurs through the leader communicating vision. This stimulates employees to higher level values and needs, levels of needs which are the basis of Maslow's (1954) theory of motivation.

Maslow (1954) posited that people are motivated by higher order needs after lower level needs are satisfied. Burns (1978) described transformational leaders as motivating followers to work for transcendental goals. He saw the result being a subordination of immediate self-interests in favor of aroused higher-level needs. The refocusing on higher-order, intrinsic and ultimately moral motives and needs exemplifies transformative leadership (Sergiovanni, 1990).

Burns (1978) saw this leadership occurring in the mutual elevation of leaders and followers to higher levels of motivation and morality. Although Burns related most directly to Maslow (1954), Porter (1961) amended Maslow's

hierarchy. He added the element of autonomy, the implied feeling of control or choice. This concept is also inherent in transformational leadership according to Bass (1985), Burns (1978), and Sergiovanni (1990).

Another theory of motivation (Herzberg, 1966), contended there are two levels of needs, intrinsic and extrinsic. According to Herzberg, the leader must recognize that a response to lower order or maintenance needs results in a lack of dissatisfaction, but not in satisfaction. Satisfaction and motivation to a higher level of performance will only occur after meeting higher order needs.

The focus on higher order needs and satisfaction is evident in the ideas of Bass (1985) and Burns (1978). They described the transformational leader's efforts to reorder the needs of followers. However, to some, the idea of raising followers to higher levels of motivation is a contingent and situational process. This is in contrast to the transcendental process that Burns described.

Expectancy theories of motivation focus on the expectation that certain rewards result from certain behaviors (Owens, 1991). On the surface, these theories delimit the influence of the leader on the follower because the motivators are purely of extrinsic value.

Vroom's (1964) theory of motivation is perhaps the most representative of this idea. He proposed that motivation has individualized value, responds to the strongest

forces, and is affected by expected events and likely outcomes. This theory discounts the influence of the leader unless a factor such as charisma is a strong influence.

Leaders who motivate followers develop an awareness of the level of needs of their followers. Increased performance can only occur after the leader ensures the meeting of basic needs. Then the reordering process to higher level needs can begin. The stage is set for transformation of the individual.

Transformational Leadership, Motivation, and Culture

The works of Sergiovanni (1987, 1990; Sergiovanni & Carver, 1973) link the constructs of transformational leadership, motivation, and culture. He has built upon the transformational leadership theory of Burns (Sergiovanni, 1990) and conducted research related to the motivation theories of Herzberg (Sergiovanni & Carver, 1973). Finally Sergiovanni (1987, 1990) has written on culture in schools. These examples serve as a basis for further explanation of this relationship.

Sergiovanni (1990) saw leaders and followers united in pursuit of higher level common goals. He acknowledged that common purposes may start as separate, but concludes "when moral authority transcends bureaucratic leadership in a school, the outcomes in terms of commitment and performance far exceed expectations" (p. 23). This relates to the

higher order needs at work in Maslow's (1954) self-actualization level. In addition to the elevation of needs, Sergiovanni also addressed culture in his view of transformational leadership. He described three stages: Building, bonding, and banking.

In his building stage, the leader provides interpersonal support. This responds to the needs of followers in the areas of achievement, responsibility, and esteem. His view of the leader providing support parallels Bass's (1985) individual consideration and Maslow's (1954) need hierarchy.

In his bonding stage, Sergiovanni (1990) brought the elevated level of commitment and performance together. He described the leader and led being bonded by a set of new shared values and commitments. This serves as the impetus for inspired performance and the means by which new values become a part of the culture.

In the final stage, the leader "banks the fire" by institutionalizing the shared values, beliefs, and commitments. This is similar to Selznik's (1984) description of the leader protecting the values of the institution. These values may manifest as actions which become a part of the culture, according to Schein (1985) the manner in which things are done.

Leadership and Culture

As is the case with transformational leadership, culture is a complex phenomenon found in the underpinnings of an organization (Schein, 1985; Selznik, 1984). Schein defined culture as the "basic assumptions and beliefs that are shared by members of a group or organization that operate unconsciously" (p. 6). Owens (1991) contended that cultural norms are institutionalized standards. They are based on assumptions that are the unconscious beliefs taken for granted within the organization.

Deal and Kennedy (1982) defined culture as the dominant values shared and espoused by an institution. The leader and follower enter the discussion because they are the members of the organization who share these assumptions, values, and beliefs. The people of the organization also have an effect upon and interact with the internal and external environment which Schein (1985) contended are dimensions of culture.

Yukl (1989b) suggested that the beliefs which represent culture are learned responses. These are necessary for survival in the external environment and in the internal workings of the organization. Further, culture is a product of the interaction of people within the organization and the total environment. Selznik (1984) contended the role of the leader is to protect the values of the

organization within this environment.

The leader can protect values by fostering a positive culture. The works of Deal and Kennedy (1982) and Peters and Waterman (1982) demonstrate how positive culture contributes to goal attainment and profitability in successful organizations. The manner by which leaders shape culture is illustrated by the vision and meaning strategies of Bennis and Nanus (1985) and the stages of transformational leadership offered by Sergiovanni (1990).

Schein (1985) suggested leaders use primary mechanisms to develop and reinforce culture. They include the personal priorities and values leaders communicate, as well as their reaction to the performance of the members of the organization. The manner in which leaders react to crisis and the role they model, especially in the areas of loyalty and dedication to duty, are also important, as is the way leaders allocate rewards and promote people with certain values, skills, or traits.

Other factors which contribute to positive culture include the philosophy of viewing people as an important resource (Ouchi, 1981). The dominant values espoused by the organization may include product quality (Deal & Kennedy, 1982). Culture may also be supported by holistic concepts like organizational excellence and success (Peters & Waterman, 1982). Kanter (1983) summarized the positive impact of leadership upon organizational culture when she

referred to the outcome as a "culture of pride and a climate of success" (p. 149).

Conclusion

Burns (1978) described leadership as "a stream of evolving inter-relationships in which leaders are continuously evoking motivational responses from followers and modifying their behavior as they meet responsiveness or resistance, in a ceaseless flow and counterflow" (p.440). According to Yukl (1989b), relationships can be microlevel or macrolevel processes. At the microlevel the influence process is between individuals. The leader influences the motivational level of the follower. The macrolevel involves the process of utilizing power to reform institutions and transform social systems. At the macrolevel the leader influences the culture of the organization.

Effectiveness in terms of goal attainment is the ultimate objective of any organization. This may result from the leader's ability to transform the motivational level of people and cultural processes of the organization. Therefore, a more thorough understanding of transformational leadership and its effect upon the processes and people of an organization is important knowledge for leaders.

CHAPTER II

METHODOLOGY

Problem Statement

Transformational leadership has become a contemporary concept with a wide variety of applications. The purpose of this study was to clarify the meaning of the construct transformational leadership. The underlying assumption was that this could be accomplished through a synthesis of the existing body of research literature.

Three specific goals were established for the study. The first was to identify the extent to which transformational leadership is practiced and in turn preferred by followers. The second was to obtain an estimate of the strength and direction of the relationship between this form of leadership and other organizational behavior constructs. The third was to examine moderating variables that appear to influence the strength of these relations.

Data Collection

In primary research, the researcher must consider the target and accessible population. The reviewer of literature must also define these populations. In his analysis

and taxonomy of literature reviews, H.M. Cooper (1988) points out different purposes for reviews.

H.M. Cooper (1988) contended specific purposes may have a bearing on the definition of the target and accessible population. However, he emphasized that all reviews should include an exhaustive search. He defined exhaustive as "meaning comprehensive coverage within the limitations of the author's definition of the area" (p. 114).

Literature Search

The purpose of the literature search was to identify all written works, referred to as literatures, which addressed the topic of transformational leadership. The initial bibliography was constructed through the following techniques:

1. A computer search of the Educational Resources Informational Center (ERIC) and Abstracted Business Information (ABI) data bases was conducted. The search terms transform$ and leader$ were keywords used in the first search to identify literatures related to transformational leadership. The dollar sign ($), served as a wild card, which yielded all combinations with transform and leader as initial letters.

2. A computer search of the Western Michigan University FINDER system for books and documents was conducted. The keywords for this search were transform* and lead*.

The asterisk (*) yielded items with transform and lead as initial letters.

3. A computer search of dissertation abstracts was conducted through Dissertation Abstracts International (DAI). The keywords used in this search were transformational and leadership.

4. All computer searches included a computer scan of the title, abstract, and descriptors.

5. Other references gleaned from documents reviewed in the computer search were used to expand the scope of the search.

6. Personal contacts were made with the staff of Dr. Bernard Bass to identify additional sources of data.

Relevance Criteria

Abstracts or full documents were reviewed to determine relevance to the study. Literature sources, defined as written works, were considered relevant if they met the following criteria:

1. The literature addressed transformational leadership as defined by Burns (1978) or Bass (1985).

2. The literature had a publication date subsequent to 1978 to account for Burns's 1978 introduction of transformational leadership.

The relevance criteria were intentionally broad so as

to maximize the potential number of literature sources that would be reviewed and potentially included in the study.

Inclusion Criteria

The abstracts or full documents of relevant literature sources were reviewed to determine whether each should be included in the study. The following categories and related criteria were used as a basis for deciding which literatures contained the results of a research study that should be included:

1. Qualitative: The literature source reported the results of a research study that included a systematic examination of transformational leadership based on a research question through case study, interview, or other accepted means of conducting qualitative research (Borg & Gall, 1983).

2. Quantitative (nonsynthesizable): The literature source reported the results of a research study that included a hypothesis test of the relationship between transformational and transactional leadership and at least one other construct of organizational behavior. The study yielded quantitative data that were relevant but not data points which were synthesizable.

3. Quantitative (synthesizable): The literature source reported the results of a research study that included a test of a hypothesis involving: (a) actual or

preferred transformational versus transactional leadership or, (b) the relationship of transformational and transactional leadership to leader effectiveness, subordinate satisfaction with the leader, or the willingness of the subordinate to put forth extra effort.

Inclusion criteria were established to allow for a broad range of studies. Synthesizable studies were those which yielded data points that could be utilized in the meta-analysis. Nonsynthesizable studies yielded data points that were not usable in the meta-analysis. Although the inclusion criteria did limit the studies from which data points were derived, they also permitted nonsynthesizable quantitative studies and qualitative studies to make enriching contributions to the study.

Evaluation of Data--Coding Frame

Five categories of study data were retrieved and recorded for each included study (H.M. Cooper, 1988). The first category was made up of the background characteristics of the research report. This category consisted of the title, author, publication date, source, and the channel from which the report was derived.

The second category involved the research design of the study. Specific items included the type of design, sampling techniques, and experimental and control groups. Other items in this category were the independent and

dependent variables, treatments, and measurement of the independent variable.

The third category described the environment in which the study was conducted and the characteristics of the participants. This category included the type of organization, focal leader, total number of participants, groups, and any significant or unique descriptive information about the participants. The fourth category consisted of the outcomes of the study, including the hypothesis test results. For quantitative studies, the direction and strength of results, outcome probabilities, and the respective supporting statistical values were gathered.

The last category included miscellaneous data such as threats to internal validity. The miscellaneous category was also used to record data that did not fit into one of the predetermined categories. This provision enabled other potential emergent categories of usable data to be stored.

A coding sheet was developed to record data. The coding sheet was reviewed by a qualified individual who provided input to the design. Based on this input, revisions were made before finalization. The coding form and instructions are presented in Appendix A.

Data Analysis and Interpretation

The data analysis and interpretation stage of integrative reviews involves the combining and analysis of data

derived from a set of studies which include the testing of a common hypothesis (H.M. Cooper, 1989). The assumption underlying the use of statistics in this effort is that a set of studies have been identified which address an identical conceptual hypothesis. H.M. Cooper presented a number of techniques for combining and analyzing data: (a) calculating effect sizes, (b) combining probabilities, and (c) analyzing variance.

Effect Sizes

Effect sizes describe the strength of relationships. They standardize the difference between two common metrics in a value that can be used to quantitatively describe the strength of the relationship. Effect sizes are commonly used in meta-analysis to combine the effects of the independent variable across studies (Glass, 1976). Cohen (1988) defined effect size as "the degree to which a phenomenon is present in the population," or "the degree to which the null hypothesis is false" (pp. 9-10).

The utilization of effect sizes involves three steps. The first is to calculate the effect size for individual studies which test the same hypothesis. The second step involves weighting the individual study effect sizes by their respective sample sizes. In the third step the weighted effect sizes are combined across studies by finding the average weighted effect. The average weighted

estimator is used to describe the combined effect of the independent variable across studies.

In this study, the effect sizes for each individual study were calculated first. The d index was used to compare two groups of means on two dimensions. The first comparison involved the means associated with transformational leadership behavior and transactional leadership behavior and described the extent to which each was actually demonstrated by leaders in the included studies.

The second comparison involved the means associated with transformational leadership behavior and transactional leadership behavior and described the extent to which each type of behavior was preferred by participants in the included studies. The d index was used to describe the difference between the two groups of means in terms of their common standard deviation. The null hypothesis test associated with the d index is the d index equals zero.

The r index was used in cases dealing with correlation coefficients. The r index was used to describe the extent of the relationship between the leadership behavior and three dependent variables measuring subordinate reaction to the leadership behavior. Once the individual study effect sizes were determined, the average of each set of hypothesis tests was calculated. This average yielded an estimate of effect of the independent variable across studies.

A number of statistical factors which may bias the

size of the effects were considered in the analysis (H.M. Cooper, 1989). The first factor involved a consideration of the reliability of measurements used in the studies. The Multifactor Leadership Questionnaire (MLQ) (Bass, 1985) was the primary instrument used in the studies to produce data points. Additional information regarding the reliability and validity of the MLQ is presented in a subsequent section.

The second factor addressed the inequality of the standard deviations of the groups. Grand means were used in the calculation of individual study effect size differences. The assumption underlying the d index is equal or roughly equal standard deviations for each comparison. Therefore, a pooled standard deviation was calculated for use in deriving effect sizes from these grand means (Hedges, 1982).

The third influence, small sample size (i.e., < 10) is acknowledged as possibly contributing to a large effect size estimate (H.M. Cooper, 1989). Sample sizes were coded to be used in the analysis of whether this factor should be considered a source of potential bias in the effect size estimate.

Assumptions

H.M. Cooper (1989) indicated that the overall probability of the existence of a relation may be determined by

combining the probability levels associated with the separate comparisons. This combined probability describes the likelihood that the individual results that are being combined could have occurred by chance if the null hypothesis were true in every study. Combining probabilities from the results of the numerous tests permits the drawing of overall conclusions.

Although combined probabilities were not included in this study, H.M. Cooper (1989) cites three assumptions on which overall conclusions are based which should be considered. He viewed these as crucial to the validity of any conclusions that are based on a cumulation of individual comparisons.

The first assumption is that individual comparisons test the same conceptual hypothesis. The second is that the separate tests are independent of one another, thereby containing unique data. In this study five individual hypothesis tests were identified from five different sets of studies.

The third assumption is that the initial assumptions of the primary researchers were valid. These assumptions include sample independence, normal distribution, and equal variance. In this study individual studies were reviewed and coded on these assumptions when appropriate.

Analysis of Variance

Analyzing the variance of the combined effect size attempts to identify the existence of any variables which may be contributing to the variance. H.M. Cooper (1989) suggested analyzing variance is critical to understanding the reason effect sizes may vary from one study to another. He contended that homogeneity statistics clarify whether the variance in effect sizes is different from one might expect from sampling error alone. Further, that if this is not the case, homogeneity statistics also help examine other potential sources of variance.

H.M. Cooper's (1989) recommended approach to homogeneity analysis is based on a formula presented by Hedges and Olkin (1985). The analysis is directed at the question of whether the variance is significantly different from what would be expected by sampling error. If the answer is yes, the analysis continues to examine other potential sources of variance.

Hedges and Olkin (1985) used the Q-statistic (Qt), as a measure of total variance, to determine whether a set of d indexes is homogenous. The Q-statistic has a chi-square distribution with n-1 degrees of freedom. If it is found to be greater than the critical value, at a chosen level of significance, the null hypothesis is rejected. In other words, the chance that the total variance in effect size

was produced by sampling error alone cannot be supported. This results in the need for further analysis.

The next step in the analysis is to identify the characteristics or groupings to be analyzed. These are intuitively selected as possible contributors to the variance. Then the variance within each group (Qw) is calculated. Once the variance within groups is determined, the variance between groups (Qb) can be calculated.

This is done by subtracting the sum of all the individual subgroup variances (Qw) from the overall or total variance (Qt). The result is the variance (Qb) that exists between the groups. If this result exceeds the critical value, a significant variance factor is identified. The between-groups variance serves to explain whether the characteristics of groups under comparison may be associated with the variance.

Homogeneity analysis was utilized in this study to analyze variance in effect sizes across studies. In this analysis, individual study effect sizes became dependent variables. Two sets of grouping characteristics of the studies were treated as predictor or independent variables.

Through the use of this procedure, an attempt was made to explain variance by examining the possible effect these grouping characteristics had as moderating variables. The underlying question was whether the difference described by the average weighted effect sizes could be partially

explained by the groups and atttributed to the characteristics of the grouping.

There are problems associated with standard inference techniques used in research synthesis (Glass, 1976). The first involves describing associations between design characteristics and study results. H.M. Cooper (1989) cautions against ignoring the possibility that the overall variance in effect was no greater than what might be expected by chance. The second problem is the possibility that different sample sizes can have different sampling variances. These may violate the assumption of homogeneity of variance underlying the inference test.

The rigor of these procedures can yield results that further clarify the relationships between variables. However as H.M. Cooper (1989) pointed out, where study-generated evidence may be viewed as causal, review-generated evidence should always be viewed as associational.

Limitations of Literature Reviews

Synthesis can be described as the "science of discovering what we already know" (Pillemer & Light, 1980, p. 193). The challenge of the research reviewer is to synthesize data in a credible manner. Concern must be given to the validity of the studies and the review process.

The method used in this study is subject to the same critical examination applied to other forms of research.

However, H.M. Cooper (1988) contended that properly conducted research reviews are credible when patterned after empirical research. Therefore, consideration should be given to the issues of internal and external validity.

