Leadership behaviour of secondary school principals, teacher outcomes and school culture.

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INTRODUCTION

Schools continue to be challenged, in the name of restructuring, to change governance structures, open themselves up to community influence, become more accountable, clarify standards for content and performance and introduce related changes in their approaches to teaching and learning (Leithwood, Jantzi and Steinbech, 1999).

As with most complex reforms, it is difficult to decipher exactly what advocates of school restructuring want by way of school reform. Ideally, one would like to assume that at some basic level they believe that restructuring schools will make them more effective, will cause teachers to teach differently and therefore, this will make a difference to the learning and motivation of students (Elmore, Peterson and Mccarthy, 1996).
The challenges brought to schools by restructuring have been cited as reasons for advocating transformational leadership in schools. It is argued that transformational leadership is well suited to the challenges of current school restructuring. It has the potential for building high levels of commitment (in teachers) to the complex and uncertain nature of the school reform agenda and for fostering growth in the capacities teachers must develop to respond positively to this agenda (Leithwood and Jantzi, 1997).

Transformational leadership is seen to be sensitive to organisation building, developing shared vision, distributing leadership and building school culture necessary to current restructuring efforts in schools (Leithwood et al, 1999).

Recent studies about the effects of transformational leadership (Leithwood, 1994; Leithwood, Dart, Jantzi and Steinbech, 1993; Silins, 1994) suggest it contributes to restructuring initiatives and "teacher perceived" student outcomes. However, this contribution is mediated by other people, events and organisational factors, such as teacher commitment, teacher job satisfaction, instructional practices or school culture (Hallinger and Heck, 1998).

At the same time other researchers (Maehr and Anderman, 1993; Maehr and Fyans, 1989; Maehr and Midgley, 1991; Maehr and Midgley, 1996) have developed impressive empirical evidence to suggest that the mediating variable, school culture, can make a school a place in which teachers feel positive about their work and students are motivated to learn. A positive school culture is associated with higher student motivation and achievement, improved teacher collaboration and improved attitudes of teachers toward their job (Stolp and Smith, 1995).

Research (Leithwood, 1994; Ogawa and Bossert, 1995; Sashkin and Sashkin, 1990; Sashkin and Walberg, 1993) has suggested that school culture does not operate in a vacuum and crucial to its creation and maintenance are the leadership practices of the school principal. Further, evidence from several studies (Leithwood and Jantzi, 1990; Sashkin et al, 1990) has provided strong support for the claim that transformational leadership contributes to more desirable school cultures.

FRAMEWORK

The framework for this study was adapted from a preliminary study of leadership and its relationship with teacher outcomes and school learning culture (Barnett, McCormick and Conners, in press). According to this framework, the leadership behaviour of a principal will influence teacher outcomes and school learning culture.

Transformational Leadership

Transformational leadership was first distinguished from transactional leadership by Downton (1973), however, it was the work of Burns (1978) which first drew attention to the ideas associated with transformational leadership (Leithwood, Tomlinson and Genge, 1996).

Burns (1978, p20) described transformational leadership as a process in which "leaders and followers raise one another to higher levels of morality and motivation". These leaders seek to raise the consciousness of followers by appealing to ideals and moral values. They also motivate followers to transcend their own immediate self interest for the sake of the mission and vision of the organisation. Burns (1978) contrasted transforming leadership with transactional leadership. Transactional leadership motivates followers by appealing to their self-interest. Transactional leadership involves values, but they are values relevant to the exchange process (Yukl, 1998).
Bass (1985) operationalised the ideas of Burns (1978) by proposing a model of transformational and transactional leadership. Revisions have been made to the model with several behaviours being added to transformational and transactional leadership. The most recent model referred to as the 'full range leadership model' (Bass and Avolio, 1997) proposed that transformational leadership can be identified by distinct behavioural constructs - Idealised Influence (attributes), Idealised Influence (behaviour), Inspirational Motivation, Intellectual Stimulation and Individualised Consideration. Three behavioural constructs identify transactional leadership - Contingent Reward, Management by Exception (active) and Management by Exception (passive). Laissez Faire leadership describes behaviour that shows passive indifference about the task and subordinates.

