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The marketisation of education in Australia: Does investment in private schooling improve post-school outcomes?

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Bio

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Abstract

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measured by the Programme for International Student Assessment (PISA) tests. Furthermore, there was no statistically significant association between type of school attended and employment status, occupation or earnings at age 24, net of level of educational attainment.

Key words: school choice; social stratification; secondary students

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Introduction

National education systems focus on the integration of individuals into society and the provision of opportunities for social mobility (Pfeffer 2015). In Australia, education is a state/territory responsibility, therefore there are eight jurisdictions. To further complicate matters, there are three school sectors: government; Catholic; and independent operating in each state/territory. There are wide variations in the education systems operating in each state/territory as well as within states/territories according to sector. Although Catholic and independent schools are referred to as private or non-government schools, in 2017, all schools in each sector were funded to varying degrees by the federal and state/territory governments. In recent decades, there has been rapid growth in the non-government schooling sector and declining levels of public schooling. Schools, both government and non-government, in high socio-economic status (SES) areas are typically associated with higher than average levels of educational achievement, thus high SES parents wishing to send their children to high achieving schools have the option of residing in high SES neighbourhoods (Phillips *et al*. 2015) and/or sending their children to private schools. As government funding for non-government schools increased, students from families across the SES spectrum have gravitated towards non-government schools. In essence, parents have followed the funding (Kenway 2013). Selecting the 'right' school, that is, one that will provide the resources and

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learning experiences that they perceive as being appropriate for the development of their child, is symbolic of being a good parent (Thomson 2013).

Despite increased levels of both government and private expenditure on schooling, Programme for International Student Assessment (PISA) results suggest that, over time, Australian students have not improved against national and international benchmarks (Baroutsis & Lingard 2017). Therefore, increasing investment is not necessarily associated with improved outcomes, in terms of meeting or exceeding national or international benchmarks, in secondary school. According to the Organisation for Economic Cooperation and Development (OECD) (2017), the percentage of Gross Domestic Product (GDP) spent on primary and secondary education by Australian governments is lower than the OECD average and the relative share of primary and secondary school funding from private sources is the highest in the OECD at 0.7 per cent of GDP. Between 2005 and 2014, the percentage of total education funding provided by governments declined from 84 per cent to 81 per cent indicating that parents are providing an increasing share of school funding.

In this paper, I examine post-school outcomes at age 24 years to examine whether students who attended non-government schools had superior outcomes to those who attended government schools. Given the current resurgence in public interest in how schools are funded and the amount of funding being allocated to non-government schools, this examination of the post-school outcomes of one cohort of young Australians is timely. Analysis of data collected over a ten-year period by the Longitudinal Surveys of Australian Youth (LSAY) project makes it possible to examine whether the attendance of a non-government school is positively associated with labour market outcomes. The cohort of young Australians selected for this study were aged 15 years in 2003. They attended primary and secondary school during the period of rapid expansion in the non-government school sector as governments directed an increasing share of school funding to non-government schools. In the first part of this paper, I provide an overview of trends in school funding, the theoretical concepts currently underpinning the funding of education in Australia and the results of previous research. After introducing the data and analytical strategy, I present and discuss the results.

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Private versus public schooling

Although the Australian Government provided some one-off grants to private schools in the 1960s, it was not until the 1969 Independent Schools Act, that recurrent federal funding for non-government schools was introduced to complement recurrent funding provided by state governments (Anderson 2002; Watson & Ryan 2010). All schools were funded on a needs basis, therefore, the wealthiest schools received no government funding (Pitman 2012). Between 1973 and 1994, the number of non-government schools increased from 2,176 to 2,520 and the percentage of all students educated in non-government schools increased from 21 to 28.5 per cent. The number of government schools decreased during this period from 7,311 to 7,159 (ABS 1973, 1994).

Since 1994, non-government schools have received an increasing proportion of their total funding from governments. According to Vella (1999), in 1994, systemic Catholic schools received, on average, 72 per cent of their funding from governments (21% from state/territory and 51% from federal). On average, independent schools, (including private Catholic schools) received 33 per cent of their funding from governments (12% from state/territory and 21% from federal). By 2010, state/territory and federal governments provided, on average, 77 per cent of the total funding for Catholic schools and 45 per cent, on average, of the total funding for independent schools (Gonski *et al.* 2011). In 2014, there were 2,738 non-government schools educating 40 per cent of all students and the number of government schools had declined to 6,651 (ABS 2014).

