Author: G. Rose
Author Address: grose@csu.edu.au
Title: Principal empowerment, transformational leadership and school innovation under school-based management: empirical testing of a structural model
Year: 2007
Journal: Journal of educational change
Volume: 8
Issue: August
Pages: pp207-233
ISSN: 1389-2843
URL: http://www.springerlink.com/content/l4227113w9612446/?p=e2fec0b930a144c590e4e9e3c4944f17&pi=1
Keywords: Education policy, innovation, psychological empowerment, school-based management, transformational leadership
Abstract: A model examining psychological empowerment, transformational leadership and innovation for school principals is proposed and tested within a School-Based Management (SBM) environment. Developed from management literature, the model was adapted for state school principals experiencing increased decision-making powers and accountability. Empirical results provide a level of support for the model. ‘role clarity’ and ‘access to resources’ were found to exert a positive influence on principals’ feelings of empowerment, though the value placed by principals on strategic information was found to have a slightly negative influence. The influence of empowerment on transformational leadership was not found to be as strong as anticipated. The paper includes a discussion of the implications of these findings for theory and policy development.
Principal Empowerment, Transformational Leadership and School Innovation Under School-Based Management: Empirical Testing of a Structural Model

Graeme C Rose

BCom TSTC Melbourne, MEc UNE, PhD Monash

School of Business, Faculty of Commerce, Charles Sturt University

PO Box 789 Albury 2640 Australia

Telephone number: +61 2 60519903 Fax number +61 2 60519878

Email: grose@csu.edu.au
Principal Empowerment, Transformational Leadership and School Innovation Under School-Based Management: Empirical Testing of a Structural Model

Abstract

A model examining psychological empowerment, transformational leadership and innovation for school principals is proposed and tested within a School-Based Management (SBM) environment. Developed from management literature, the model was adapted for state school principals experiencing increased decision-making powers and accountability. Empirical results provide a level of support for the model. ‘Role clarity’ and ‘access to resources’ were found to exert a positive influence on principals’ feelings of empowerment, though the value placed by principals on strategic information was found to have a slightly negative influence. The influence of empowerment on transformational leadership was not found to be as strong as anticipated. The paper includes a discussion of the implications of these findings for theory and policy development.

Keywords

Education policy, innovation, psychological empowerment, school-based management, transformational leadership
Principal Empowerment, Transformational Leadership and School Innovation Under School-Based Management: Empirical Testing of a Structural Model

Introduction

A great deal of attention in the educational literature has been paid to the impact of principals as leader/managers on student learning outcomes (eg. Bush & Bell, 2002; Bush, Bell, et al. 1999; Leithwod & Duke, 1998). While there is some evidence identifying the positive influence of principals on student and school performance (eg. Bredeson, 1996; Sammons, et al., 1995; Levine & Lezotte, 1990), others have put this relationship into doubt. Hallinger and Heck’s (1998) review of empirical studies in this area, for example, concluded that results have not consistently supported the traditionally-held view that principals matter when it comes to influencing positive outcomes. In an early review of principal influences, Murphy (1988) found little evidence of these relationships, suggesting that this could be explained by two factors. First, not much research had been conducted in that area and, second, that most studies (to that date) were of poor quality.

A more recent review of empirical studies on principal effects on student outcomes (Hallinger and Heck, 1998) identified a move from the testing of direct models (ie. simple models that link principal behaviours/attitudes/beliefs to
directly student learning outcomes) to testing indirect models (i.e. complex models that identify factors intervening the relationship between principal influences and student learning outcomes). Hallinger and Heck found that, though the latter produced results that are relatively small, they are statistically significant and (the authors assert) more meaningful. This change in emphasis, it was argued, is evidence of a ‘paradigm change’ (after Kuhn, 1970) and that research is ‘… an evolving sophistication in thinking about the principal’s role [in these studies].’ (p. 186). It was observed that researchers have sought to understand,

... not only if principals have effects on school outcomes, but more particularly the paths through which such effects are achieved (including within- and between-school analyses) (Hallinger & Heck 1998, p. 187).

The purpose of this paper is to present the results of testing an indirect effects model. This approach is consistent with that taken by Witziers, et al. (2003), who stated,

Leadership is no longer proposed as having a direct influence on learning outcomes but as having an indirect influence through the way it has an impact on school organization and culture (p. 401).

Mulford and Silins (2003) also concluded that school leadership contributes to student learning outcomes only via an intervening factor\(^1\). This view is supported

\(^1\) Mulford & Silins argued that ‘organisational learning’ (OL) mediates the relationship and this may be the case. That is, OL may operate as part of the ‘black box’ operation referred to above. This line of inquiry is not pursued in this paper.
at the policy development level and reflected in the following statement by a leading educationalist\textsuperscript{2},

\begin{quote}
Educational leaders bring about reform. They create the culture, conditions and supports to enable teachers to do their best (Marshall 2006, p. 1).
\end{quote}

Recognising the indirect nature of the relationship between leadership and student learning, the research presented in the this study seeks to provide a level of illumination on the operations of the ‘black box’ that sits between principals and their effects on learning outcomes. The proposed model describes principals’ psychological (‘felt’) empowerment (along with three antecedents), its influence on transformational leadership and subsequent influences on innovation (leading to improved student learning). Thus, it is a ‘mediated effects’ model (following Leithwood, 1994) proposing that leadership practices contribute to desirable school outcomes, but that this is mediated by other people, events and organisational factors.

**Research environment**

Raters in this study are principals of state-owned schools operating under a School (Site)-based management (SBM) system. SBM has been introduced into many departments of education of states within the OECD, most notably Canada, Hong Kong, New Zealand, the United Kingdom and some states of the USA. Here,

\textsuperscript{2} Steve Marshall is the Director of *Educational and Lifelong Learning for Wales* and former Chief Executive of Education and Children’s Services for South Australia.
decentralisation reforms have resulted in reductions in the size and authority of the central education bureaucracy and subsequent increases in the decision-making power of individual school principals, accompanied by increases in their accountability.