Bass's (1985) conception of transformational and transactional leadership contrasts with that of Burns (1978) who considered transformational and transactional leadership practices as opposite ends of a continuum. Bass (1985) viewed transformational and transactional leadership as distinct but not mutually exclusive processes and recognised that the same leader may use both types of leadership at different times in different situations. Bass's (1985) major premise was that follower motivation and performance is enhanced more by transformational leadership than by transactional leadership (Yukl, 1998).

**School Learning Culture**

The view that schools have, reflect, or are 'cultures' is common (Deal and Peterson, 1990, 1999; Segiovanni, 1996). The concept of school culture probably derives most immediately and directly from the oft-repeated observation; schools differ one from the other in the way they work as well as in the 'effects' that they have on the lives of children (Deal and Peterson, 1990, 1999; Sashkin and Walberg, 1993).

The concept of school culture embraces a wide variety of beliefs, goals, purposes, thoughts, knowledge and expectations (Deal and Peterson, 1990, 1999). However, the focus of this study is on a particular set of perceptions, thoughts and beliefs that have been found to be critical in determining motivation and student learning. A decade of research in goal theory (Ames, 1990; Ames and Ames, 1989; Dweck and Leggett, 1988; Nicholls, 1989) has underscored the importance of perceptions of purpose in the determination of the nature and quality of investment in a task. Simply put, it is possible for schools to define teaching, schooling and learning in different ways and the choice of definitions has profound effects on motivation and student learning (Maehr and Midgley, 1991).

While it is acknowledged that schools will have multiple goals, research on student achievement (Ames and Ames, 1989; Deal and Peterson, 1990; Maehr and Midgley, 1996; Maehr, Midgley, Hicks, Roeser, Urdan and Anderman, 1996) has indicated that teaching and learning occur in different forms, when guided by two different goals, task focus and performance focus goals.

A task focus goal is based on the belief that effort leads to success and the focus of attention is on the intrinsic value of learning. With task focus goals, the individual is oriented toward developing new skills, trying to understand his or her work, improving the level of competence or achieving a sense of mastery. In contrast, performance focus goals are based on the belief that the goal of learning is to do better than others by surpassing norms or by achieving success with little effort. The focus of attention is on doing better than others do through grades and other rewards (Maehr and Anderman, 1993; Midgley, 1993; Midgley, Anderman and Hicks, 1995).
The research evidence has suggested that task focus goals are preferable to performance focus goals, and given a choice, teachers will not opt for an emphasis on performance focus goals. However, what is difficult is bringing policies, practices and procedures in line with these goals (Maehr and Parker, 1993). Clearly, a crucial role is played by the principal who is in a unique position to influence the norms, values and beliefs that shape policies, practices and procedures in a school. Some evidence has suggested that principals are able to do this (Deal and Peterson, 1990; Leithwood and Jantzi, 1997).

According to the literature, on leadership these challenges are reasons for promoting transformational leadership in schools (Leithwood and Jantzi, 1997). The transformational approach builds trust, respect, and a desire on the part of followers to work collectively toward the same desired future goals (Bass and Avolio, 1997). This not only allows the transformational leader to operate effectively within the available context, but to change it. Therefore, an argument exists that transformational leadership is more facilitative of educational change and contributes to organisational improvement, effectiveness and school culture.

This study reports the findings of an investigation into Bass's conception of transformational and transactional leadership with teacher outcomes and with aspects of school learning culture within the Australian secondary school setting. Specifically, the purpose of the study was to:

1. investigate the relationships between the transformational, transactional and non-leadership behaviour of school principals with teacher outcomes and with aspects of school learning culture.
2. use statistical methods which takes account of the inherent clustered structure of the data.