Previous research provides evidence of a reallocation of funding from the government sector to the private sector (Lamb *et al.* 2004; Sherington & Campbell 2004). According to Sherington and Campbell (2004) the redirection of funding from government to non-government schools was the result of policies aimed at increasing parental choice rather than policies to aid non-wealthy schools. Lamb *et al.* (2004) found that government funding for non-government schools increased by 107 per cent between 1991 and 2000, double the rate of the increase in government funding for government schools of 52 per cent. This trend has continued with the Productivity Commission (2016: 4) finding that between 2009/10 and 2013/14, government funding for non-government schools increased by 3.4 per cent per year and government funding for government schools increased by just 0.6 per cent per year. According to the Productivity Commission (2016), governments spent

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$11.9 billion in 2013/14 educating students in non-government schools. Connors and McMorrow (2015) found that governments would have saved $2 billion per year over the past four decades if all students attended government schools. Their calculations show that between 1973 and 2012, public recurrent investments in non-government schools increased, rather than decreased, overall costs to the government. The 634,068 students who were educated in private schools in 2012 could have been educated in government schools for $7.42 billion as opposed to the $9.47 billion spent by governments on private schools.

The expansion of the non-government school sector has exacerbated divisions within Australian society creating a two-tier education system as many middle-class parents abandon the government sector for the better funded, resourced and staffed non-government sector (Edwards 2008; Rowe & Lubienski 2017; Watson & Ryan 2010). Furthermore, by focussing on preparing students for university rather than catering for technical or vocational students (Edwards 2008; Marks 2010), independent schools attract both the academic elite and the social elite (Anderson 2002). Several researchers provide evidence that high SES students are more likely than low SES students to attend private schools and that the proportion of high SES students attending government schools has declined over time (Considine & Zappala 2002; Rowe & Lubienski 2017; Teese 2011; Windle 2015) For example, Windle (2015) found that 80 per cent of students at the top private schools were from the highest SES group and only one per cent of students were from the bottom SES group. Teese (2011) found that between 1986 and 2006, the percentage of high SES students educated in government primary schools declined from 77 per cent to 63 per cent and the percentage of high SES students educated in government secondary schools declined from 63 per cent to 46 per cent. On the other hand, the percentage of students from the lowest SES quintile educated in government schools remained stable at 80 per cent. Although non-government schools have benefitted from receiving an increasing share of government funding, they are not educating a proportionate share of low SES students.

Indigenous students and students with disabilities are also under-represented in non-government schools (Productivity Commission 2016). In 2014, 6.7 per cent of students attending government schools were Indigenous whereas just 2.4 per cent of students attending non-government schools were Indigenous; and 6.1 per cent of students attending government schools had an identified disability whereas just 3.9 per cent of students

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attending non-government schools had an identified disability (Productivity Commission 2016). Thus, as Bonner and Shepherd (2015) point out, by subsidising fee-charging private schools, governments are active and willing partners in the creation and maintenance of inequity in education. The OECD (2012) links the segregation of students according to SES to the implementation of policies designed to not only encourage but to facilitate parental choice.

Neoliberalism and school choice

Neoliberal policies have had a dramatic effect on the structure of education in Australia (Connell 2013; Drew 2013; Gerrard 2015; Kenway 2013; Savage 2013). Successive federal and state/territory governments have marketised education and changed the perception of education as a public good to that of a private good; from an investment in the development of citizens into an investment in the employability of the individual; and from providing relatively equal access for the majority of students to segregating students according to parental resources. Through marketisation, schools are expected to become more innovative and effective in order to attract students and parents are encouraged to be pro-active and seek information that will enable them to make informed choices (Windle & Stratton 2013). The creation of a schooling market empowers both schools and parents to be 'choosers' (Watson & Ryan 2010). Parents 'choose' schools and schools 'choose' students. Schools compete to attract the most able students and parents compete with each other seeking 'relative and relational advantages for their child' (Ball 2010: 164).

According to Connell (2013), the central tenet of neoliberalism is that markets are free of government interference. Neoliberal policies are based on a belief that by freeing markets from regulations and restrictions, resources can be more efficiently distributed. In the public sector, rather than public servants providing services, they now manage the delivery of services by non-government entities (Connell 2013; Pratt 2016). Public goods such as education and social care are increasingly outsourced to ensure competition, creating new markets and thus, opportunities for profit. However, as Connell (2013) notes, in order for markets to operate, products and services need to be rationed. For example, in the education sector, providing free access to a high standard of education undermines the operation of the market because individuals will not pay for something that is freely available. Apple (2005) goes further by claiming that neoliberalism links democracy to

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consumer choice. Informed consumers replace informed voters; the market replaces the parliament; and power is redirected to those with the economic resources to dominate the market.