Prior to 1992, the Victorian Department of Education and Training (DET) possessed all the features of the traditional system of public education, comprising a large and powerful centralised bureaucracy that controlled schools’ financial administration and carried out a majority of human resource (staffing) functions. Requirements for accountability to the central government were minimal, since major functions were provided by DET. An accompanying phenomenon in this system was the occurrence of severe budgetary overruns (Pascoe & Pascoe, 1998).

SBM reforms to school governance, begun by the Victorian State Government in 1992, followed a similar pattern to changes experienced in government schools in other OECD states. For DET, SBM initiatives were designated *Schools of the Future* and schools were described as ‘self-managing’. Responsibility for decision-making was devolved to the principals of individual schools who, in turn, were made accountable for their decisions through the operation of a strategic planning and review process (Caldwell & Hayward, 1998).³ The

³ This form of SBM is identified by Leithwood & Menzies (1998) as ‘administrative control’, whereby SBM gives school principals, with the assistance of their school councils, authority over budgets, personnel and curriculum.
accountability process involves each school developing a School Charter that sets out its goals for the next three years, followed at the end of that period by a Triennial Review. This review is coordinated by an independent team of consultants who assess the extent to which the school has achieved the goals set out in its School Charter. In addition, each school is required to submit an annual report to its governing council.

School principals within DET thus enjoy a great deal more autonomy under SBM. It is anticipated that they are more likely to exhibit behaviours similar to private sector managers\(^4\). It is the belief of the author that the links in the hypothesised model would not be as strong under traditional (centralised) systems of governance.

**Hypothesis development**

Hypotheses to be tested are summarised in a model developed from the nomological network of workplace empowerment developed by Spreitzer (1995). The model was modified to the extent that ‘transformational leadership’ was inserted as an intervening variable between psychological empowerment and innovation, since there is a belief that innovation would not take place solely as a result of increased empowerment. The model (Figure 1) contains five propositions and describes the interrelationships of ‘psychological empowerment’

---

\(^4\) SBM can be considered one form of New Public Management (NPM) that is reforming public sectors internationally. As a form of decentralisation, SBM creates a ‘quasi-market’ for public sector managers whereby a level of competition is introduced into their organisations (McLaughlin et al., 2002).
(with three antecedents - ‘access to resources’, ‘role clarity’ and ‘value of strategic information’), ‘transformational leadership’, ‘management innovation’ and ‘improved management effectiveness’\(^5\).

**Figure 1  Research model**

*Psychological empowerment*

*Psychological empowerment*\(^6\) refers to empowerment at the individual (cf organisational) level of analysis and relates to the extent to which managers feel that they have authority to make decisions (Sprietzer *et al.*, 1997; Spreitzer, 1995; Thomas & Velthouse, 1990; Zimmerman, 1995; 1990). This conceptualisation applies to situations in which power and control are used as motivational and/or expectancy belief states that are internal to individuals (Conger & Kanungo, 1988). It is assumed that individuals’ power needs are met when they perceive that they have power or when they believe they can cope adequately with events,  

\(^5\) Certain variables thought to influence *psychological empowerment* (eg locus of control, self-esteem) and *transformational leadership* (eg risk profile, need for achievement) were not included in the final model due to their failure to achieve construct validity.  

\(^6\) It is necessary to distinguish two forms of empowerment. ‘Situational’ (or ‘relational’) empowerment (Conger & Kanungo, 1988) involves the bureaucratic transfer of decision-making power to individual managers and the perceived power that an individual actor or organisational unit possesses (eg under SBM initiatives). ‘Psychological’ empowerment (Spreitzer, 1995), the focus of this paper, represents the extent to which a principal feels empowered to run his or her school.
situations and/or the people they confront. The definition of psychological empowerment is as follows,

*Psychological empowerment is the increased intrinsic task motivation manifested in cognitions that reflect an individual’s active orientation to his or her work role* (Spreitzer 1995, p. 1443).

Within the literature, psychological empowerment, and the cognitions that arise out of devolutionary processes, is seen to be more relevant to good management than the mere act of increasing empowerment by means of situational empowerment initiatives (eg. under SBM).

*Psychological empowerment* has been considered as a multi-faceted variable comprising competence, impact, meaning and self-determination (Thomas & Velthouse, 1990; Spreitzer, 1995). The overarching variable is conceptualised as a gestalt of these four dimensions (Conger, 1989), relating to the ways in which managers perceive themselves in the work-specific context. The scales used to measure psychological empowerment were adapted from those developed by Spreitzer (1995), with questions framed in the context of the respondent’s role as Principal Class Officers (PCOs) wherever appropriate.

---

7 Conversely, individuals’ power needs are frustrated when they feel that they lack power or when they believe that they are unable to cope with the physical and social demands of the environment (Spreitzer, et al. 1997; Conger & Kanungo, 1988).

8 Within the Victorian DET, Principal Class Officers are personnel who occupy principal roles within its schools; they include principals and assistant principals.
**Competence** is the self-belief that one possesses the abilities necessary to perform a job or task well (Gist, 1987) and the belief in one’s capability to perform work activities with skill (Gist & Mitchell, 1992; Bandura, 1989; 1997). **Impact** is defined as ‘the belief that one has significant influence over strategic, administrative or operational outcomes at work’ as defined by Ashforth (1989) and the ability to ‘make a difference’ in accomplishing the purpose of the task (Leithwood, 1994). **Meaning** (or ‘meaningfulness’) involves a fit between the requirements of a work role on one hand and the individual’s beliefs, values and behaviours on the other (Brief & Nord, 1990), and is judged in relation to an individual’s own ideals or standards (Leithwood, 1994). **Self-determination** is an individual’s sense of having choice in initiating and regulating actions and a feeling of having control over one’s work (Deci, *et al.* 1989), reflecting autonomy in the initiation and continuation of work behaviours and processes (Bell & Staw, 1989; Spector, 1986).

**Antecedents to psychological empowerment**

Three antecedents to *psychological empowerment* from Spreitzer’s network are adapted and incorporated into the model due to their relevance to state school management and government policy development. They are **role clarity**, **availability of resources** and **value of strategic information**.