There are several elements related to internal and external validity in experimental studies. Internal validity (Campbell & Stanley, 1963) includes history, maturation, testing, instrumentation, regression, selection, and attrition. External validity (Bracht & Glass, 1968) includes the description of treatment, experimenter and treatment effect, testing, measurement of the dependent variable, and interaction with history and time.

Control and randomization are commonly used in research to ensure the maximization of the experimental effect and the minimization of extraneous variance (Kerlinger, 1986). These two factors, representing strategies to reduce threats to internal and external validity, are difficult to overcome in most nonexperimental research. They were developed for use in experimental research usually conducted in situations conducive to control.

Although non-experimental research may lack control, it does have a contribution to make to the development of new knowledge. Qualitative research through its exploratory nature makes a contribution to new knowledge (Guba & Lincoln, 1982; Miles & Huberman, 1984a; J.K. Smith & Heshusius, 1986). Other forms of nonexperimental research,

like literature reviews, also contribute to this quest. However, the literature is rich with calls and suggestions for improving the credibility of literature reviews.

Ogawa and Malen (1991) called for rigor, the adherence to principles and procedures. They contended this will minimize bias and error in the collection of data and reporting of results. Reliability can be supported by presenting decision rules (LeCompte & Goetz, 1982) or an audit trail (Guba & Lincoln, 1982).

There are other techniques which enhance the rigor and add credibility in review efforts. H.M. Cooper (1988) presented several validity factors the literature reviewer must consider. In this study some were controlled while others were considered a priori threats.

In the problem development stage, the relevance criteria were designed to guide a broad-based and exhaustive search. The conceptual definition of transformational leadership was clearly specified as emanating from Burns's (1978) origin. Although the conceptual definition of transformational leadership contained specific parameters, it also contained breadth. The definition was broad enough to permit the identification of a wide range of relevant literature to be reviewed for potential inclusion.

In the data collection phase, the literature search was exhaustive. The search was supported by computerized searches of multiple data bases. The keywords transform$

and leader$ resulted in the identification of a large set of initial literature sources to be reviewed. The large set of initial literature sources served to facilitate the potential inclusion of a broad range of studies generated from the literature search. This phase was enhanced by the use of informal channels and perusals of bibliographies.

In the data evaluation phase, there are several procedures that can protect against threats to validity. Two are accounted for in this study. Inclusion decisions were based only on conceptual judgments. Three conceptual inclusion criteria were utilized to identify studies that should be included. Qualitative and nonsynthesizable quantitative studies were included to provide enrichment to the synthesizable quantitative studies. The synthesizable quantitative studies were defined as contributing data points that could be used in the meta-analysis.

One potential bias that could not be overcome was H.M. Cooper's (1989) call for multiple coders. However, as H.M. Cooper noted "coding can be done with fairly high reliability, especially if the strategy employed asks the coder only to retrieve information directly as presented by primary researchers" (p. 80). Another concern related to the primary research is the validity of individual studies.

Although potential threats to validity from individual studies were noted in the coding frame, inferences about research quality or validity were not made. An a priori

decision was made to include all studies which reported a hypothesis test. This was done in anticipation of a potentially small number of studies reporting tests of certain hypotheses, a factor which may restrict generalizability.

Multifactor Leadership Questionnaire (MLQ)

The MLQ (Bass, 1985) was the primary instrument used in the included studies. It was developed to measure the extent to which leaders demonstrate certain behaviors. These behaviors relate to transformational and transactional leadership as defined by Bass (1985).

The MLQ includes questions which measure the factors charisma, intellectual stimulation, and individual consideration. When taken in combination, these constitute transformational leadership. The MLQ also includes questions which measure the factors contingent reward and management by exception. When taken in combination, these constitute transactional leadership.

The MLQ was developed through a series of steps (Bass, 1985). An opened-ended survey of executives was conducted to identify and clarify items which described transformational and transactional leadership. This was expanded by a survey of literature. The resulting 142 items were then sorted and consolidated by a group of MBA students. A scale for psychometric studies was developed and pilot-tested on a group of war college participants who were

asked to describe their immediate supervisor.

The inconclusive results of the war college pilot indicated the need for a factor analysis. Eventually, five factors emerged from the factor analysis. The three transformational factors were charisma, individual consideration, and intellectual stimulation. The two transactional factors were contingent reward and management-by-exception.

On the MLQ respondents are asked to rate the behavior of their current immediate supervisor on a range of 0 = not at all, to 4 = frequently, if not always. A typical range of mean scores for the five factors reported in included studies is approximately 1.80 to 2.80. (See Appendix B for statistical data.)

The factor charisma is measured by 11 items, including "I am ready to trust his/her capacity to overcome any obstacle." Individual consideration is measured by six items, including "gives personal attention to members who seem neglected." Intellectual stimulation is measured by seven items, including "enables me to think about old problems in new ways." These factors constitute transformational leadership.

The transactional factors include contingent reward which is measured by eight items, including "tells me what to do if I want to be rewarded for my efforts." Management-by-exception is measured by five items, including "as

long as things are going all right, he/she does not try to change anything."

The original reported reliabilities for the MLQ (Bass, 1985) as assessed by coefficient alphas were as follows: charisma, .82; individual consideration, .84; intellectual stimulation, .78; contingent reward, .74; and management-by-exception, .60. Subsequent reliability results were reported by Waldman, Bass, and Einstein (1987) as follows: charisma, .94; individual consideration, .87; intellectual stimulation, .89; contingent reward, .83; and management-by-exception, .70. Similar results were reported by Hoover (1991) and Bass and Yammarino (1991).

The MLQ also contains a measure of three outcome variables. Effectiveness of the leader is measured by four items, including "How effective is your superior in meeting the requirements of the organization?" Satisfaction with the leader is measured by two items, including "In all, how satisfied are you with your superior?" Bass (1985) reported coefficient alphas for these two indexes to be .81 and .91, respectively.

The third variable measured is the extra effort a subordinate is willing to put forth for the leader. This is measured by a 3-item scale of extra effort, including "Motivates me to do more than I originally expected I would do." When the items were combined, they formed an index with an estimated Spearman-Brown reliability of .84 (Bass,

1985). The reliabilities cited were subsequently replicated (Hoover, 1991) and supported (Tsang Lang, 1990).

CHAPTER III

RESULTS

The results of this review are organized into four sections. First the results of the literature search are presented along with the studies that were included by category. Second, studies which produced data points are presented with the participants involved in the studies. Third, the meta-analytic results of those studies are presented. Finally, homogeneity analyses are presented along with possible explanations of the effect of moderating variables.

Literature Search Results

A total of 591 pieces of literature were reviewed and analyzed for relevance according to the criteria. Table 1 presents a breakdown of the literature search results. The "other" category contains pieces of literature gleaned from document bibliographies and from personal contacts. A number of dissertations were not retrievable due to their unavailability or university rules prohibiting loans. Computer generated abstracts or actual documents were reviewed to determine which of the 591 pieces of literature met the inclusion criteria.

Table 1

Number of Literature Sources Investigated by Category, Deemed Relevant, and Included in Review

Source	Number generated	Number relevant	Number included
ERIC	199	49	5
ABI	278	65	12
FINDER	14	6	6
DAI	65	26	4
Other	35	13	9
Total	591	157	36

Note: ERIC = Educational Resources Informational Center
ABI = Abstracted Business Information
DAI = Dissertation Abstracts International

From the 591 pieces of literature reviewed, 205 were rejected for inclusion because they only included a description of a transformation that occurred. Most of these transformations were of an organizational nature. The literature that employs the term transformation to describe change is voluminous. Since this is an era of constant change, as pointed out by Naisbett and Aburdene (1990), the term transformation has apparently become a contemporary buzzword (Slack, 1990).

From the remaining relevant pieces, 229 were rejected

because they were not research studies, as called for in the inclusion criteria. These can be described as opinion or descriptive literatures. Again, the buzzword factor was at play. Most of these pieces called for transformational leadership using Burns (1978) or Bass (1985) as the basis for their contention. These authors called for or described situations in need of transformational leadership in nearly every aspect of the global society.

Inclusion Results

The remaining 157 pieces of literature can be classified as research studies. However, 123 of these were not included for one or more of the following reasons: (a) lacked a report of a hypothesis test called for in the inclusion criteria, (b) lacked a report of specific usable data, or (c) the complete document was not retrievable.

Thirty-six out of the remaining 157 studies were retrievable and included because they met the inclusion criteria. A breakdown of the numbers of studies included in the inclusion categories is presented in Table 2.

In the end a total of 36 studies were chosen for inclusion according to the criteria. Twenty-four were synthesizable data point producing studies, with 12 non-synthesizable studies included to provide enrichment to the analysis of data points. The 24 synthesizable studies reported the results of 29 hypothesis tests.

Table 2

Number and Types of Literature Sources Meeting Inclusion Criteria

Source	Qualitative	Quantitative (Nonsynthesizable)	Quantitative (Synthesizable)
ERIC	-	1	4
ABI	2	2	8
FINDER	4	-	2
DAI	-	-	4
Other	1	2	6
Total	7	5	24

Note: ERIC = Educational Resources Informational Center
ABI = Abstracted Business Information
DAI = Dissertation Abstracts International

In the end, a total of 36 studies were chosen for inclusion according to the criteria. Twenty-four were synthesizable data point producing studies, with 12 non-synthesizable studies included to provide enrichment to the analysis of data points. The 24 synthesizable studies reported the results of 29 hypothesis tests.

The study of transformational leadership has been varied in terms of design and findings. The designs included qualitative and quantitative approaches. The results of these studies yielded different descriptions of

leadership behavior and the impact of this behavior on the people and processes of organizations.

The qualitative studies included in this study were subjectively chosen according to the inclusion criteria of a systematic investigation based on a research question through accepted qualitative research methods. They are included for the contribution they make to the enrichment (H.M. Cooper, 1989) of the construct, transformational leadership. Qualitative studies were excluded because they did not meet the aforementioned inclusion criteria or did not report data that supplemented or enriched the data derived from the included studies. A list of the included qualitative studies is presented in Table 3.

The qualitative studies enrich the findings of this study through their descriptions. Six of the studies were case studies of leaders in the business sector which utilized a combination of personal interviews and surveys. The Burns (1978) work was an historical case study which included leaders from various sectors, including present and past political leaders from around the world.

The literature search did not yield any quantitative studies that could be used to examine the relationship between transformational leadership and organizational culture. Three qualitative studies (Deal & Kennedy, 1982; Kanter, 1983; Peters & Waterman, 1982) were used to provide a general perspective of this relationship.

Table 3

Date, Author, and Design of Qualitative Studies Included

Date	Author	Design
1978	Burns	Historical
1982	Deal & Kennedy	Case Study
1982	Peters & Waterman	Case Study
1983	Kanter	Case Study
1985	Bennis & Nanus	Case Study
1986	Tichy & Devanna	Case Study
1990	Rosener	Case Study

Five studies presented quantified data that could not be used in the synthesis of data employed in this study. Their contribution is enrichment similar to the qualitative studies. A list of these studies is presented in Table 4.

The studies listed in Table 4 meet the inclusion criteria of a hypothesis test of the relationship between transformational and transactional leadership and at least one other construct of organizational behavior but produced nonsynthesizable data points. Although these studies include important findings, they do not produce data points for this study. Therefore, they were viewed as making qualitative contributions. The Deluga (1988; Deluga & Souza, 1991) studies and Bass (1990b) study utilized the

Multifactor Leadership Questionnaire (MLQ) as a measurement device for leadership behavior which supported the relevance of their findings.

Table 4

Date, Author, and Relational Construct of Quantitative (Nonsynthesizable) Studies Included

Date	Author	Relational construct
1988	Deluga	Influence Strategies
1989	Rouche	Leadership Factors
1990	Bass	Employee Effort
1990	Niehoff, Enz, & Grover	Effort, Satisfaction
1991	Deluga & Souza	Influence Strategies

The Rouche (1989) study utilized a device which was a modified version of the MLQ developed for use with community college presidents. The Niehoff (Niehoff, Enz, & Grover, 1990) study utilized a questionnaire format with a variety of devices used to measure factors associated with transformational leadership as defined by Bass (1985).

Presented in Table 5 is a list of the data point producing studies which met the inclusion criteria of testing a hypothesis related to: (a) demonstrated and preferred transformational leadership behavior versus transactional leadership behavior, or (b) the relationship of these leadership behaviors to perceived leadership effectiveness,

subordinate satisfaction with leadership, or subordinate willingness to put forth extra effort for the leader demonstrating transformational and transactional leadership behavior.

Table 5

Date, Author, and Participants of Quantitative (Synthesizable) Studies Included

Date	Author	Participants
1985	Bass (1)	Students (world leaders)
1985	Bass (2)	War college participants
1985	Bass (3)	New Zealand managers
1985	Bass (4)	New Zealand administrators
1985	Singer	New Zealand managers
1985	Waldman, Bass, & Einstein (1)	Army colonels
1985	Waldman et al. (2)	Military mixed ranks
1985	Waldman et al. (3)	Industrial managers
1986	Singer & Singer	New Zealand students (ideal)
1987	Bass, Waldman, Avolio, & Bebb	Managers & supervisors
1987	Onnen	Church members (clergy)
1987	Waldman, Bass, & Einstein	Wholesale managers
1988	Avolio, Waldman, & Einstein	MBA students (team leaders)
1988	Hater & Bass	Managers
1988	Murray	College administrators

Table 5--Continued

Date	Author	Participants
1989	Bass & Avolio	Employee/MBA students
1989	King	Educators
1989	Ruggerio	Project managers
1989	Singer & Singer (1)	New Zealand police
1989	Singer & Singer (2)	Tai employees
1989	Tsang Lang	Vocational instructors
1990	Seltzer & Bass	Managers/MBA students
1990	Spangler & Braiotta	Audit committee members
1990	Yammarino & Bass (1)	Naval officers
1990	Yammarino & Bass (2)	War college participants
1990	Young	Department chairpersons
1991	Avolio, Yammarino & Bass	Subordinates (managers)
1991	Bass & Yammarino	Naval officers
1991	Hoover	Teachers (headmasters)

Table 5 also presents a description of the participants that rated the leader. In most instances participants were rating their immediate superiors. Exceptions to this include Bass (1985), where students were rating world class leaders, and Singer and Singer (1986), where students were asked to described their ideal leader using the MLQ. In some cases focal leaders are added in parentheses for clarity.

Some of the individual studies included provided multiple data points from either multiple studies or multiple hypothesis tests within individual studies. All of the included studies utilized Bass's (1985) MLQ as a measurement device for the leadership factors. The MLQ was also used as the measurement device for the dependent variables of effectiveness, satisfaction, and extra effort in all studies.

Characteristics of Literatures

Twenty-four studies presented 29 comparisons which produced data points for analysis. Some literatures produced multiple comparisons by reporting results from multiple studies. The following characteristics describe the included studies which produced data points.

The mean year of report appearance was 1988 (SD = 2.10) The average number of subjects per study was 211 (SD = 187.38) with a range of 23 to 793. Eight studies involved leaders from a military or police organization. Twenty-two studies involved leaders from other types of organizations. These studies included leaders in business and industry, education, and clergy.

Twenty-three studies were conducted within the United States. Five studies were conducted in New Zealand and one in Taiwan. All studies involved male subjects. Although females were included in most studies, the number of male

participants was far greater than females. Gender was only treated as a moderating variable in one study (Young, 1990).

There was little consistency and specificity in the moderating variable data reported. This resulted in a lack of commonality among the other potential moderating variables coded, such as age or race. Ages varied, and race was seldom reported. Two variables were identified as warranting further analysis, the type of organization and the country in which the study was conducted.

Studies Yielding Data Points

The MLQ was the measurement device utilized in all of the included studies to measure transformational and transactional leadership. The hypothesis tests yielding data points were placed into five categories. The first, actual leadership, described the extent the leadership behavior was actually demonstrated by leaders. The second, preferred leadership, described the extent to which the leadership behavior was preferred by subordinates.

The third category, effectiveness, involved the relationship between subordinate perceived leader effectiveness and demonstrated leadership behavior. The fourth, satisfaction, classified hypotheses according to the relationship between subordinate satisfaction with the leader and demonstrated leadership behavior. The fifth category, extra

effort, involved the relationship between the subordinate's willingness to put forth extra effort and demonstrated leadership behavior.

The studies yielding data points are presented in Table 6 along with the classification of their respective hypothesis tests.

Table 6

Studies Yielding Data Points by Category and Number of Hypothesis Tests

		Hypothesis Category				
Date	Author	Act	Pre	Eff	Sat	ExE
1985	Bass (1)			1	1	
1985	Bass (2)			1	1	
1985	Bass (3)	1	1	1	1	1
1985	Bass (4)	1		1	1	1
1985	Singer	1		1	1	
1985	Waldman et al. (1)	1		1		1
1985	Waldman et al. (2)	1		1		1
1985	Waldman et al. (3)	1				1
1986	Singer & Singer		1			
1987	Bass et al.	2	1			
1987	Onnen			1	1	
1987	Waldman et al.		1			
1988	Avolio et al.	1				
1988	Hater & Bass	2				

Table 6--Continued

Date	Author	Hypothesis Category				
		Act	Pre	Eff	Sat	ExE
1988	Murray	1				
1989	Bass & Avolio	1		1	1	
1989	King	2		2	2	
1989	Ruggerio	2				
1989	Singer & Singer (1)	1	1		1	
1989	Singer & Singer (2)	1	1		1	
1989	Tsang Lang			1		
1990	Seltzer & Bass	1		1	1	
1990	Spangler & Braiotta	1		1		
1990	Yammarino & Bass (1)	1		1	1	1
1990	Yammarino & Bass (2)	1		1	1	
1990	Young			2	2	2
1991	Avolio et al.	1		1	1	
1991	Bass & Yammarino	1				
1991	Hoover			1	1	
Total Studies		22	5	20	16	7
Total Hypothesis Tests		25	5	22	18	8

Note: Act = Actual, Pre = Preferred, Eff = Effectiveness
Sat = Satisfaction, ExE = Extra Effort

Twenty-two studies contributed 25 actual leadership demonstrated hypothesis tests. Three studies contributed two hypothesis tests (Bass, Waldman, Avolio, & Bebb, 1987; Hater & Bass, 1988; Ruggerio, 1989) by including comparative groups in the study. Five studies contributed five preferred leadership hypothesis tests.