METHOD

School Demographics

Forty one randomly selected government secondary schools participated in the study from thirty of the forty government school districts in the state of New South Wales. This represented a response rate from schools of 74.5%. The schools varied in size according to student population, with 70.8% of schools having student populations of between 600 to 1200 students. Twenty questionnaires were distributed to each school for teachers (a total of 820) and 373 teachers returned completed questionnaires representing a 45.49% response rate.

Teacher Demographics

The teacher sample consisted of three hundred and seventy three teachers with 49% females and 42% males and 65% aged 40-59 years. The positions held by teacher participants included part time teachers (6.2%), full time teachers (59.5%), head teachers (19.8%), deputy principals (2.9%), and others, including librarians, careers advisers and support teachers (2.7%). Most teachers in the sample (74.5%) had greater than 11 years of teaching experience and 48.2% of the sample had 6-20 years teaching experience at current schools. Fifty seven percent of the teachers indicated that they had worked with their current principal for more than two years.
Instruments

A. Leadership

The Multifactor Leadership Questionnaire - the MLQ 5X (short) developed by Bass and Avolio (1997) was selected to measure leadership style. This instrument is based on three defining constructs - Transformational Leadership, Transactional Leadership and Laissez-faire (non-leadership) which form a model for comprehending the effects of leadership. In addition to determining the transformational, transactional and non-leadership dimensions of the leaders, several items in the questionnaire measure organisational outcomes - specifically, the extent to which followers put in extra effort, and perceive organisational effectiveness and satisfaction as a consequence of leadership.

B. School Learning Culture

The Patterns of Adaptive Learning Survey (PALS) developed by Maehr et al (1996) was used to measure the dimensions of school learning culture. This instrument consists of 42 items, which assess teachers' perceptions of school emphasis on task, ability and extrinsic goals for students, accomplishment and power for teachers, personal teaching efficacy and teacher use of instructional strategies which are task-focused or performance-focused for students.

Data Analysis

The data were screened using PRELIS 2.30 before fitting explanatory multilevel and structural equation models. Data collected from the MLQ 5X and PALS were treated as ordinal data. Missing data were imputed where possible followed by listwise deletion.

Confirmatory factor analysis was used to test a priori models of leadership, teacher outcomes and school learning culture specified by a previous study (Barnett, McCormick and Conners, in press). Composite scale scores were obtained from fitting one factor congeneric measurement models to these data based on a scaled covariance matrix (and its asymptotic estimates) of the polychoric correlations using PRELIS 2.30 (Joreskog and Sorbom, 1999). Composite scores calculated this way are single indices of their component items each of which is weighted for its relative contribution to the composite (Rowe, 2000).

Distributional properties of the variables to be used in subsequent explanatory modelling were analysed. Where the univariate and multivariate tests of skewness and kurtosis indicated that the composite or latent variables were significantly non-normal, the ‘raw’ composite scale scores were re-computed as Normal scores using PRELIS 2.30.

To explain variation in teachers' leadership, outcomes and school learning culture scores a number of models were fitted to the data. The models included a multilevel variance components models for each of the composite constructs using iterative generalised least squares estimation (Goldstein and Rasbash, 1992) and multilevel regression models under IGLS with outcomes and school learning culture as the response variables and leadership constructs as the explanatory variables.

An initial step in multilevel modelling is to determine the proportion of variance in both response (dependent) and explanatory (independent) variables that may be due to the data structure. Thus, to determine the proportion of variance in each of the leadership, teacher outcomes and school learning culture scales due to between-schools differences, simple two level variance components (VC) models were fitted under iterative generalised least squares estimation using LISREL 8.30.
Adjusted variance components models were fitted under iterative generalised least squares using LISREL 8.30 to account for the influence of demographic variables on leadership, teacher outcomes and school learning culture. Dummy variables were substituted so that the distribution properties of the demographic variables could be examined and the exact nature of their effects on the response and explanatory variables determined.