**Role clarity** describes the extent of understanding that an individual has over his or her function within the organisation, identifying the degree to which a worker
is certain about how he or she is expected to do the job (Bandura, 1989). Role clarity is the extent of understanding that principals have as to their function within the school and it is anticipated that the higher the feelings of clarity regarding the role, the higher the levels of ‘felt’ empowerment. Within the education literature, Evans (1996), for example, argues that there has been an ‘explosion’ of demands on principals, giving rise to a number of negative outcomes (e.g., isolation, insecurity and inadequacy). Such results possibly arise out of a confused understanding of the scope of the principal role. This leads to the following hypothesis.

Hypothesis 1-1: Perceptions of role clarity of state school principals influence their psychological empowerment in a positive direction.

Availability of resources enhances the individual’s sense of self-efficacy and control over environmental contingencies (Bowen & Lawler, 1992; Zimmerman, 1995). On the other hand, lack of access to critical organisational resources has been found to contribute to powerlessness and dependency (Homans, 1974). Thus, school principals who perceive they have higher levels of available work unit resources are hypothesised to experience a stronger sense of empowerment than individuals who perceive they have a lower availability of these resources,
especially in respect to the scope of curriculum offered by the school. This leads to the following hypothesis.

Hypothesis 1-2: Perceptions of the availability of resources of state school principals influence their psychological empowerment in a positive direction.

Spreitzer (1995) identified empirical support for the positive influence of ‘access to information’ on psychological empowerment. Value of strategic information is an adaptation of the concept of Spreitzer’s conceptualisation of ‘access’. There are two aspects of strategic information thought to be critical for the empowerment of managers (Lawler, 1992). First, information relating to the organisation’s mission is important for the empowerment of managers because it helps to augment values and purposes that managers espouse, thereby creating a sense of value and purpose (Conger & Kanungo, 1988), encouraging initiative. Second, an understanding of the performance of an organisation in relation to its mission engenders confidence in the making of decisions that maintain or improve performance in relation to that mission. The combination of these two dimensions increases the ability of managers to make decisions aligned with organisation goals. This increases their decision-making focus (Lawler, 1992) and results in an increased sense of management empowerment.
Under *Schools of the Future*, the mission of a school is developed in its *School Charter*\(^{11}\) and feed-back regarding the attainment of its goals is communicated to the principal in a *Triennial Review*. This process encapsulates the two aspects of strategic information that influence the *psychological empowerment* of school principals. Unlike the sample studied in the Spreitzer (1995) study, however\(^{12}\), the compulsory nature of the accountability process for state school principals requires a changed approach for research purposes, since accountability information for principals is compulsory under *Schools of the Future* (all principals have ‘access’ to the strategic information). The emphasis is changed to the *value* that principals place upon the information generated from the accountability processes (rather than *access* to the information) that influences principals’ feelings of empowerment (*cf* Spreitzer, 1995). To distinguish this approach from earlier studies, this factor is referred to as *value of strategic information*, operationally defined as ‘the value placed on strategic information feedback as a result of the School Charter/Triennial Review processes’. Principals who value this information will have higher levels of ‘felt’ empowerment. This leads to the following hypothesis:

\(^{11}\) The *School Charter* has (since the time of data collection) been incorporated into DET’s *Blueprint*.

\(^{12}\) Spreitzer studied a sample of insurance (ie. private sector) managers.
Hypothesis 1-3: Perceptions of the value of the strategic information of state school principals influence their psychological empowerment in a positive direction.

**Transformational leadership**

Research into leadership, its construct and measurement has proved to be challenging. The problematic nature of leadership has been expressed as follows.

> *Almost no area of enquiry ... has shown itself to be more elusive, or more controversial, and also more confounding to human understanding, than the notion of leadership* ’ (Allix & Gronn, 2005).

The notion of ‘transformational’ (change-oriented) has attracted a great deal of attention in the recent management literature (see, for example, Felfe, *et al*., 2004; Fuller, *et al*., 1996; Lowe, *et al*., 1996), having first appeared as a concept of interest in management research with the publication of Downton (1973), House (1977) and Burns (1978). Since then there has been a great deal of interest in identifying the characteristics of good leadership and several theoretical models of transformational leadership have been proposed. Studies have sought to identify

---

13 Although the focus in this study was on transformational leadership, the author is aware of the importance of ‘instructional leadership’ within education. The latter was not included in this study, however, due to a desire a) to identify relationships that could be generalised beyond educational organisations and b) to incorporate dimensions of instructional leadership into other parts of the hypothesised model.

14 Other conceptualisations of good leadership are not considered in this paper since they are not change-oriented. They include ‘transactional’ leadership (Bass & Avolio, 1994) and ‘instructional’ leadership (Hallinger, 2003) and ‘transformative’ leadership (Weiner, 2003).
relevant antecedents to transformational leadership (eg. Judge & Bono, 2000), context variables (eg. Podsakoff et al., 1996) and outcomes (eg. Deluga, 1995).

Two streams of research are relevant here: Conger and Kanungo’s (1997) model of ‘charismatic’ leadership and Bass and Avolio’s model of ‘transformational’ leadership (Avolio, Bass & Jung 1999). In this paper, the construct transformational leadership was measured using dimensions from both streams that are thought to be appropriate to educational leadership. This approach is validated by a number of studies supporting the view that there ‘… has always been much theoretical similarity and empirical overlapping [of transformational and charismatic leadership]’ (Felfe, et al. 2004, p. 263). This approach is supported elsewhere in the literature (eg. Hunt & Conger, 1999).

Transformational leadership occurs where leaders (among other things) stimulate interest among colleagues and followers to view their work from new perspectives, generate awareness of the mission or vision of the team and organisation, develop colleagues and followers to higher levels of ability and potential and motivate colleagues and followers to look beyond their own interests toward those that will benefit the group (Bass & Avolio, 1994). Within education, Cheng (1996,) summarises the role of the educational leader as follows,

[A] leader is in nature a transformational leader or a cultural leader.

...[N]o matter which perspective is used, there are two elements of leadership: the process of influencing followers and others, and goal development and achievement (p. 106).
Transformational leadership within the educational literature has been identified as that which seeks to build the organisation’s capacity to select its purposes and to support the development of changes to practices of teaching and learning (Hallinger 2003)\textsuperscript{15}.

