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ABSTRACT

The challenges of school restructuring have been cited as reasons for advocating a move from instructional to transformational forms of school leadership. This paper presents findings of a study that examined teachers' overall perceptions of their principals' transformational leadership performance. It also examined teachers' perceptions of how their principals performed on six individual leadership dimensions: identifying and articulating a vision; fostering the acceptance of group goals; providing individualized support; providing intellectual stimulation; serving as an exemplary model; and demonstrating expectations for high performance. The study's conceptual framework was based on an information-processing model of leader perceptions influenced by the work of Lord and Maher (1993). The model delineates a set of alterable (changeable) variables that exist both inside and outside the school. A set of unalterable variables is associated with the characteristics of teachers, leaders, and the school organization. Teachers in schools engaged in policy implementation were surveyed during the second and third years of a 5-year study of policy implementation in British Columbia, Canada. A total of 770 and 757 teachers participated during years 2 and 3, respectively. Three types of analysis were conducted--Pearson-product correlations, hierarchical multiple regression, and standard multiple regression. Findings indicate that in-school conditions most powerfully influenced teachers' perceptions of their principals' leadership behavior. These conditions included the school's mission, vision, and goals; culture; programs and instruction; policies and organization; decision-making structures; and resources. The gender of the principal also was an important variable of teachers' perceptions. Women leaders were perceived as more transformational than were men; however, other variables should be considered before making generalizations. One figure and six tables are included. Appendices contain indicators of transformational leadership, alterable variables, and within-school characteristics. (LMI)

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The Ontario Institute for Studies in Education

Paper presented at the annual meeting of the American Educational Research Association

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Empirical research on school leadership is dominated by efforts to discover those leader behaviors or practices (e.g., Hallinger & Heck, in press) and, most recently, internal cognitive and affective characteristics (e.g., Leithwood & Steinbach, 1995) that contribute significantly to valued organizational conditions and outcomes. Based on the assumption that knowledge generated by such a focus will be of most direct use in improving school leader effects, this seems like an eminently "practical" focus.

But is this assumption warranted? There are several reasons for believing that a focus on leader behaviors and internal states, by itself, is less practical than it appears. The most important of these reasons springs from how the concept of leadership is defined and measured. In his analysis of what leadership definitions have in common, Yukl concludes that:

.. most definitions of leadership reflect the assumption that it involves an influence process whereby intentional influence is exerted by the leader over followers ... that it is a group phenomenon involving the interaction between two or more persons (1989, p. 3).

Developing this emphasis on interpersonal influence further, Lord and Maher (1993) argue that such influence depends on a person's behavior being recognized as, and at least tacitly acknowledged to be, "leadership" by others who thereby cast themselves into the role of followers; in Greenfield's (1995)

terms, they "consent" to be led. Leadership, for Lord and Maher, is "...the process of being perceived as a leader " (1993, p. 11).

Conceptualizing leadership in terms of the perceptions of those who experience it is the starting point for many approaches to measuring leadership: Hallinger's (1984) widely used survey of instructional leadership, and Bass's (1985) questionnaire for assessing transformational leadership provide quantitative examples in both school and non-school settings; Reitzug and Reeves (1992) provide a qualitative illustration of the same approach. This means, then, that much of what is known from empirical research about school leadership practices is, more accurately, knowledge about (primarily) teachers' perceptions of leadership.

Not understood at all is: Why do some people come to be viewed as leaders? What cognitive processes, on the part of those who consent to be followers, account for these perceptions? How are these processes shaped? The study reported in this paper was an initial step toward addressing these questions: it inquired about the extent to which variation in teachers' perceptions of transformational leadership by principals is accounted for by selected, unalterable characteristics of leaders, teachers, and schools, as well as alterable conditions inside and outside of the schools in which teachers work.

Theoretical Orientation

Three components central to the theoretical orientation which guided the study are described in this section: the meaning of transformational leadership and reasons why this form of school leadership was selected; an information processing account of how people think, and what this means for understanding the development of teachers' leader perceptions; and the

framework of variables and relationships which served as the basis for data analysis and interpretation.

Transformational School Leadership

The challenges of school restructuring have been cited as reasons for advocating a move from instructional to transformational forms of school leadership (Leithwood, 1992; 1994). Included among these challenges are, for example: high degrees of uncertainty about educational ends and means; attention not only to changes in the core technology of schooling but also to the redesign of school organizations in support of these changes; a focus on the relatively large and pedagogically complex secondary school organization; and a desire to professionalize teaching by allocating to teachers, themselves, the responsibility for providing instructional leadership to their peers.

Transformational forms of leadership are well suited to such challenges because of their potential for building high levels of commitment to the complex and uncertain nature of the restructuring agenda, and for fostering growth in the capacities school staffs must develop to respond productively to this agenda. The particular conception of transformational leadership included in this study was the result of empirical research (Leithwood, 1994; Leithwood & Steinbach, 1994) aimed at adapting, for schools, models of transformational leadership developed in non-school contexts (Burns, 1978; Bass, 1985; Yukl, 1989). Six dimensions of leadership practice encompass this adapted conception:

- *Identifying and Articulating a Vision*: Behavior on the part of the leader aimed at identifying new opportunities for his or her school, and developing, articulating, and inspiring others with his or her vision of the future.

- *Fostering the Acceptance of Group Goals:* Behavior on the part of the leader aimed at promoting cooperation among staff and assisting them to work together toward common goals.
- *Providing Individualized Support:* Behavior on the part of the leader that indicates respect for staff and concern about their personal feelings and needs.
- *Intellectual stimulation:* Behavior on the part of the leader that challenges staff to reexamine some of the assumptions about their work and rethink how it can be performed.
- *Providing an Appropriate Model:* Behavior on the part of the leader that sets an example for staff to follow consistent with the values the leader espouses.
- *High Performance Expectations:* Behavior that demonstrates the leader's expectations for excellence, quality, and high performance on the part of staff.

Premised on this conception of school leadership, the study inquired about not only influences on teachers' overall perceptions of principals' transformational leadership, but also influences on their perceptions of the six leadership dimensions considered separately.