To estimate the proportion of variance in the response variables (teacher outcomes and school learning culture) due to the effects of the explanatory variables (leadership) and allowing for the structure of the data, a conditional multilevel regression model was fitted to the data.

RESULTS AND DISCUSSION

The length of this paper does not permit the reporting of all results from this investigation. Therefore, two aspects of the study will be discussed. First, definitions of leadership, teacher outcomes and two of the school learning culture constructs identified by confirmatory factor analysis are reported. Second, the results of fitting the variance components models and multilevel regression models for teacher outcomes and two aspects of school learning culture, task focus goals and excellence in teaching are discussed.

A. Definitions of leadership, teacher outcomes and school learning culture constructs

Leadership

Confirmatory factor analysis indicated two constructs of leadership, transformational leadership identified by the leader behaviours vision and individual concern and transactional leadership identified by the leader behaviour management by exception passive. The transformational variable vision consists of items that indicate the leader engaged in behaviours that were aimed at identifying new opportunities for her/his school and at developing, articulating and inspiring others with her/his vision of the future. For example, "talks optimistically about the future" and "articulates a compelling vision for the future". The cronbach alpha for this variable was a =0.91.

The variable, individual concern consists of items that indicate a leader respects followers and is concerned about their welfare. For example, "helps me to develop my strengths" and "treats me as an individual rather than just a member of a group". The cronbach alpha for this variable was a =0.92.

The transactional variable, management by exception passive consists of items that suggest a leader will only intervene when problems arise. For example, "fails to intervene until problems become serious". The cronbach alpha for this variable was a =0.91.

Teacher Outcomes

Confirmatory factor analysis suggested one teacher outcomes construct that consists of items which reflect teacher satisfaction with the leader, willingness of teachers to put in extra effort and teacher perception of principal effectiveness. For example, "works with me in a satisfactory way", "increases my willingness to try harder" and "leads a group that is effective". The cronbach alpha for this variable was a =0.95.
School Learning Culture

Six constructs of school learning culture were identified however, two will be described for reasons noted above. The variable, *task focus goals* consists of items that reflect school goals that encourage students to value learning. For example, "in this school students are frequently told that learning is fun" and "in this school the emphasis is on really understanding school work not just memorising it". The cronbach alpha for this variable was $\alpha = 0.71$.

The variable, *excellence in teaching* consists of items that indicate school expectations of hard work and improvement in teaching for teachers. For example, "this school makes teachers want to work hard" and "the administration is always looking to improve teaching". The cronbach alpha for this variable was $\alpha = 0.60$.

B. Multilevel Analysis

1. Variance Components Models

A two level variance components model was fitted to the data initially to determine the proportion of variance in variables due to the structure of the data (see Table 1). This indicates that the school means for all *leadership, outcomes* and *school learning culture* variables are statistically significant. Further the ratio of parameter estimates to their standard errors for the school ($s_u^2$) and teacher level residual variances ($s_e^2$) are significant for *leadership and outcomes* variables, indicating significant and stable variation at these levels. The ratio of parameter estimates to standard errors for teacher level residual variances ($s_e^2$) are large for the school learning culture variables suggesting most of the variance in *task focus goals* and *excellence in teaching* variables occur at teacher level.

Table 1 shows that 25.1% of the variation in *outcomes* is due to differences between schools and that a further 74.9% is due to differences within teachers. This result suggests that school context does play a part in accounting for variations in teacher outcomes. However, most of the variance is explained at teacher level. Further, what this indicates is that while there is a group effect for these teachers it is more so an individual effect.

Similarly, Table 1 suggests that variations in the leadership variables, *individual concern* (24.2%), *management by exception passive* (17.3%) and *vision* (35.7%) are the result of differences between schools. This finding is not unreasonable given that each school has a different person in this formal leadership role and they will each have unique qualities that will mean differences in leadership style.