Eighteen studies contributed 20 perceived leader effectiveness hypothesis tests. Two studies contributed two hypothesis tests (King, 1989; Young, 1990) by including comparative groups in the study. Sixteen studies contributed 18 satisfaction with leader hypothesis tests. Two studies contributed two hypothesis tests (King, 1989; Young, 1990) by including comparative groups in the study. Seven studies contributed eight extra effort hypothesis tests with one study contributing two hypothesis tests.

Statistical Results

The hypothesis tests contributing data points to the meta-analysis were placed into one of five categories. Table 7 presents the categories of hypothesis tests, the number of hypothesis tests contributing data points, the metric used to measure effect sizes, and groupings used in the homogeneity analysis.

Table 7

Summary of Hypothesis Tests

Hypothesis Category	Number of Tests	Effect Size Estimator	Homogeneity Grouping
Actual leadership behavior	25	d index	(1) Type of organization (2) Country
Preferred leadership behavior	5	d index	Country
Effectiveness of leadership behavior	22	r index	Type of organization
Satisfaction with leadership behavior	18	r index	Type of organization
Extra Effort for leadership behavior	8	r index	Type of organization

The d index was used as the metric to estimate the effect size for the difference in means between transformational (TFL) and transactional (TAL) leadership behavior. The two dimensions on which the means were calculated were actual leadership demonstrated by leaders and the leadership behavior preferred by subordinates.

Two homogeneity analysis groupings were utilized for the actual leadership behavior demonstrated. The first was type of organization, military and non-military. The second was country, United States and other. The grouping

used for preferred leadership behavior was country.

The r index was used as the metric to estimate effect size for the transformational (TFL) and transactional (TAL) correlation coefficients. The hypothesis tests were categorized according to the dependent variables of subordinate's view of leader effectiveness, subordinate satisfaction with the leader, and the willingness of the subordinate to put forth extra effort for the leader. The homogeneity analysis grouping used for effectiveness, satisfaction and extra effort was country, United States and other.

Effect Size Analysis (d Index)

The d index is a measure of the effect size which standardizes the difference between the value of group means across a series of studies which test the same hypothesis. The d index was used as a metric to measure the effect size or difference between the extent to which transformational and transactional leadership behavior is found to be actually demonstrated by leaders in the included studies. The d index was also used to measure the effect size or difference between the extent to which transformational and transactional leadership behaviors was preferred by subordinates participating in the studies.

The formula for calculating a weighted average effect size involves multiplying each d index by its associated

weight and dividing the total of these products by the total of their weights. The formula for finding the average weighted effect size is as follows:

$$d=\sum d_i w_i / \sum w_i$$

where di equals the d index of the mean standardized difference for each hypothesis test under consideration, and wi equals the weighted index which is the inverse of the variance associated with each d index estimate.

The means used in the d index calculation were grand means. They were calculated using the individual means of the three transformational factors charisma, individual consideration, and intellectual stimulation and two transactional factors of contingent reward and management by exception. Pooled standard deviations were calculated for each grand mean (Hedges, 1982). The d indexes along with their associated grand means and standard deviations for demonstrated and preferred leadership behavior are presented in Table 8.

Twenty-two studies contributed 25 actual demonstrated leadership effect sizes. Five studies contributed five preferred leadership effect sizes. In estimating effect sizes, each hypothesis test was weighted by the size of its sample.

Table 8

Demonstrated and Preferred Leadership
Effect Size Analysis
(d Index)

	N	Grand mean	SD	d	CI 95
Demonstrated				0.81	0.77,0.86
Transformational (TFL)	25	2.47	.64		
Transactional (TAL)	25	2.02	.64		
Preferred				1.66	1.50,1.82
Transformational (TFL)	5	3.27	.20		
Transactional (TAL)	5	2.39	.24		

The mean effect size for actual leadership behavior demonstrated across all studies (N = 22), hypothesis tests (N = 25) for which a d index was computed was d = 0.81. The average grand mean for demonstrated TFL across all studies was 2.47 (SD = .64). The average grand mean for demonstrated TAL across all studies was 2.02 (SD = .64). The 95% confidence interval for the average effect size (d = 0.81) was 0.77 to 0.86.

The mean effect size for preferred leadership behavior across all studies (N = 5), hypothesis tests (N = 5) for which a d index was computed was d = 1.66. The average grand mean for preferred TFL across all studies was 3.27 (SD = .20). The average grand mean for preferred TAL

across all studies was 2.39 (SD = .24). The 95% confidence interval for the average effect size (d = 1.66) was 1.50 to 1.82.

The d index for each hypothesis test was calculated by finding the difference between the grand means for TFL and TAL in each hypothesis test. This difference was divided by the usual pooled within-groups standard deviation (Hedges, 1982) rather than the common standard deviation proposed by Glass (1976). This procedure was used to ensure an appropriate measure of variance for the grand means.

Hedges (1982) demonstrated the pooled within-groups standard deviation, a weighted estimator, to be less biased than the common standard deviation. The pooled estimated standard deviation was calculated by summing the individual sample size minus one and multiplying by the standard deviation of the sample means. This number was then divided by the sum of the sample sizes minus the number of samples included. In most instances the TFL sample included three and the TAL two standard deviations.

Effect Size Analysis (r Index)

The r index is a measure of the effect size which is used to combine the value of a group of correlations across a series of studies testing the same conceptual hypothesis.

The r index was used as a metric to measure the effect size of the combined value of correlation coefficients between leadership behavior and subordinate reaction to the leadership behavior. A comparison of the r index values yields a description of the strength of the correlations and the extent to which they differ.

Leadership behavior, transformational and transactional, was the independent variable. Subordinate reaction to leadership behavior, the dependent variable, was categorized and measured by perceived leader effectiveness, subordinate satisfaction with the leader, and the extra effort the subordinate was willing to put forth for the leader.

In the procedure for calculating the average weighted effect size, the r index is first transformed into its corresponding z score, and the following formula is applied:

$$z=\sum (n_i-3)\, z_i / \sum (n_i-3)$$

where all terms are defined as above. The effect sizes for the leadership behavior by leadership effectiveness, satisfaction with leadership, and willingness to put forth extra effort for leadership are presented in Table 9.

Eighteen studies contributed 20 perceived leadership effectiveness effect sizes. Sixteen studies contributed 18 satisfaction with leadership effect sizes. Seven studies contributed eight extra effort effect sizes.

Table 9

Effect Size Analysis by the Hypothesis Categories of Effectiveness, Satisfaction, and Extra Effort (r Index)

Hypothesis Category	N	z	r	CI 95
Effectiveness				
Transformational (TFL)	20	.76	.64	.62,.66
Transactional (TAL)	20	.27	.27	.24,.30
Satisfaction				
Transformational (TFL)	18	.71	.61	.59,.63
Transactional (TAL)	18	.22	.22	.19,.25
Extra Effort				
Transformational (TFL)	8	.88	.71	.69,.73
Transactional (TAL)	8	.32	.31	.27,.35

The mean effect size for perceived leadership effectiveness across all studies (N = 18), hypothesis tests (N = 20), for TFL was z = 0.76 with a transformed value of r = 0.64. The confidence interval surrounding the r value is 0.62 to 0.66. The effectiveness mean effect size for TAL was z = 0.27 with a transformed value of r = 0.27. The confidence interval surrounding the r value is 0.24 to 0.30.

The mean effect size for subordinate satisfaction with leadership across all studies (N = 16), hypothesis tests

(N = 18), for TFL was z = 0.71 with a transformed value of r = 0.61. The confidence interval surrounding the r value is 0.59 to 0.63. The satisfaction mean effect size across all hypothesis tests (N = 18) for TAL was z = 0.22 with a transformed value of r = 0.22. The confidence interval surrounding the r value is 0.19 to 0.25.

The mean effect size for subordinate willingness to put forth extra effort for leadership across all studies (N = 7), hypothesis tests (N = 8), for TFL was z = 0.88 with a transformed value of r = 0.71. The confidence interval surrounding the r value is 0.69 to 0.73. The extra effort mean effect size for TAL was z = 0.32 with a transformed value of r = 0.31. The confidence interval surrounding the r value is 0.27 to 0.35.

Significant Mediators

Homogeneity analysis is used to analyze and understand the possible reasons effect sizes vary across studies. The effect sizes are viewed as dependent variables and, certain characteristics are treated as independent variables or situational mediators. The objective of the analysis is to determine whether these variables can be used to explain the magnitude of the relation described by effect sizes.

Two situational mediators were examined to determine their potential effects upon the variance in actual leadership demonstrated and preferred leadership effect sizes.

The first variable, country in which the study was conducted, was selected to determine whether participants in different countries had different views of leadership (P.B. Smith, Misumi, Tayeb, Peterson, & Bond, 1989). The United States and other countries, namely New Zealand and Taiwan, were the two groupings within this classification.

The question was whether different cultural, demographic, socioeconomic, and political factors taken as a whole would affect views of leadership behavior for people within the United States compared to people in other countries. The homogeneity analysis sought to explain the variance associated with the effect sizes or the difference in demonstrated and preferred leadership behavior described by the d indexes. In other words, to explain the effect country of origin had upon the variance found within and across studies. The specific question was whether the leadership behavior actually demonstrated by leaders and preferred by subordinates would differ according to country.

The second mediator was type of organization. A military organization is thought to be structured and closed, or in other words mechanistic (Bass, 1985). In contrast a nonmilitary organization is viewed as being organistic, characterized by less structure and more openness.

The question was whether the different types of organizations would affect views of leadership behavior for

people who worked in military organizations compared to people who worked in other organizations. The homogeneity analysis sought to explain the variance associated with the effect sizes or the difference in demonstrated and preferred leadership behavior described by the d indexes. In other words, to explain the effect the type of organization had upon the variance found within and across the studies. The specific question was whether the leadership behavior actually demonstrated by leaders and preferred by subordinates would differ according to the type of organization.

The analysis of the type of organization was also extended to the effectiveness, satisfaction, and extra effort variables. The question for this analysis was whether the type of organization would affect the views subordinates held of leadership behavior effectiveness, their satisfaction with and willingness to put forth extra effort for the leader demonstrating certain behaviors. The homogeneity analysis sought to explain the variance associated with the effect sizes or the differences in these dimensions described by the r indexes. The specific question was whether the leadership behavior actually demonstrated by leaders would be viewed differently with respect to effectiveness, satisfaction, and extra effort according to the type of organization.

Homogeneity analyses were conducted by combining the effect sizes for the grouped studies and comparing the

within and between groups variances. Chi-square values with n-1 degrees of freedom were used to determine whether the observed between-groups variance could partially explain or be attributed to the value of effect sizes. The presence of such a result can lead to the conclusion that the total variance in the effect size indexes, is being contributed to by the characteristics of the groups which are serving as moderating variables.

Homogeneity Analysis (d Index)

Homogeneity analysis for the d-index results was computed using Hedge's (1985) analysis of variance formula for total variance (Qt), within-groups variance (Qw) which is equal to the total variance within groups, and between-groups variance (Qb). The Hedges formula reads: Qb = Qt - Qw. The formula to calculate the total variance (Qt) reads as follows:

$$Q_t = \sum (w_{id_i^2}) - [\sum (n_i - 3) z_i]^2 / \sum (n_i - 3)$$

where wi equals the weighted index which is the inverse of the variance associated with each d-index estimate, and di equals the d index of the mean standardized difference for each hypothesis test under consideration. The total, within and between groups variances which make up the homogeneity analysis for the d indexes are presented in Table 10.

Table 10

Summary of Homogeneity Analysis Results for Demonstrated and Preferred Leadership Organization and Country Grouping (d Index)

Leadership	Qt	Qw	(df)	p	Qb	(df)	p
Demonstrated	1,013.28		(17)	.001	36.61	(1)	.001
United States		973.02					
Other		3.65					
Preferred	174.64		(4)	.001	35.19	(1)	.001
United States		106.28					
Other		33.18					
Demonstrated	1013.28		(17)	.001	134.43	(1)	.001
Military		88.33					
Nonmilitary		790.52					

Note: Qt = Total Variance, Qw = Within Groups Variance, Qb = Between Groups Variance

Variance in Demonstrated Leadership--Country Grouping

The mean effect size for the difference between actual leadership behavior demonstrated for transformational and transactional leadership was d = 0.81. The situational mediator, country, was examined to determine whether this variable was contributing to this standardized measure of difference. Total, within, and between groups variances were calculated for the demonstrated leadership dimension.

Country was the situational mediator examined with United States and other serving as the two groups.

The total variance for actual leadership demonstrated was 1,013.28 which has significant ($p < .001$) chi-square value with 17 degrees of freedom. This level of significance in the total variance permits the rejection of the associated null hypothesis that the variance in effect sizes is due solely to sampling error with a high degree of confidence. This variance was deemed significant, thus warranting further analysis.

The within-groups variance was calculated by applying the formula for total variance to each group. The within-groups variance for the United States group was 973.02 and for the other country group 3.65. The between-groups variance represents the difference between the total variance and the sum of the within-groups variance for the United States and other countries groups.

The resulting between-groups variance of 36.61 has a significant ($p < .001$) chi-square value with one degree of freedom. This level of significance in between-groups variance permits the rejection of the associated null hypothesis that the variance is not being contributed to by the grouping with a high degree of confidence. Further, that the total variance in effect sizes for actual leadership demonstrated can be viewed as being contributed to by the country grouping.

Variance in Preferred Leadership--Country Grouping

The mean effect size for the difference between preferred leadership behavior for transformational and transactional leadership was $\underline{d}$ = 1.66. The situational mediator, country, was examined to determine whether this variable was contributing to this standardized measure of difference. Total, within, and between group variances were calculated for the preferred leadership dimension. Country was the situational mediator examined with the United States and other serving as the two groups.

The total variance for preferred leadership was 174.64 which has a significant ($\underline{p}$ <.001) chi-square value with four degrees of freedom. This level of significance in the total variance permits the rejection of the associated null hypothesis that the variance in effect sizes is due solely to sampling error with a high degree of confidence. This variance was deemed significant, thus warranting further analysis.

The within-groups variance was calculated by applying the formula for total variance to each group. The within-groups variance for the United States group was 106.28 and for the other country group 33.18. The between-groups variance represents the difference between the total variance and the sum of the within-groups variance for the United States and other countries.

The resulting between-groups variance of 35.19 has a significant (p <.001) chi-square value with one degree of freedom. This level of significance in between-groups variance permits the rejection of the associated null hypothesis that the variance is not being contributed to by the grouping with a high degree of confidence. Further, that the total variance in effect sizes for preferred leadership can be viewed as being contributed to by the country grouping.

Variance in Demonstrated Leadership--Organization Type

The mean effect size for the difference between actual leadership behavior demonstrated for transformational and transactional leadership was d = 0.81. The situational mediator, type of organization, was examined to determine whether this variable was contributing to this standardized measure of difference. Total, within, and between groups variances were calculated for the demonstrated leadership dimension. Type of organization was the mediator examined with military and nonmilitary as the two groups.

The total variance for demonstrated leadership was 1,013.28 which has a significant (p <.001) chi-square value with 17 degrees of freedom. This level of significance in the total variance permits the rejection of the associated null hypothesis that the variance in effect sizes is due solely to sampling error with a high degree of confidence.

This variance is significant and warrants further analysis.

The within-groups variance was calculated by applying the formula for total variance to each group. The within-groups variance for the military group was 88.33 and for the nonmilitary group 790.52. The between-groups variance represents the difference between the total variance and the sum of the within-groups variance for the military and nonmilitary groups.

The resulting between-groups variance of 134.43 has a significant ($p < .001$) chi-square value with one degree of freedom. This level of significance in between-groups variance permits the rejection of the associated null hypothesis that the variance is not being contributed to by the grouping with a high degree of confidence. Further, that the total variance in effect sizes for demonstrated leadership can be viewed as being contributed to by the two types of organizations.

Homogeneity Analysis (r Index)

The total, within, and between groups variances which make up the homogeneity analysis for the r indexes are presented in Table 11.

Table 11

Summary of Homogeneity Analysis Results for Effectiveness, Satisfaction, Extra Effort Organization Grouping (r Index)

Variable, Grouping	Qt	Qw	(df)	p	Qb	(df)	p
Effectiveness							
TFL	284.25		(19)	.001	2.57	(1)	ns
Military		19.54					
Nonmilitary		262.24					
TAL	79.03		(19)	.001	6.49	(1)	.05
Military		0.87					
Nonmilitary		71.67					
Satisfaction							
TFL	260.51		(17)	.001	37.10	(1)	.001
Military		33.03					
Nonmilitary		190.38					
TAL	60.13		(17)	.001	18.82	(1)	.001
Military		5.80					
Nonmilitary		35.51					
Extra Effort							
TFL	73.56		(7)	.001	42.73	(1)	.001
Military		10.42					
Nonmilitary		20.42					
TAL	11.57		(7)	ns			

Note: Qt = Total Variance, Qw = Within Groups Variance, Qb = Between Groups Variance, TFL = Transformational Leadership, and TAL = Transactional Leadership

Homogeneity analysis for the r-index results was computed using Hedges' (1985) analysis of variance formula for total variance (Qt), within-groups variance (Qw) which is equal to the total variance within-groups, and between-groups variance (Qb). The formula to calculate total variance (Qt) reads as follows:

$$Q_t=\sum (n_i-3)\, z_i^2-\sum (n_i-3)\, z_i{}^2/\sum (n-3)$$

where ni equals the number of data points of the comparison, and zi equals the z score equivalent of the r indexes for the correlations under consideration.

Variance in Effectiveness--Organization Type

The mean effectiveness effect size for transformational leadership (TFL) was r = 0.76 and for transactional leadership (TAL) the r index value was r = 0.27. These correlations describe a difference in the manner in which these leadership behaviors are viewed by subordinates. The situational mediator, type of organization, was examined to determine whether this variable was a contributing factor.

Total, within, and between group variances were calculated for the effectiveness dimension for transactional and transformational leadership behavior. The mediator, type of organization, was examined with military and non-military serving as the two groups. The total variance for TFL effectiveness was 284.25 which has a significant

($p < .001$) chi-square value with 19 degrees of freedom. The total variance for TAL effectiveness was 79.03 which has a significant ($p < .001$) chi-square value with 19 degrees of freedom.