There is little empirical evidence of the structural validity of any one transformational leadership model, however, and development of measures of the variable within particular organisational settings and its conceptualisation is far from clear (Avolio \textit{et al.} 1999; Yukl 1999; Pawar & Eastman 1997; Conger, \textit{et al.} 1997). Within education a number of studies have examined the nature and effects of transformational leadership (eg. Leithwood \textit{et al.} 1999; Geijsel, Sleegers \textit{et al.} 2003), with Hallinger (2003) providing a most comprehensive consideration of the concept.

\textit{Transformational leadership} is hypothesised here as a four-dimensional variable, developed from the transformational leadership literature (Bass, 1985; 1990, Bass & Avolio, 1996; Avolio, Bass & Jung, 1999). The dimensions used to measure transformational leadership in this study are \textit{charisma, inspiring subordinates, intellectual stimulation} and \textit{strategic vision and articulation}\textsuperscript{16}. These four

\textsuperscript{15} Other opinions on the usefulness of ‘transformational leadership’ differ. Allix & Gronn (2005), for example, question the usefulness of theory building based on the current epistemology and believe more consideration should be given to contingency-based approach, considering broader organisational contexts.

\textsuperscript{16} The dimension ‘providing individualised support’ has been excluded from this analysis following the conclusions reached by Yukl (1999) who stated, ‘… there does not seem to be a good rationale to include supporting as a core transformational behaviour’ (p. 288).
dimensions fall within the over-arching ‘strategic leadership’ concept and are thought to best match the environment experienced by PCOs within DET\textsuperscript{17}. All four are identified in Leithwood and Riehl (2003) as desirable characteristics of educational leaders.

*Charisma* is the ability of a manager to provide followers with a clear sense of purpose that is energising and is a role model for ethical conduct, differing from other leaders,

\[ \ldots \text{by their ability to formulate and articulate an inspirational vision} \]
\[ \text{and by behaviours and actions that foster an impression that they and} \]
\[ \text{their mission are extraordinary} \text{(Conger et al., 1997, p. 291).} \]

According to Weber (1947), charismatic leaders have a prophetic vision of the future, with ‘charisma’ is an overarching term describing the forces of change and innovation in society\textsuperscript{18}.

*Inspiring subordinates* is demonstrated by a manager who holds expectations of high performance of subordinates. Under this dimension, transformational leaders can motivate subordinates to make change happen (Conger & Kanungo, 1987) and motivate followers to a higher level in their needs hierarchy (Pawar & Eastman, 1997). Within an education setting, inspirational behaviour exhibited by

\textsuperscript{17}This was determined, in part, with reference to a small pilot study involving principals, assistant principals and one former regional manager.

\textsuperscript{18}A level of caution is necessary with the inclusion of this factor in the measurement of transformational leadership, however. A recent education study supported the view that charisma may not be relevant in stable environments (Lunenburg, 2003)
principals is thought to demonstrate their expectations for excellence, quality and high performance on the part of their staff members, producing leadership qualities that inspire transformation within the school (Leithwood & Jantzi, 1997).

*Intellectual stimulation* captures the ability of managers to encourage subordinates to approach their work with intelligence and to question the methods subordinates use to improve their decisions. It is displayed when the leader helps followers to become more innovative and creative (Bass, 1999), persuading followers to question the tried and true ways of solving problems and encourage followers to improve upon their decision-making, thereby elevating the follower’s level of maturity and ideals (Avolio, *et al*., 1999). Within the school environment, leaders who demonstrate transformational characteristics exhibit behaviour that challenges staff to re-examine some of the assumptions about their work and rethink how it can be performed (Leithwood & Jantzi, 1997).

*Strategic vision and articulation* encapsulates the ability of a manager to foster development of vision and goals within the organisation, corresponding with the ‘charismatic leadership’ dimension conceived in the Conger and Kanungo (1988) model. Key behaviours associated with this dimension include articulating an appealing vision, emphasising collective identity, communicating high performance expectations and expressing confidence that subordinates can achieve this (House, 1977; House & Shamir, 1993). This is demonstrated by the behaviour of the principal directed at identifying new opportunities for his or her
school, developing and articulating the vision that he or she has for the school and building consensus on school goals and priorities, speaking of these aims and objectives continually (Leithwood & Jantzi, 1997).

**The influence of psychological empowerment on transformational leadership**

In a decentralised environment (for example following the implementation of SBM), managers freed from organisational control from above are considered more likely to demonstrate characteristics of *transformational leadership* than otherwise. This is due to the creation of a marketplace of ideas for investment into innovative action (Kanter, 1983). Principals are more likely to adopt a range of transformational characteristics if they feel empowered to do so and are more likely to act in a transformational manner if they feel free from the constraints of line management. Yammarino (1994) identified empowerment (along with communication and culture) as a key leadership facet that can be used to transform those who operate at a distance indirectly. *Psychological empowerment* reflects an active orientation to work and managers who possess characteristics of empowerment are also expected to possess change-oriented elements of leadership (Spreitzer & Quinn, 1996), more innovative, upwardly influencing and inspirational (Spreitzer, *et al.*, 1999). These characteristics exhibit correspondence with the hypothesised dimensions of *transformational leadership*.

The model proposes that school principals will be more likely to exhibit *transformational leadership* characteristics if their perceptions of empowerment
are high. They are able to take on these characteristics within the SBM system since they are accountable directly to the school council and are freed from the line management constraints. They are free to adopt leadership characteristics that lead to the achievement of the strategic goals set out in their School Charter.

*Transformational leadership* has also been conceptualised as one variation of educational leadership (Leithwood & Jantzi, 1990), where principals act as change agents. Not only do principals perform tasks in relation to coordination and evaluation of the educational system, but also in its development. This is achieved by transformation of the school culture through the encouragement of collegiality, the empowerment of teachers, collaborative planning and continuous improvement. Such behaviours are more likely to be experienced by principals with high levels of ‘felt’ empowerment. Empowered principals, therefore, are expected to demonstrate higher levels of *transformational leadership* than colleagues whose levels of *psychological empowerment* are not as high. This leads to the following hypothesis.