However, the differences in teachers account for most of the variance in the leadership behaviours, *individual concern* (75.8%), *management by exception passive* (82.7%) and *vision* (64.3%). This finding supports the notion that leadership is characterised by a one to one relationship between the leader and the follower. Leaders do not have a relationship with followers as a total group. They have a set of relationships, which vary from one follower to another (Hollander, 1978). Further, it raises the idea that leadership and followership are interdependent and that, in a fundamental way, a leader's legitimacy depends on her/his standing with followers (Yukl, 1998). Thus, the influence of 'leadership' depends on a person's behaviour being recognised and acknowledged to be 'leadership' by others who thereby cast themselves into the role of followers (Leithwood and Jantzi, 1997). This consent to leadership by followers is temporary, must be earned and can be given and taken away. (Greenfield, 1991).
Table 1 indicates that a significant amount of variation in school learning culture variables is accounted at the teacher level. For instance, task focus goals (93.3%), and excellence in teaching (91.0%). The variation in task focus goals and excellence in teaching are also due to small insignificant differences between schools. This suggests that variations in school learning culture do occur at school level but that these are overwhelmed by what individual teachers think. This finding is contrary to models of school culture and related literature which assumes that the environment and cultural world of teachers in the workplace is a school level phenomenon (Sisken, 1994).

Table1: Variance components for leadership, teacher outcomes and school learning culture variables showing proportions of between-schools and within-teachers residual variance: Parameter estimates and standard errors in parentheses. (245 teachers in 38 schools).

Base Variance Components Models:

<table>
<thead>
<tr>
<th>Variables</th>
<th>School Intercepts</th>
<th>Between-schools</th>
<th>Within teachers</th>
<th>Total Deviance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>g 00 (s.e)</td>
<td>s (\sigma^2) (s.e) %</td>
<td>s (\sigma^2) (s.e) %</td>
<td>(s_T2 - 2log (lh))</td>
</tr>
<tr>
<td>Outcomes</td>
<td>3.561 (0.103)</td>
<td>0.262 (0.092)* 25.1</td>
<td>0.780 (0.076)* 74.9</td>
<td>1.042 676.284</td>
</tr>
<tr>
<td>Individual Concern</td>
<td>3.515 (0.104)</td>
<td>0.261 (0.093)* 24.2</td>
<td>0.819 (0.080)* 75.8</td>
<td>1.080 686.895</td>
</tr>
<tr>
<td>MBEP</td>
<td>2.131 (0.086)</td>
<td>0.151 (0.063)* 17.3</td>
<td>0.724 (0.071)* 82.7</td>
<td>0.875 647.369</td>
</tr>
<tr>
<td>Vision</td>
<td>4.026 (0.088)</td>
<td>0.220 (0.067)* 35.7</td>
<td>0.396 (0.039)* 64.3</td>
<td>0.616 523.813</td>
</tr>
<tr>
<td>Task Focus Goals</td>
<td>3.731 (0.048)</td>
<td>0.027 (0.020) *6.7</td>
<td>0.374 (0.037)* 93.3</td>
<td>0.401 468.763</td>
</tr>
</tbody>
</table>
Multilevel Regression Models

Three multilevel regression models were fitted for the variables, teacher outcomes and the school learning culture variables, task focus goals and excellence in teaching.

Outcomes

Table 2 shows the results of fitting multilevel regression models to teacher outcomes scores. The results indicate that the two explanatory variables, individual concern and management by exception (passive) account for 80.33% of the variance in teacher outcomes at the teacher level. The log likelihood statistic of the final model indicates a significant reduction in deviance units (p<0.01) from the base variance components model given in Table 1.

The fixed part of the model suggests that the fitted variables, individual concern and management by exception (passive) have a significant effect on outcomes - positive for individual concern and negative for management by exception (passive). This suggests that teacher outcomes (extra effort, satisfaction and effectiveness) are more likely to occur when a principal shows that he/she respects teachers and is concerned about their personal feelings and needs. Further, it supports the idea that individual concern is motivational in that teachers are reassured that their efforts are valued by a principal and that a principal will endeavour to assist them in their efforts (Leithwood et al, 1999).

