



School autonomy policies lead to increases in principal autonomy and job satisfaction

Marcus Horwood^{a,*}, Philip D. Parker^{b,1}, Herbert W. Marsh^{b,c,1}, Jiesi Guo^{b,1}, Theresa Dicke^{b,1}

^a School of Education, Faculty of Arts & Education, Deakin University, 221 Burwood Highway, Burwood, VIC 3125, Australia

^b Australian Catholic University, Australia

^c University of Oxford, United Kingdom

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ABSTRACT

We explore whether decentralization of decision-making influences school principals' subjective experience of autonomy, job demands, burnout, and job satisfaction. Using six-years of longitudinal data, we used two Australian education reforms as a natural experiment of the effect of decentralization. Exploiting state-to-state variation in the policies, we used difference-in-differences models, finding that the decentralization policies had a small influence on increasing self-perceptions of autonomy without increasing job demands. We also found that the policies had a small positive effect on job satisfaction.

1. Introduction

A frequent axis upon which many modern educational reforms vary is whether they increase school autonomy (Cecchi et al., 2014). While substantial research has considered school autonomy's influence on student outcomes (see Cecchi et al., 2014 for a review), little research has explored the effect on principals' outcomes and job characteristics despite principals being those most directly affected. The current study explores the effect of school autonomy policies on school principals' subjective experience of autonomy, job demands, burnout, and job satisfaction. We used longitudinal data to take advantage of a natural experiment to ask: did school autonomy policies actually raise principals' experience of autonomy?; Did this come at the cost of increased job demands? And did these policies subsequently lead to changes in job satisfaction or burnout?. Our primary aim was to determine if school autonomy policies (i.e., policies aimed at increasing decision-making responsibility) influence the psychological impact of autonomy (i.e., the internal perception of control over what happens in your school). This is important as psychological or subjective autonomy experiences are thought to be a basic human need and are known to have health and well-being benefits (e.g., Ryan & Deci, 2017). Thus, this research aims to provide some evidence of the psychological benefits or otherwise of policies that have come to categorize the Global Education Reform Movement.

* Corresponding author.

E-mail address: marcus.horwood@deakin.edu.au (M. Horwood).

¹ Institute for Positive Psychology and Education, Level 10, 33 Berry Street, North Sydney 2060; PO Box 968, North Sydney, NSW 2059, Australia.

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2. The global education reform movement and school principal autonomy

Since the 1990s, the Global Education Reform Movement has resulted in standardization-oriented reforms being implemented worldwide, especially within OECD nations (Mundy et al., 2016; Sahlberg, 2015). Education systems have also progressively become decentralized in an attempt to better serve the needs of students and the community (Checchi, 2006). Consequently, over the last decade, education reform has been focused on increasing school autonomy, yet still framed within standardized accountability metrics and national guidelines (Weiner & Woulfin, 2017). These policies provide the perception that principals can make decisions, but the principals still remain beholden to the oversight of various education department officials. Differing forms of education reform reflecting this strategy is evident in numerous countries, such as the US (Steinberg & Cox, 2017), Finland (Saarivirta & Kumpulainen, 2016), the UK (Weiner & Woulfin, 2017), China (Hamilton, 2014), and Australia (Hingston, 2018).

School autonomy policies have often been implemented within a controlled framework. This means that, although increased responsibilities are typically placed on school principals, principals are provided with publicly available “guidelines” and “templates” on how the overarching departments expect such procedures should be implemented. Further, with suggested ways of conducting practice made public, principals are beholden to the public’s expectations of proceeding. These are in combination with frequently monitored accountability and performance metrics (e.g., budget, student performance), and areas of foci regarding resourcing.

Because school autonomy policies have so often been implemented within a controlled framework, it begs the question of whether such policies actually do lead to increases in school principal’s felt perception of autonomy. That is, it is not clear whether principals feel any additional sense of control over the direction of their school despite increases in decision making responsibility.

2.1. Psychological perspective of autonomy

It is important to distinguish between what is categorized as autonomy in education policy, and the psychological notion of autonomy. Job autonomy within the context of education policy refers holistically to the extent an individual has discretion over when, where, and how they do their work (Hackman & Oldham, 1980). Psychological autonomy, however, goes beyond one’s ability to make their own decisions. To feel a sense of autonomy, one’s actions must be self-endorsed, and in line with one’s authentic interests and values (Ryan & Deci, 2017). Ryan & Deci (2017) state, that one does not experience autonomy when “regulated by external forces” (p. 11). As such, the accountability metrics typical of school autonomy policies may reduce, if not negate, any felt autonomy by school principals.