The levels of significance in both total variances permit the rejection of the null hypothesis that the variance in effect sizes is due solely to sampling error with a high degree of confidence. The variances were deemed significant, thus warranting further analysis.

The within-groups variance was calculated by applying the formula for total variance to each group. The within-groups variance for effectiveness of TFL behavior within the military group was 19.54 and 262.24 for the nonmilitary group. The within-groups variance for effectiveness of TAL behavior within the military group was 0.87 and 71.67 for the nonmilitary group.

The between-groups variance represents the difference between the total variance in effectiveness for each leadership behavior effect size and the sum of the within-groups variance for each leadership behavior for the military and nonmilitary groups. The between-groups variance for effectiveness of TFL behavior of 2.57 has a nonsignificant chi-square value with one degree of freedom. Therefore, the null hypothesis that the between-groups differences did not contribute significantly to the overall variance could not be rejected.

The between-groups variance for effectiveness of TAL behavior of 6.49 has a significant (p <.05) chi-square value with one degree of freedom. This level of significance permits the rejection of the associated null hypothesis that these group differences do not contribute to the total variance with a 5% chance of error. Further, the total variance in effect sizes for effectiveness of TAL behavior can be viewed as being contributed to by the military and nonmilitary grouping.

Variance in Satisfaction--Organization Type

The mean satisfaction effect size for transformational leadership (TFL) was r = 0.61 and for transactional leadership the r index value was r = 0.22. These correlations describe a difference in the manner in which these leadership behaviors are viewed by subordinates. The situational mediator, type of organization, was examined to determine whether this variable was a contributing factor.

Total, within, and between group variances were calculated for the satisfaction dimension for transactional and transformational leadership behavior. The situational mediator, type of organization, was examined with military and nonmilitary serving as the two groups. The total variance for TFL satisfaction was 260.51 which has a significant (p <.001) chi-square value with 17 degrees of freedom. The total variance for TAL satisfaction was 60.13

which has a significant ($p < .001$) chi-square value with 17 degrees of freedom.

The levels of significance in both total variances permit the rejection of the null hypothesis that the variance in effect sizes is due solely to sampling error with a high degree of confidence. The variances were deemed significant, thus warranting further analysis.

The within-groups variance was calculated by applying the formula for total variance to each group. The within-groups variance for satisfaction of TFL behavior within the military group was 33.03 and 190.38 for the nonmilitary group. The within-groups variance for satisfaction of TAL behavior within the military group was 5.80 and 35.51 for the nonmilitary group.

The between-groups variance represents the difference between the total variance in effectiveness for each leadership behavior effect size and the sum of the within-groups variance for each type of leadership behavior for the military and nonmilitary groups. The between-groups variance for satisfaction of TFL behavior of 37.10 has a significant ($p < .001$) chi-square value with one degree of freedom. This level of significance permits the rejection of the associated null hypothesis. Further, the total variance in effect sizes for satisfaction can be viewed as being contributed to by the military and nonmilitary grouping.

The between-groups variance for satisfaction of TAL behavior of 6.49 has a significant (p <.001) chi-square value with one degree of freedom. This level of significance permits the rejection of the associated null hypothesis. Further, the total variance in effect sizes for satisfaction with TAL behavior can be viewed as being contributed to by the military and nonmilitary grouping.

Variance in Extra Effort--Organization Type

The mean extra effort effect size for transformational leadership (TFL) was $\underline{r}$ = 0.71 and for transactional leadership $\underline{r}$ index value was $\underline{r}$ = 0.31. These correlations describe a difference in the manner in which these leadership behaviors are viewed by subordinates. The situational mediator, type of organization, was examined to determine whether this variable was a contributing factor.

Total, within, and between group variances were calculated for the extra effort dimension for transactional and transformational leadership behavior. The situational mediator, type of organization, was examined with military and nonmilitary serving as the two groups. The total variance for TFL extra effort was 73.56 which has a significant (p < .001) chi-square value with seven degrees of freedom. The total variance for TAL extra effort was 11.57 which has a non-significant chi-square value with seven degrees of freedom.

The nonsignificant total variance for TAL does not permit the rejection of the null hypothesis that the variance was due to sampling error and thus further examination of this variance was unwarranted. The levels of significance in total variance for TFL permits the rejection of the null hypothesis that the variance in effect sizes is due solely to sampling error with a high degree of confidence. This variance was deemed significant, thus warranting further analysis.

The within-groups variance was calculated by applying the formula for total variance to each group. The within-groups variance for extra effort of TFL behavior within the military group was 10.42 and 20.42 for the nonmilitary group. The between-groups variance represents the difference between the total variance in effectiveness for each leadership style effect size and the sum of the within-groups variance for each leadership style for the military and nonmilitary groups.

The between-groups variance for extra effort of TFL behavior of 42.73 has a significant ($p < .001$) chi-square value with one degree of freedom. This level of significance permits the rejection of the associated null hypothesis. Further, the total variance for extra effort of TFL behavior can be partially attributed to the grouping.

Threats to Validity

H.M. Cooper (1989) pointed to a number of validity issues with which reviewers should be concerned in conducting literature reviews. The first part of this section presents a discussion of the issues associated with this review. The first relates to sample size.

Individual studies used in the meta-analysis did not contain samples smaller than 23; consequently, this factor was not considered a relevant concern with respect to individual studies. However, two sets of hypotheses tests involved less than 10 studies. Therefore the effect size estimators for the preferred leadership and extra effort synthesis must be viewed with a degree of caution.

The potentially offsetting factor to small sample size is that effect sizes are derived from studies that have relatively large sample sizes. This coupled with the weighting of sample sizes in calculating the average effect size minimizes the potential for an individual study to disproportionately affect the results.

The overall number of participants within the synthesized studies is large. However, caution must be raised as to the generalizability of the findings of the review. First, as H.M. Cooper (1989) has pointed out, review findings must be viewed as associational in contrast to the causal findings of primary research. Therefore, even though

the studies in this review were conducted in a variety of settings with a variety of participants, any conclusions regarding the generalizability of findings would be misleading.

There are also issues related to the studies included in the review that warrant consideration. The survey is the primary technique used in the majority of transformational leadership research. Various forms of Bass's (1985) MLQ are used to measure the perceptions of mostly subordinates and sometimes superiors. One factor that looms as a potential threat to the internal and external validity of these efforts is the sampling techniques that are employed in the various studies.

Response rates from many studies were relatively low which should raise a concern as to whether obtained samples were representative of the population. The samples used in the selection of focal leaders and participants are reported to be random in many cases. However, the participation rates for the focal leaders and participants who rated the leaders varied greatly.

In some cases response rates of less than 60% for participants (Deluga & Souza, 1991; Seltzer & Bass, 1990) and less than 70% for focal leaders (Hater & Bass, 1988) severely question the representativeness. This factor, coupled with the volunteer nature of the participants in other studies, suggests that selection threats to the

validity of the results cannot be ignored. For example, a halo effect may have been at play in some instances if subordinates wanting to make their leaders look good were more likely to participate.

Another validity issue relating to the included studies surrounds the predominant instrument used to measure leadership style and the dependent variables. The MLQ has many published versions, more than one of these was used in the included studies. Another complicating variable is that selected items from the MLQ were used in different studies. This lack of instrumentation consistency may detract from the overall validity of the findings.

Another issue involving the use of the MLQ is the variance which might occur when two or more constructs are measured by one rater. In studies using the MLQ, common methods variance may be associated with the rating of different leadership behaviors as well as the dependent variables of effectiveness, satisfaction, and extra effort. This issue is further compounded by the fact that preferred leadership behavior is derived from a second application of the MLQ to the original rater.

A familiarity with and the order of the application of the instrument for preferred versus actual demonstrated leadership represent instrumentation concerns. Avolio, Yammarino and Bass (1991) contended this can be addressed through various means including Within and Between Analysis

(WABA). Nevertheless, common methods variance resulting from single source data remains an unresolved issue in the use of Bass's (1985) MLQ.

CHAPTER IV

DISCUSSION

The purpose of this study was to advance the understanding of transformational leadership by synthesizing the data found in the research literature. The problem evinced by the study was the lack of synthesized data from the transformational leadership research literature. An integrative literature review (H.M. Cooper, 1989) was undertaken using meta-analytic techniques to answer five of the six research questions.

The first was whether transformational leadership behaviors were demonstrated by leaders to a greater extent than transactional leadership behaviors. The second was whether transformational leadership behaviors were preferred by subordinates to a greater extent than transactional leadership behaviors. The third asked whether transformational leadership behaviors would be perceived to be more effective by subordinates than transactional leadership behaviors. The fourth asked whether subordinates would be more satisfied with transformational leadership behaviors than transactional leadership behaviors.

The fifth question asked whether subordinates would be more likely to put forth extra effort for a leader who

demonstrated higher levels of transformational leadership behavior than a transactional leadership behavior. The last question asked whether there is a relationship between the style of leadership and positive organizational culture. The research questions were predicated on a number of factors: (a) leadership is defined as the characteristics or behaviors of a leader, and (b) the MLQ asks subordinates to rate the transformational and transactional behaviors of the same leader.

Magnitude of Effect and Homogeneity Analysis

The results of the meta-analysis indicate transformational leadership behavior is demonstrated to a greater extent than transactional leadership behavior. Further, transformational leadership behavior is more preferred by subordinates than transactional leadership behavior. In the studies examining the actual leadership style demonstrated the effect size was $\underline{d} = 0.81$. In studies examining the preferred leadership style of subordinates the effect size was $\underline{d} = 1.61$. According to Cohen (1988), these effect sizes can be viewed as large effect sizes within the general field of behavioral sciences. Homogeneity analyses of demonstrated and preferred $\underline{d}$ index effect sizes indicated some of the total variances in demonstrated and preferred leadership could be attributed to the between group variances associated with the groupings country and type of

organization. The results of the meta-analysis also indicate higher levels of transformational leadership behavior is associated with higher levels of perceived leader effectiveness on the part of subordinates. Further, subordinates express higher levels of satisfaction with the higher levels of transformational leadership behavior than transactional leadership. Finally, subordinates indicate more willingness to put forth extra effort for leaders demonstrating higher levels of transformational leadership behavior than transactional leadership behavior.

In the studies examining the relation between effectiveness, satisfaction, extra effort, and leadership behavior, the positive association with transformational leadership behavior was stronger than with the transactional leadership behavior. The transformational average $\underline{r}$ indexes were effectiveness, $\underline{r} = 0.64$; satisfaction, $\underline{r} = 0.61$; and extra effort, $\underline{r} = 0.71$. The transactional average $\underline{r}$ indexes were $\underline{r} = 0.27$, $\underline{r} = 0.22$ and $\underline{r} = 0.31$, respectively. The larger transformational and smaller transactional correlational effect sizes are further differentiated by the nonoverlapping confidence intervals in each case.

Homogeneity analyses of $\underline{r}$ index effect sizes were conducted utilizing a military and nonmilitary comparative grouping. The results indicate significant total variance for either transformational or transactional leadership on the dimensions of effectiveness and satisfaction. The total

total variance was also significant for transformational leadership on the extra effort dimension, but nonsignificant for transactional leadership on this dimension. Out of the five calculations of total variance, only the between groups variance for the perceived leader effectiveness on the transformational leadership dimension proved nonsignificant. Consequently, the total variance for transformational leadership cannot be explained by military and nonmilitary grouping. However, the effect size differences for effectiveness of transactional leadership can be partially explained by the grouping.

The organizational grouping also contributed to differences in the actual leadership behaviors demonstrated. A number of factors may underlie these results. The type of leadership behavior demonstrated may be effected by many factors including training and experiences. Another factor may be the type of leadership behavior that is more compatible with the nature and structure of the organization.

A military organizational structure may require transactional leadership behavior; therefore, it is demonstrated more frequently. In contrast, the wide variety of nonmilitary organizations may be more diverse in their structure. The nature of the organization may also have an effect upon which type of behaviors its subordinate members view to be more effective.

It is possible that the type of behavior subordinates

perceive to be effective may be another factor contributing to the behavior that is demonstrated. Leaders who strive to be viewed as being effective may be more likely to demonstrate the behavior that their subordinates view as effective. Consistent with the contrast in organizational structure and nature, it does appear that military and non-military organizations perceive leadership styles differently.

The variance between the military and nonmilitary grouping effect sizes also indicate that differences in satisfaction with either transformational or transactional leadership behavior can be attributed to the this grouping. Therefore, it appears that military and non-military organizations derive satisfaction from leadership behavior differently.

The variance between the military and non-military grouping indicates effect size differences for the willingness of subordinates to put forth extra effort for the leader who demonstrates a transformational style can be attributed to the grouping. In contrast, the total effect size differences for willingness to put forth extra effort for the leader who demonstrates a transactional style are nonsignificant.

This contrast may again be associated with the nature of the mechanistic promotion-oriented military organization. Extra effort in this situation may be somewhat

automatic and ignore the transactional leader. However, a transformational leader in such an environment may establish relationships with subordinates which transcend the organizational structure.

The transformational leader may stimulate extra effort for reasons other than those associated with positive reinforcement. As the nature of military establishments change in an ever-changing world, this factor may become more pronounced.

Demonstrated Leadership Behavior

The first research question for this study asked whether leaders demonstrate more transformational than transactional leadership behavior. The average effect size from studies examining actual leadership demonstrated found transformational leadership behavior to be more predominant than transactional. The results were derived from 22 studies conducted in a variety of settings. The studies included different types of focal leaders and participants, in some cases from different countries and cultures.

The meta-analysis results ($\underline{d}$ = 0.81) indicate a strong measure of difference (Cohen, 1988) with significant total variance that cannot be attributed to sampling error. This variance finding is supported by significant between-groups variance. The between-groups variance for military versus nonmilitary groups ($\underline{p}$ <.001) and for United States versus

other countries ($p < .001$) both proved significant. These findings indicate part of the variance can be partially explained by the groupings.

Other leadership studies have documented a transformational style of leadership. Bennis and Nanus (1985) and Tichy and Devanna (1986) presented qualitative descriptions of transformational leadership in the business sector. Rouche (1989) modeled his study after the Bass vein of research to document the existence of transformational community college presidents.

The Bass (1985) vein of research served as a prototype for many of the studies which employed similar approaches to Bass's work. The Bass studies compared transformational and transactional leadership on the dependent variables of effectiveness, satisfaction, and extra effort. A number of studies varied from this basic approach. Some of these studies were not included in the meta-analysis because they did not produce compatible data points.

However, the results and insights from these studies serve to compliment the results of the Bass (1985) vein of research. The first example of these enriching insights comes from the Deluga (1988; Deluga & Souza, 1991) studies which used influence strategies as dependent variables. Deluga concluded transformational leadership would result in more stable influencing strategies within an organization. This was based on the assumption that greater leader

satisfaction would alter destructive influencing strategies brought about by fluctuating power struggles.

Some authors substituted other terms to describe the factors of transformational and transactional leadership set forth by Bass (1985). Even though it was not a specific element for Bass, vision is a common thread among these descriptions. Niehoff et al. (1990) combined vision along with visibility, innovativeness, supportiveness, and decision influence to describe the transformational leader.

Bennis and Nanus (1985) also included vision, along with meaning, trust, and self-deployment to describe the transformational leaders they studied. Tichy and Devanna (1986) employed the analogy of a three act play. They described the leader identifying the need for change, creating a vision for the future and finally institutionalizing change. Rouche (1989) described transformational leaders as incorporating a people, motivation, and value orientation along with vision to influence the people of the organization.

A variety of authors have enriched the description of transformational leaders through research related to other components of the transformational paradigm. Charisma is one of these components and also stands alone as a theory of leadership (Conger & Kanungo, 1987; House, 1977). As an element in transformational theory, charisma is addressed in the falling dominoes effect described by Bass et al.,

and Bebb (1987).

In exploring the effects of the leadership style of first-line supervisors and second-level managers (Bass et al., 1987) a cascading or falling dominoes effect of leadership emerged in subordinate-superior leadership dyads. These findings suggest that managers try to model active leadership that is displayed by immediate superiors. Significant correlations were discovered between the actual first-line supervisor and second-line manager transformational leadership factors demonstrated.

One element of transformational leadership, charisma, did not appear to follow this pattern. Although charismatic superiors are emulated and respected by subordinates, the cascading effect is less likely to be in play. Charismatic first-line supervisors do not appear to need second-level managers to affect them. The actual-required correlation for charisma suggested first-line managers who demonstrate charisma do not expect or prefer this from their superior.

Transformational leadership research has been conducted on different groups of leaders. Hater and Bass (1988) reported top performing managers rated significantly higher on charisma (t = 2.07, p <.05) and individualized consideration (t = 2.75, p <.05) than ordinary managers. They did not find these significant differences to exist on the transactional leadership factors.

J.M. Howell and Higgins (1990) studied a group they described as champions of innovation. Their results indicate champions manifest characteristics of risk-taking and innovativeness. The authors contended these elements are empirically related to entrepreneurship and theoretically associated with transformational leadership.

As transformational leaders, champions promote innovations through articulating a compelling vision of a potential contribution, expressing confidence in the contribution of others to the effort, and displaying innovative actions to achieve goals. Bass and Avolio (1990a) suggested that innovation is also brought about by nurturing and persistent leadership. Leaders must stimulate and support new ideas and then support their continuation through persistence.

The Singer (1985; Singer & Singer, 1986, 1989) studies have provided a parallel vein of research in other countries to the Bass (1985) research conducted primarily in this country. In the Singer and Singer (1989) study of New Zealand police officers, the composite transformational rating was found to be higher ($p < .01$) than the transactional rating. However, the transformational factor scores were not consistently higher than the transactional scores. In their examination of Taiwanese employees, there was no significant difference in the amount of transformational versus transactional leadership displayed.

Singer and Singer (1989) linked this finding to a consideration of conflicting traditional personality characteristics at play in the oriental culture. This oriental factor adds the element of culture to contrast of leadership styles. Culture may be a moderating variable that affects preference for leadership style (P.B. Smith et al., 1989).

Preferred Leadership Behavior

The question of which leadership behavior subordinates prefer was addressed by hypothesis testing in five studies. The results from included studies indicate subordinates prefer transformational leadership behaviors more than transactional leadership behaviors. The results were derived from a small set of studies conducted in three countries and include different types of focal leaders and participants.