An Information Processing Explanation Of How Perceptions Are Formed

A general model. Information processing accounts of human thinking stress its goal-oriented nature and describe mental structures and processes associated with the resolution of problems standing in the way of goal achievement (e.g., Schacter, 1990; Shuell, 1986; Newell, Rosenbloom & Laird, 1990) Three structures dominate this description: the Executive, Short-Term Memory (STM), and Long-Term Memory (LTM). The Executive is the primary location of both short- and long-term goals, needs and aspirations.

Information from the external environment is screened by the Executive to determine its relevance for goal achievement. Information judged to be irrelevant is given no further attention. If judged to be potentially relevant, information is passed on to STM.

Beyond the limited processing space of STM and its capacity to integrate (chunk) bits of information for treatment as a single piece, little is known about the functioning of STM. Its purpose, however, is to "make sense" of information passed on to it by the Executive. It does this by searching through the virtually unlimited storage space of LTM. Structurally, this space is represented as clusters of related information or knowledge structures many of which are associated in networks, sometimes organized hierarchically. Relatively undemanding forms of sense-making take place when, through simple matching processes, STM locates existing knowledge structures capable of assimilating new information. More demanding forms of sense-making (for instance, problem solving) usually require modification of existing knowledge structures, or the development of new links among such structures, to accommodate novel aspects of information.

Two distinct types of knowledge structures are found in LTM. "Declarative" knowledge structures encompass facts, concepts, principles, and personal theories as well as affective dispositions toward these elements. Understanding develops as STM locates structures of this type that match external stimuli or that can be adapted to serve that purpose. Action, on the other hand is guided by "procedural" schemata, knowledge structures consisting of routines to follow, steps to take, and the like. Superordinate procedural schemata (sometimes called executive strategies) exist to coordinate highly complex sets of actions.

Knowledge structures become increasingly sophisticated as they are reorganized to incorporate additional pieces of related information and as the sometimes hierarchical associations among such structures increase. Such sophistication is a function of active attempts to make meaningful more and more new information. As this new information is subsumed by existing knowledge structures, the potential for meaningfully processing subsequent information increases. Actions become more skillful (effective) as procedural knowledge structures become potentially more effective in accomplishing their ends, as overt behaviors reflect more accurately the image of skilled performance encapsulated in such structures and as the use of procedural schemata becomes less conscious and more automatic.

High levels of "automaticity" permit effective responses to environmental stimuli (either understanding or performance) without the need for consciously processing such input through STM. This is cognitively undemanding and places little strain on the severely limited information processing space of STM.

Application of the model to leader perceptions. Consistent with this general understanding of human information processing, Lord and his colleagues (Lord & Maher, 1993; Lord, 1985) have developed an explanation for how leadership perceptions are formed. According to this account, summarized in Table 1, salient information about people is processed in two possible ways. One way is to match that information to categories, or leadership prototypes (declarative knowledge structures) already stored in long term memory. This "recognition" process on the part of the follower is triggered by observed or otherwise encountered information about the traits and behaviors of another person potentially to be perceived as a leader. These observed traits and behaviors are compared with the traits and behaviors

included in the relevant knowledge structure stored in the follower's long-term memory, his or her implicit or explicit leadership theory. Relatively high levels of correspondence between observed and stored traits and behaviors leads to the follower's perception of the other person as a leader.

Followers' assessments of correspondence may occur in a highly automatic fashion. This is likely in cognitively demanding, face-to-face encounters between followers and leaders when speed and efficiency of processing is demanded by the complexity or sheer amount of stimuli to be understood. Under cognitively less demanding circumstances, followers' assessments of correspondence may be more controlled, reflective and self-conscious.

Followers may also develop perceptions of leaders through "inferential" processes. Such processes depend on the opportunity for followers to observe events in which the potential leader is involved, to assess the outcomes of those events, and to draw conclusions about the contribution of the potential leader to those outcomes. Perceptions of persons as leaders results from followers' judgements that those events were somehow salient, that they had desirable results, and that the potential leader was instrumental in bringing about those results. As with recognition processes, inferential processes may occur relatively automatically or through more controlled processes.

Recognition and inference processes are not mutually exclusive and may occur in cycles. For example, one's initial leadership knowledge structures are likely the result of inference processes applied through considerable social interaction in both a broad cultural context and the more specific contexts of those organizations in which one participates. Even relatively primitive leadership structures or prototypes, once developed, are then available for use through recognition processes. And the leadership perceptions, formed

initially through recognition, may be modified inferentially with opportunities to observe the leader's work.

Framework For The Study

Figure 1, building directly on Lord's explanation of how leader perceptions develop, identifies two sets of variables likely to influence such development among teachers. Also suggested by Figure 1 is the point or stage in the process of perception development that each is likely to be influential. Two categories of variables, alterable and unalterable, are included in this framework.

Alterable variables were selected in light of considerable evidence from earlier work that they accounted for significant variation in school restructuring success and were the object of considerable attention by school leaders (Leithwood & Jantzi, 1990; Leithwood et al, 1993a, b). "In-school" alterable variables include specified conditions associated with the school's mission and goals, culture, structure, programs and instruction, policies, and resources. "Out-of-school" alterable variables encompass conditions associated with the school district, the Ministry of education, and the local school community. As Figure 1 indicates, these alterable variables are asserted to be pervasive to teachers' experience, potentially influencing their leader perceptions at any point in the development process.

The unalterable second category of variables includes selected demographic characteristics of both teachers and leaders, as well as two characteristics of schools - their size and level (elementary, intermediate, senior). Additional variables could be added to this category but these are of theoretical interest, as we explain below, and were available in the data used for the study. As Figure 1 suggests, these unalterable variables appear to

exercise their influence at selected points in the perception development process.

Teacher leader prototypes. Three of the teacher demographic characteristics seem likely to be among the influences on the development of teachers' initial school leader prototypes or knowledge structures: gender, age and length of experience as a teacher. School level (elementary, secondary) is also likely influential at this point. Differences within each of these variables may influence the development of significantly different leader prototypes.