Lower levels of job autonomy have been reported to increase employee burnout levels (Kim, 2016). Further, Shih et al. (2011) reported the extent of job autonomy workers perceived in their roles negatively influenced not only reported burnout, but also how demanding they considered their positions. Therefore, it is important to determine whether school autonomy policies increase subjective autonomy and whether they result in increased job demands.

2.2. School principal job demands

In order to determine the impact of school autonomy education reforms on school principal job demands (and determine whether the assertions such policies have led to increases in demands on school principals), we need to determine the underlying nature of the school principal’s role. It involves many aspects, such as leadership, working with policy makers, providing a service to clients (parents and students), financial budgeting, recruitment, strategic projects, reporting, teacher evaluations, and teaching (Torff & Sessions, 2005; see also Dadaczynski & Paulus, 2015). School principals must also be visionaries and directors, people developers, organization designers, and teaching and learning program managers (Dadaczynski & Paulus, 2015; Leithwood, 1994). Thus, school leaders have a diverse, demanding, and often overwhelming number of responsibilities. As a likely result, Riley found that 76% of school leaders reported working more than 51–56 h per week, and 25% reported working over 61–65 h a week. Consequently, school leaders are reporting high demands (Riley, 2019).

With both the extent and variety of demands placed on Australian school leaders, it is necessary to consider the specific types of job demands experienced and, thus, possibly impacted by controlled autonomy education reforms. As such, we refer to the literature review conducted by Horwood, 2021 to identify the key demands of interest for school leaders; quantitative demands, cognitive demands, emotional demands, and the demand for hiding emotions.

3. School principal wellbeing outcomes

In Australia—the context for the current research—it has been claimed school autonomy reforms have been detrimental to school principals (Australian Education Union, 2019). The context for these claims is the growing levels of burnout reported by school principals compared to the average population (Riley, 2019). Organizations advocating for school principals have blamed education reforms promoting autonomy (Australian Education Union, 2019). Yet, there is a lack of empirical evidence for this contention. Further, Horwood, 2021 showed that increased autonomy was associated with greater job satisfaction. Hence, it is important to examine whether school autonomy education reform has led to increases in school principals’ felt autonomy, job demands, and job satisfaction.

3.1. Burnout

Initially coined in the 1970s, the concept of burnout has dramatically grown in interest and focus when considering those suffering from workplace stressors (Cooper & Farber, 1985; Letter et al., 2014). Letter et al. summarized burnout as “a psychological syndrome of exhaustion, cynicism, and inefficacy” resulting from chronic job stressors (2014, p. 56). However, the majority of burnout research focuses on a state of physical, emotional, and mental exhaustion (Fragoso et al., 2016; Malach-Pines & Carlson, 2005) as research has shown that exhaustion is the key component of employee burnout (see Leiter et al., 2013). As such, popularly used measures such as the Copenhagen Psychosocial Questionnaire (see — et al., 2018) and the Burnout Measure (see Malach-Pines & Carlson, 2005) only measure the primary exhaustion component of burnout.

Burnout is associated with somatic stress, poorer health outcomes/ill-health, and depressive symptoms (Fragoso et al., 2016; Hakanen et al., 2006; Leiter et al., 2013). Greater levels of burnout are associated with increased the use of psychotropic drugs and elevated risk of poor mental health (Leiter et al., 2013). Burnout is also associated with a reduction in work performance and ability (Fragoso et al., 2016). Greater levels of absenteeism and attrition have also been linked with greater levels of employee burnout (Bakker & Demerouti, 2014). The extent of burnout also negatively correlates with reported job satisfaction levels (Bogaert et al., 2013).