To measure the efficiency of the marketised education system, governments have introduced rigorous testing regimes so that consumers (parents) are sufficiently informed and can make what they perceive to be the right choices for their children. As Gerrard (2015: 859) notes, education is now driven by 'standardised testing and accountability measures' that have been imposed upon schools to demonstrate their credentials in the market. Schools with high performing students are celebrated as winners whereas schools with students performing at below the expected benchmark are regarded as losers (Connell 2013). In a marketised system, governments place the responsibility for poor performing schools onto parents based on the assumption that, as with other products and services, poor performing schools would fail to attract consumers and would thus cease to exist. Parents are expected to select successful schools (Rowe & Lubienski 2017; Windle & Stratton 2013) however, parents with limited resources may have no other option than to send their children to their local government school (Bandaranayke 2016), regardless of its performance. Thus, children born into low SES families are more dependent than their high SES peers on the educational opportunities available in their local government school.

Savage, Seller and Gorur (2013) argue that neoliberal policies promoting marketised education systems are based on the assumption that differential access to economic, cultural and social resources does not affect equity. Equity is a contested concept in education debates as multiple definitions compete for salience (Savage *et al*. 2013). For some, equity is realised through the provision of an equal share of public funding for each student whereas for others, an equitable education system would compensate disadvantaged students for their family circumstances. As the Gonski Report (2011: 105) noted, equity within an education system ensures that 'differences in educational outcomes are not the result of differences in wealth, income, power or possessions'. In other words, all children have the right to access similar learning opportunities irrespective of who their parents are, where they live and which school they attend.

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The marketisation of education and the focus on parental choice has played out across many other advanced western countries with similar outcomes to those experienced in Australia. In the UK, marketisation has also been accompanied by a national testing regime in the belief that standardised testing is an undeniable measure of student progress (Pratt 2016). Pfeffer (2015) argues that the marketisation of education has not resulted in efficiency gains or improved school quality. As he points out, the pro-choice lobby ignores market imperfections such as lack of information being available to consumers and the significant transaction costs incurred when a school closes and exits the market. Research conducted in the US shows that school choice is not related to the academic performance of schools (Phillips *et al.* 2015). When given a range of options, parents do not necessarily select the highest performing school but tend to choose a school populated by students with similar attributes to their own children (Phillips *et al.* 2015). Thus, school choice may promote segregation based on SES, religion or ethnicity. Dronkers and Avram (2010: 172) also found that there was no relationship between school effectiveness and school choice leading them to conclude that there was no evidence of 'a universal consumer logic operating in school markets whereby parents always choose the most effective schools for their children'.

Outcomes associated with private schooling

Research examining the benefits of attending private schools is mixed with some researchers finding that students in private schools perform at higher levels than students attending government schools (Marks 2010). Others argue that after controlling for family background, type of school attended has little or no effect on levels of educational achievement (Carbonaro 2006; Dronkers & Avram 2010; Elder & Jepsen 2014; Nghiem *et al.* 2015; Teese 2011). For example, Nghiem, Nyguyen, Khanam and Connelly (2015) found that the attendance of Catholic or independent primary schools was not associated with improved cognitive or non-cognitive outcomes. Nghiem *et al.* (2015) were able to control for a range of family characteristics including parental education and parental physical and mental health as well as the SES of their neighbourhood. Compared to students in government schools, Catholic school students had lower, on average, National Assessment Program-Literacy and Numeracy (NAPLAN) scores for spelling, grammar and numeracy in Year 5, net of family background. Furthermore, there were no differences between students

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attending government schools and those attending independent schools. Similar findings are discussed in a report by Teese (2011). His analysis shows that, after adjusting for individual and school SES, there were no statistically significant differences in the mean NAPLAN scores for reading between government, Catholic and independent schools.

Using PISA data collected in 2006, McConney and Perry (2010) found that, after controlling for school SES, high SES students achieved higher mathematics and science scores than their low SES peers. Furthermore, after controlling for student SES, school SES was positively associated with PISA scores for mathematics and science. Marks (2010) found that family background mediated the association between type of school attended and secondary school results. Although students who attended non-government schools graduated secondary school with higher tertiary entrance scores than students who attended government schools, he concluded that 'socioeconomic background accounts for about 15% of the effect for attending an independent school and about 14% of the effect for attending a Catholic school' (Marks 2010: 31).