Teachers' gender may shape school leader prototypes in two respects. First, it is sometimes claimed (Eagly & Johnson, 1990) that the unique life experiences and traditional roles of women cause them to bring a more interpersonally-oriented set of qualities to their conceptions of leadership as compared with men. These may be qualities which match closely those dimensions of transformational leadership focused on capacity development and individual support. Second, to the extent that women teachers have participated either directly or vicariously in women's struggles to assume leadership roles, they may develop a stronger predisposition than male teachers to incorporate feminine traits and behaviors in their school leader prototypes.

The influence on leader prototypes of both teachers' age and length of experience in teaching can be explained in much the same way. This explanation takes account of the very recent increase in the numbers of women in school leadership roles and the historical images of effective leaders as masculine and dominant (Mann, 1959; Lord, De Vader, & Alliger, 1986). From this perspective, older and longer serving teachers are more likely than their younger colleagues to develop leader prototypes favoring

masculine traits and relatively older (more authoritarian, non transformational) styles of leadership.

Even quite current evidence (Tabin & Coleman, 1993) indicates a considerable disparity between elementary and secondary schools in the gender of their leaders. Since secondary school leaders always have been and still are overwhelmingly male, there is greater likelihood that secondary, as compared with elementary, teachers will feature male traits in their leader prototypes. In addition, because secondary schools are typically much larger than elementary schools, the prevailing images of at least the principal's leadership may be one that is less personal and more bureaucratic in form than is characteristic of transformational leadership.

In sum, teachers' gender, age, experience and school level will influence the development of leader prototypes as follows:

- women teachers are more likely than men teachers to develop leader prototypes which include female traits and behaviors, and transformational leadership practices;
- younger and less experienced teachers are likely to develop leader prototypes which include transformational leadership practices;
- elementary teachers are more likely than secondary teachers to develop leader prototypes that include female traits and behaviors, and transformational leadership practices.

Recognition-based processes. Once acquired, teachers' initial leader prototypes permit subsequent information about people potentially to be perceived as leaders to be processed by matching observed or otherwise encountered traits and behaviors to the prototypes. Whether carried out automatically or in a more controlled manner, such processing is relatively undemanding of one's cognitive resources: it entails evaluating the extent to

which observed traits and behaviors are consistent with those included in one's leader prototype. Leaders' gender and age are likely to influence teachers' leadership perceptions when these recognition-based processes are used.

How does leader gender influence recognition-based processes? First, the existing leader prototypes of many followers are dominated by male characteristics (Lee, Smith, & Cioci, 1993). When this is the case, women's behaviors and traits will distract from the likelihood of women being perceived as leaders. Second, male forms of leadership are traditionally associated with more aggressive and task-oriented leadership styles (Eagly & Karau, 1991). When this is the case, more interpersonally-oriented forms of leadership (e.g., transformational) practiced by either men or women will be selectively underrepresented in the leadership prototypes of some followers; as a result, these prototypes reduce the likelihood of someone practicing these forms of leadership being perceived as a leader. Third, because gender is associated with clear pictorial mental images (Lord & Maher, 1993), some followers may develop separate leader prototypes for men and women. Finally, gender may be a more socially salient category or prototype in the mind of many followers than is leadership. These followers will selectively notice and encode only or mainly those gender-related traits and behaviors of women leaders and, as a result, not attend to cues available to be encoded in relation to their leader prototypes. Lord and Maher (1993) argue that this may occur with any atypical leader, whether that atypicality is based on gender, race, or something else.

Leaders' age also may influence recognition-based processes of leadership perception. The explanation for this is likely to vary considerably depending on such other factors as the culture in which leadership is being exercised, the

age of followers, and the nature of the leadership task. In general, however, older rather than younger people are likely to be viewed as leaders, up to some point toward the latter half of the leaders career when leaders' age may begin to have negative effects on leader perceptions. This seems plausible to the extent that leader prototypes are strongly influenced by experience with those in formal leader roles, entry to such roles (especially in education) usually requiring lengthy periods of formal training and on-the-job experience. But this relationship is likely to be tempered by experiences with formal leaders who, toward the end of their careers, show little initiative.

In sum, leaders' gender and age will influence leader perceptions as follows:

- men are more likely to be perceived as leaders than are women;
- those using more hierarchical and aggressive leadership practices will be perceived as exercising more leadership than those using more transformational leadership practices;
- mid-career leaders are more likely to be rated higher as leaders than those at either earlier or later stages in their careers.

Inference-based processes. Leader perceptions may be formed not only through comparing behaviors and traits to existing cognitive prototypes but also by more cognitively demanding inference-based processes. These processes depend on opportunities for followers to either directly or indirectly learn about the outcomes or effects of performing organizational tasks to estimate the contribution by those in leader roles.

Both teacher tenure in school and school size may influence the opportunities teachers have to engage in inference-based processes when forming their leader perceptions of principals. Teacher tenure in school increases the chances a teacher has to acquire information about success in

performing school tasks and to draw inferences about the extent to which those in leadership roles are responsible for that success (a variable theoretically more powerful than tenure would be the length of the working relationship between the follower and leader).

School size also has a potential effect on opportunities to learn about organizational performance and draw inferences about the contributions of those in leadership roles. Small schools afford greater opportunities for teachers and those in formal school leader roles to work closely together. This provides teachers with the evidence necessary to form leader perceptions using inference-based processes. Larger schools might provide such opportunities in relation to department heads, lead teachers and the like, but less often in relation to those leaders, like principals, with school-wide responsibilities.

In sum, tenure and school size will influence leader perceptions as follows:

- teachers in smaller schools, and with longer tenure in a school (especially with the same leader), will form more accurate perceptions of leaders' contributions to the performance of their schools; these perceptions may be less biased than perceptions formed largely through recognition-based perceptions, hence more favorable to women leaders and transformational leadership practices.