3.2. Job satisfaction

Job satisfaction has been researched extensively for almost a century; however, little has changed from its initial definition. In the 1930s, Kornhauser and Sharp (1932) defined job satisfaction as a self-reported, evaluative judgement of either particular or holistic work attitudes or their combination. This remains the underlying concept of job satisfaction today (also see Judge et al., 2017). Being of great interest to both those working in organizations and researchers, job satisfaction is the most frequently studied variable in organizational psychology (Spector, 1997). Although there are many similar concepts (e.g., work engagement, work commitment, and work experience), job satisfaction is distinct. In particular, it is an individual’s evaluation of their work in relation to specific facets (e.g., pay, co-workers, or supervision) or more generally (Weiss & Merio, 2015).

The significant focus on job satisfaction, especially by organizations, makes sense considering the associated effects on workers. Job satisfaction has been reported to positively influence job performance, and organizational citizenship behavior. Job satisfaction is also negatively associated with absenteeism and attrition; large expenses to an organization.

In summary it is evident that job satisfaction and burnout have opposing relations with many of the same variables. Thus organizations seek to increase job satisfaction and reduce burnout levels of their workers.

4. Australian education reform: a natural experiment

We searched for natural experiments to determine the impact of school autonomy policies on school principals’ outcomes. In Australia, the differential policy context across jurisdictions provided a powerful natural experiment of the impact of school autonomy policies. We studied the two school autonomy policies (detailed below): the *Empowering Local Schools National Partnership* (ELS) and *Local Schools Local Decisions* (LSLD). The ELS was rolled out nationally to a select number of schools. The strategy was uniform across government-run schools, thus providing a basis for a natural experiment (i.e., government-run schools that were involved with the ELS vs government schools that were not). The LSLD was specific to schools in the Australian state of New South Wales, and implemented uniformly across government-run schools. The implementation of this policy occurred during a time when no school autonomy policies, or major education reforms were being implemented in the Australian state South Australia. A natural experiment between NSW (experimental group) and South Australia (control group) was possible. See below for more details.

4.1. Empowering local schools national partnership

The *Empowering Local Schools National Partnership* (ELS) was an Australian Federal Government initiative that aimed to increase school principals’ decision-making in three areas of governance: funding, infrastructure, and workforce (Department of Education, Employment & Workplace Relations, 2013). Upon its implementation in 2012, 926 government, Catholic, and independent schools across Australia participated. As described by the government, the ELS was designed to help “create an enabling environment in which schools can make decisions about how best to improve teaching and learning” (Department of Education, Employment & Workplace Relations, 2013, para 9).

ELS ran between 2012 and 2014, where the participating schools were provided with start-up grants of between \$40,000 - \$50,000 (AUD), in addition to school leaders being provided with training and professional development opportunities (worth up to \$3500). In 2014, a newly elected government abolished the ELS. This two-year window when ELS was enacted in some schools provided an opportunity to estimate the effect of both the implementation and abolishment of a school autonomy policy on principal outcomes.

4.2. Local schools local decisions

The *Local Schools Local Decisions* (LSLD) was a school autonomy policy implemented in a single Australian state in 2012. LSLD aimed to give “principals and their school communities a greater say over how they allocate and use their available resources to best meet the needs of their students” (NSW Department of Education, 2017). The LSLD reforms had five distinct areas of focus, giving

principals greater power in managing resources and staffing, working locally, reducing red tape, and greater principal decision-making latitude. This policy led to school principals deciding how to fill approximately 60% of staff vacancies, removing limitations being removed on how school budgets would be allocated, and the ability for school leaders to engage and work with vendors and entities within their local communities. Several protocol templates were also designed to assist school leaders with their new responsibilities and new courses being made available for professional development. The NSW education department reports that, due to the LSLD policy, schools managed more than 70% of the state's public school education budget in 2018, versus the 10% schools managed in 2013 (NSW Department of Education, 2021). For a detailed breakdown of the LSLD changes, you can refer to the report card (<https://schoolsequella.det.nsw.edu.au/file/01aaf26c-efc8-4344-b390-517c91460e43/1/LSLDReportCard.pdf>).

5. The present investigation

5.1. Research questions and hypotheses

We used the Australian context as a natural experiment to address following research questions:

- Has school autonomy education reform led to increased psychological or felt school principal autonomy?
- Has this education reform led to increases in reported job demands?
- What impact has this education reform had on school principals' burnout and job satisfaction?