**Hypothesis 2:** The level of *psychological empowerment* of state school principals influences their *transformational leadership* in a positive direction.
The influence of transformational leadership on management innovation

The final link for testing in this paper is the extent to which school principals implement ideas, procedures and processes that are new to the school\(^9\). There has been some demonstration of the contribution of transformational leadership to criteria such as innovativeness and quality improvement (Bass, 1999). That is, more innovation is expected to occur in schools with principals who demonstrate higher levels of transformational leadership. Hallinger (2003) identifies transformational leadership as leadership that focuses on developing the organisation’s ability to innovate. Of the ‘domains’ of innovation relevant for school managers (Caldwell, 2000), innovation in management was chosen for testing in the present paper, since it is the most easily identifiable\(^{20}\). It is also an area in which principals enjoy increased powers to build appropriate, innovative management structures. This leads to the following hypothesis.

Hypothesis 3: The level of transformational leadership of state school principals influences innovation in management structure within schools in a positive direction.

As identified in Figure 1, this final link (between innovation and management effectiveness) lies outside the scope of empirical testing due to the problematic nature of the measurement of students’ increased learning capacities.

\(^9\) This conceptualisation of innovation was adapted from Woodman, Sawyer & Griffin (1993).

\(^{20}\) Other school-relevant domains of innovation identified by Caldwell relate to curriculum, school design and pedagogy. Similar changes may well be experienced within these domains.
Research design

A survey design was used to test the model and measurement questions were adapted to the experiences of PCOs within DET. Survey forms were sent to principals of large schools, with a separate (unsealed) kit for forwarding to an Assistant Principal (AP). Thus, two data sources were used in this study. This ensured that, while principals rated their own perceptions of empowerment and antecedents, APs assessed their transformational leadership and innovation. Consequently, matched pairs from principal and AP were required from each school in order for a complete response set for that unit.

Only large schools (those entitled to employment of an AP) were included in the population since small schools do not involve complex systems of management. Given the relatively small number of DET schools of adequate size, a census (rather than a sample) survey was employed to collect the data for testing. Directories published by regional offices of DET contained listings of the population of its schools, along with PCO contact details.

---

21 This precaution allowed principals to view the instrument sent to APs.
22 APs were chosen as raters of principals’ levels of transformational leadership and innovation. Using principals’ responses to these questions would lead to (justifiable) concerns of over-rating on these questions (i.e. the ‘halo’ effect).
23 Management of complexity is a key concern in this paper. Principals of small schools do not deal with management issues of a sufficient magnitude. In addition, small schools are being phased out within DET following a policy of amalgamation and consolidation.
24 1,051 in total
25 This approach was deemed appropriate since the population is relatively small and readily accessible (Gay & Diehl, 1992).
Measurement questions used to construct latent variables were developed from the literature and refined using a small number of interviews and a pilot study designed to ensure their suitability for raters. All questions were measured using a 7-point Likert (1967) scale and, because of a desire to minimise the length of the survey forms (and consequently to maximise completed returns), a maximum of four indicators was used to measure each latent variable.

The initial mail-out of survey forms to principals (March 2001) returned 300 matched pairs, as well as a further 170 single responses from principals and 204 from APs. Focusing on the single responses only, reminders were sent to the 170 APs and 204 principals who had not responded in the initial round. In total, 539 matched pairs (51.3% of the population) were returned by May 2001. Unmatched responses were excluded from empirical analyses.

Structural equation modelling (SEM) was used in this project as a two-stage process (following Anderson & Gerbing, 1988); first in the construction and verification of measurement models (CFA testing of first and second-order latent variables) and second in the testing of the structural model. Composite items for each of the first, then second-order measurement models were constructed prior to their incorporation into the structural model. Analyses were performed using LISREL 8.54® (Jöreskog & Sörbom, 1996).

Prior to undertaking tests of validity using CFA, tests of normality indicated that most variables produced high levels of univariate non-normality, leading to high
levels of multivariate non-normality for the second-order variables. This was especially so of the *meaning* dimension\(^{26}\) which contained three items with unacceptably extreme levels of skewness (below – 2) and all four items with unacceptably extreme levels of kurtosis (all greater than 6.5).

While most variables were measured using items sourced from the literature, *value of strategic information* measures were subject to re-development for use within this study due to the environment within which PCOs operate. Measures were adapted from the two aspects of strategic information identified by Spreitzer (1995), then re-oriented to capture the value placed on this information by principals.

All measurement items are listed in the Appendix, grouped by latent variable\(^{27}\). First-order variables were measured using a minimum of three items\(^{28}\) and all demonstrated acceptable levels of fit. Both second-order factors were modified as follows. First, *meaning* was excluded from the measurement of *psychological empowerment* due to excessive non-normality. Second, *intellectual stimulation*

\(^{26}\) It is not surprising that PCOs in schools demonstrate high levels of ‘meaningfulness’ in the roles they fill in this ‘helping’ profession. Their employment orientation is expected to demonstrate marked differences when compared with the insurance managers investigated by Spreitzer (1995).

\(^{27}\) In the survey instruments measurement items were randomised.

\(^{28}\) Variables reporting only one degree of freedom were modified to the extent that two error terms closely approximating each other’s size were set to equal in order to maintain appropriate model specification.
was excluded from the measurement of *transformational leadership* due to evidence of multicollinearity (overlap) with other component factors\(^\text{29}\).

Following scale assessment, remaining scales were collapsed into composites using the means of the univariate items for each scale. Table 1 contains the Pearson correlation matrix of key variables contained in the final structural model. When incorporating composite variables into the structural model it is necessary to constrain the measurement models in the second stage when the structural model is estimated. Consequently, the error term of each composite variable was constrained to 1 minus its reliability value (Cronbach’s alpha) (Hair, *et al*., 1998).

**Table 1  Pearson correlation matrix**

Fit indices for the two second-order variables (following scale refinement) are contained in Table 2 and both produce acceptable levels.

**Table 2  Latent variable second-order fit indices**

The outcome factor for this study is conceptualised to include all forms of management innovation that is substantive and has the capacity to be observed clearly. It is the extent to which state school principals demonstrate innovative practices in the management structure of the school, measured as a single

\(^{29}\) Elimination of these two dimensions from consideration in this study does not imply that they should not be included as measurements of their overarching constructs. For this study, however, data analysis does not support their inclusion.
question, using APs as raters. Since this variable was measured with only one item, its error variance was set to a very low value (0.001).