A comprehensive test of the propositions suggested by this framework was beyond the scope of the study reported in this paper. As a beginning to such a test, however, we asked the following questions of our data:

1. How much of the variation in teachers' perceptions of principals' transformational leadership is accounted for by unalterable, as compared with alterable variables?
2. Are there differences among individual transformational leadership dimensions in their sensitivity to alterable as compared with unalterable variables?
3. With reference to the total variation in leadership perceptions accounted for by unalterable variables, what proportion is contributed by teacher characteristics, leader characteristics, and organizational characteristics?
4. Are there differences among individual transformational leadership dimensions in their sensitivity to different sets of unalterable demographic variables?
5. With reference to the total variation in leadership perceptions accounted for by alterable variables, what proportion is contributed by in-school as compared with out-of-school variables?
6. Are there differences among individual transformational leadership dimensions in their sensitivity to different sets of alterable variables?

Method

Instrument

Data for this study came from surveys of teachers and principals conducted during the second and third years of a five-year study of policy implementation in the Canadian province of British Columbia. The instruments, which were developed to collect data on a number of variables of interest in the larger study, contained 75 items measuring three of the constructs used in this study: dimensions of transformational leadership (see Appendix A), in-school characteristics, and out-of-school characteristics (see

Appendix B). The wording of items differed slightly in the two years to reflect the focus of the policy initiatives on primary teachers in Year 2 and intermediate teachers in Year 3. Responses for the 75 items were on a four-point scale (strongly disagree to strongly agree). Both surveys also collected data on educational experience, years in current school, age, sex, school level, school size. An additional 87 items (Year 2) and 21 items (Year 3) on the survey dealt with variables not relevant to this paper.

Sample

Although the samples were selected somewhat differently in Years 2 and 3, they had the common feature of being teachers in schools engaged, to some degree, in efforts to implement new policies within their schools and classrooms. The Year 2 sample was one third of all schools in the province offering the primary level program, which had just been mandated by the government for all K-3 students in the province. The intended sample was 409 schools, of which 272 (67%) were in the achieved sample. Of the estimated 2500 primary teachers, 770 individuals responded, or approximately 31% of all the primary teachers in those schools. The Year 3 sample included all schools receiving Ministry of Education funding for implementation of the Intermediate Program (grades 4 through 10). The intended sample was 249 sites with 1682 teachers and the achieved sample was 757 teachers (45%) in 192 (77%) of the schools.

Data about principals' gender and age (two of the independent variables in this study) were available for a subset of 423 teachers in 147 of the schools. Separate t-tests were done for Years 2 and 3 to compare the characteristics of the 423 teachers and their schools with their 1104 colleagues in the larger study: the Year 2 subset did not differ in age, experience, or tenure in current

school but included more male teachers who were in slightly smaller schools ($p < .05$); teachers in the Year 3 subset did not differ from their Year 3 colleagues in the larger study on any of the demographic variables. Table 2 shows frequency distributions on the unalterable variables for the 423 teachers in this study.

Data Analysis

Data used for this study were individual teacher responses to the survey described above. A working file for this analysis was compiled by pulling the identical data from the SPSS system files developed for each year of the larger study. SPSS was used to calculate means, standard deviations, percentages, and reliabilities (Cronbach's alpha) for all the scales measuring variables in the model (Table 2), as well as the frequencies referred to above.

Three types of analyses were carried out to help answer questions raised in this study. The first analysis was the calculation of Pearson-product correlations to estimate the strength of relationships between independent and dependent variables (see Table 3). Hierarchical multiple regression was used to examine the effects of particular sets of variables on the perception of leadership after controlling for the effects of other variables (e.g., effects of alterable variables after controlling for inalterable variables). In hierarchical multiple regression, independent variables or, in some cases, blocks of variables enter the equation in an order specified by the researcher and determined by logic or theory. The proportion of variance accounted for by all of the independent variables is partitioned incrementally by noting the increment in the proportion of variance associated with the variable or block of variables at its point of entry into the regression model (Tabachnick &

Fidell, 1989). Hierarchical regression was used to obtain responses for questions 1 and 2 in this study.

Standard multiple regression was used to determine the effect of specific variables on the perception of leadership that is different from effects of all the other independent variables. All independent variables are entered into the equation at the same time and each one is assessed as though it had entered the regression after all the others. Because this procedure does not assign to any individual variable the areas of overlapping influence among independent variables, it is possible that a variable may appear unimportant in the solution when it actually is highly correlated with the dependent variable (Tabachnick & Fidell, 1989). For this reason, full correlations between independent and dependent variables are provided in Table 3 prior to presentation of the unique contributions of the independent variables. Research questions 3 through 6 were addressed using standard multiple regression analyses.

Results

This section reports the results of regression analyses conducted to answer each of the six research questions.

1. How much of the variation in teachers' perceptions of transformational leadership is accounted for by alterable as compared with unalterable variables?

Table 4, first row of figures, displays the results of the regression analysis performed to answer this question. Unalterable variables were entered into the regression first. These results indicate that the combined alterable and unalterable variables accounted for 54% of the total variation in teachers'

leadership perceptions. Of this 54%, approximately 8% was accounted for by unalterable variables, whereas some 46% was accounted for by alterable variables, even after controlling for the unalterable variables. In sum, alterable variables, conditions in the school and its wider environment, were considerably more influential in the formation of teachers' leader perceptions than were at least those unalterable variables included in this study.

2. Are there differences among individual transformational leadership dimensions in their sensitivity to alterable as compared with unalterable variables?

Table 4 also provides evidence in response to this question with unalterable variables entered first into the regression analysis. Results indicate that alterable variables account for approximately the same, relatively high proportion of variance in five of the six leadership dimensions (R^2 change = .63 to .70). Holding High Performance Expectations seems marginally less sensitive to alterable variables than the other leadership dimensions (R^2 change = .50).

This same pattern of relative sensitivity is also evident in respect to the unalterable variables, but with much less variance to be accounted for (R^2 change = NS to .10).

3. What proportion of the variation in teachers' leadership perceptions explained by unalterable variables is accounted for by teacher, leader, and school characteristics?