The meta-analysis results ($\underline{d}$ = 1.66) indicate a stronger preference for transformational leadership behaviors than transactional leadership behaviors with significant ($\underline{p}$ <.001) total variance that cannot be attributed to sampling error. This variance finding is supported by significant between-groups variance found in two groupings. The between-groups variance for military versus nonmilitary groups ($\underline{p}$ <.001) and for United States versus other countries ($\underline{p}$ <.001) both proved significant. These findings

indicate part of this variance can be attributed to the groupings.

The general preference found for transformational leadership behavior is illustrated by a number of studies. In Bass et al., and Bebb (1987) a significant difference ($p < .05$) in transformational leadership was observed in supervisors and their subordinate managers. However, less transformational leadership was demonstrated by second-line supervisors, than first-line managers desired. The only exception was the factor of charisma, cited earlier.

Singer and Singer (1989) found transformational leadership to be preferred by New Zealand police officers. However, they also found superiors to display transformational leadership at a lower level than desired by subordinates. In a group of Taiwanese employees, the Singers predicted a lower preference for transformational leadership due to conflicting oriental cultural traditions. In contrast to the prediction, they found the Taiwanese employees also preferred a transformational leader (Singer & Singer, 1989).

The Singer and Singer (1989) vein of research suggests the preference for transformational leadership is common across groups and not sensitive to situational variables. These results suggest the feelings of affiliation that followers feel toward leaders are stronger towards transformational leaders who exhibit charisma and provide individual

consideration to the follower. Further, that followers are likely to conform to leaders who provide them with intellectual stimulation.

The preceding discussion illustrates transformational leadership behaviors are preferred to transactional leadership behaviors in a variety of settings. The varied settings illustrate the situational nature of any leadership research (Yukl, 1989b) in which intervening variables are almost inevitably at play. Another example of intervening variables (Yukl, 1989b) or moderating variables (J.P. Howell, Dorfman, Kerr; 1986) is found in the discussion prompted by Bass (1985) regarding the nature of the organization.

Bass (1985) viewed the police organization as being mechanistic in nature. Therefore, subordinate attempts to influence superiors could relate to the type of leadership demonstrated and preferred in these settings. If transactional leadership is being demonstrated rational influencing strategies could be predicted in attempts to influence the leader.

The manner in which police officers attempt to influence superiors was the focus of the Deluga and Souza study (1991). The prediction was upward influencing behavior would be more highly associated with transactional leadership. This was based on the nature of police organization being, as Bass (1985) noted, mechanistic.

However, the findings suggested a rational influencing approach correlated to a higher degree with transformational leadership. This may be due to transformational leaders being viewed as more approachable and in turn more approachable than the more structured transactional leader. The subordinate may hopelessly ignore the transactional leader in the influence attempt in favor of the transformational leader. This situation may also be at play in Singer and Singer's (1989) finding that police preferred a transformational style even when considering the "macho" factor and male dominated organizational culture.

In the main, there appears to be a preference for transformational leadership. This is apparent from the perspective of the follower as demonstrated by the MLQ research results. The preference for transformational leadership is also supported by the findings of qualitative researchers. Transformational leadership has been associated with higher levels of organizational effectiveness in terms of corporate profitability (Bennis & Nanus, 1985; Peters & Waterman, 1982) and positive organizational culture (Deal & Kennedy, 1982; Kanter, 1983).

Leadership Behavior and Effectiveness

Effectiveness is a term that requires a descriptor to unveil specific meaning. Intervening (Yukl, 1989b) or moderating (J.P. Howell et al., 1986) variables may be used to

add meaning to the description of effectiveness. The MLQ uses various descriptive statements as measures of leader effectiveness according to the perceptions of subordinates. These are then correlated with the leadership factors and tested for significance.

Perceptions of leader effectiveness from the MLQ (Bass, 1985) are derived from responses to questions relating to four areas: (1) the work effectiveness of the unit, (2) the effectiveness of the current unit compared to other units, (3) the effectiveness of the leader in meeting job-related needs, and (4) the effectiveness of the leader in meeting the requirements of the organization.

The third question for this study sought to determine which leadership behavior subordinates perceive to be more effective. The results were derived from studies conducted in a variety of settings with different types of focal leaders and participants. The results from the integration of 20 hypothesis tests indicate subordinates correlate higher levels of leader effectiveness with higher levels of demonstrated transformational leadership behavior more than transactional leadership behavior.

More specifically, the meta-analysis results indicate transformational leadership behavior ($\underline{r}$ = 0.76) is more strongly correlated with subordinate views of leadership effectiveness than transactional leadership behavior ($\underline{r}$ = 0.27). According to Cohen (1988) these correlations would

be strong and weak, respectively.

The total variance for each behavior was found to be significant ($p < .001$) and could not be solely attributed to sampling error. This variance finding is partially explained by the significant between-groups variance found in the military versus nonmilitary groups on the transactional ($p < .05$) leadership dimension. The between-groups variance for the transformational leadership dimension was not found to be significant for the groups tested.

The audit committee is a nonmiliary grouping factor which may contribute to the nonsignificant between groups variance findings for transformational behavior. The audit committee (Spangler & Braiotta, 1990), an interesting contradiction to the norm, is seen as having the objective of finding exceptions to accepted practices. Therefore, it was not surprising to find audit committee chairpersons having higher correlations with transactional leadership which includes management by exception compared to other leader positions in the nonmilitary group. Since the audit committee study results were included in the non-miliary group, the variance for this group could have contributed results contrary to the other studies.

The significant variance on the transactional leadership dimension may be due in large part to the mechanistic nature of military organizations. In a military setting Waldman, Bass and Yammarino (1990) found contingent reward

to be significantly correlated with leadership style effectiveness as rated by subordinates and superiors. This is not a totally unpredictable finding considering the mechanistic structure (Bass, 1985) of the military organization. In fact, it was not uncommon for contingent reward, a transactional factor, to result in high correlations with the dependent variables in many studies.

Avolio and Bass (1988) pointed out that, properly utilized, contingent reward can lead to effective transactional leadership. This notion was expanded by hierarchal regression results (Hater & Bass, 1988) which indicated contingent reward augmented by charisma results in even higher correlations with effectiveness. Positive performance ratings of top performers and ordinary managers by their superiors correlated significantly with charisma in the top performers group.

The Murray and Fietler (1989) study provided data relating to demographic factors and effectiveness in institutions of higher learning. These factors were not compatible with the effectiveness dimensions of the included studies. However, an interesting finding of this study was that higher level college administrators perceived higher levels of inspirational leadership than lower level administrators.

The authors posited a desire for self-aggrandizement as a possible explanation. The perceived elevated status

of the leader would provide enhanced status at the next highest level. This notion tends to support the cascading effect discovered by Bass et al., and Beeb (1987).

Leadership Behavior and Satisfaction

Satisfaction is another construct which requires clarification to be meaningful. The Bass (1985) MLQ also measures subordinate satisfaction with leadership behavior. The items used to determine subordinate satisfaction include: (a) a reaction as to how satisfied the subordinate is with the leader, and (b) how satisfied the subordinate is with the methods the leader uses to ensure work group accomplishment of objectives.

The fourth question for this study sought to determine which leadership behavior results in more subordinate satisfaction. The results were derived from studies conducted in a variety of settings with different types of focal leaders and participants. The results from the integration of 18 hypothesis tests indicate subordinates correlate higher levels of satisfaction with higher levels of transformational leadership behavior than transactional leadership behavior.

More specifically, the meta-analysis results indicate subordinates are more satisfied with transformational leadership behavior ($\underline{r}$ = 0.71) than transactional leadership behavior ($\underline{r}$ = 0.22). According to Cohen (1988), these

correlations would be strong and weak respectively. The total variance for each behavior was found to be significant ($p < .001$) and could not be solely attributed to sampling error. This variance finding can be partially explained by the significant ($p < .001$) between-groups variance found in the military versus nonmilitary groups for both transformational and transactional leadership.

The relationship of satisfaction with leadership permeates other studies of leadership (Rush, Thomas, & Lord, 1977; Yukl, 1989a). The leader-member exchange theory research (Deluga & Perry, 1991) indicates higher quality exchanges lead to higher levels of subordinate satisfaction with leadership. This example illustrates the importance given to subordinate satisfaction in leadership research and provides an example of how various leadership research parallels one another.

There is speculation subordinate satisfaction with leaders is based on situational or cultural variables (P.B. Smith et al., 1989). These situational and cultural factors are also at play in the transformational leadership research. Taiwanese employees (Singer & Singer, 1989) indicated higher levels of transformational leadership behavior resulted in higher levels of leader satisfaction than transactional leadership behavior. This is in contradiction to what would be expected in an oriental culture. Singer and Singer attributed this to traditional

personality conflict that is at play in the current oriental culture.

The cultural moderator at play in this research is found in the notion that transformational leadership behaviors are more reflective of Taoist and Confusist philosophies than the transactional leadership behaviors associated with the Mandarin tradition. The fact that Taiwanese leaders demonstrated both transformational and transactional leadership behaviors (Singer & Singer, 1989) suggests Tai employees may be less satisfied with their current leadership than they would be if the oriental culture actor was not present.

The notion of the situational moderator is evident in leadership research conducted with military officers (Bass, 1985; Yammarino & Bass, 1990a). Satisfaction with the transactional leadership behaviors of military officers has been associated with the transactional factor of management-by-exception. In following Bass's (1985) speculation regarding certain types of organizations fostering a certain type of leadership, Singer and Singer (1989) also pointed to the type of organization, mechanistic versus organic (Owens, 1991), as being a moderating variable.

In response to this speculation, Singer and Singer (1989) compared leadership ratings of New Zealand police officers, in a mechanistic organization, to company managers, in an organic organization. The only significant

difference they found was between the composite transactional mean scores of 1.63 for police versus 1.82 for managers, $t(96) = 2.37$, $p < .05$. These results suggest the lack of a relationship between transactional leadership and a mechanistic organization.

The transactional factor, management by exception, could be neutralized by the proactive structure of the organization (Bass, 1985). In the case of contingent reward, the other transactional factor, rewards may be somewhat automatic in an mechanistic structure. Therefore the awarding of rewards may be more predictable and are not primarily associated with leadership satisfaction.

The results from the individual studies included in this review do show moderate correlations between contingent reward and satisfaction. Although this is understandable, in the main the transformational factors correlated higher with follower satisfaction of the leader.

Leadership Behavior and Extra Effort

The fifth research question for this study asked whether subordinates would be more willing to put forth more effort for the leader demonstrating higher levels of transformational leadership behavior than transactional leadership behavior. Bass's (1985) transformational leadership theory, stemming from Burns (1978), is in large part based on the premise that these leaders will motivate

followers. This motivation would result in followers being motivated to do more than they originally expected to do with a heightened motivation to succeed.

The results from the integration of eight hypothesis tests indicate that subordinates are more willing to put forth extra effort for leaders demonstrating higher levels of transformational leadership behavior than transactional leadership behavior. The results were derived from studies conducted in a variety of settings with different types of focal leaders and participants. The set of studies included a study where males and females were compared (Young, 1990). The results of this study found little difference between correlations of leadership style and the dependent variable, gender.

The meta-analysis results indicate subordinates are more willing to put forth extra effort for leaders demonstrating transformational leadership behavior ($\underline{r}$ = 0.71) than transactional leadership behavior ($\underline{r}$ = 0.31). According to Cohen (1988), these correlations would be strong and weak, respectively. The total variance for transformational leadership behavior was found to be significant ($\underline{p}$ <.001) and could not be solely attributed to sampling error. This variance finding was partially explained by significant between-groups variance found in the military versus nonmilitary transformational groups ($\underline{p}$ <.001). Transactional leadership behavior total variance

was not found to be significant.

Bass (1985) viewed motivation to put forth extra effort to be the result of more than a fascination and infatuation with a charismatic leader. Motivation is a deliberate and calculated result of certain leader actions or behaviors which stimulate followers. This stimulation takes the form of reordering needs and working toward higher order goals with reinforcement from the leader.

The extra efforts from motivated employees can result in increased organizational effectiveness in terms of goal attainment. This goal attainment can be measured in terms of corporate profitability (Peters & Waterman, 1982). Effectiveness can result from change, innovation, and entrepreneurship (Tichy & Devanna, 1986).

Bass and Avolio (1989) found a significant relationship between the inspiring elements of charisma and individual consideration in relation to the performance of subordinates. The responses of MBA students, who as employees rated the ideal prototypical leader, correlated significantly with all the transactional and transformational elements. The results were further supported when the elements of transformational leadership were rated higher when a forced ranking procedure was employed which lowered the overall correlations. These forced ranking results serve to enhance the association between transformational leadership behavior and subordinate extra effort.

Leadership Style and Gender

The Rosener (1990) study provides interesting insight to the association of gender and leadership. The author contended women are likely to demonstrate a transformational leadership style. The women who participated in interviews (response rate 31%) were members of the International Women's Forum and held leadership positions in diverse professions around the world. Male counterparts in respective organizations were identified by the women participants and asked to complete the same questionnaire. The nonrandom selection of male counterparts represents a validity concern related to randomness.

Nevertheless, the results of the study indicated that women were more likely to motivate others by transforming their self-interests to be congruent with organizational goals. Their use of power was based more on charisma, work record, and personal power versus transactional sources. One final result of the study found women and men to describe themselves as more gender-neutral in their display of leadership traits as opposed to traditional feminine or masculine characteristics.

Transformational and Transactional Leadership Behavior

Waldman et al. (1987) found contingent reward may be an active contributor to employee satisfaction with

appraisal systems. Bass and Avolio (1989) supported the contention contingent reward is an effective form of leadership. However, they suggest contingent reward is enhanced by transformational leadership factors.

The findings of Seltzer and Bass (1990) further this contention. The initiation of structure and providing consideration to employees results in subordinates rating their leaders as satisfactory, effective, and ones for whom they would put forth extra effort. These findings support Stogdill's (1974) earlier thoughts regarding the effectiveness of initiation and consideration.

However, when transformational leadership was regressed on these variables as another independent factor, an augmentation effect became apparent. The conclusion drawn was that transformational leadership, in fact, augments initiation and consideration by contributing from 8% to 28% of the variance in the dependent variables (Hater & Bass, 1988).

Waldman et al. (1990) also found transactional factors augmented by transformational factors. The researchers demonstrated how charisma adds 8% to 38% of the variance to the factors of subordinate and superior rated effectiveness. These regression results yield two important facts relating to the transactional versus transformational debate.

The first is that transactional leadership can lead to

subordinate satisfaction with their leader and opinions that their leaders are effective. The second is that transformational factors augment these views and enhance the leader-follower relationship. This led Bass (1990b) to conclude that if transactional leadership can be effective according to certain qualifying variables, then transformational leadership can be more effective.

CHAPTER V

RECOMMENDATIONS AND CONCLUSION

Recommendations for Future Research

This review of literature has provided insight into the effect of leadership behavior upon factors such as perceived leader effectiveness, subordinate satisfaction with the leader, and the extra effort subordinates are willing to put forth for the leader. Five research questions were answered. A number of questions remain, however, that call for additional examination.

The first is whether and which mediating variables may be affecting the results of studies which find the strength of relations found in this study. These hidden variables may be contributing to results in unknown ways. As Yukl (1989b) pointed out, these may be intertwined with factors measured by the Multifactor Leadership Questionnaire (MLQ).

Future research should focus on this issue and also employ designs that will overcome the low response rates in many of the studies included in this review. In fact, the question of whether the low response rates are moderating variables represents an issue to be explored.

A related question for future research concerns within

and between-groups variance (Avolio, Yammarino, & Bass, 1991). Although this meta-analysis has provided insight to across study results, the issue of single source variance has not been addressed. A design that includes multiple methods to assess leadership and dependent variables could provide insight to this question.

A focus on gender is called for in transformational leadership research. Interesting survey results were cited (Rosener, 1990) which suggest the need for a broad examination of women transformational leaders beyond academic deans (Young, 1990). The traditional nurturing nature of motherhood may reveal the origins, personality (Kuhnert & Lewis, 1987) or otherwise, of natural transformational leadership capabilities.

Finally, the question of the relationship between leadership behavior and culture remains. If leaders are concerned with the people and processes of the organization, culture as the compilation of all processes cannot be ignored. The application of Bass's (1985) MLQ with culture indexes could reveal the answer to the question of whether there is a relationship between leadership behavior and culture.

Conclusion

The initial transformational leadership paradigm introduced by Burns in 1978 has attracted continued interest

for more than a decade. This form of leadership which is posited to transform both follower and leader by inspiring, motivating, and elevating is an attractive notion. This is especially understandable in an era of constant and unpredictable change.

Bass's (1985) transformational leadership theory and vein of research has operationalized Burn's (1978) earlier paradigm and provided the majority of insight into this intriguing leadership behavior. It has been replicated in a number of settings with a variety of populations that have supported many of Bass's (1985) original findings. It seems almost inconceivable that these findings could have resulted from chance or some methodological quirk or error.

As an instrument to measure leadership and dependent variables the MLQ, has been developed, tested, and refined on a continual basis. Perhaps the most significant, in nonstatistical terms, revelation of this study is the parallel between the leadership factors which make up the MLQ and the findings of the qualitative researchers (Bennis & Nanus, 1985; Rouche, 1989; Tichy & DeVanna, 1986). Vision, inspiration, positive interaction with, and consideration of people are factors which permeate the transformational leadership epistemology.

Taken in combination, the elements of transformational leadership lead to subordinate satisfaction with the leader. Followers are willing to put forth extra effort to

attain goals. Leaders are viewed as more effective by their followers. Transformational leadership clearly has a positive effect upon the people of the organization.

However, one conclusion remains elusive. This study has not revealed a clear relationship between the transformational leader and the culture of an organization. This continues to be conjecture at best, even though some notable authors have suggested this linkage (Deal & Kennedy, 1982; Peters & Waterman, 1982; Schein, 1985).

Kanter's (1983) description of a culture of pride and climate of success seems impossible to bring about without a transformational leader, according to Burns (1978) and Bass (1985), at the helm of the organization. As evidence is gathered relating to this question, a new revelation may dawn. A leader with transformational impact upon the people of the organization may bring about higher levels of performance and, in turn, increased levels of goal attainment.