Results
The structural model was run initially using the maximum likelihood estimation method (ML), producing fit indices that were unacceptable, due perhaps to the relatively high, and consistent, levels of negative skewness of the first-order variables, leading to high levels of multivariate non-normality. The model was then run using the weighted least squares estimation process (WLS) since this method does not rely on assumptions of normality (Browne 1984)\textsuperscript{30}. Table 3 contains the fit indices of the structural model produced using both ML and WLS. Observation of that table reveals that fit indices are much improved under WLS, the structural model corresponding producing a chi-square value of 216.04 ($df = 37, p < 0.001$). While the $p$-value provides initial indication of lack of fit between the structural model and the model produced by the data, other indices provide support for acceptable fit indicators, with CFI = 0.974, NNFI (TLI) = 0.968 and GFI = 0.902. RMSEA of 0.095 is only marginally in excess of the upper limit of 0.08 and the value of CAIC for the independence model produces an index in excess of that of the saturated model, which in turn produces a value greater than

\textsuperscript{30} Care is required in the interpretation of the WLS results. Despite the large sample size from which these indices are generated (539 matched pairs), WLS requires responses in excess of 5,000 in number (Hu & Bentler 1995).
that of the hypothesised model. Figure 2 contains the final, tested, structural model in LISREL format.

**Figure 2**  
Structural model

**Table 3**  
Structural model fit indices

Observation of Table 4, containing parameter statistics, reveals support for all hypothesised relationships. All are significant at the 99% confidence level, using 1-tailed tests and all standard errors are acceptable. Not all parameters are in the hypothesised direction, however, with the *value of strategic information* producing a (small) negative influence on *psychological empowerment*. The influence of *psychological empowerment* on *transformational leadership*, while significant, is found to be weak, producing a parameter estimate of only 0.132 and a squared multiple correlation (explanatory power) of only 1.7%. All other hypotheses are supported. A summary of the results of hypothesis testing is presented in Table 5.

**Table 4**  
Parameter estimates for the hypothesised relationships

**Table 5**  
Summary of hypotheses

**Discussion**

Innovation, the outcome factor in this paper, is seen as an essential ingredient of education, especially under School-Based Management (SBM) governance.
systems. Within schools operating under SBM, the need for change has been summarised as follows.

*The central issue in any consideration of recent reform, especially that part that has entailed the introduction of the self-managing school in the public sector, is the relationship between reform and outcomes*” (Caldwell & Spinks 1998, p. 39).

Thus, the prime consideration of reforms involving SBM is that changes result. In order for such change to occur it is necessary that schools, under the leadership of their principals, seek and implement innovations that will bring about the outcomes outlined in the above quote. The motivation for SBM outlined as follows identifies the role of empowerment in this process.

*School districts in the USA* are implementing school-based management today to bring about a significant change in education: the empowering of school staff to create conditions in schools that will facilitate improvement, innovation and continuous professional growth (Herman & Herman 1992, p. 261).

Once SBM has been implemented, the task remains to identify what other variables facilitate change-oriented leadership. There is little evidence in the literature to support the contention that school principals in receipt of such decision-making power will experience increased feelings of empowerment. Neither is there evidence that principals will act to improve processes and implement strategies as a result of the implementation of SBM. Indeed, it has been argued (Conger & Kanungo, 1988) that management practices are only one
set of conditions determining feelings of empowerment and that such practices may empower employees (though they will not necessarily do so).

**Influencing principal empowerment**

Data analysis in this paper identifies that adequate resourcing appears to exert a strong influence on principals’ feelings of empowerment. It appears necessary, within budgetary constraints, to provide principals with resource levels that allow them to deliver the quantity and quality of educational programs appropriate for their students. This study indicates that an inadequate level of funding will act to impede principals’ feelings of empowerment within their schools. State school funding must be maintained at a level that facilitates principals’ sense of control over their schools and the curriculum they deliver.

It also appears that *role clarity* exerts a strong influence on perceptions of empowerment. Thus, if policy makers wish to increase principals’ feelings of empowerment in the running of their schools, it appears necessary to ensure that principals (and aspirants) clearly understand the role required of them as managers operating under this decentralised system. The full scope of the role of principal needs to be fully understood within this context. This can be achieved through appropriate training for aspirants, coupled with appropriate monitoring of principals’ understanding of the scope of the leadership task.

A surprising result of the data analysis, however, is the negative (albeit small) influence of the value of strategic information on feelings of empowerment where
a positive relationship was anticipated. Care is needed when interpreting this result, since it cannot be concluded that principals who value strategic information will demonstrate low feelings of empowerment. Such a conclusion is counter-intuitive and incongruous. A more appropriate conclusion is that other factors are influencing this relationship and that further research is required to identify them. In her original network, Spreitzer (1995) found that insurance managers with ‘access’ to strategic information about their organisation (relating to mission and its achievement) had increased feelings of psychological empowerment. Re-conceptualising ‘access to’ to strategic information to the ‘value of’ strategic information available to principals (contained within the School Charter/Triennial Review process) reveals that the information produced does not enhance their feelings of empowerment (perhaps acting as a barrier). While these processes may provide principals with useful information, on balance it appears that it is linked too closely with accountability. Given the relative weakness of the relation between the two variables in the model, the School Charter/Triennial Review processes may be regarded as a (minor) constraining influence on feelings of principal empowerment. This finding suggests that resources might appropriately be directed towards educating principals on the usefulness and mechanisms of strategic information systems within their own schools.
Influencing transformational leadership

Whereas anecdotal evidence supports the importance of empowerment in effective management, little empirical evidence is available to support this contention. There have been calls for studies that relate leadership practices to empowerment (Conger & Kanungo, 1988), with acknowledgement that there is a paucity of research into the leader’s role in the empowerment process (Konczak, et al., 2000). This study satisfies an identified need to conduct research within a specified management environment. Empirical analysis in this study suggests that, while there is some evidence to support the influence of psychological empowerment on transformational leadership, it appears that the predictive capacity of the relationship is not strong. While this result may have arisen from design limitations (eg. the dislocation of data sources – principal and AP) or sampling (eg. too many ‘old guard’ principals still hold their positions), it appears that factors other than empowerment influence principals’ transformational leadership capacities.