6. Methods

6.1. Participants

The data were sourced from the Australian Principal Occupational Health, Safety and Wellbeing Survey (Riley, 2019). It consisting of data from 5082 school principals in Australia (school heads of departments, assistant school principals, and school principals) collected yearly between 2011 and 2016 inclusive (they completed the survey at least once). These data consist of approximately 50% of all Australian school principals and are representative of the population of Australian school principals (Riley, 2019). This broad coverage made it possible to use the quasi-experimental design adopted in this study. From this sample, we defined two comparison samples to test the effect of the ELS and LSLD. Each had different exclusion criteria.

6.1.1. ELS

For the ELS study, we took all principals that were from government schools participating in ELS. As ELS funding was provided to schools rather than principals, the primary unit of selection was the school. In all models, we controlled the nesting of observations within both schools and participants. The ELS study consisted of 3927 participants, of which 425 participants received ELS funding (M Age = 49, 56% male). The remaining 3502 were government school principals who did not receive ELS funding (M Age = 49, 60% male).

6.1.2. LSLD

For the LSLD study ($N = 1004$) we chose all government school principals in New South Wales (NSW; where LSLD is a policy of the state government) and South Australia (a comparatively similar state that did not have LSLD or similar policies during the years considered). The NSW principal sample consisted of 693 participants (M Age = 47, 60% male); and the South Australian principal sample consisted of 311 participants (M Age = 51, 66% male). As with the ELS study, LSLD was targeted at schools.

6.2. Measures

Principal autonomy was represented by four distinct facets of autonomy identified in the LSLD policy (managing resources, staff in our schools, working locally, and making decisions; NSW Department of Education, 2017). Each facet was measured by two items, where principals ranked the extent of autonomy they believed they had over these facets of autonomy (e.g., "staff in our schools" autonomy was measured by the extent of autonomy principals felt they had over managing teaching staff, and the extent of autonomy they had measuring other staff). For a breakdown of the items for each autonomy facet, please refer to Appendix 1.

School principal burnout, job satisfaction, job demands (quantitative demands, cognitive demands, emotional demands, and the demand for hiding emotions) were measured using the Copenhagen Psychosocial Questionnaire (Dicke et al., 2018; Kristensen et al., 2005). Please see Appendix 2 for the relevant items and Cronach's alpha statistics.

6.3. Psychometric testing and factor score extraction

In order to extract single values per variable for use in the difference-in-differences analyses (discussed below), we created first and second-order structural equation models to calculate factor scores. The first-order model consisted of factors representing the four separate job demands (quantitative demands, cognitive demands, emotional demands, and the demand for hiding emotions), the four separate autonomy foci (managing resources, staff in our schools, working locally, and making decisions), burnout, and job satisfaction. The second order model consisted of one higher-order factor representing job demands and one higher-order factor

representing autonomy.

To confirm the validity of the factor scores, we explored the fit of both the first and second-order models using the Tucker-Lewis Index (TLI; Tucker & Lewis, 1973), the Comparative Fit Index (CFI; Bentler, 1990), and the Root Mean Squared Error of Approximation (RMSEA; Marsh, Hau, & Grayson, 2005; Steiger, 1989). Although we also report the chi-squared (χ^2) value, a fit statistic where a non-significant value is deemed to represent a good model fit to the data, we expected the chi-squared values to be significant. This is because the chi-squared value is sensitive to sample size, resulting in most applied SEM researchers to not automatically interpret a significant chi-squared value as meaning the data fits the model poorly (Cheung & Rensvold, 2002).

The psychometric testing indicated that both the first- and higher-order models reasonable fits to the data. The first-order model had a χ^2 of 14,631, a CFI of 0.94, a TLI of 0.93, and a RMSEA of 0.03. The higher-order model had a χ^2 of 17,147, a CFI of 0.92, a TLI of 0.92, and a RMSEA of 0.04. To be expected, the fit of the higher-order model is slightly poorer than that of the first-order model. This is because the higher-order model is nested under the first-order model (i.e., the model with the individual job demands and job resources specified), thus being more parsimonious. As both models indicated reasonable fit, we used the extracted factor scores to conduct the difference-in-differences analyses.

We note, data associated with the school principal outcomes are not publicly available. If further validation or queries associated with the data are required, please do not hesitate to contact the corresponding author.