International research also shows that after controlling for family SES, attending a private school is not associated with superior outcomes (Dronkers & Avram 2010; Elder & Jepson 2014; Gibbons & Siva 2011). Using longitudinal data to track children from the beginning of kindergarten through to the eighth grade in the US, Elder and Jepsen (2014) found that although students attending Catholic schools performed at a higher level in the eighth grade than students attending public schools, differences in achievement were largely due to the skills and attributes that they had before entering kindergarten. Dronkers and Avram (2010) found that across continental European countries, attending government-funded private schools had no effect on cognitive outcomes. Research examining levels of academic achievement according to type of school attended in the UK conducted by Gibbons and Silva (2011) showed that the characteristics of students attending faith schools differed from those of students attending other schools due to the ability of faith schools to select students. On the other hand, secular schools had less control over their student intakes. As Carbonaro (2006) points out, the student populations of private schools are more advantaged than those of government schools due to selection processes and financial costs. Private school fees act as a barrier, filtering out students from less advantaged families (Carbonaro 2006; Teese 2011).

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Summing up, during the past few decades governments have adopted neoliberal policies and reframed the discourse surrounding education. Education is now a consumer good that is purchased in the education market. As governments increased funding for non-government schools, an increasing proportion of parents selected non-government schools for their children. Recent research suggests that governments may be over-investing in non-government schools with claims that governments could have saved a considerable amount of money if all students were educated in government schools. In the next section of this paper, I use longitudinal data from the LSAY project to examine whether the attendance of a Catholic or independent school is associated with higher levels of academic achievement at age 15; and employment status, occupation, and weekly earnings at age 24.

Method

The data used for the empirical analysis come from the LSAY 2003 (LSAY03) cohort (LSAY 2013). The LSAY03 cohort consists of 10,370 students aged 15 years who were attending secondary schools located throughout Australia in 2003. All the participants were originally part of the OECD PISA study. The PISA sample was selected via a two-stage sampling process. Firstly, 355 schools were selected on the basis of location (state, territory), region (metropolitan or non-metropolitan) and sector. In the second stage, 50 students were randomly selected from all 15 year olds attending each of the selected schools (NCVER 2012). The data contain student achievement levels in 2003 derived from four PISA domains: mathematical literacy; reading literacy; scientific literacy and problem solving as well as background information about the students, their families and their educational and vocational plans. The LSAY03 project collected data from participants via annual follow-up surveys providing a longitudinal dataset covering 10 years: 2003–12. The LSAY03 sample has declined by around 10 per cent each year due to attrition (NCVER 2012). The analytical sample includes only respondents with values in both wave 1 and wave 10 of the data (n=3,849). Students with university-educated parents were over-represented in the analytical sample (40% in 2003 and 49% in 2012) and students with low-educated parents were under-represented.

Variables

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There are five outcome variables: type of school attended at age 15; academic achievement at age 15; employment status at age 24; occupation at age 24; and weekly earnings at age 24. The academic achievement variable is derived from the student's PISA scores for mathematical literacy, English literacy, scientific literacy and problem solving (see Blossfeld *et al.* 2016). Initially an index was constructed by taking the mean of the four values. Although, as Loughland and Thompson (2016) point out, standardised tests such as PISA cannot cover the breadth and depth of student learning, they do provide the only indicator of levels of achievement in these data. The employment status variable is coded 1 for those in full-time employment and 0 for those in part-time employment or not employed. The occupation variable is coded 1 for those in managerial or professional occupations and 0 for all other occupations. For the weekly earnings variable, I take the log of earnings due to the skewed distribution of earnings.

The predictor variables are parental education and type of school attended. Previous Australian research shows that parental education is a strong predictor of both educational achievement and attainment (Chesters & Daly 2017; Considine & Zappala 2002; Goss *et al.* 2016; McConney & Perry, 2010; Redman *et al.* 2013). In this study, parental education refers to the highest level of education of either parent and is coded according to the International Standard Classification of Education (ISCED): ISCED1/2 (lower secondary); ISCED 3B/3C (upper secondary); ISCED 3A/4 (vocational post-secondary); ISCED 5B (vocational tertiary); and ISCED 5A/6 (university). The type of school attended variable refers to the school attended when the student completed the PISA tests at age 15 years and has three categories: government; Catholic; and independent.

Seven control variables are included in various models: year level in 2003; sex; migrant status; location of school attended at age 15; SES of school attended at age 15; highest level of education at age 24. Due to the sampling design, the students were in various year levels in 2003, therefore, I include a variable for year level in 2003 which has three categories: Year 9; Year 10; and Year 11/12. Students in Year 9 at age 15 had more than likely repeated a year level in either primary or lower secondary school. Students in Years 11/12 at age 15 were typically residents of states where students enter directly into Year one at age five rather than at age six after completing a preparatory/kindergarten year. Sex is coded 1 for female and 0 for male. Migrant status has four categories: non-Indigenous

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Australian; Indigenous Australian; migrant from non-English speaking background (NESB migrant); and migrant from English speaking background (non-NESB migrant). Several researchers have found that migrant status is associated with educational outcomes with migrant students having higher levels of academic achievement and attainment than Australian-born students (Cardak & McDonald 2004; Dobson *et al*. 1996). The location of the school attended variable has three categories: metropolitan; inner provincial; and outer provincial/remote.