The negative influence of management by exception passive on teacher outcomes suggests that a principal who is perceived to put off making decisions risks losing the support of teachers and discourages positive teacher outcomes. Teachers in this study appeared to not perceive management by exception passive contributing to teacher outcomes in the ways that they find helpful. These findings also support the contention of Bass and Avolio (1997) that transformational leadership results in a willingness by followers to put in extra effort, satisfaction among followers with the leader and followers who are more likely to regard the leader as effective.

Given the strong effect of individual concern and management by exception passive in explaining outcomes the school average of individual concern and management by exception passive on outcomes over and above that which operates at the individual teacher level were estimated. However, no school effect was found and there was no improvement to model fit.

The random part of the model suggests that the intercept is not significant at the school level but is significant at the teacher level indicating significant differences between teachers. This reinforces the notion that leadership is a process that occurs at the individual level.

Table 2: Variation in 245 teachers outcomes scores in 38 schools, showing IGLS solutions: Fitted estimates with standard errors in parentheses.
Table 3 shows the results of fitting multilevel regression models to teachers' task focus goals scores. The results indicate that the three explanatory variables, vision, management by exception (passive) and excellence in teaching account for 34.17% of the variance in task focus goals.
focus goals at the teacher level. The log likelihood statistic for the final model indicates a significant reduction in deviance units (p<0.01) from the base variance components model given in Table 1.

The fixed part of the model suggests that the fitted variables, excellence in teaching and management by exception (passive) have a significant effect on task focus goals - positive for excellence in teaching and negative for management by exception (passive).

The significant effect of vision is suppressed when management by exception (passive) is added to the model. While the effect of management by exception passive is suppressed when excellence in teaching is added to the model as an explanatory variable. This means that the influence of vision and management by exception passive is considerably less when there is are expectations for excellence in teaching. There are several points that can be made about these findings. One, vision has a significant influence when there are no other leadership effects suggesting that vision does help provide teachers with a sense of purpose and direction that may be motivational. However, the reality is that there are other leadership effects and that these will have an influence on the effect of vision on task focus goals. Second, the small effect of vision on task focus goals (after the addition of other variables) may suggest that these teachers did not make the connection between vision and task focus goals. Second, the negative influence of management by exception passive suggests that it may discourage teachers from pursuing goals that may involve more demanding teaching practices. Third, the large effect of excellence in teaching suggests that these expectations are likely to be motivational as they help teachers to see the challenging nature and value for students in pursuing task focus goals in a school. Such expectations may also sharpen teachers' perceptions of the gap between what the school aspires to and what is being accomplished. Expectations of this sort should also result in perceptions among teachers that what is expected is also possible (Leithwood et al, 1996).

The random part of the model suggests that the intercept is not significant at the school level but is significant at the teacher level indicating significant differences between teachers. This finding again is indicative of the nature of leadership in schools. It occurs on an individual level. Most of the work of the school principal involves face to face communications, it is action oriented, and reactive; the principal must rely on others for information (Greenfield, 1991; Blumberg, 1989).

Table 3: Variation in 245 teachers task focus goals scores in 38: schools, showing IGLS solutions: Fitted estimates with standard errors in parentheses.

<table>
<thead>
<tr>
<th>Explanatory Variables</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIXED:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td></td>
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</tbody>
</table>
Table 4 shows the results of fitting multilevel regression models to teachers' excellence in teaching scores. The results indicate that the three explanatory variables, vision, individual concern and task focus goals account for 37.74% of the variance in excellence in teaching at the teacher level. The log likelihood statistic for the final model indicates a significant reduction in deviance units (p<0.01) from the base variance components model given in Table 1.