The resulting climate of success may lead to a culture of pride. A positive culture will stimulate and energize organizational processes and, in turn, further elevate the followers and leaders. Taken as a whole, this scenario may be described as synergistic and may form the basis for an emergent conceptualization and extension of transformational leadership.

APPENDICES

Appendix A

Coding Sheet and Instructions

CODING SHEET INSTRUCTIONS

The following instructions are provide a consistent approach to the coding of various pieces of literature. Any reference to technical research or statistical terms are to be interpreted within the definitions found in Hinkle (1988) Kerlinger (1986), Borg and Gall (1983) and SPSS manual. Record the date of the coding in the space provided.

BACKGROUND

1. Indicate pertinent document information for title, author(s), publication date.
2. Identify the publisher if a book or document with an identifiable publishing source. Eric document reproduction numbers are to be recorded on this line. Periodical information should recorded on this line including title, volume, number and pages.
3. Channel refers to the source of the data i.e. ERIC, ABI, FINDER or OTHER. Other refers to miscellaneous sources identified such as document references.

OVERVIEW - Record a summary of the abstract.

ENVIRONMENT (Type of organization)

1. Public/ private - Indicate public or privately held organization.
2. Educational agency:

a. K-12 - an educational agency involved in education kindergarten through grade 12.

b. 2 year college - colleges such as junior or community colleges or private two year only colleges that do not offer four year degrees.

c. 4 year college - a four year degree granting institution, including universities.

d. Non-profit community service agency - A not-for-profit organization that provides services to the community such as public health, public safety (police), medical (hospital), mental health. Indicate the generic name or description of the agency.

e. Military - The military force of a national government, state or province. Also indicate the generic name or description of the agency, i.e. army, navy.

f. Other - Use to account for an organizational environment/type not accounted for in the previous categories.

g. Profit organization - Manufacturing refers to a business that is involved the manufacture of products. Retail refers to a business that is involved in the retail distribution of goods. Wholesale refers to a business that is involved in the wholesale distribution goods. Services refers to a business that is involved in providing

services. Special conditions refers to anything that is specifically pertinent to the a checked item that may be of relevance to a better understanding of the organization or the environment in which it exists.

PARTICIPANTS

1. Type of leader studied - In leadership research there is a person in a leadership position on whom the study focuses. The purpose of this section is to categorize the leader by the type of position the leader occupies. The options are:

a. Head of School (principal) - The head or principal of any organization that is described as a school.

b. Superintendent - The chief administrative officer of a K-12 school district.

c. College president - The chief administrative officer of a two or four year college or university.

d. Administrator not president - An administrator in a college or university, other than the president i.e. department head, dean of a college within a university.

e. CEO of organization - The chief executive officer of an organization other than the military or school district.

f. Manager/supervisor not CEO - A manager or supervisor of people within an organization.

g. Manager or executive trainee - An individual participating in a training program to become a manager or executive within an organization.

h. Student trainee - An individual enrolled in an undergraduate, graduate or company education program.

i. Military officer - An individual who holds the rank of officer in the military force of a national government, state or province.

j. Military officer trainee - An individual who is preparing to hold the rank of officer in the military force of a national government, state or province.

k. Other - An individual who is the focus of the study and cannot be adequately described by one of the other categories.

LEADER BACKGROUND DATA:

a. Age - Current mean age, age range or other statistic that describes the age of the leader group that is being studied.

b. Sex - Male or female gender or mix of the leader group being studied.

c. Years of experience in current position - The number of years the leader has occupied the current leadership position
expressed in terms of mean, range, median, mode or other statistic.

d. Educational level - Highest degree completed BA (Bachelors), MA (Masters), HS (High school diploma), Non-HS (Non-high school graduate) expressed in terms of mean, range, mode, median or other statistic.
e. Other - Other characteristics that are specific to the leader who is the focus of the study.
2. Type and number of superior/peer/subordinate involved and number - In cases where a measurement device such as a questionnaire is utilized in the study indicate the type of individual and the number involved in the rating according to the following categories:
a. Superintendent - The chief administrative officer of a K-12 school district.
b. Board of education - The governing body of a K-12 school district.
c. Head of School (principal) - The head or principal of any organization that is described as a school.
d. Teacher/staff - The individuals that occupy the instructional and support positions within a k-12 school district office or building.
e. College president - The chief administrative officer of a two or four year college or university.
g. Board of Directors/Trustees - The governing body of an organization that possesses the executive decision making power within the organization.
h. College administrator not president - An administrator in a college or university, other than the president i.e. department head, dean of a college within a university.
i. Instructor/staff - The individuals that occupy the instructional and support positions within a college/university unit.
j. CEO - The chief executive officer of an organization other than the military or school district.
k. Board of Directors - The governing body of an organization that possesses the executive decision making power within an organization.
l. Manager/supervisor not CEO - A manager or supervisor of people within an organization.
m. Manager or executive trainee - An individual participating in a training program to become a manager or executive within an organization.
n. Student trainee - An individual enrolled in an undergraduate, graduate or company education program.
o. Military officer - An individual who holds the rank of officer in the military force of a national government, state or province.
p. Military officer trainee - An individual who is preparing to hold the rank of officer in the military force of a national government, state or province.
q. Other - An individual who is involved as a rater in the study and cannot be adequately described by one of the other

categories.

SUBORDINATE BACKGROUND DATA:

a. Age - Current mean age, age range or other statistic that describes the age of the leader group that is being studied.

b. Sex - Male or female gender or mix of the leader group being studied/

c. Years of experience in current position - The number of years the leader has occupied the current leadership position
expressed in terms of mean, range, median, mode or other statistic.

d. Educational level - Highest degree completed BA (Bachelors), MA (Masters), HS (High school diploma), Non-HS (Non-high school graduate) expressed in terms of mean, range, mode, median or other statistic.

e. Other - Other characteristics that are specific to the leader who is the focus of the study.

GROUPS:

a. Identify the size and label of the groups that participate in the measure or rating of the leader.

b. Other descriptive information - Indicate any additional information specific to the groups involved including a self-report by the leader being studied.

RESEARCH DESIGN

a. Type - Indicate the type of research design in accordance with the definitions of Borg and Gall (1983). b. Sampling technique - Indicate simple, stratified, cluster in accordance with the definitions of Kerlinger (1986).

c. Non-random - The nomination technique involves subjects being identified through a recommendation procedure according to a set of criteria.

d. Other - Indicate other selection techniques identified in the study.

Assignment to Groups - Indicate whether the subjects were randomly assigned to groups.

Assignment of treatment - Indicate whether different treatments were assigned to groups randomly.

Treatment/Technique:

a. Indicate whether a survey or questionnaire was utilized and corresponding response rate and percentage. b. Other - Describe any other treatment or technique.

c. Date - Indicate the date of the treatment.

Independent Variable(s):

a. Indicate the independent or variable from which the effect is derived.

b. Indicate the measurement device used to measure the variable in the previous step.

c. Indicate the individual factors measured i.e. contingent reward, charisma and any reliability reported based on previously established data.

Dependent Variable(s):

a. Indicate the dependent or variable to which the effect is intended or correlated.

b. Indicate the measurement device used to measure the variable in the previous step.

c. Indicate the individual factors measured i.e. job satisfaction, leader effectiveness and any reliability reported based on previously established data.

OUTCOMES:

a. Restate all hypotheses and research questions presented in the study.

b. Restate or summarize the conclusions or test results from the hypothesis(es) tested or research questions posed.

Statistical Measure/Technique:

a. Indicate the type of measure used to test the hypothesis(s) in accordance with the definitions offered by Hinkle (1988) or SPSS manual.

b. Indicate the results reported in the study i.e. standard score, mean, standard deviation, t-test, F ratio, probability presented in tables for each variable/group related to each variable. Summative qualitative study data should be reported in the author's format.

c. Moderator Variables: Indicate any variables reported as having a potential effect upon the results.

d. Other - Indicate any additional tests i.e. non-parametric relevant to the study.

e. Conclusion - State or summarize the conclusions presented by the author(s).

MISCELLANEOUS

a. Threats to validity - Indicate any threats to internal or external validity reported by the authors or perceived by the coder according to Borg and Gall (1983).

b. Other - Indicate any other information deemed relevant.

SUMMARY - Summarize the study in fifty words or less.

CODING SHEET (DRAFT)

Title: _____
Author(s)_____
Publisher: _____
Channel:_____ Publication Date: _____

OVERVIEW: _____
_____

ENVIRONMENT (Type of organization): Private ___ Public
Education: K-12 ___ 2 year college ___ 4 year college ___
Non-profit community service agency ___
(name/describe _____)
Military ___ (branch _____)
Other _____
Profit organization: Manufacturing ___ Retail ___
Wholesale ___ Services ___ Special condi-
tions:_____ Manner selected:_____
_____

Focus of study and number: Organization ___
Component of _____
Board of education ___ Superintendent ___ Head of School
___ Teacher/staff ___ Board of Directors ___ College
President ___
College administrator ___ Instructor/staff ___
CEO ___ Board of Directors ___ Manager/supervisor not CEO
___ Non-management member ___ Manager or executive trainee
___ Student trainee ___ Military officer trainee ___
Military non-officer ___ Other _____
Other data: Age _____ Male ____ Female _____
Yrs. of exper.: current position ___ organization ___
similar ___
Educational level: Post BA __ BA __ HS __ Non-HS ____
Other: _____
Manner selected _____

Group(s): Describe the groups according to the categories above:

Name	_____	_____	_____
Size	_____	_____	_____
Age	_____	_____	_____
Sex	_____	_____	_____
Exper	_____	_____	_____
Educ	_____	_____	_____
Other	_____	_____	_____
Select	_____	_____	_____

RS-simple; RST-stratified; RC-cluster; NR-nomin. O-other

Ass Gr	_____	_____	_____
Ass Tr	_____	_____	_____

R-random; NR-non-random; NA-not applicable; O-Other

Device _____ _____ _____
Var _____ _____ _____
Factors

RESEARCH DESIGN: Historical ___ Ethnographic ___ Case Study ___
Survey ___ Quasi-experimental ___ Experimental ___

Hypothesis #__:_____
_____

Relevant Data:

Conclusion #__:_____
_____

Hypothesis #__:_____
_____
Relevant Data:

Conclusion #__:_____
_____

Hypothesis #__:_____
_____
Relevant Data:

Conclusion #__:_____
_____

Hypothesis #__:_____
_____
Relevant Data:

Conclusion #__:_____
_____

Summary Findings:

Appendix B

Statistical Data

DEMONSTRATED-TFL AND TAL		IND		INT		CON				GRAND MEAN								
AUTHOR	DATE CHAR	SD	CON	SD	STIM	SD	REW	SD	MBE	SD	TFL	SD	TAL	SD	d	wi	w	di2xwi	dixwi
Bass																			
(NZ Mgrs)	1985 2.35	0.69	2.58	0.59	2.50	0.63	2.27	0.55	2.51	0.52	2.48	0.65	2.39	0.55	0.13	22.45	45	0.40	2.99
(NZ Ad)	1985 2.44	0.81	2.30	0.76	2.21	0.67	2.25	0.87	2.65	0.66	2.32	0.78	2.45	0.80	-.17	11.46	23	0.33	-1.96
Singer	1986 2.06	1.04	1.81	0.77	2.14	0.71	1.43	0.66	2.11	0.44	2.00	0.86	1.77	0.56	0.27	18.83	38	1.38	5.09
Waldman																			
(Cols)	1985 2.67	1.07	2.68	0.89	2.24	0.94	1.73	0.92	2.10	0.95	2.53	0.97	1.92	0.94	0.63	89.99	189	36.04	56.95
(Ranks)	1985 2.71	1.02	2.77	0.90	2.53	0.90	1.98	0.89	2.30	0.79	2.67	0.95	2.14	0.85	0.56	34.66	72	10.71	19.27
(Mrgs)	1985 2.00	0.88	2.21	0.82	2.18	0.73	1.58	0.70	2.01	0.69	2.13	0.81	1.80	0.70	0.41	125.34	256	21.27	51.64
Bass et al.																			
(Mrgs)	1987 2.60	0.57	2.54	0.52	2.54	0.52	1.91	0.50	2.02	0.30	2.56	0.54	1.97	0.40	1.10	64.69	149	78.46	71.24
(Spvrs)	1987 2.82	0.63	2.77	0.61	2.70	0.69	2.32	0.65	1.95	0.60	2.76	0.65	2.14	0.63	0.97	66.66	140	62.74	64.67
Waldman &	1987 1.98	0.90	2.19	0.82	2.15	0.73	1.56	0.71	2.03	0.70	2.11	0.82	1.80	0.71	0.38	161.09	328	23.32	61.29
Avolio &	1988 2.10	0.69	2.29	0.52	2.10	0.53	2.00	0.41	2.27	0.41	2.16	0.58	2.14	0.41	0.05	94.97	190	0.22	4.62
Hater & Bass																			
(Top)	1988 3.21	0.45	3.08	0.38	3.00	0.35	2.13	0.46	2.28	0.49	3.10	0.39	2.21	0.48	2.26	110.44	362	564.45	249.68
(Ordin)	1988 2.95	0.46	2.79	0.41	2.86	0.40	1.97	0.46	2.31	0.38	2.87	0.42	2.14	0.42	1.71	132.48	362	388.19	226.77
Murray	1988 2.41	0.42	2.36	0.30	2.21	0.26	1.58	0.21	2.12	0.22	2.33	0.33	1.85	0.22	1.45	113.50	287	239.99	165.04
King																			
(Ad K-12)	1989 2.17	1.13	2.12	1.02	1.94	0.93	1.65	0.76	2.18	0.59	2.08	1.04	1.91	0.68	0.16	51.34	103	1.28	8.12
(Ad CC)	1989 2.58	0.99	2.59	0.91	2.36	0.88	2.11	0.86	2.09	0.51	2.51	0.93	2.10	0.69	0.43	48.85	100	9.17	21.17
Ruggerio																			
(Mil)	1989 3.05	0.44	3.09	0.40	2.91	0.47	2.25	0.64	2.18	0.40	3.02	0.44	2.22	0.53	1.81	24.83	70	81.33	44.94
(Ind)	1989 2.90	0.42	3.15	0.37	3.00	0.40	2.19	0.50	2.14	0.46	3.02	0.40	2.17	0.48	2.13	36.39	114	164.84	77.46
Singer & Singer																			
(NZ Pol)	1989 1.70	0.98	2.10	0.84	1.97	0.74	1.20	0.55	2.08	0.49	1.92	0.87	1.64	0.53	0.33	29.61	60	3.16	9.67
(Tai's)	1989 1.46	0.89	1.53	0.73	1.71	0.78	1.22	0.77	1.94	0.62	1.57	0.81	1.58	0.70	-.02	53.50	107	0.01	-0.88
Seltzer &	1990 2.90	0.80	2.90	0.70	2.80	0.60	0.00	0.00	0.00	0.00	2.87	0.70	0.00	0.00	0.00	92.00	184	0.00	0.00
Spangler	1990 4.05	0.71	3.63	0.76	3.42	0.25	3.13	0.77	3.46	0.74	3.70	0.59	3.30	0.78	0.68	15.12	32	7.08	10.34
Yammarino & Bass																			
(Naval)	1990 2.48	1.26	2.66	1.17	2.63	1.15	2.23	1.45	2.69	1.19	2.59	1.19	2.46	1.32	0.11	395.91	793	4.69	43.08
(War Col)	1990 2.09	1.26	2.27	0.90	2.33	0.88	1.80	1.02	2.45	0.83	2.23	1.02	2.13	0.93	0.10	158.79	318	1.69	16.40
Bass &	1991 2.40	1.16	2.50	0.91	2.47	0.88	2.00	0.92	2.46	0.85	2.46	0.99	2.23	0.89	0.23	77.00	155	4.04	17.63
Avolio &	1991 0.00	0.00	2.91	0.65	2.77	0.57	2.15	0.73	1.93	0.53	1.89	0.61	2.04	0.63	-.24	70.00	141	3.99	-16.71
Mean	2.31		2.55		2.17		2.47		1.87		2.47		2.02		SUM	2099.	4627.	1708.	1208.

d-Index d = (sum dixwi)/(sum wi) d = .81

Confidence Interval CI95 = d (+-) 1.96 x sqrt (1/sum wi) "+" "-"
.81 1.96 .0218 .86 .77

Total Variance Qt = (di2xwi)-[(dixwi)2 / wi]
1013.28 = (1709) (1460478) 2099.9

Withing Groups Variance (Qw)

Military	"N"	Qt = (di2xwi) - [(dixwi)2 / wi]		
	1657	88.33 =	141.66	43239.82/ 810.79

Non-Military	"N"	Qt = (di2xwi) - [(dixwi)2 / wi]		
	2970	790.52 =	1567.12	1001121.78 1289.11

Between Groups Variance
Qt(1013.28)-[QwMil(88.33)+QwNon-Mil(790.52)]=Qb(134.43) p<.001

Withing Groups Variance (Qw)

USA	"N"	Qt = (di2xwi) - [(dixwi)2 / wi]		
	4309	973.02 =	1703.10	141758.13 1941.61

OTHER	"N"	Qt = (di2xwi) - [(dixwi)2 / wi]		
	318	3.65 =	5.68	320.21 158.29

Between Groups Variance p<.001
Qt(1013.28)-[QwUSA(973.02)+QwOTHER(3.65)]=Qb (36.61)

PREFERRED-TFL AND TAL IND INT CON GRAND MEAN

AUTHOR	DATE	CHAR	SD	CON	SD	STIM	SD	REW	SD	MBE	SD	TFL	SD	TAL	SD	d	wi	v	di2xwi	dixwi
Singer	1985	3.45	0.42	3.03	0.75	3.23	0.75	2.36	0.64	2.15	0.46	3.24	0.55	2.26	0.56	1.79	13.56	38	43.54	24.30
Singers	1986	2.96	0.46	3.21	0.42	3.09	0.46	3.09	0.36	2.10	0.57	3.09	0.44	2.60	0.47	1.12	37.59	87	47.28	42.16
Bass & Singer & Singer	1987	3.81	0.26	3.59	0.48	3.61	0.44	2.77	0.62	1.63	0.59	3.67	0.40	2.20	0.61	3.71	27.36	149	377.09	101.58
(NZ Pol)	1989	3.31	0.48	3.22	0.49	3.06	0.47	2.06	0.74	2.23	0.49	3.20	0.49	2.15	0.63	2.15	18.98	60	88.12	40.90
(Tai's)	1989	3.38	0.66	3.01	0.54	3.16	0.57	2.88	0.67	2.62	0.58	3.18	0.60	2.75	0.63	0.73	50.18	107	26.56	36.51
Mean		3.38		3.21		3.23		2.63		2.15		3.27		2.39		SUM	147.67	441	582.60	245.45

d-Index d = (sum di*wi)/(sum wi) d = 1.66

Total Variance Qt = (di2xwi)-[(dixwi)2 / wi]
174.64 = (582.6) (60245.7) (147.64)