Table 5, first row of figures, describes the results of the regression analysis used to answer this question. As the table indicates, there is not much explained variation to be divided up among these variables, with about only 3% difference in explained variation among the three (3%, 2% and 0%). In

sum, each of the unalterable variables explains essentially the same small (but statistically significant in two cases) amount of variation in teachers' leader perceptions.

4. Are there differences among individual transformational leadership dimensions in their sensitivity to different sets of unalterable variables?

The regression analysis used to answer this question is also reported in Table 5. In the case of five leadership dimensions, organizational variables (school size and level) explained the most variation and teacher variables the least. Neither teacher nor leader variables had a significant influence on Providing Individualized Support. With respect to Holding High Performance Expectations, organizational variables explained the least variation and leader variables the most. However, differences in explained variation accounted for by each of the three sets of unalterable variables was extremely small in the case of all six leadership dimensions.

5. With reference to the total variation in leader perceptions accounted for by alterable variables, what proportion is contributed by in-school as compared with out-of-school conditions?

Table 6, first row of figures, reports the results of the regression analysis used to answer this question. This analysis indicates that in-school conditions account for 35% of the variation in leader perceptions explained by the alterable variables; the remaining 15% is accounted for jointly by in-school and out-of-school conditions.

6. Are there differences among individual transformational leadership dimensions in their sensitivity to in-school and out-of-school alterable variables?

Table 6 also reports the results of the regression analysis answering this question. Five dimensions of leadership are similarly and moderately sensitive to in-school variables (R^2 change range =.23 to .32). Holding High Performance Expectations is much less sensitive to in-school variables (R^2 change =.10). Out-of-school variables do not explain a unique proportion of the variance in perception and no consequential differences in sensitivity on the part of individual leadership dimensions is apparent.

Summary and Conclusions

The purpose of this study was to initiate exploration of the influences on teachers' perceptions of transformational school leadership. This is an important issue on quite fundamental conceptual grounds. Leadership is defined as an influence process, one that depends on the extent to which people eventually perceive leadership as a quality someone possesses and, as a result of that perception, consent to be "led". Being perceived as a leader, therefore, is every bit as crucial to a leader's effectiveness in the role as is the exercise of some set of leadership practices or behaviors. Indeed, this line of reasoning suggests that would-be leaders should be quite self-conscious about the perceptions of leadership through which their practices are interpreted by colleagues, and the effects (of experience with those practices) on colleagues' leader perceptions.

Very little is known, however, about leader perceptions on the part of teachers and, in particular, teachers' perceptions of principals' transformational leadership. How do such perceptions develop? What influences these perceptions? Are these influences unalterable? Or is it

possible for those wishing to influence perceptions of their own leadership to do so?

Conceptual guidance in pursuing these questions was provided by an information processing model of leader perceptions based, in part, on the work of Lord and Maher (1993). Included in the model are a set of alterable variables found both inside and outside the school. Also part of the model are a set of unalterable variables associated with characteristics of teachers, leaders, and the school organization. These variables are hypothesized to exercise their influence at different points in the leader perception process and through different cognitive processes (recognition and inference).

A limited test of this model was conducted by combining teachers' responses to two surveys originally part of two phases of a five-year longitudinal study carried out for other purposes. These combined data included responses from a total of 423 teachers in both elementary and secondary schools in British Columbia. Results provided by regression analyses conducted with these data indicated that:

- the information processing model of leader perceptions used in this study explained a considerable proportion (more than half) of the variation in teachers' perceptions of transformational school leadership.
- those variables in the model considered to be alterable accounted for more than 80% of the explained variation in teachers' leader perceptions.
- of the two categories of alterable variables included in the model (in-school and out-of-school conditions), in-school conditions accounted for most of the variation in teacher leader perceptions explained by alterable variables.
- with one exception, there were no differences of theoretical or practical consequence among the six individual transformational leadership dimensions in their sensitivity to any of the alterable or unalterable variables

included in the model. Variables in the model consistently explained much less of the variation in teachers' perceptions of the leadership dimension Holding High Performance Expectations than teachers' perceptions of the other five dimensions, however.

Two important implications arise from these results, one practical, and one more theoretical. First, doing good work on behalf of one's school, and being seen to do such work, is likely to be the most powerful strategy for positively influencing teachers' perception of one's leadership: put simply, it's what you do, not who you are, that matters to teachers. The most powerful variable explaining teacher's leader perceptions, in-school conditions, encompasses the school's mission, vision, and goals; culture; programs and instruction; policies and organization; decision-making structures; and resources. So, visibly contributing to each of these school dimensions in ways that teachers find helpful is likely to be interpreted by teachers as a sign of transformational leadership. This interpretation seems likely whether the leader is male or female, young or old; whether the teacher is male or female, young or old, long or short serving in the school; and whether the school is small or large, elementary or secondary.

The second implication of the study, following closely on the heels of the first, concerns the role of unalterable variables in accounting for teachers' leader perceptions, in particular the role of leader gender. Many different aspects of gender have been the object of inquiry: these include, for example, leadership styles of men and women (Eagly & Johnson, 1990), perspectives on the meaning of leadership by men and women (Shakeshaft, 1989), differences in leadership behaviors (Shakeshaft, 1987), womens' and mens' motivation to manage (Eagly et al, 1994), and evolution in the experience of women in school leader roles (Tabin & Coleman, 1993).

Studies such as these usually find leader gender, often considered more or less in isolation, to be significantly related to, for example, leader style, behavior and effects. Indeed, the starting point for this study was an interest simply in determining whether women leaders were perceived as more transformational in their leadership than were men; the sample of teachers in this study did rate women leaders higher than men. However, as we began to explore these data, it quickly became apparent that there were many hypotheses competing with gender differences to explain the results. In the sample available for this study, women leaders were found more frequently in small elementary schools with high proportions of women teachers, for example. They were generally younger than male leaders, also.