6.4. Analysis

6.4.1. Difference-in-differences (DID)

A common issue with quasi-experimental designs is that the allocated treatment and control groups have significant differences in outcome variable levels before the treatment. As such, conducting between-group t-tests on post-test measures is a poor approach to evaluating the treatment's impact. The econometric difference-in-differences (DID) method, however, measures the difference between the before-after treatment period differences of the "treatment" and "control" group and controls for pre-treatment differences (Lee, 2016).

We used two strategies for ELS and one for LSLD. For ELS we looked at both the effect of introducing the policy (hereafter 'introduction effect') and the effect of the removal of the policy (hereafter 'removal effect'). The models for the LSLD are similar, except that this policy was not removed. As such, we only estimated the introduction effect. Thus, for both models, we estimated the model as:

$$y = \alpha + X\gamma + 1\text{Group} + 2\text{Policy} + 3\text{Group} \times \text{Policy} + i$$

- α = Constant
- $X\gamma$ = the effect of a set of pre-treatment control variables (see below).
- 1 = The treatment group specific effect
- 2 = A dummy variable indicating observation prior to or post policy introduction
- 3 = The DID estimate or treatment effect

In the ELS model, we considered three blocks of data: a) pre-policy introduction, b) during policy, and c) after the policy was removed. We evaluated two DID models. First, we ran an introduction effect DID model to compare data from time block (a) to (b). Second, we ran a removal effect DID model comparing time block (b) to (c). In these two models, we hypothesized the results to be in opposite directions (i.e., that the introduction of the ELS policy would have the opposite effect to its removal).

Control Variables and Identification Strategy. Across all models, the following control variables were used.

Socio-Economic Indexes of Areas (SEIFA). The SEIFA (commonly known as socio-economic status) was developed by the Australian Bureau of Statistics (ABS; Australian Bureau of Statistics, 2019). We obtained the SEIFA index for each school from government administrative records.

School Type. The categorization of the school in which the principal worked, either being Primary (Kindergarten to Grade 6), Secondary (Grade 7 to Grade 12), or Combined (Kindergarten to Grade 12). We excluded independent (or private) schools from the analysis, given they operate under a different regulatory environment.

Locality. The designation by the ABS as to whether the principal's school is located within a Major City, Outer Regional, Remote, or Very Remote area.

Gender. Whether the principal was male or female.

State/Territory. In what Australian state or territory was the school located (ELS only).

Participant ID. A unique identifier for each participant.

School ID – Addressing Time-varying Qualifications. Another issue common to longitudinal quasi-experimental designs is accounting for when a participant's situation changes that leads to them either no longer qualifying to be included in the treatment or control group, or now qualifying for the other group to that they were initially designated (Lee, 2016). For example, if we were using a panel data approach looking at the impact of LSLD on school leaders, and a number of school leaders changed employment to a different state or territory during the period of analysis, these participants' data would confound our results since some participants would still be classified as being affected by LSLD per the analysis (treatment group), yet in reality, they no longer were within New South Wales (control or excluded). To address this issue, we converted the dataset's cases from being based on participant ID, to School ID (i.e., a unique identifier assigned to every school within Australia). Thus, all cases were time-constant (i.e., schools are unable to change state or territory). This process, however, led to missing data for multiple time points (in addition to the already missing data from school leaders who did not complete the survey for every year). We therefore adopted a repeated cross-sections approach to our

analyses, which relied on comparing the difference in the average score of all relevant participants per time point, rather than comparing the difference in scores associated with the same participants per time point (Lee, 2016). This approach prevented the need to only include participants who remained employed at the same school and had completed the survey every year (very few would meet these qualifications) or conduct data imputation for the missing data.

7. Results

7.1. RQ1 - has school autonomy education reform led to increased psychological or felt school principal autonomy?

Our results regarding both the ELS and LSLD policy DID analyses suggest that the education reforms indeed increased school principals' psychological or felt autonomy. We note, however, that the estimates (Table 1) reflect the standard deviation of difference in results when comparing those who experienced the policy with those that did not. For example, school principals who experienced the ELS reported significantly higher global autonomy levels (0.149 of a standard deviation) than those who did not (see Table 1). Further, when the ELS was abolished, the impacted school principals reported significantly lower levels of reported global autonomy.

Regarding the specific autonomy dimensions, school principals involved with the ELS reported increases in all dimensions. Upon the ELS being abolished, however, school principals only reported a significant decline in autonomy associated with Decision Making.