Confidence Interval CI95 = d (+-) 1.96 x sqrt (1/sum wi) "+" "-"
1.66 1.96 .08 1.82 1.50

Withing Groups Variance (Qw)

USA "N" Qt = (di2xwi) - [(dixwi)2 /wi]
236 106.28 = 424.37 20661.17 64.95

OTHER "N" Qt = (di2xwi) - [(dixwi)2 / wi]
205 33.18 = 158.23 10344.74 82.72

Between Groups Variance
Qt(174.64)-[QwUSA(106.28)+QwOTHER(33.18)]=Qb (134.43) p<.001

EFFECTIVENESS TFL & TAL AUTHOR	DATE	NUMBER	CHAR	IND CON	INT STIM	CON REW	MBE	AVG TFL	AVG TAL	TFLz	TALz	n-3	TFL (n-3)z	TAL (n-3)z	TFL (n-3)z2	TAL (n-3)z2
Bass																
(Wrld Ldr)	1985	67	0.58	0.40	0.34	0.21	-.21	0.44	0.00	0.47	0.00	64	30.21	0.00	14.26	0.00
(War Coll)	1985	104	0.85	0.70	0.47	0.41	0.23	0.67	0.32	0.81	0.33	101	81.91	33.53	66.43	11.13
(NZ Mgrs)	1985	45	0.46	0.46	0.38	0.34	-.05	0.43	0.15	0.46	0.15	42	19.32	6.34	8.89	.96
(NZ Adm)	1985	23	0.65	0.58	0.48	-.34	-.34	0.57	-.34	0.65	-.35	20	12.96	-7.08	8.40	2.51
Singer	1985	39	0.84	0.53	0.75	0.52	0.37	0.71	0.45	0.89	0.49	35	31.05	16.98	27.54	8.23
Waldman et al.																
(Col)	1985	189	0.80	0.65	0.44	0.40	0.19	0.63	0.30	0.74	0.31	186	137.83	57.66	102.13	17.88
(Ranks)	1985	72	0.70	0.69	0.72	0.43	0.11	0.70	0.27	0.87	0.28	69	59.82	19.11	51.87	5.29
Onnen	1987	454	0.40	0.00	0.16	0.14	0.04	0.28	0.09	0.29	0.09	451	129.89	40.59	37.41	3.65
Bass &	1989	87	0.70	0.61	0.73	0.73	0.37	0.68	0.55	0.83	0.63	84	69.64	52.58	57.73	32.92
Tsang Lang	1989	282	0.88	0.83	0.80	0.69	0.11	0.84	0.40	1.22	0.42	279	340.66	118.30	415.95	50.19
Seltzer &	1990	184	0.76	0.77	0.69	0.68	0.22	0.74	0.45	0.95	0.49	181	171.95	87.79	163.35	42.58
Spangler	1990	32	0.40	0.25	0.30	0.43	0.18	0.32	0.31	0.33	0.32	29	9.63	9.31	3.97	2.99
Yammarino & Bass																
(Naval)	1990	793	0.74	0.56	0.54	0.40	0.20	0.61	0.30	0.71	0.31	790	560.11	244.90	397.12	75.92
(War Coll)	1990	318	0.83	0.73	0.73	0.55	0.15	0.76	0.35	1.00	0.37	315	313.74	114.98	312.49	41.97
Avolio &	1991	141	0.00	0.52	0.43	0.25	0.08	0.32	0.17	0.33	0.17	138	45.83	23.74	15.21	4.08
Hoover	1991	225	0.69	0.39	0.30	0.05	-.04	0.46	0.01	0.50	0.01	222	110.33	2.22	54.87	0.02
King																
(Ad K-12)	1989	103	0.80	0.74	0.75	0.53	0.23	0.76	0.38	1.00	0.40	100	99.60	40.00	99.20	16.00
(Ad CC)	1989	100	0.79	0.67	0.71	0.47	0.02	0.72	0.25	0.91	0.26	97	88.08	24.74	79.97	6.31
Young																
(Male)	1989	100	0.85	0.75	0.73	0.55	-.07	0.78	0.24	1.05	0.25	197	205.87	48.27	215.13	11.83
(Female)	1989	182	0.83	0.73	0.80	0.54	-.17	0.19	0.79	1.07	0.19	179	191.71	34.37	205.32	6.60
									SUM			3579	2710.10	968.31	2336.41	341.01

Z Score

z = sum(n-3)z (-:-) sum(n-3) = "z"

z (TFL) = 2710.10 / 3759 = 0.76

z (TAL) = 968.31 / 3579 = 0.27

Confidence Interval 95%

CI95 = z (+-) (1.96 (-:-) (n-3) (sqrt)

CI95 (TFL) = .76 1.96 59.82 "+" 0.79 "-" 0.72

CI95 (TAL) = .27 1.96 59.82 "+" 0.30 "-" 0.24

Total Variance

Qt = (n-3)z2 - [(n-3)z2 (-:-) (n-3) = Qt

Qt(TFL) = 2336.41 734463.69 3579 = 284.25

Qt(TAL) = 341.01 937614.57 3579 = 79.03

Within Groups Variance - TFL

Qw = (n-3)z2 - [(n-3z)2 (-:-) (n-3)

Non-mili 262.24 = 1406.38 242396 2118

Military 19.45 = 930.03 1330354 1461

Within Groups Variance - TAL

Qw = (n-3)z2 - [(n-3z)2 (-:-) (n-3)

Non-mili 71.67 = 188.83 248128.5 2118

Military .87 = 152.17 221069.2 1461

Between Groups Variance - TFL

Qt - (Qw Non-mil + Qw Mil) = Qb

284.25 - (262.24 + 19.45) = 2.57 ns

Between Groups Variance - TAL

Qt - (Qw Non-mil + Qw Mil) = Qb

79.03 - (71.67 + 0.87) = 6.49 p<.001

SATISFACTION TFL & TAL AUTHOR	DATE	NUMBER	CHAR	IND CON	INT STIM	CON REW	MBE	AVG TFL	AVG TAL	TFLz	TALz	n-3	TFL (n-3)z	TAL (n-3)z	TFL (n-3)z2	TAL (n-3)z2
Bass																
(Wrld Ldr)	1985	67	0.64	0.50	0.52	0.28	-.10	0.55	0.09	0.62	0.01	64	39.55	0.58	24.44	0.01
(War Coll)	1985	104	0.91	0.76	0.55	0.45	0.29	0.74	0.37	0.95	0.39	101	95.95	39.19	91.15	15.21
(NZ Mgrs)	1985	45	0.57	0.55	0.52	0.31	-.11	0.54	0.10	0.60	0.10	42	25.37	4.20	15.32	0.42
(NZ Ad)	1985	23	0.78	0.61	0.57	0.53	-.21	0.65	0.16	0.78	0.16	20	15.50	3.22	12.01	0.52
Singer	1985	38	0.81	0.70	0.72	0.55	0.17	0.74	0.36	0.95	0.38	35	33.25	13.20	31.59	4.76
Onnen	1987	454	0.53	0.00	0.17	0.08	0.04	0.23	0.06	0.23	0.06	451	105.53	27.06	24.70	1.62
Bass & Singer & Singer	1989	87	0.88	0.82	0.70	0.64	0.13	0.80	0.39	1.10	0.41	84	92.32	34.61	101.46	14.26
(NZ Pol)	1989	60	0.59	0.51	0.53	0.17	-.05	0.54	0.06	0.60	0.06	57	34.43	3.42	20.80	0.21
(Tai's)	1989	107	0.62	0.58	0.43	0.54	0.25	0.54	0.40	0.60	0.42	104	62.82	44.10	37.94	18.70
Seltzer & Yammarino & Bass	1990	184	0.70	0.63	0.49	0.00	0.00	0.61	0.00	0.71	0.00	181	128.33	0.00	90.99	0.00
(Naval)	1990	793	0.67	0.54	0.50	0.41	0.16	0.57	0.29	0.65	0.30	790	511.92	236.21	331.72	70.63
(War Coll)	1990	318	0.90	0.80	0.74	0.59	0.15	0.81	0.37	1.23	0.39	315	355.01	122.22	400.09	47.42
Avolio & Hoover	1991	141	0.00	0.61	0.39	0.32	0.04	0.50	0.18	0.55	0.18	138	75.76	25.12	41.59	4.57
	1991	225	0.67	0.45	0.15	0.09	0.01	0.42	0.05	0.45	0.05	222	99.46	11.10	44.56	0.56
King																
(Ad K-12)	1989	103	0.91	0.82	0.79	0.60	0.11	0.84	0.36	1.22	0.38	100	122.10	37.70	149.08	14.21
(Ad CC)	1989	100	0.88	0.77	0.72	0.52	0.08	0.79	0.30	1.07	0.31	97	103.89	30.07	111.26	9.32
Young																
(Male)	1989	200	0.78	0.66	0.67	0.53	-.12	0.70	0.21	0.87	0.21	197	170.80	41.96	148.08	8.94
(Female)	1989	182	0.86	0.67	0.75	0.55	-.15	0.76	0.20	1.00	0.20	179	178.28	36.34	177.57	7.38
											SUM	3177	2250.26	710.28	1854.35	218.93

Z Score

z = sum(n-3)z (-:-) sum(n-3) = "z"

z (TFL) = 2250.26 / 3177 = 0.71

z (TAL) = 710.28 / 3177 = 0.22

Confidence Interval 95%

CI95 = z (+-) (1.96 (-:-) (sqrt) (n-3) "+" "-"

CI95 (TFL) = .71 1.96 56.36 0.74 0.67

CI95 (TAL) = .22 1.96 56.36 0.26 0.19

Total Variance

Qt = (n-3)z2 - [(n-3)z2 (-:-) (n-3) = Qt

Qt(TFL) = 1854.35 5063652.06 3177 = 260.51

Qt(TAL) = 218.93 504493.42 3177 = 60.13

Within Groups Variance - TFL

Qw = (n-3)z2 - [(n-3z)2 (-:-) (n-3)

Non-mili 190.38 = 1010.59 1569891 1914

Military 33.03 = 589.77 361881.6 650

Within Groups Variance - TAL

Qw = (n-3)z2 - [(n-3z)2 (-:-) (n-3)

Non-mili 35.51 = 85.47 95628.75 1914

Military .87 = 152.17 35833.35 650

Between Groups Variance - TFL

Qt - (Qw Non-mil + Qw Mil) = Qb

260.51 - (190.38 + 33.03) = 37.10 p<.001

Between Groups Variance - TAL

Qt - (Qw Non-mil + Qw Mil) = Qb

60.13 - (35.51 + 5.80) = 18.82 p<.001

EXTRA EFFORT TFL & TAL				IND	INT	CON		AVG	AVG				TFL	TAL	TFL	TAL
AUTHOR	DATE	NUMBER	CHAR	CON	STIM	REW	MBE	TFL	TAL	TFLz	TALz	n-3	(n-3)z	(n-3)z	(n-3)z2	(n-3)z2
Bass																
(NZ Mgrs)	1985	45	0.50	0.25	0.49	0.38	-.28	0.41	0.05	0.44	0.05	42	18.31	2.10	7.98	0.11
(NZ Ad)	1985	23	0.72	0.60	0.76	0.44	-.42	0.69	0.01	0.85	0.01	20	16.96	.20	14.38	0.00
Waldman et al.																
(Cols)	1985	189	0.72	0.61	0.69	0.50	0.03	0.67	0.27	0.81	0.28	186	150.85	51.52	122.34	14.27
(Ranks)	1985	72	0.82	0.75	0.84	0.61	0.26	0.80	0.44	1.10	0.47	69	75.83	32.57	83.34	15.37
(Mgrs)	1985	256	0.88	0.79	0.80	0.76	-.24	0.82	0.26	1.58	0.27	253	292.72	67.30	338.68	17.90
Young																
(Male)	1989	200	0.84	0.80	0.79	0.66	-.05	0.81	0.31	1.13	0.33	197	222.02	65.42	250.22	21.73
(Female)	1989	182	0.81	0.80	0.77	0.58	-.13	0.79	0.23	1.07	0.23	179	191.71	41.89	205.32	9.80
Yammarino &	1990	793	0.62	0.67	0.53	0.49	0.22	0.61	0.36	0.71	0.38	790	560.11	297.83	397.12	191.28
									SUM			1736	1528.51	558.83	1419.37	191.46

Z Score — Confidence Interval 95% (sqrt)

	z = sum(n-3)z	(-:-)	sum(n-3)	= "z"	CI95 = z	(+-)	(1.96	(-:-)	(n-3)	"+"	"-"
z (TFL) =	1528.51		1736	= 0.88	CI95 (TFL) = .88		1.96		50.94	0.92	0.84
z (TAL) =	558.83		1736	= 0.32	CI95 (TAL) = .32		1.96		50.94	0.36	0.28

Total Variance

	Qt = (n-3)z2	-	[(n-3)z2	(-:-)	(n-3)	= Qt
Qt(TFL) =	1419.37		2336336.70		1736	= 73.56
Qt(TAL) =	191.46		312288.40		1736	= 11.57

Within Groups Variance - TFL

	Qw = (n-3)z2	-	[(n-3z)2	(-:-)	(n-3)
Non-mili	20.42 = 816.58		550150		691
Military	10.42 = 602.79		619033.7		1045

Within Groups Variance - TAL

	Qw = (n-3)z2	-	[(n-3z)2	(-:-)	(n-3)
Non-mili	4.25 = 49.54		31296.33		691
Military	2.34 = 141.93		145862.80		1045

Between Groups Variance - TFL

Qt	-	(Qw Non-mil	+	Qw Mil)	= Qb
73.56	-	(20.42	+	10.42)	= 42.73 p<.001

Between Groups Variance - TAL

Qt	-	(Qw Non-mil	+	Qw Mil)	= Qb
11.57	-	(4.25	+	2.34)	= 4.98 ns

BIBLIOGRAPHY

Argyris, C. (1971). Management and organizational development. New York: McGraw-Hill.

Avolio, B.J., & Bass, B.M. (1988). Transformational leadership, charisma, and beyond. In J.G. Hunt, B.R. Baglia, H.P. Dachler, & C.A. Schriesheim (Eds.), Emerging leadership vistas (pp. 29-49). Lexington, MA: D.C. Heath.

Avolio, B. J., Waldman, D. A., & Einstein, W. O. (1988). Transformational leadership in a management game simulation. Group & Organization Studies, 13(1), 59-80.

Avolio, B. J., Waldman, D. A., & Yammarino, F. J. (1991). Leading in the 1990's: The four I's of transformational leadership. Journal of European Industrial Training, 15(4), 9-16.

Avolio, B.J., Yammarino, F.J., & Bass, B.M. (1991). Identifying common methods variance with data collected from a single source: An unresolved sticky issue. Journal of Management, 17(3), 571-587.

Bass, B.M. (1985). Leadership and performance beyond expectations. New York: Free Press.

Bass, B.M. (1990a). Bass & Stogdill's handbook of leadership. New York: The Free Press.

Bass, B.M. (1990b). From transactional to transformational leadership: Learning to share the vision. Organizational Dynamics, 18(3), 19-36.

Bass, B.M. (1991). Is the model of transformational and transactional leadership universal? (CLS Report 91-4). Binghampton: State University of New York at Binghampton.

Bass, B.M., & Avolio, B.J. (1989). Potential biases in leadership measures: How prototypes, leniency, and general satisfaction relate to ratings and rankings of transformational and transactional leadership constructs. Educational and Psychological Measurement, 49, 509-527.

Bass, B.M., & Avolio, B.J. (1990a). Developing transformational leadership: 1992 and beyond. Journal of European Industrial Training, 14(5), 21-27.

Bass, B.M., & Avolio, B.J. (1990b). Manual for the Multifactor Leadership Questionnaire. Palo Alto, CA: Consulting Psychologists Press.

Bass, B.M., Avolio, B.J., & Goodheim, L. (1987). Biography and the assessment of transformational leadership at the world-class level. Journal of Management, 13(1), 7-19.

Bass, B.M., & Petrullo, L. (1961). Leadership and interpersonal behavior. New York: Holt, Rinehart and Winston.

Bass, B.M., Waldman, D.A., Avolio, B.J., & Bebb, M. (1987). Transformational leadership and the falling dominoes effect. Group & Organization Studies, 12(1), 73-87.

Bass, B.M., & Yammarino, F.J. (1991). Congruence of self and others' leadership ratings of naval officers for understanding successful performance. Applied Psychology: An International Review, 40(4), 437-454.

Bennis, W.G. (1959). Leadership theory and administrative behavior: The problem of authority. Administrative Science Quarterly, 4, 259-260.

Bennis, W.G. (1984). The four competencies of leadership. Training and Development Journal, 38(8), 14-19.

Bennis, W.G. (1989). Why leaders can't lead. Training and Development Journal, 43(3), 35-38.

Bennis, W.G., & Nanus, B. (1985). Leaders: The strategies for taking charge. New York: Harper and Row.

Berelson, B. (1952). Content analysis in communications research. New York: Free Press

Blake, R.R., & Mouton, J.S. (1964). The managerial grid. Houston: Gulf.

Borg, W.R., & Gall, M.D. (1983). Educational research (3rd ed.). White Plains, NY: Longman.

Bracht, G.H., & Glass, G.V. (1968). The external validity of experiments. American Research Journal, 5, 437-474.

Burns, J.M. (1978). Leadership. New York: Harper and Row.

Camillus, J.C. (1986). Strategic planning and management control. Lexington, MA: D.C. Heath.

Campbell, D.T., & Stanley, J.C. (1963). Experimental and quasi-experimental designs for research. Chicago: Rand McNally.

Carlsberg, C.G. (1984). Meta-analysis in education: A reply to Slavin. Educational Researcher, 13(8), 16-23.