So attempting to sort out the contributions of all the plausible variables for which there were data became the more complex focus of our study and led to the development of the information processing model of teacher leader perceptions to serve as a guide for the study. As a minimum, our results should be viewed as a caution to those many others now conducting leadership studies with a focus on gender, to take into account a wider array of those plausible variables that have often been neglected in previous research.

The outrageous comparison that Helgeson (1990) makes in her study of male and female business leaders separated in time by 25 years is probably the most vivid and blatant illustration of the need for such an admonition. But even a study as methodologically sophisticated as Lee, Smith and Cioci (1993) illustrates the problems that arise when the focus is on a constrained set of independent variables. Results, in this study, suggest significant gender effects but do not indicate how much of the total variation in teacher leader perceptions are explained by gender. So the assertion that "Not only is the

gender of the leader of critical importance; so is the gender of the follower" (1993, p. 154) may be deceptive. When the model being tested includes a restricted set of independent variables, the most that can be claimed is that the relationship between gender and leader perceptions is statistically significant. This is a very different claim than "critically important". Lee, Smith and Cioci (1993) discuss the relative advantages of conducting research of this sort using simpler as compared with more complex models. While their preference is for the simpler alternatives, we think this risks the expenditure of significant research resources exploring interesting variables with relatively little explanatory power.

Our study, of course, had significant limitations of its own that are important to address in subsequent research. In particular, the sample was heavily skewed toward women teachers in elementary schools - a significant characteristic of the sample given the questions raised about gender effects by the results. So subsequent research should aim toward a better balanced sample in terms of both gender and school level.

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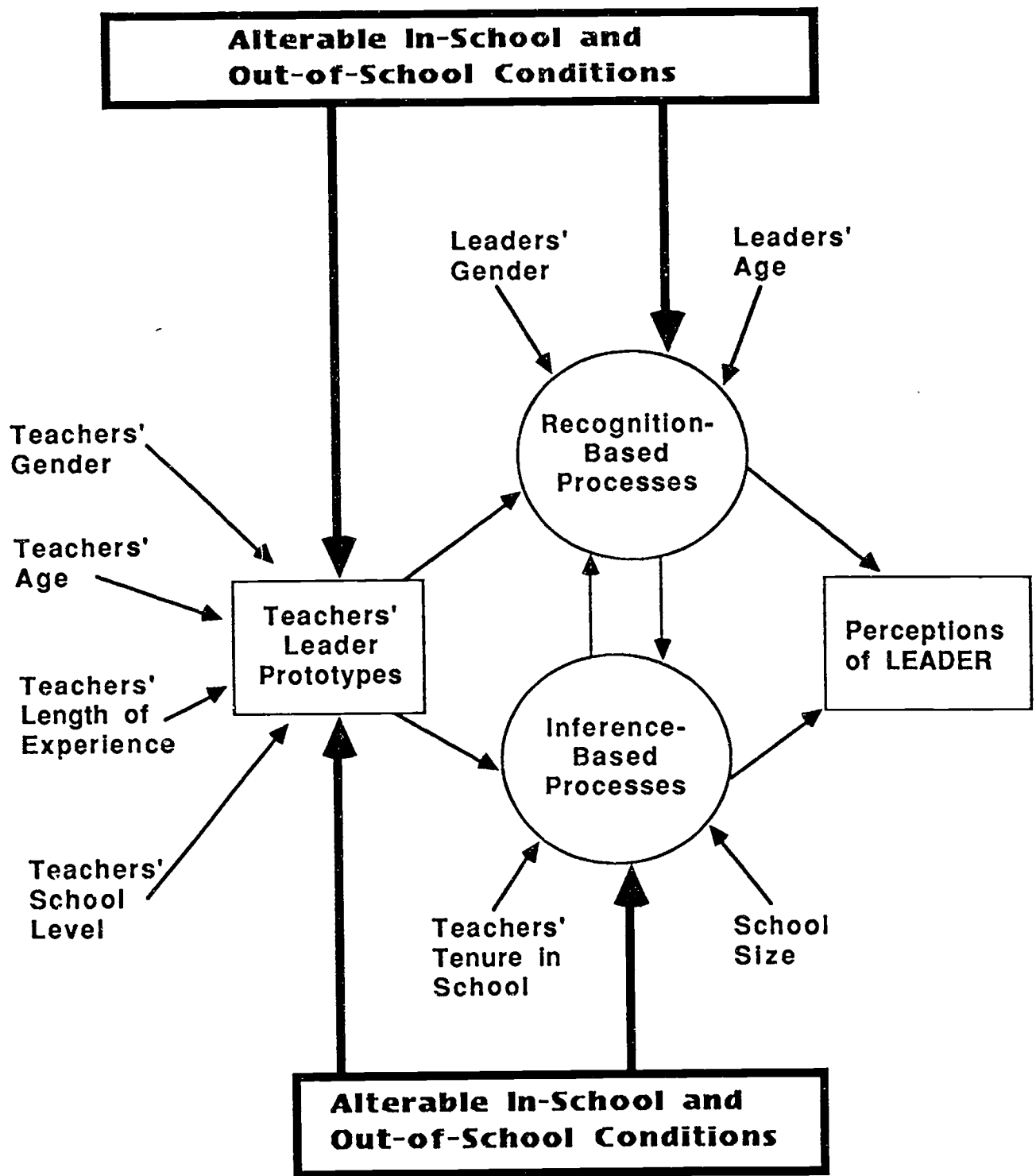


Figure 1: Explaining the formation of teachers' leader perceptions

Table 1*
Alternative Types of Processes Used to Form Leadership Perceptions

<u>Models of Perceptual Processes</u>	<u>Data</u>	<u>Mode of Cognitive Process</u>	
		<u>Automatic</u>	<u>Controlled</u>
Recognition	Traits and behaviors	Prototype matching based on face-to-face contact	Prototype matching based on socially communicated information
Inferential	Events and outcomes	Perceptually guided, simplified causal analysis	Logically based, comprehensive causal analysis

* From Lord & Maher (1993)

Table 2

Descriptive Statistics for Independent and Dependent Variables
(N = 423)