If it is desirable that principals’ transformational leadership capacities are increased, consideration needs to be given to identifying factors that influence this trait. It may be, for example, that fewer teachers aspire to positions of senior management because of the increased performance expectations\(^{31}\). As a result, the quality of those who apply for these positions may be well below that possible

\(^{31}\) Williams (2001), for example, identified the reluctance of appropriate personnel willing to take up the role of principal in Canada.
if a broader range of personnel wished to become principals. It is also possible that the culture existing within the teaching profession, one that exhibits a high level of union influence (Caldwell & Spinks, 1998) for example, is not conducive to change and any efforts of transformational principals are consistently countered. Perhaps the influence of the public sector ‘mentality’ within state schools acts as a barrier to principals’ attempts at transformation. A further possible explanation is that, since Schools of the Future has only been in operation since 1995, it has not had enough time to be fully absorbed into the state school management system and that similar research undertaken at a later date would produce much more supportive results.

The question remains, however, as to how transformational qualities can be encouraged within state school principals. A possible approach is to implement education/training programs that focus on the need for continual revision and innovation within schools in order to adapt to societal changes. Focus is needed on what systems and strategies are available to encourage such activity. Again, such programs need to be included in accreditation processes for teachers aspiring to take on the role of principal.

**Influencing innovation**

Finally, as anticipated, transformational leadership was found to exert a strong, positive influence on one conceptualisation of innovation (ie *innovation in management structure*). There is reason to believe that the influence would also
be strong for other school-related forms of innovation (eg on pedagogy, curriculum and educational design) as well. Thus, principals who are perceived as possessing qualities of a transformational leader appear to act innovatively. More importantly (for purposes of school improvement), the converse is true. That is, principals who do not possess transformational qualities will not act innovatively. Measures are needed to encourage such qualities in principals.

Innovation is seen as an essential ingredient of SBM. The Victorian State Minister of Education presiding over the introduction of SBM stated,

> Students need to access a diverse range of innovative providers of educational services that would meet the individual needs of each student so as to bring out the student’s full creativity and potential

(Caldwell & Hayward 1998, p. 33).

Thus, a consideration of reforms in state-owned education, especially that of SBM, is that change results. In order that such change occurs, it is necessary that schools, under the leadership of their principals, seek and implement innovations that will bring about improved student learning. Once SBM has been actuated, the task remains to identify what other factors increase transformational leadership characteristics. There is evidence from this study that feelings of empowerment will influence transformational leadership capabilities of principals that leads to innovation. The influence is not strong, however, and the task remains to identify other factors that encourage school principals to learn about, and to adopt, transformational leadership characteristics.
Limitations and future research

The limitations of a research project arising from the use of a survey design raise the opportunity for the application of more qualitative, multi-perspective studies. For example, case studies carried out in schools managed by principals claiming a high (or low) sense of empowerment would assist in identifying factors that influence desirable outcomes. Further, use of a qualitative design would be appropriate to gain a richer understanding of the role of psychological empowerment and transformational leadership in schools perceived as performing at above (and below) average levels of achievement.

More research is also needed to identify factors that influence psychological empowerment, as well as research that investigates factors that are influenced by psychological empowerment, both desirable and undesirable. It may be, for example, that increased levels of ‘felt’ empowerment influence certain individuals to act beyond the scope of their official duties, becoming ‘loose canons’ and creating feelings of insecurity and disruption within their school communities.

A limitation of the empirical analyses in this study is the use of the weighted least squares estimation method (WLS) due to the high levels of nonnormality in the data. Despite the fact that such patterns of nonnormality are to be expected in behavioural research (Micceri, 1989), statistics associated with SEM (notably maximum likelihood) are based on the assumption of multivariate normality (Jöreskog, 1969; Bollen, 1989). While this procedure is said to give consistent
parameter estimates in a variety of distributions (Yuan, 2000), it requires a very large sample size. Nonetheless, the 539 matched pairs used for empirical analysis in this study is thought to be adequate for certain evaluations of adequate fit, though on the lower end of acceptability (Hu & Bentler, 1995).

This study was undertaken within one particular system of education. Cross-cultural studies are also needed to identify social/ethnic differences between states that employ SBM systems. For example, cultural dimensions could be examined with reference to school principals in Hong Kong (where SBM operates) and New South Wales in Australia (where a more centralised, traditional, system of governance operates).

It was proposed in this study that improving a principal’s ability to bring about transformation and innovation within a dynamic environment is a desirable outcome and that improving principals’ feelings of empowerment would achieve this. While no strong relationship was identified, two sets of questions remain, both requiring further research. First, it is necessary to identify outcomes of managers’ psychological empowerment that are desirable. Despite the initial enthusiasm for psychological empowerment as an explanatory variable for desirable outcomes, little evidence has been produced to support this contention. While situational empowerment structures have been incorporated into SBM, there is a paucity of evidence that these mechanisms influence other desirable outcomes and more research is needed. Second, much the same can be said for
the failure to identify variables that influence a manager to take on qualities of transformational leadership. Weaknesses that have been identified in the theoretical conceptualisation (Yukl, 1999) stand in the way of the explanatory power of this variable. Further research is required to clarify the conceptualisation of transformational leadership, to identify variables that influence this variable, and to identify outcomes that either prevent or inhibit desirable organisational outcomes, especially student learning outcomes.
Appendix A  Abbreviations

This appendix contains a list of abbreviations and their explanations.

AP  Assistant Principal

CFA  Confirmatory factor analysis

DET  Victorian State *Department of Education and Training*

(formerly the *Department of Education, Employment and Training*)

LISREL  A statistical program designed to run SEM analyses (among other things)

ML  Maximum likelihood (an estimation method commonly used in SEM)

OECD  Organisation for Economic Co-operation and Development

PCO  Principal Class Officer

(the collection of principals and assistant principals)

SBM  school-based management (or site-based management)

SEM  Structural equation modelling

This is the collective name given to officers of the Victorian *Department of Education and Training* who occupy principal or assistant principal positions.