Chow, S.L. (1988). Significance test or effect size. Psychological Bulletin, 103(1), 105-110.

Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.). New York: Academic Press.

Collins, D., Ross, R.A., & Ross, R.L. (1989). Who wants participative management? Group & Organization Studies, 14, 422.

Conger, J.A., & Kanungo, R. (1987). Toward a behavioral theory of charismatic leadership in organizational settings. Academy of Management Review, 12, 637-647.

Cook, T.D., & Leviton, L.C. (1980). Reviewing the literature: A comparison of traditional methods with meta-analysis. Journal of Personality, 48(4), 449-472.

Cook, W.J. (1990). Strategic planning for America's schools. Arlington, VA: American Association of School Administrators.

Cooper, H.M. (1979). Statistically combining independent studies: A meta-analysis of sex differences in conformity research. Journal of Personality and Social Psychology, 37(1), 131-146.

Cooper, H.M. (1982a). Scientific guidelines for conducting integrative reviews. (ERIC Document Reproduction Service No. 216 032)

Cooper, H.M. (1982b). Scientific guidelines for conducting integrative research reviews. Review of Educational Research, 52(2), 291-302.

Cooper, H.M. (1988). Organizing knowledge synthesis: A taxonomy of literature reviews. Knowledge in Society, 1, 105-126.

Cooper, H.M. (1989). Integrating research: A guide for literature reviews. Newbury Park, CA: Sage.

Cooper, H.M., & Arkin, R.M. (1981). On quantitative reviewing. Journal of Personality, 49(2), 225-235.

Cooper, H.M., & Halzelrigg, P. (1988). Personality moderators of interpersonal expectancy effects: An integrative research review. Journal of Personality and Social Psychology, 55(6), 937-949.

Cooper, H.M., & Ribble, R. (1985). Influence on the outcome of literature searchers for integrative research reviews. (ERIC Document Reproduction Service No. ED 266 802)

Cooper, H.M., & Rosenthal, R. (1980). Statistical versus traditional procedures for summarizing research find ings. Psychological Bulletin, 87(3), 442-449.

Cooper, I.B. (1981). Critique of "meta-analysis of patient education research: Implications for health care". (ERIC Document Reproduction Service No. ED 202 427)

Dansereau, F., Graen, G., & Haga, W.J. (1975). A vertical dyad linkage approach to leadership within formal organizations: A longitudinal investigation of the role making process. Organizational Behavior and Human Performance, 13, 46-78.

Deal, T.E. (1987). The culture of schools. In L.T. Sheive & M.B. Schoenhiet (Eds.), Leadership: Examining the elusive (pp. 3-15). Arlington, VA: Association for Supervision and Curriculum Development.

Deal, T.E. (1991). Reframing reform. Educational Leadership, 47(8), 6-22.

Deal, T.E., & Kennedy, A.A. (1982). Corporate cultures: The rites and rituals of corporate life. Reading, MA: Addison-Wesley.

Deluga, R.J. (1988). Relationship of transformational and transactional leadership with employee influencing strategies. Group & Organization Studies, 13 , 456-467.

Deluga, R.J., & Perry, J.T. (1991). The relationship of subordinate upward influencing behaviour, satisfaction and perceived superior effectiveness with leader-member exchanges. Journal of Occupational Psychology, 64, 239-252.

Deluga, R.J., & Souza J. (1991). The effects of transformational and transactional leadership styles on the influencing styles on the behaviour of subordinate police officers. Journal of Occupational Psychology, 64, 49-55.

Findley, M.J., & Cooper, H.M. (1983). Locus of control and academic achievement: A literature review. Journal of Personality and Social Psychology, 44(2), 419-427.

Gage, N.L. (1991). The obviousness of social and educational research results. Educational Researcher, 20(1), 10-16.

Glaser, B.G., & Strauss, A.L. (1967). The discovery of grounded theory: Strategies for qualitative research. Hawthorne, NY: Aldine.

Glass, G.V. (1976). Primary, secondary, and meta-analysis of research. Educational Researcher, 5(10), 3-8.

Glass, G.V., & Smith, M.L. (1979). Relationship of class-size to classroom processes, teacher satisfaction, and pupil affect: A meta-analysis. San Francisco: Far West Laboratory for Educational Research and Development.

Guba, E. (1981). Criteria for assessing the trustworthiness of naturalistic inquiries. Educational Communication and Technology, 29(2), 75-91.

Guba, E., & Lincoln, Y. (1981). Effective evaluation. San Francisco: Jossey-Bass.

Guba, E., & Lincoln, Y. (1982). Epistemological and methodological bases of naturalistic inquiry. Educational Communication and Technology, 30(4), 233-252.

Hater, J.J., & Bass, B.M. (1988). Supervisors' evaluations and subordinates' perceptions of transformational and transactional leadership. Journal of Applied Psychology, 73(1), 695-702.

Hedges, L.V. (1982). Estimation of effect size from a series of independent experiments. Psychological Bulletin, 92, 490-499.

Hedges, L.V., & Olkin, I. (1980). Vote-counting methods in research synthesis. Psychological Bulletin, 88(2), 359-369.

Hedges, L.V., & Olkin, I. (1985). Statistical methods for meta-analysis. Orlando, FL: Academic Press.

Hersey, P., & Blanchard, K.H. (1977). Management of organizational behavior (3rd ed.). Englewood Cliffs, NJ: Prentice Hall.

Herzberg, F. (1966). Work and the nature of man. Cleveland, OH: World.

Hinkle, D.E. (1988). Applied statistics for the behavioral sciences. Dallas, TX: Houghton Mifflin.

Hoover, N.J. (1991). Transformational and transactional leadership: An empirical test of theory. (ERIC Document Reproduction Service No. ED 331 177)

House, R.J. (1977). A 1976 theory of charismatic leader ship. In J.G. Hunt & L.L. Larson (Eds.), Leadership: The cutting edge (pp. 189-207). Carbondale, IL: Southern Illinois University Press.

House, R.J., & Mitchell, T.R. (1974). Path-goal theory of leadership. Journal of Contemporary Business, 3, 81-97.

Howe, K., & Eisenhart, M. (1990). Standards of qualitative (and quantitative) research: A prolegomenon. Educational Researcher, 19(4), 2-9.

Howell, J.M., & Frost, P.J. (1989). A laboratory study of charismatic leadership. Organizational Behavior and Human Decision Processes, 43, 243-269.

Howell, J.M., & Higgins, C.A. (1990). Champions of technological innovation. New York: Cornell University.

Howell, J.P., Dorfman, P.W., & Kerr, S. (1986). Moderator variables in leadership. Academy of Management Review, 11(1), 88-102.

Jackson, G.B. (1980). Methods for integrative reviews. Review of Educational Research, 50(3), 438-460.

Joyce, B. (1987). A rigorous yet delicate touch: A response to Slavin's proposal for "best-evidence" reviews. Educational Researcher, 16(4), 12-14.

Kanter, R.M. (1983). The change masters: Innovation and entrepreneurship in the American corporation. New York: Simon & Schuster.

Kaufman, R.A. (1991). Strategic planning plus. Glenview, IL: Scott-Foresman.

Kaufman, R.A., & Herman, J. (1991). Strategic planning in education. Lancaster, PA: Technomic.

Kerlinger, F. N. (1986). Foundations of behavioral research. Fort Worth, TX: Holt, Rinehart & Winston.

King, M.I. (1989). Extraordinary leadership in education: Transformational and transactional leadership as predictors of effectiveness, satisfaction, and organizational climate in K-12 and higher education (Doctoral dissertation, University of New Orleans, 1989). Dissertation Abstracts International, 50, 2329A.

Krippendorff, K. (1980). Content analysis: An introduction to its methodology. Newbury Park, CA: Sage.

Kuhnert, K.W., & Lewis, P. (1987). Transactional and transformational leadership: A constructive/developmental analysis. Academy of Management Review, 12(4), 648-657.

LeCompte, M.D., & Goetz, J.P. (1982). Problems of reliability and validity in ethnographic research. Educational Research, 52(1), 31-60.

Lewin, K. (1951). Field theory in social science. New York: McGraw-Hill.

Light, R.J., & Smith, P.V. (1971). Accumulating evidence: Procedures for resolving contradictions among different research studies. Harvard Educational Review, 41, 429-471.

Likert, R. (1961). New patterns of management. New York: McGraw-Hill.

Lockland, G.T. (1973). Grow or die. New York: Random House.

Malen, G., Ogawa, R.T., & Krantz, J. (1990). What we know about school based management: A case study in literature. In W.H. Clune & J.F. Witte (Eds.), Choice and control in American education (pp. 289-342). Philadelphia, PA: Falmer.

Marsh, H.W. (1981). Interjudgmental reliability of reviews for the Journal of Educational Psychology. Journal of Educational Psychology, 73(6), 872-880.

Maslow, A.H. (1954). Motivation and personality. New York: Harper & Row.

McGregor, D.M. (1960). The human side of enterprise. New York: McGraw-Hill.

McKerrow, K.K., & McKerrow, J.E. (1991). Naturalistic misunderstanding of the Heisenberg uncertainty principle. Educational Researcher, 20(1), 17-20.

Meredith, M. (1985). Differentiating bona fide strategic planning . (ERIC Document Reproduction Service No. ED 267 329)

Merriam, S.B. (1988). Case study research in education. San Francisco: Jossey-Bass Inc.

Miles, M.B., & Huberman, A.M. (1984a). Drawing valid meaning from qualitative data: Toward a shared craft. Educational Researcher, 13(5), 20-30.

Miles, M.B., & Huberman, A.M. (1984b). Qualitative data analysis. Beverly Hills, CA: Sage.

Miller, S.I., & Fredericks, M. (1991). Postpositivistic assumptions and educational research: Another view. Educational Researcher, 20(4), 2-8.

Murray, F. (1988). A study of transformational leadership, organizational effectiveness, and demographics in selected college settings (Doctoral dissertation, Kent State University, 1988). Dissertation Abstracts International, 50, 1880A.

Murray, F., & Fietler, F.C. (1989). An investigation of transformational leadership and organizational effectiveness in small college settings. (ERIC Document Reproduction Service No. ED 309727)

Naisbitt, J., & Aburdene, P. (1990). Megatrends 2000. New York: Warren Books.

Niehoff, B.P., Enz, C.A., & Grover, R.A. (1990). The impact of top-management actions on employee attitudes and perceptions. Group & Organization Studies, 15(3), 337-352.

Noblet, G.W., & Hare, R.D. (1983). Meta-ethnography: Issues in the synthesis and replication of qualitative research. (ERIC Document Reproduction Service NO. 231 853)

Ogawa, R.T., & Malen, B. (1991). Towards rigor in reviews of multivocal literatures: Applying the exploratory case study method. Review of Educational Research, 61(3), 265-286.

Onnen, M.K. (1987). The relationship of clergy leadership characteristics to growing or declining churches (Doctoral dissertation, University of Louisville, 1987). Dissertation Abstracts International, 49, 1174A.

Ouchi, W. (1981). Theory Z: How American business can meet the Japanese challenge. Reading, MA: Addison Wesley.

Owens, R.G. (1991). Organizational behavior in education. Englewood Cliffs, NJ: Prentice Hall.

Peters, R.J., & Waterman, R.H. (1982). In search of excellence. New York: Harper & Row.

Pillemer, D.B., & Light, R.J. (1980). Synthesizing outcomes: How to use research evidence from many studies. Harvard Educational Review, 50(2), 176-195.

Porter, L.W. (1961). A study of perceived need satisfaction in bottom and middle-management jobs. Journal of Applied Psychology, 45, 1-10.

Raudenbush, S.W. (1991). Summarizing evidence: Crusaders for simplicity. Educational Researcher, 20(7), 33-37.

Raudenbush, S.W., Becker, B.J., & Kalaian, H. (1983). Modeling multivariate effect sizes. Psychological Bulletin, 103(1), 111-120.

Reddin, W.J. (1970). Managerial effectiveness. New York: McGraw-Hill Book Company.

Rosener, J.B. (1990). Ways women lead. Harvard Business Review, 68(6), 119-225.

Rosenthal, R. (1978a). Combining results of independent studies. Psychological Bulletin, 85(1), 185-193.

Rosenthal, R. (1978b, November). How often are our numbers wrong? American Psychologist, pp. 1005-1008.

Rosenthal, R. (1979). The "file drawer problem" and tolerance for null results. Psychological Bulletin, 86(3), 638-641.

Rosenthal, R., & Rubin, D.B. (1982). Comparing effect sizes of independent studies. Psychological Bulletin, 92(2), 500-504.

Rouche, J.E. (1989). Shared vision: Transformational leadership in American community colleges. Washington, DC: Community College Press.

Ruggerio, M.B. (1989). A comparative analysis: Leader behavior of military and industrial project managers as related to organizational authority (Doctoral dissertation, Temple University, 1989). Dissertation Abstracts International, 50, 1728A.

Rush, M.C., Thomas, J.C., & Lord, R.G. (1977). Implicit leadership theory: A potential threat to the internal validity of leader behavior questionnaires. Organizational Behavior and Human Performance, 20, 93-110.

Schein, E.H. (1985). Organizational culture and leadership. San Francisco: Jossey-Bass Inc.

Seltzer, J., & Bass, B.M. (1990). Transformational leadership: Beyond initiation and consideration. Journal of Management, 16(4), 693-703.

Selznik, P. (1984). Leadership in administration: A sociological interpretation. Los Angeles: University of California Press.

Sergiovanni, T.J. (1987). The theoretical basis for cultural leadership. In L.T. Sheive & M.B. Schoenhiet (Eds.), Leadership: Examining the elusive (pp. 116-129). Arlington, VA: Association for Supervision and Curriculum Development.

Sergiovanni, T.J. (1990). Adding value to leadership gets extraordinary results. Educational Leadership, 47(8), 23-27.

Sergiovanni, T.J., & Carver, F.D. (1973). The new school executive: A theory of administration. New York: Dodd, Mead, & Company.

Singer, M.S. (1985). Transformational vs. transactional leadership: A study of New Zealand company managers. Psychological Reports, 57, 143-146.

Singer, M.S., & Singer, A.E. (1986). Relation between transformational vs. transformational leadership preference and subordinates' personality: An exploratory study. Perceptual and Motor Skills, 62, 775-780.

Singer, M.S., & Singer, A.E. (1989). Situational constraints on transformational versus transactional leadership behavior, subordinates' leadership preference, and satisfaction. The Journal of Social Psychology, 130(3), 385-396.

Slack, P.J. (1990). Transforming transformational leadership: Learning with the power of the mind's eye. Paper presented at the American Education Research Association, Boston: MA.

Slavin, R.E. (1984a). Meta-analysis in education: How has it been used? Educational Researcher, 13(8), 6-15.

Slavin, R.E. (1984b). A rejoinder to Carlsberg et al. Educational Researcher, 13(8), 24-27.

Slavin, R.E. (1986). Best-evidence synthesis: An alternative to meta-analytic and traditional reviews. Educational Researcher, 15(9), 5-11.

Slavin, R.E. (1987). Best-evidence synthesis: Why less is more. Educational Researcher, 16(4), 15-24.

Smith, J.K., & Heshusius, L. (1986). Closing down the conversation: The end of the quantitative-qualitative debate among educational inquirers. Educational Researcher, 15(1), 4-12.

Smith, P.B., Misumi, J., Tayeb, M., Peterson, M., & Bond, M. (1989). On the generality of leadership style measures across cultures. Journal of Occupational Psychology, 62, 97-109.

Spangler, W.D., & Braiotta, L. (1990). Leadership and corporate audit committee effectiveness. Group & Organization Studies, 15(2), 134-157.

Steiner, G.A. (1979). Strategic planning: What every manager must know. New York: Free Press.

Stogdill, R.M. (1974). Handbook of leadership. New York: Free Press.

Stogdill, R.M., & Shartle, C.L. (1955). Methods in the study of administrative leadership. Columbus, OH: The Ohio State University.

Stone, P.J., Dunphy, D.C., Smith, M.S., & Ogilvie, D.M. (1966). The general inquirer: A computer approach to content analysis. Cambridge, MA: The M.I.T. Press.

Tichy, N.M., & DeVanna, M.A. (1986). The transformational leader. New York: John Wiley & Sons.

Tsang Lang, L. (1990). Relationships among leader attributes, behaviors, and effectiveness of vocational administration administrators (Doctoral dissertation, University of Minnesota, 1990). Dissertation Abstracts International, 51, 11A.

Vroom, V.H. (1964). Work and motivation. New York: Wiley.

Waldman, D.A., & Bass, B.M. (1991). Transformational leadership at different phases of the innovation process. Journal of High Technology Management Research, 2(2), 169-180.

Waldman, D.A., Bass, B.M., & Einstein, W.O. (1985). Effort, performance, and transformational leadership in industrial and military service (Working Paper 85-80). Binghampton: State University of New York at Binghampton.

Waldman, D.A., Bass, B.M., & Einstein, W.O. (1987). Leadership and outcomes of performance appraisal processes. Journal of Occupational Psychology, 60, 177-186.

Waldman, D.A., Bass, B.M., & Yammarino, F.J. (1990). Adding to contingent-reward behavior. Group & Organization Studies, 15(4), 381-394.

Yammarino, F.J., & Bass, B.M. (1990a). Transformational leadership and multiple levels of analysis. Human Relations, 43(10), 975-995.

Yammarino, F.J., & Bass, B.M. (1990b). Long-term forecasting of transformational leadership and its effects among naval officers: Some preliminary findings. In K.E. Clark & M.B. Clark (Eds.), Measures of leadership (pp. 151-169). West Orange, NY: Leadership Library of America.

Yin, R.K., & Yates, D. (1974). Street level governments. Lexington, MA: Lexington Books.

Young, M.N. (1990). Transformational leadership behaviors of male and female academic deans (Doctoral dissertation, Bowling Green State University, 1990). Dissertation Abstracts International, 52, 821A.

Yukl, G. A. (1989a). Leadership in organizations (2nd ed.). Englewood Cliffs, NJ: Prentice Hall.

Yukl, G. (1989b). Managerial leadership: A review of theory and research. Journal of Management, 15(2), 251-289.

Zaleznik, A. (1977). Managers and leaders: Are they different? Harvard Business Review, 55(5), 67-80.