	Mean**	SD	Reliability*
Transformational Leadership			
1. Mean	3.0	.48	.91
2. Vision	3.0	.58	.88
3. Modelling	3.0	.64	.86
4. Group goals	3.1	.54	.80
5. Support	3.1	.55	.82
6. Stimulation	3.0	.51	.77
7. Expectation	3.0	.60	.73
ALTERABLE VARIABLES			
1. In-school characteristics	2.9	.38	.83
2. Out-of-school characteristics	2.8	.40	.65

Frequency Distributions for Teacher, School and Leader Characteristics

Unalterable Variables - Teacher Characteristics

1. Age: < 30 yrs = 13%; 30-39 yrs = 29%; 40-49 yrs = 45%; 50-59 yrs = 13% 60+ = 1%
2. Gender: female = 72%; male = 28%
3. Years Teaching Experience: 1-2 = 9%; 3-5 = 14%; 6-10 = 20%; 11-19 = 33%; 20+ = 24%
4. Years in School: 1-2 = 37%; 3-5 = 35%; 6-10 = 15%; 11-19 = 9%; 20+ yrs = 4%

Unalterable Variables - Leader Characteristics

1. Principal Sex: ratings of female principals = 32%; ratings of male principals = 68%
2. Principal Age: ratings of principals <50 = 71%; ratings of principals 50+ = 29%

Unalterable Variables - Organizational

1. Size: <400 = 20%; 400-599 = 44%; 600-799 = 22%; 800-999 = 8%; 1000+ = 8%
2. Level: elementary = 80%; secondary = 20%

*Cronbach's Alpha

** Scale = 1 Strongly Disagree...4 Strongly Agree

Table 3

Correlations Between Independent and Dependent Variables

Independent Variables	Dimensions of Transformational Leadership						
	Mean	Vision	Model	Group Goals	Support	Stimulation	Expectation
<i>Alterable Variables</i>							
Out-of-School	.39**	.36**	.34**	.32**	.33**	.36**	.26**
In-School	.71**	.65**	.60**	.65**	.62**	.60**	.41**
<i>Unalterable Variables</i>							
<i>Organizational Characteristics</i>							
Level	-.07	-.02	-.04	-.18**	-.02	-.08	.03
Size	-.04	-.03	-.04	-.17**	-.02	-.01	.11*
<i>Teacher Characteristics</i>							
Experience	-.03	-.05	-.01	.03	-.05	-.02	-.01
Years in School	-.04	-.07	-.05	-.03	-.04	-.02	.08
Age	-.03	-.04	.00	.03	-.05	-.02	-.04
Sex	-.03	-.02	-.05	-.06	.04	-.04	.02
<i>Principal Characteristics</i>							
Age	-.18**	-.15**	-.15**	-.21**	-.13**	-.16**	-.13**
Sex	-.14**	-.16**	-.12*	-.16**	-.07	-.11*	-.12**

Table 4

Effects of Alterable Variables on Teachers' Perception of Transformational Leadership
after Controlling for Unalterable Variables

	Unalterable Variables			Alterable Variables			Total	
	<i>Multiple R</i>	<i>R² Ch</i>	<i>FCh</i>	<i>Multiple R</i>	<i>R² Ch</i>	<i>FCh</i>	<i>R²</i>	<i>DF</i>
Effects on Leadership	.29***	.08	4.44***	.74***	.46	193.91***	.54	10,388
<i>Leadership Dimensions</i>								
Vision Building	.26***	.07	3.60***	.69***	.40	148.38***	.47	10,388
Modelling Behavior	.28***	.08	4.11***	.63***	.32	104.23***	.40	10,388
Setting Group Goals	.31***	.10	5.28***	.70***	.39	144.25***	.48	10,388
Providing Support	.27***	.07	3.81***	.67***	.38	133.35***	.45	10,388
Providing Stimulation	.27***	.07	3.67***	.65***	.35	188.17***	.42	10,388
Holding High Expectations	.19	ns		.50***	.22	55.94***	.25	10,388

*** $p < .001$

Table 5

Effects of Unalterable Organizational, Principal and Teacher Characteristics on Teachers' Perception of Transformational Leadership

	<i>Organizational Effects</i>		<i>Principal Effects</i>		<i>Teacher Effects</i>		<i>Total Effects</i>		
	<i>R²(unique)</i>	<i>F</i>	<i>R²(unique)</i>	<i>F</i>	<i>R²(unique)</i>	<i>F</i>	<i>R²</i>	<i>R</i>	<i>DF</i>
Leadership Mean	.03	11.36***	.02	10.06**	.00	ns	.08	.27***	3,418
<i>Leadership Dimensions</i>									
Building Vision	.02	8.91**	.02	9.87**	.00	ns	.07	.26***	3,413
Modelling Behavior	.03	11.61***	.02	7.49**	.00	ns	.08	.28***	3,413
Setting Group Goals	.03	11.98***	.04	17.51***	.00	ns	.10	.31***	3,414
Providing Support	.04	15.41***	.00	ns	.00	ns	.07	.27***	3,416
Providing Stimulation	.03	11.60***	.02	6.41*	.00	ns	.07	.27***	3,415
Holding High Expectations	.00	ns	.02	8.03**	.00	ns	.04	.19*	3,403

*** p<0.001; **p<.01; *p<.05

Table 6

**Effects of Alterable In-School and Out-of-School Characteristics on Teachers'
Perception of Transformational Leadership**

	<i>In-School Effects</i>		<i>Out-of-School Effects</i>		<i>Total Effects</i>		<i>DF</i>
	<i>R² (unique)</i>	<i>F</i>	<i>R² (unique)</i>	<i>F</i>	<i>R²</i>	<i>R</i>	
Leadership Mean	.35	288.94***	ns		.50	.71***	2,417
<i>Leadership Dimensions</i>							
Building Vision	.30	214.27***	ns		.43	.65***	2,412
Modelling Behavior	.25	162.05***	ns		.37	.61***	2,412
Setting Group Goals	.32	234.70***	ns		.43	.66***	2,413
Providing Support	.27	181.34***	ns		.38	.62***	2,415
Providing Stimulation	.23	150.91***	ns		.36	.60***	2,414
Holding High Expectations	.10	48.81***	ns		.17	.42***	2,402

***p<0.001

Appendix A

Items Used to Measure Transformational Leadership

Provides vision or inspiration

1. Has both the capacity and judgement to overcome most obstacles.
2. Commands respect from everyone in the school.
3. Excites us with visions of what we may be able to accomplish if we work together on the Intermediate Program.
4. Makes us feel and act like leaders.
5. Gives us a sense of overall purpose for the Intermediate years.