The LSLD appears to have affected school principal autonomy similarly to that of the ELS. Global autonomy and each of the specific dimensions significantly increased as a result of LSLD.

7.2. RQ2 - has such education reform led to increases in reported job demands?

School principals experiencing either the ELS or the LSLD did not report any significant changes to their job demands, global or specific (see Table 2).

7.3. RQ3 - what impact has education reform of this nature had on school principal burnout symptoms and reported job satisfaction?

Our results suggest that neither of the policies coincided with changes in school principal burnout (see Table 3). Although the implementation of the ELS did not impact job satisfaction, the intervention principals reported a significant decline in job satisfaction once the ELS was abolished. School principals experiencing the LSLD reported significantly higher levels of job satisfaction once the LSLD was implemented.

8. Discussion

The aim of this study was to determine whether the current international education reforms focussed on decentralization lead to increases in school principal autonomy. Further, we explored how such education reforms impact reported school principal burnout, job satisfaction, and job demands. With such education forms being implemented worldwide, in addition to the important role school principals play in society, the findings of this study are of international interest and importance.

Autonomy based education reform is being embraced by education industries globally (Weiner & Woulfin, 2017). Hence it is important to determine whether such policies lead to real increases to school leader autonomy and whether this is at the cost of increased job demands and burnout.

The results from our research support the efficacy of a controlled autonomy centric education reform strategy, where the two analysed education reforms focused on increasing school principal-controlled autonomy led to significant increases in reported school principal autonomy. Our findings appear to refute the suggestion that these educational reforms increase school principals' job demands and burnout (Australian Education Union, 2019). Our results show that neither ELS nor LSLD led to material changes in these

Table 1
Policy effects on autonomy.

Autonomy	Effect	ELS			LSLD		
		Estimate	SE	p	Estimate	SE	p
Global	Introduction	.149	.046	.001	.231	.074	.002
	Removal	-0.070	.036	.049			
Decision Making	Introduction	.175	.061	.004	.302	.102	.003
	Removal	-0.102	.048	.035			
Managing Staff	Introduction	.202	.070	.004	.386	.117	.001
	Removal	-0.100	.054	.066			
Managing Resources	Introduction	.137	.059	.021	.198	.092	.031
	Removal	-0.074	.046	.107			
Working with the Community	Introduction	.146	.052	.005	.172	.084	.041
	Removal	-0.049	.041	.228			

Note. Introduction = the effect on the outcome when comparing before and after the policy is implemented. Removal = the effect on the outcome when comparing the outcome while the policy is enacted with when the policy is abolished. Estimate = the standard deviation difference in results when comparing those who experienced the policy with those that did not. Significant p values (below 0.05) are in bold.

Table 2
Job demands difference-in-differences results.

Demands	Effect	ELS			LSLD		
		Estimate	SE	p	Estimate	SE	p
Global	Introduction	-0.029	.020	.163	-0.003	.032	.930
	Removal	-0.015	.016	.365			
Quantitative Demands	Introduction	-0.013	.043	.771	.025	.072	.731
	Removal	-0.031	.035	.384			
Cognitive Demands	Introduction	-0.063	.040	.112	-0.021	.063	.738
	Removal	-0.034	.031	.275			
Emotional Demands	Introduction	-0.056	.046	.226	.004	.073	.957
	Removal	-0.036	.037	.330			
Demand for Hiding Emotions	Introduction	-0.052	.034	.119	-0.045	.054	.403
	Removal	-0.012	.026	.653			

Note. Introduction = the effect on the outcome when comparing before and after the policy is implemented. Removal = the effect on the outcome when comparing the outcome while the policy is enacted with when the policy is abolished. Estimate = the standard deviation difference in results when comparing those who experienced the policy with those that did not. Significant p values (below 0.05) are in bold.

Table 3
Principal wellbeing difference-in-differences results.

Outcome	Effect	ELS			LSLD		
		Estimate	SE	p	Estimate	SE	p
Burnout	Introduction	-0.041	.061	.499	-0.054	.100	.585
	Removal	-0.041	.049	.400			
Job Satisfaction	Introduction	.207	.077	.008	.077	2.677	.008
	Removal	-0.095	.040	.019			

Note. Introduction = the effect on the outcome when comparing before and after the policy is implemented. Removal = the effect on the outcome when comparing the outcome while the policy is enacted with when the policy is abolished. Estimate = the standard deviation difference in results when comparing those who experienced the policy with those that did not. Significant p values (below 0.05) are in bold.