The fixed part of the model suggests that the fitted variables, individual concern and task focus goals have a significant positive effect on excellence in teaching. The effect of vision is suppressed when individual concern and task focus goals are added as explanatory variables.
variables. There are several points to note about the multilevel regression model for excellence in teaching. First, when there is no other leadership effect, vision has an important influence on excellence in teaching. It helps provide teachers with a sense of purpose that may motivate them to aspire to excellence in teaching. However, the influence of vision is considerably less when leadership practice reflects individual concern and when the school has an emphasis on task focus goals. Second, the effect of individual concern suggests that where a principal provides encouragement and support for teachers' professional development efforts, teachers will be encouraged to aspire to teaching excellence. Third, the effect of task focus goals suggests that these teachers were more willing to pursue excellence in teaching if they perceive that goals will assist students in their learning and vice versa.

The random part of the model suggests that the intercept is not significant at the school level but is significant at the teacher level indicating significant differences between teachers. This reinforces the thought that interactions between principals and teachers occur on an individual basis. The principal does not have a relationship with teachers as a total group but rather has a set of relationships that vary from one teacher to another (Hollander, 1978).

Table 4: Variation in 245 teachers excellence in teaching scores in 38 schools, showing IGLS solutions: Fitted estimates with standard errors in parentheses.

<table>
<thead>
<tr>
<th>Explanatory</th>
<th>Multilevel</th>
<th>Multilevel</th>
<th>Multilevel</th>
<th>Multilevel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variables</td>
<td>Model 1</td>
<td>Model 2</td>
<td>Model 3</td>
<td>Model 4</td>
</tr>
<tr>
<td>FIXED:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>(b_0X_0)</td>
<td>3.576(0.055)*</td>
<td>2.384(0.231)*</td>
<td>2.480(0.227)*</td>
<td>0.890(0.255)*</td>
</tr>
<tr>
<td>Teacher level:</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>X_1 Vision (b_1)</td>
<td>0.298(0.056)*</td>
<td>0.093(0.080)</td>
<td>0.048(0.068)</td>
<td></td>
</tr>
<tr>
<td>X_2 Individual Concern (b_2)</td>
<td></td>
<td>0.206(0.059)*</td>
<td>0.136(0.051)*</td>
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</tr>
<tr>
<td>X_3 Task Focus Goals (b_3)</td>
<td></td>
<td></td>
<td>0.541(0.057)*</td>
<td></td>
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<tr>
<td>RANDOM:</td>
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<tr>
<td>$s^2_{0u}$ (School-level)</td>
<td>0.042(0.026)</td>
<td>0.040(0.023)</td>
<td>0.024(0.018)</td>
<td>0.027(0.016)</td>
</tr>
<tr>
<td>$s^2_e$ (Teacher-level)</td>
<td>0.427(0.042)*</td>
<td>0.382(0.037)*</td>
<td>0.340(0.033)*</td>
<td>0.265(0.026)*</td>
</tr>
<tr>
<td>% of Variance explained:</td>
<td></td>
<td></td>
<td></td>
<td>37.74</td>
</tr>
<tr>
<td>-$2\log(lh)$</td>
<td>504.690</td>
<td>478.164</td>
<td>466.053</td>
<td>388.141</td>
</tr>
</tbody>
</table>

* Statistically significant beyond the p < 0.05 level by univariate two tailed test i.e. the parameter estimate is greater than twice its standard error.

**SUMMARY AND CONCLUSIONS**

This study investigated teachers' perceptions of the relationships of transformational and transactional leadership with teacher outcomes and with aspects of school learning culture using a multilevel approach for data analysis. The results raise some interesting questions about the nature of leadership and the relationship of transformational and transactional leadership with teacher outcomes and with some aspects of school learning culture.