WLS  Weighted Least Squares (an estimation method used in SEM that takes account of high levels of non-normality)
Appendix B  Measurement questions

This appendix contains the measurement questions used for the indicators of the items used to test the structural model. The indicators are grouped according to their hypothesised latent variable, although in survey forms these items were randomised. Raters (principals or APs) are indicated in parentheses.

Dimensions of psychological empowerment (principals)

Competence

COMP1  I am confident about my ability to perform my job as a school principal.

COMP2  My job as school principal is within the scope of my abilities.

COMP3  I am self-assured about my capabilities to perform my work as a school principal.

COMP4  I have not yet mastered the skills necessary for my job as a school principal.

Impact

IMPACT1  My impact as school principal on what happens in this school is considerable.

IMPACT2  I do not have much control over what happens in my school.

IMPACT3  I have influence over what happens in my school.

IMPACT4  My opinion counts in decision-making within my school.
Meaning

MEANING1  The work that I do as a school principal is important to me.

MEANING2  My job activities as school principal are not personally meaningful to me.

MEANING3  I care about what I do in my job as school principal.

MEANING4  The work I do as school principal is meaningful to me.

Self-determination

SLFDET1  I have autonomy in determining how I do my job as a school principal.

SLFDET2  As a school principal, I can decide how to go about doing my work.

SLFDET3  I have little opportunity for independence in how I carry out my job as a school principal.

SLFDET4  I use personal initiative in carrying out my work as a school principal.

Antecedents to psychological empowerment (principals)

Value of strategic information

INFO1  I believe that goals of the school, as set out in the School Charter, are appropriate signposts to success.

INFO2  I value information that indicates whether the goals set out in the School Charter have been attained.
The School Charter and Triennial Review are valuable events in the operating cycle of this school.

I rely on the information fed back to me during the Triennial Review process.

**Role clarity**

- **ROLCLAR1** I feel certain about how much authority I have in my job as principal.
- **ROLCLAR2** I am not sure what my responsibilities are as a principal.
- **ROLCLAR3** I know what is expected of me in my role as principal.
- **ROLCLAR4** The explanation given to me concerning the role of principal is clear to me.

**Availability of adequate resources**

- **RESOURC1** When I need additional resources to do my job, I can usually get them.
- **RESOURC2** I have access to the resources I need to do my job well.
- **RESOURC3** I can obtain the resources necessary to support the implementation of new ideas.
- **RESOURC4** Lack of resources is a barrier to proper management of my school.

**Dimensions of Transformational leadership (APs)**

**Charisma**

- **CHARIS1** The principal displays power and confidence.
CHARIS2 The principal emphasises the collective mission (School Charter)
CHARIS3 The principal arouses awareness about important issues.
CHARIS4 The principal talks of values.

**Intellectual stimulation**

INTELL1 The principal seeks different views about how the school should operate.
INTELL2 The principal suggests new ways of doing things within the school.
INTELL3 The principal encourages me to develop/review professional goals consistent with school goals.
INTELL4 The principal facilitates opportunities for staff to learn from each other.

**Strategic vision and articulation**

VISION1 The principal consistently generates new ideas for the future of the school.
VISION2 The principal is inspirational, able to motivate by articulating effectively the importance of what members of the school community are doing.
VISION3 The principal has vision, often brings up ideas about possibilities for the future.
VISION4 The principal is entrepreneurial; seizes new opportunities in order to achieve goals.
Inspiring subordinates

INSPIRE1 The principal has a capacity to excite people with a vision of what might be accomplished if they work together.

INSPIRE2 The principal exhibits a capacity to get staff and students to believe they can overcome anything.

INSPIRE3 The principal has a capacity to provide a source of inspiration for others within the school.

INSPIRE4 The principal has a capacity to raise people to new levels of effort.

Measure of principal innovation (APs)

INMGT The principal actively promotes innovation in management structures within this school.
Vitae

Graeme C Rose BCom, TSTC Melbourne, MEc UNE, PhD Monash

Dr Rose has been employed as an accounting academic at Charles Sturt University since 1991. He teaches accounting theory, auditing, taxation law, external reporting and a number of masters level units. He also supervises postgraduate (MBA, DBA and PhD) students. Prior employment posts included secondary school teaching and public accountant.

Acknowledgements

I gratefully acknowledge the support of principal class officers of the Victorian State Department of Education and Training who provided me with data for this study and to the president of the Victorian Association of Secondary School Principals, Mr E. G. (Ted) Brierley, AM. Gratitude for assistance with this research is extended to my PhD supervisor Professor Kim Langfield-Smith (Monash University), Professor Louise Kloot (Swinburne University of Technology), as well as to colleagues at Charles Sturt University and an anonymous reviewer for their valuable and insightful comments. Thanks to Charles Sturt University’s Centre for Graduate Studies and Monash University’s Department of Accounting and Finance for funding assistance.
References


Practice: A Review and Recommended Two-Step Approach. Psychological

Organizational Behavior and Human Decision Processes, 43, pp. 207-242.

Transformational and Transactional Leadership Using the Multifactor
Leadership Questionnaire. Journal of Occupational and Organizational
Psychology, 72, pp. 441-462.

Psychologist, 44, pp. 1175-1184.

Bandura, A. (1997). Self-efficacy: the exercise of control,. W.H. Freeman and
Company, New York.

York: The Free Press.


183-211.


Research and Development. Madison, WI.


175-195.


the Relationship between Psychological Empowerment and Effectiveness,


Spreitzer, G. M. & Quinn, R. E. (1996). Empowering Middle Managers to be


Press, New York.

Weiner, E. J. (2003). ‘Secretary Paulo Freire and the Democratization of Power:
Toward a Theory of Transformative Leadership, *Educational Philosophy &


List of Figures

Figure 1    Research model

Figure 2    Structural model
List of Tables

Table 1       Pearson correlation matrix
Table 2       Latent variable second-order fit indices
Table 3       Structural model fit indices
Table 4       Parameter estimates for the hypothesised relationships
Table 5       Summary of hypotheses