Table A1
Principal autonomy facets and items.

Autonomy Facet	Item
Staff in our Schools	- Managing teaching staff - Managing other staff
Managing Resources	- Managing school budgets - Managing school resources
Making Decisions	- Providing strategic focus and direction to colleagues - Leading the development of teaching and learning
Working Locally	- Building relationships with community agencies - Working with parents

Note: The autonomy facets reflect the key areas of expanded autonomy identified in the Local Schools Local Decisions Initiative (NSW Department of Education, 2017). Survey respondents were asked to what extent they had autonomy over each responsibility on a 1 (no autonomy) to 10 (complete autonomy) Likert scale.

outcomes. However, our findings do support the positive impact of autonomy on job satisfaction. Nevertheless, this result was not entirely consistent across the two reforms (i.e., job satisfaction significantly increased due to LSLD, yet did not significantly increase with ELS implementation, only decreased when the ELS was abolished). As such, greater caution needs to be taken when drawing conclusions regarding the impact of these policies on job satisfaction.

Policymakers should be pleased to know that the recent push toward greater school principal controlled autonomy is indeed leading to greater school leader autonomy. Furthermore this increased autonomy does not appear to be at the expense of increased job demands and burnout.

8.1. Limitations and areas for further research

This study focused on Australian education reforms and school principals. Hence it is important to replicate the results in other countries and different school systems. This research would test the replicability of our finding and lead to a better understanding of these policy reforms.

The outcomes of interest were measured using self-report measures. However, this was appropriate because these outcomes were the subjective experiences of school principals. Nevertheless, it is important for future research to consider a broader set of outcomes.

Table A2
COPSOQ II Relevant latent variable items and Cronbach's Alpha statistics.

Latent Variable	Items	Cronbach's Alpha*
Job Demands		
Quantitative Demands	- Is your workload unevenly distributed so it piles up? - How often do you not have time to complete all your work tasks?	0.82
Cognitive Demands	- Do you have to keep your eyes on lots of things while you work? - Does your work require that you remember a lot of things?	0.74
Emotional Demands	- Does your work put you in emotionally disturbing situations? - Do you have to relate to other people's personal problems as part of your work?	0.87
Demand for Hiding Emotion	- Are you required to treat everyone equally, even if you do not feel like it? - Does your work require that you hide your feelings?	0.57
Principal Outcomes		
Burnout	These questions are about how you have been during the last 4 weeks. - How often have you felt worn out? - How often have you been physically exhausted?	0.83
Job Satisfaction	Regarding your work in general. How pleased are you with: - your work prospects? - the physical working conditions?	0.82
	- Do you get behind with your work? - Do you have enough time for your work tasks? (reverse scored) - Does your work demand that you are good at coming up with new ideas? - Does your work require you to make difficult decisions? - Is your work emotionally demanding? - Do you get emotionally involved in your work? - Are you required to be kind and open towards everyone – regardless of how they behave towards you? - How often have you been emotionally exhausted? - How often have you felt tired? - the way your abilities are used? - your job as a whole, everything taken into consideration?	

* Sourced from the official COPSOQ II scale documents (COPSOQ International Network, 2007).

These should include not only the potential benefits to school staff and teachers, but also student well-being and achievement outcomes.

Finally, policymakers should compare the impact of alternative strategies to address specific student and school needs with that of controlled autonomy education reform. This would allow them to compare the benefits of these policy reforms to alternative policies, in addition to outcomes in control schools where the reforms were not implemented. This will ensure that the most appropriate education policies to meet the needs of both school principals and their students are being adopted.

9. Conclusion

The current international education reform agenda was successful in increasing the autonomy of school principals. Further, this agenda was not at the expense of increased burnout and job demands, and led to increased in job satisfaction. Nevertheless, further research into the efficacy of these reforms on increasing student outcomes is needed. Policy makers should weigh up the effectiveness of alternative policy approaches to ensure they are best using their resources to support their school staff, students, and the broader school community.

Declaration of Competing Interest

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Appendices

Contents

1. School Leader Autonomy Facets and Items
2. COPSOQ II Relevant Latent Variable Items and Cronbach's Alpha Statistics

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