First, most of the variance in leadership behaviour occurs at the teacher level. This suggests that school leadership is characterised by a one to one relationship between the leader and the teacher (follower). Leaders do not have a relationship with teachers (followers) as a total group. They have a set of relationships, which vary from one teacher (follower) to another (Hollander, 1978). Further, it raises the idea that leadership and followership are interdependent and that in a fundamental way a leader's legitimacy depends on her/his standing with followers (Yukl, 1998). Thus, the influence of 'leadership' depends on a person's behaviour being recognised and tacitly acknowledged to be 'leadership' by others who thereby cast themselves into the role of followers (Leithwood and Jantzi, 1997). This emphasis on followers has been overlooked in most leadership theories (Robbins, 1989). This consent to leadership by followers is temporary, must be earned and can be given and taken away. (Greenfield, 1991 According to Lord and Maher (1993, 11) leadership is "the process of being perceived as leader". This raises the issue of how teachers' perceptions of leadership are formed. First, through recognition processes where the follower matches information about traits and behaviours to knowledge structures about leadership held in long term memory. High levels of correspondence between observed, stored traits and behaviours leads a follower to recognise those behaviours as leadership. Second, inferential
processes that depend on the opportunity of followers to observe events and draw conclusions about the contribution of the potential leadership behaviour to those outcomes. Perceptions of behaviours as leadership result from followers’ judgements that those events are somehow salient, that they had desirable results and that the leadership behaviour was instrumental in bringing about those outcomes (Leithwood et al, 1999).

The notion of follower ‘consent to leadership’ is particularly important in schools that have properties of looseness in their structural coupling. Teachers may be tightly coupled to their students but they are loosely coupled to principals, formal rules and procedures (Weick, 1976). Teachers also view themselves as a professional work force and the ethos of teachers as a group supports norms of autonomy over teaching activities. These two conditions limit the capacity of principals to meaningfully influence teachers through leadership. The reality is that if teachers are going to be influenced by leadership of a principal it is by choice they consent to the leadership and are willing to be led (Greenfield, 1991).

Second, significant relationships were found between transformational and transactional leadership with teacher outcomes and with school learning culture. There is a direct effect of the transformational leadership behaviour _individual concern_ on teacher outcomes (extra effort, satisfaction and effectiveness) and an indirect effect from _vision_. This finding supports the contention of Bass and Avolio (1997) that transformational leadership will be related to positive outcomes of extra effort, satisfaction and effectiveness.

Third, the transactional leadership behaviour _management by exception passive_ was negatively related to _teacher outcomes_ and _school learning culture_. In general _management by exception passive_ as previous studies have reported (Leithwood et al, 1996) is an unhelpful type of leadership in the secondary school setting.

Fourth, the transformational leadership behaviour _individual concern_ has significant positive direct and indirect effects on _teacher outcomes_ and _school learning culture_ at the teacher level. This is an interesting finding because the transformational leadership behaviour _vision_ is consistently portrayed in the literature as the most critical for school restructuring to the exclusion of _individual concern_. For example, Nanus (1992, 3) states that, "there is no more powerful engine driving an organisation toward excellence and long range success than an attractive worthwhile and achievable vision of the future, widely shared". However, a statement of vision for a school is unlikely to influence what teachers actually do unless there is a strong, widespread commitment to the vision (Leithwood et al, 1999). Clearly, what many seem to have forgotten is the important contribution of the transformational leadership behaviour _individual concern_ to teachers’ dispositions, motivations, bodies of knowledge and skills that are required to create a shared vision and to pursue it in a school. The evidence from this study suggests that _individual concern_ is a critical leadership task as it builds the capacity of teachers to identify and pursue a shared vision.

Fifth, the results have raised some interesting issues concerning leadership in schools that seem to be contrary to the literature. This highlights the importance of using data analysis and statistical methods that account for the clustered or multilevel structure of the data.

In conclusion, this study suggests that transformational leadership is more facilitative of positive _teacher outcomes, task focus goals and excellence in teaching_. However, both constructs of transformational and transactional leadership help to explain variation in _teachers outcomes, task focus goals and excellence in teaching_. It is also apparent that leadership is a critical process in schools that involves one to one relationships teachers, students and parents must consent to being led by a principal.
References