LSAY does not include any information that allows individual schools to be identified, therefore, to measure school SES, I added together the Economic Social Cultural Status (ESCS) values for individual students at each school and calculated the mean based on the assumption that the 50 students selected to participate in PISA, and therefore LSAY, in each school are representative of the school population (see also Perry and McConney 2010). The ESCS index is calculated by the PISA project team. An individual's score on the ESCS index is derived from three variables related to family background: highest level of parental education, highest parental occupation status, and the index of home possessions. The school SES distribution is then divided into quartiles. Quartile 1 = -0.9/ -0.1; Quartile 2 = -0.09/ 0.21; Quartile 3 = 0.211/ 0.55; and Quartile 4 = 0.551/ 1.45. The highest level of education at age 24 has five categories: less than Year 12; Year 12; VET Certificate; VET Diploma; and university qualifications. The characteristics of the sample are presented in Table A.1 in the Appendix.

Analytical strategy

Before conducting the analysis examining outcomes at age 24, I examine whether parental education is associated with the type of school attended by conducting multinomial logistic regression analysis which allows for the simultaneous estimation of relative risk ratios for each category of the outcome variable. Government school is selected as the reference category, therefore, the model estimates the relative risks ratios for (1) attending a Catholic school relative to attending a government school; and (2) attending an independent school relative to attending a government school. A relative risk ratio of greater than one indicates a positive association and a relative risk ratio of less than one indicates a negative association. Therefore, if the relative risk ratio for being female is less than one, then being

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female has a negative association with attending a Catholic school or an independent school relative to attending a government school.

Secondly, I examine the association between PISA score, parental education and type of school attended using multiple regression analysis. I construct two models. In the first model, parental education is the key explanatory variable and year level, sex, migrant status, location of school attended and SES of the school attended are included as control variables. In the second model, I additionally include the second key explanatory variable, type of school attended. Multiple regression models estimate the associations between all of the explanatory and control variables simultaneously therefore, the regression coefficients are interpreted as net effects on the outcome variable.

To examine whether type of school attended is associated with employment status at age 24, I construct two logistic regression models to estimate the odds ratios for being employed on a full-time basis according to highest level of education and type of school attended. An odds ratio of less than one indicates a negative association and an odds ratio of more than one indicates a positive association. Model 1 includes highest level of education, sex, migrant status, and location of school attended. Type of school attended is included in Model 2. I then examine the association between type of school attended and occupation using logistic regression analysis. The first model estimates the odds ratios for being employed as a manager/professional at age 24 according to level of education controlling for sex and migrant status. Type of school attended is included in Model 2. Finally, I conduct linear regression analysis to examine the association between weekly earnings and type of school attended. Model 1 estimates the coefficients for weekly earnings according to occupation controlling for level of education, employment status, sex and migrant status. Type of school attended is included in Model 2.

Findings

Association between parental education and type of school attended

The results presented in Table 1 show that parental education is associated with attending an independent school but not a Catholic school relative to attending a government school, net of the other factors. Students with university-educated parents were seven times more likely than students with parents who had low levels of education to attend an independent school relative to attending a government school. This result confirms the findings of

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previous research that high SES families are more likely than other families to choose private schools (Rowe & Lubienski 2017; Teese 2011; Windle 2015).

[insert Table 1 about here]

Table 1 Estimated relative risk ratios for attending a Catholic or independent school relative to attending a government school

	Catholic		**Independent**	
Parental education	RRR	Std. err.	RRR	Std. err.
ISCED1/2 (ref.)				
ISCED 3A/3B/3C/4	1.09	0.17	2.21**	0.64
ISCED 5B	1.00	0.17	2.23*	0.73
ISCED 5A/6	1.28	0.26	6.91***	2.30
Sex				
Male (ref.)				
Female	0.90	0.17	1.15	0.27
Migrant status				
Non-Indigenous Australian (ref.)				
Indigenous Australian	0.46*	0.14	0.45*	0.16
Non-NESB migrant	1.01	0.24	0.85	0.19
NESB migrant	0.66	0.22	0.29***	0.10
constant	0.36***	0.08	0.08***	0.03
n=	3849			
Pseudo R-squared	0.0341			