Models behaviour

6. Leads by 'doing' rather than simply by 'telling'.
7. Symbolizes success and accomplishment within our profession.
8. Provides good models for us to follow.

Fosters Commitment to Group Goals

9. Provides for our participation in the process of developing school goals for the Intermediate years.
10. Encourages teachers to work toward the same goals for the Intermediate years.
11. Uses problem solving with staff to generate school goals for the Intermediate years.
12. Works toward whole staff consensus in establishing priorities for school goals for the Intermediate years.
13. Encourages us regularly to evaluate our progress toward achievement of school goals.

Provides individual support

14. Provides for extended training to develop my knowledge and skills relevant to the Intermediate Program.
15. Provides the necessary resources to support my implementation of the Intermediate Program.
16. Treats me as an individual with unique needs and expertise.
17. Takes my opinion into consideration when initiating actions that affect my work.
18. Behaves in a manner thoughtful of my personal needs.

Provides intellectual stimulation

19. Challenges me to reexamine some basic assumptions I have about my work with Intermediate students.
20. Stimulates me to think about what I am doing for my Intermediate students.
21. Provides information that helps me think of ways to implement the Intermediate Program.

Holds high performance expectations

22. Insists on only the best performance from us.
23. Shows us that there are high expectations for us as professionals.
24. Will not settle for second best in performance of our work.

Appendix B

Items Used to Measure Alterable Variables

Out-of-School Characteristics

Ministry

1. Ministry guidelines and support documents are a helpful resource for implementing the Intermediate Program.
2. Ministry personnel are available to advise in planning and implementation of the Intermediate Program.
3. Ministry funding is helpful for implementing the Intermediate Program within our school.

District

4. Our district has developed a clearly defined mission or vision which is helpful in determining school priorities for the Intermediate Program.
5. District-level personnel provide assistance in planning and implementing the Intermediate Program within our school.
6. Our district has made implementation of the Intermediate Program a priority for district-level activities.
7. District-level initiatives related to the Intermediate years support our efforts to implement changes within our school.
8. Our district provides additional funds to support implementation of the Intermediate Program.
9. Our district provides staff development opportunities that are useful to our school in implementing the Intermediate Program.

School Community

10. Communication between our school and our community about the Intermediate Program is of a high quality.
11. The community served by this school generally supports our efforts to implement the Intermediate Program.
12. Our school assists some parents in providing a more positive educational climate for children in their home.
13. This school makes effective use of community resources (i.e., human and material) in providing the best possible programs for our students.
14. Our school encourages parents to drop into the school frequently to discuss their children's programs.

Within-School Characteristics

School Goals

1. Teachers in our school participate in the process of developing school goals for the Intermediate years.
2. Teachers in our school work toward the same goals for the Intermediate years.
3. Teachers work toward consensus in establishing priorities for our school goals for the Intermediate Program.
4. We regularly evaluate our progress toward achievement of school goals for the Intermediate years.
5. Teachers engage in problem solving to generate our school goals for the Intermediate years.
6. Discussion about school goals and means of achieving them is a regular part of staff meetings and/or inservice sessions in our school.

School Culture

7. Most teachers at this school share a similar set of values, beliefs and attitudes related to teaching and learning.

8. Strong, positive relationships between staff and school administration facilitate implementation of the Intermediate Program.
9. I have frequent conversations about teaching practices with colleagues in this school.
10. I frequently work with colleague(s) in this school to prepare unit outlines and/or instructional materials.
11. I share my professional expertise by demonstrating new teaching practices for colleagues.
12. We observe each other teaching and then discuss our observations as a means of gaining a better understanding of our own teaching strategies.

Program and Instruction

18. Instructional practices in our school are being modified to be compatible with the Intermediate Program.
19. Teachers in our school are becoming increasingly skilled in the use of a large repertoire of instructional strategies.
20. Instruction is being carefully planned to provide diverse activities and experiences for our students.
21. Teachers use the results of student evaluation to plan future instruction.
22. Teachers in this school use a wide variety of assessment methods to provide authentic assessment of student achievement.
23. Prior to the current Intermediate Program this school's curriculum was clearly written and well understood by most staff.
24. Prior to the current Intermediate Program this school's curriculum was developed by teachers working in collaboration.
25. We are developing a good match between our assessment strategies and our curriculum objectives.

Teachers

13. I frequently implement new programs or new teaching strategies.
14. I engage in ongoing, professional development for myself.
15. I am motivated to implement the Intermediate Program.
15. I am committed to the goals of the Intermediate Program.
17. I am satisfied with my job.

School Policies and Organization

26. Our school provides formal professional development opportunities.
27. Our school provides opportunities for professional development through informal working relations within this school.
28. Personnel selection and hiring criteria reflect our general school goals and priorities.
29. Our timetables/schedules facilitate planning together with colleagues.
30. Teacher evaluation/supervision practices reflect our school goals and priorities.
31. Assignment of students to classes is based primarily on program and student needs (i.e., rather than teacher or administrator preferences).

Resources

32. Financial resources are available when needed to facilitate implementation of the Intermediate Program.
33. This school provides access to professional staff with expertise in helping us improve programs for our students.
34. This school has adequate amounts of such resources as texts, curriculum materials and teaching aids.
35. Appropriate support personnel (e.g., aids, substitutes, etc.) are available to assist in implementation of our programs.
36. The school's physical facilities enhance achievement of Intermediate Program goals and priorities.
37. The school provides adequate release time for planning and/or professional development.