*p<0.05; **p<0.01; ***p<0.001

Association between type of school attended and PISA score

Table 2 presents the results of the linear regression models for the association between PISA score and parental education and type of school attended. As level of parental education increases, PISA scores increase, net of year level in 2003, sex, migrant status and

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location and type of school attended. Students with university-educated parents score, on average, 51 points higher than students with low-educated parents, net of the other factors. Attending a Catholic school is associated with an extra 13 points, on average, and attending an independent school is associated with an extra 27 points, on average, net of the other factors. When school SES is included in the second model, the association between parental education and PISA scores diminishes somewhat and the association between PISA score and type of school attended disappears. The SES of the school attended is positively associated with PISA score with students attending high SES schools scoring, on average, 66 points higher than those attending low SES schools, net of other factors. This result indicates that the positive association between attending a non-government school and achieving higher PISA scores reflects the SES of the students attending non-government schools rather than the type of school attended.

[insert Table 2 about here]

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Table 2 linear regression models estimating the coefficients for PISA score according to type of school attended

	Model 1		**Model 2**	
Parental education	coefficient	Std. err.	coefficient	Std. err.
ISCED1/2 (ref.)				
ISCED 3A/3B/3C/4	12.34*	5.09	8.06	5.00
ISCED 5B	23.55***	5.39	15.60**	5.27
ISCED 5A/6	51.02***	4.95	34.17***	4.99
Year level in 2003				
Year 10 (ref.)				
<Year 10	-46.94***	5.33	-46.06***	5.10

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Year 11/12	28.03***	3.26	30.09***	3.23
Sex				
Male (ref.)				
Female	-1.45	3.17	-2.14	2.83
Migrant status				
non-Indigenous Australian (ref.)				
Indigenous Australian	-41.78***	7.61	-36.31***	7.61
Non-NESB migrant	-10.12	6.12	-9.13	5.69
NESB migrant	-13.55	10.38	-12.45	8.53
Zone				
Metropolitan (ref.)				
Inner provincial	-1.87	4.47	16.17***	4.57
Outer provincial	-10.49*	4.69	-2.26	3.99
School sector				
Government (ref.)				
Catholic	12.91**	4.55	4.01	4.20
Independent	27.36***	5.12	0.06	5.42
School SES				
Quartile 1 (ref.)				
Quartile 2			14.25**	5.11
Quartile 3			32.64***	5.19
Quartile 4			66.23***	6.99
constant	527.62***	5.82	508.40***	5.91
n=	3849		3849	
Adj. R-squared	0.1583		0.2155	

*p<0.05; **p<0.01; ***p<0.001

Association between type of school attended and post-school outcomes

To examine whether type of school attended is associated with post-school outcomes, I conduct a series of logistic regressions to estimate the odds ratios for being employed on a full-time basis and for being employed in a managerial/professional occupation at age 24-

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see Table 3. The results for Model 1 indicate that Year 12 graduates and university graduates are more likely to be employed on a full-time basis than those who left school before completing Year 12, net of the other factors. Of the control variables, non-NESB migrants were less likely than non-Indigenous Australians to be employed on a full-time basis. Females were less likely than males to be employed on a full-time basis. The results for Model 2, show that type of school attended is not associated with the likelihood of working full-time at age 24, net of the other factors.

[insert Table 3 about here]

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Table 3 Estimated odds ratios for being employed full-time at age 24 according to level of education and type of school attended

Full-time employed @ age 24	**Model 1**		**Model 2**	
	Odds ratio	Std. err.	Odds ratio	Std. err.
Sex				
Male (ref.)				
Female	0.63***	0.04	0.63***	0.04
Migrant status				
non-Indigenous Australian (ref.)				
Indigenous Australian	0.93	0.18	0.93	0.18
Non-NESB migrant	0.60***	0.09	0.60***	0.09

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NESB migrant	0.83	0.14	0.82	0.14
Zone				
Metropolitan (ref.)				
Inner provincial	1.05	0.12	1.03	0.11
Outer provincial	1.07	0.12	1.07	0.12
Highest education				
<Year 12 (ref.)				
Year 12	1.86***	0.22	1.83***	0.22
VET certificate	1.30	0.21	1.29	0.21
VET diploma	1.26	0.18	1.26	0.18
University	1.64***	0.15	1.66***	0.16
School sector				
Government (ref.)				
Catholic			1.14	0.10
Independent			0.84	0.08
constant	1.71***	0.16	1.72***	0.16
n=	3849		3849	
Adj. R-squared	0.0198		0.0214	

*p<0.05; **p<0.01; ***p<0.001

Table 4 presents the odds ratios for being employed in a high-status occupation. The results for Model 1 indicate that university graduates are more likely to be employed in managerial or professional occupations than those with a low level of education, net of the other factors. The results for Model 2, show that type of school attended is not associated with the likelihood of being employed in a high-status occupation at age 24, net of the other factors.

[insert Table 4 about here]

Table 4 Estimated odds ratios for being employed in a high-status occupation at age 24 according to level of education and type of school attended

Manager/professional	**Model 1**	**Model 2**

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at age 24				
	Odds ratio	Std. err.	Odds ratio	Std. err.
Sex				
Male (ref.)				
Female	1.03	0.08	1.03	0.08
Migrant status				
Non-Indigenous Australian (ref.)				
Indigenous Australian	1.00	0.23	1.03	0.24
Non-NESB migrant	1.02	0.16	1.02	0.16
NESB migrant	1.03	0.17	1.07	0.17
Highest education				
<Year 12 (ref.)				
Year 12	0.53***	0.09	0.54***	0.09
VET certificate	0.70	0.14	0.71	0.15
VET diploma	1.43*	0.22	1.43*	0.22
University	5.71***	0.60	5.57***	0.59
School sector				
Government (ref.)				
Catholic			1.21	0.12
Independent			1.20	0.12
constant	0.26***	0.03	0.24***	0.03
n=	3849		3849	
Pseudo R-squared	0.1499		0.1511	

*p<0.05; **p<0.01; ***p<0.001

Table 5 presents the regression coefficients for weekly earnings. Preliminary analysis (see Table A.2 in the Appendix) indicated that there was little variation in the weekly earnings of 24 year olds employed on a full-time basis. The results of the first model presented in Table 5 show that being employed in a clerical, sales or service occupation is associated with lower weekly earnings than being employed in a managerial/professional

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occupation, net of employment status, sex, migrant status and highest level of education. These results are repeated when type of school is included in Model 2. Furthermore, type of school attended is not independently associated with weekly earnings at age 24.

[insert Table 5 about here]

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Table 5. linear regression models estimating the coefficients for weekly earnings according to level of education and type of school attended

Log of weekly earnings	**Model 1**		**Model 2**	
	coefficient	Std. err.	coefficient	Std. err.
Sex				
Male (ref.)				
Female	0.11	0.07	0.11	0.07

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Migrant status				
Non-Indigenous Australian (ref.)				
Indigenous Australian	0.01	0.18	0.003	0.18
Non-NESB migrant	-0.17	0.13	-0.18	0.13
NESB migrant	0.26	0.19	-0.26	0.19
Highest education				
<Year 12 (ref.)				
Year 12	-0.02	0.11	-0.03	0.11
VET certificate	-0.05	0.14	-0.05	0.14
VET diploma	0.01	0.14	0.01	0.14
University	-0.09	0.10	-0.08	0.10
Employment status				
Part-time (ref.)				
Full-time	0.76***	0.09	0.76***	0.09
Occupation				
Manager/professional (ref.)				
Technician/trade	-0.06	0.12	-0.06	0.12
Clerical/sales/service	-0.20*	0.09	-0.20*	0.09
Machine operators/labourers	-0.09	0.14	-0.09	0.14
School sector				
Government (ref.)				
Catholic			-0.05	0.07
Independent			-0.04	0.09
constant	6.93***	0.12	6.95***	0.12
n=	3352		3352	
Pseudo R-squared	0.0402		0.0403	

*p<0.05; **p<0.01; ***p<0.001

Discussion

In this paper, I examined the associations between type of school attended and three post-school outcomes: employment status, occupation and weekly earnings using data from the LSAY03 cohort. The majority of these young people started school in 1993 and therefore

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their schooling coincided with the expansion of the non-government school sector and consequent contraction of the government school sector. Around 40 per cent of the LSAY03 participants attended non-government schools at age 15. In this study, I used parental education as a proxy for SES and as predicted by previous research, high SES students (those with highly educated parents) were more likely than low SES students (those with low-educated parents) to attend independent schools (Considine & Zappala 2002; Rowe & Lubienski 2017; Teese 2011; Windle 2015).

Attending a non-government school was associated with higher, on average, PISA scores, net of family SES, sex, migrant status and location of the school attended. However, when school SES was included in the model, there was no association between type of school attended and PISA score. Students attending high SES schools had higher levels of achievement at age 15 than students attending low SES schools, net of family SES, year level, sex, migrant status, location and type of school attended. School SES was measured by taking the mean of the students' scores on the ESCS index for each school. Therefore, the school SES reflects the average economic, social and cultural status of the students attending the school. Previous research shows that attending schools with high proportions of high SES students has a positive effect on educational achievement (Chesters & Daly 2017; Kenway 2013; Watson & Ryan 2010). Watson and Ryan (2010) concluded that the performance gap between non-government and government schools was due to the high concentrations of low SES students in government schools. Type of school attended was not independently associated with the three employment outcomes considered here. At age 24, former private school students were no more likely to be employed full-time, be employed in a managerial/professional occupation or have higher weekly earnings than former government school students.

In sum, these results indicate that the type of school attended was not associated with post-school outcomes. Therefore, despite the reallocation of government funding from government schools to non-government schools and the reallocation of family finances to private school fees (Lamb *et al.* 2004; Productivity Commission 2016; Rowe & Lubienski 2017; Sherington and Campbell 2004; Watson & Ryan 2010), there seems to be little in the way of tangible evidence that non-government schooling is associated with improved labour market outcomes. Given these results, why do parents choose to pay private school fees

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rather than send their children to their local government school? If their investment in their child's education is not guaranteed to provide a monetary return, what other types of returns do they expect from their investment?

Research conducted by Windle (2015) found that the most popular reasons parents gave for sending their children to their particular school were related to perceptions of the quality of the learning environment, including: the quality of teachers; the caring environment; having a good reputation; and well-behaved students. Rowe and Lubienski (2017) found that parents were seeking schools populated with high SES, white students arguing that parents behave more like emotional consumers than rational choice actors in the education market. As Ball (2010: 159) notes, many middle-class parents choose private schooling on the basis that it provides opportunities for the maintenance of social advantage. According to Anderson (2002) private schools provide families with opportunities to secure their social position through their emphasis on academic and cultural accomplishment, their selective enrolment processes and their high fees. Despite receiving generous taxpayer subsidies, private schools do not have to accept all applicants in the way that government schools do, thus they are able to select their entire school population. By selecting, and being accepted by, private schools, parents have more control over the child's peer group (Rowe & Lubienski 2017).

As with previous research in this field, this study has some limitations related to the availability of suitable data. Given the high correlation between school SES and school type, it is difficult to estimate the impact of school type using these data. Furthermore, in today's labour market, young people aged 24 years are not necessarily settled in their career jobs, particularly if they have spent prolonged periods of time in the education system. As new entrants in very tight labour markets, young people face intense competition for full-time jobs. The results presented here suggest that private schooling does not facilitate superior post-school outcomes in terms of employment status, occupation or earnings in the short-term. National data tracking cohorts of young people from secondary school through to mid-life are currently unavailable in Australia. Although the HILDA project is designed to track people across the life course, the data do not include measures of academic achievement during secondary school, which limits its suitability for this type of study. Therefore, further research is warranted to determine whether there are longer-term pay-

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offs for investments in private schooling in Australia. The contribution of this paper is that it draws on national longitudinal data to examine the returns to investments, by both governments and families, in private schooling. Previous research has either examined the reallocation of government funding from the government sector to the non-government sector; or the associations between type of school and educational achievement and attainment. Due to the lack of appropriate data, research examining associations between type of school attended and post-school outcomes is scarce, particularly in Australia.

Conclusion

The results presented in this paper show that high SES students were more likely than other students to attend independent schools. Initially, it appeared that attending non-government schools was associated with higher levels of academic achievement at age 15, however, the inclusion of school SES negated this association. Furthermore, the attendance of a non-government school was not associated with an increased likelihood of being employed on a full-time basis; being employed as a manager or professional; or with higher earnings at age 24. These findings suggest that unless Australian parents and governments are seeking non-monetary returns to their investments in private schooling, they may be over-investing in primary and secondary school education.

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Appendix

Table A.1 Sample characteristics in 2013 at age 24

	n=	**%**
Sex		
Male	1918	50
Female	1931	50
Migrant status		
Non-Indigenous Australian	3362	87
Indigenous Australian	114	3
Non-NESB migrant	200	5
NESB migrant	173	4
Year level 2003		
< Year 10	313	8
Year 10	2716	71
Year 11/12	820	21
parental education		
ISCED1/2	327	9

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ISCED 3A/3B/3C/4	1062	28
ISCED 5B	517	13
ISCED 5A/6	1943	50
School sector		
Government	2252	59
Catholic	843	22
Independent	754	20
Zone		
Metropolitan	2794	73
Inner provincial	490	13
Outer provincial	565	15

Table A.2 Mean weekly earnings (log)

	Mean weekly earnings (log)
Highest education	
<year 12	8.11
Year 12	7.90
VET cert.	7.90
VET diploma	7.85
University	7.81
Occupation	
Manager/prof	7.55

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Tech/trade	7.51
Clerical/sales/service	7.22
Mach. Operators/labourers	7.38

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