



Status Reproduction in an Egalitarian Society: The Effects of Family Wealth on Educational Attainment, Occupational Status and Wealth in Australia

Jenny Chesters
Centre for International Research on Education,
Victoria University in Melbourne

A more recent version of this paper was published as Chesters J. (2018) Egalitarian Australia? Associations Between Family Wealth and Outcomes in Young Adulthood. Journal of Sociology, 55(1), 72-89

No. 2016-16
August 2016

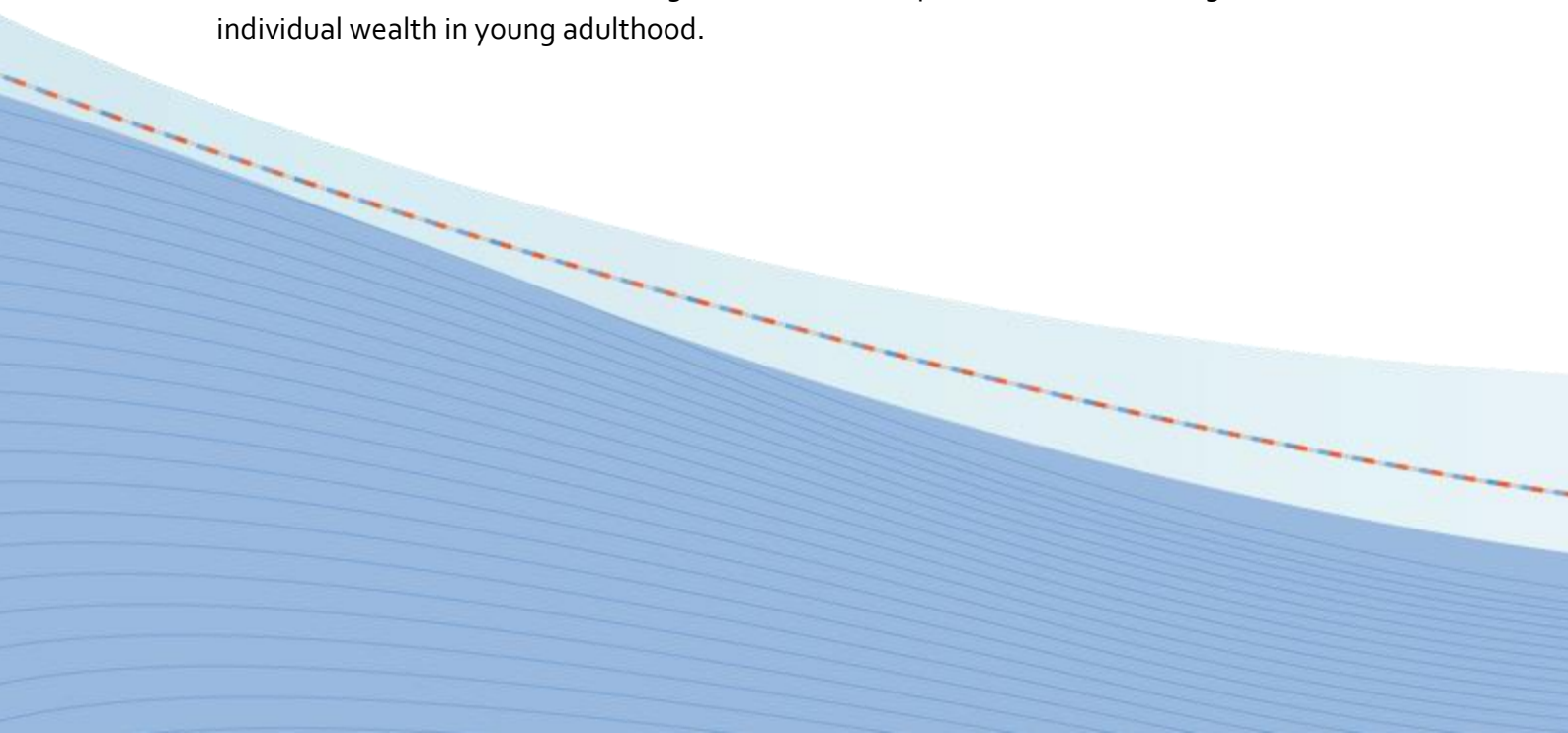


NON-TECHNICAL SUMMARY

Education is widely touted as an important mechanism for overcoming the disadvantages associated with growing up in a low socio-economic family. Previous research shows that young people with university-educated parents are more likely to graduate from university than their peers who have parents with lower levels of education. Highly-educated parents are able to facilitate the development of their children's cognitive abilities; provide their children with the necessary cultural capital required for success at school; provide a home environment conducive to intellectual development; and fund their participation in appropriate extracurricular activities. Furthermore, wealthy families are better able to pay fees for elite private schools and tend to live in areas with better-resourced government schools.

Rather than focus on the association between parental education and educational attainment, in this paper, I examine the associations between parental wealth and three outcomes: educational attainment, occupational status and wealth in young adulthood. The analyses are conducted on two waves of data from the Housing, Income and Labour Dynamics in Australia (HILDA) Survey collected in 2002 and 2014. The sample is restricted to young people aged between 15 and 24 years who were living in the family home in 2002 (n=2139). Preliminary analyses show that family wealth varies according to parental education and state/territory of residence and that the likelihood of attending an independent school increased as family wealth increased.

The results show that high levels of family wealth are associated with an increased likelihood of completing a university degree with those coming from families in the highest wealth quintile being more than four times more likely than those coming from families in the lowest wealth quintile to graduate from university. Higher levels of family wealth are also associated with higher levels of occupational status and higher levels of individual wealth in young adulthood.



ABOUT THE AUTHORS

Jenny Chesters is a Senior Research Fellow in the Centre for International Research in Education Systems at Victoria University. Her research interests include inequality in educational attainment, wealth inequality, and transitions between education and employment throughout the life course. Her empirical research primarily relies on analyses of Australian and international cross-sectional and longitudinal surveys, however, she has also published research papers reporting the findings from her analyses of administrative data. Email: Jennifer.Chesters@vu.edu.au

ACKNOWLEDGEMENTS: This paper uses unit record data from the Household, Income and Labour Dynamics in Australia (HILDA) Survey. The HILDA Project was initiated and is funded by the Australian Government Department of Social Services (DSS) and is managed by the Melbourne Institute of Applied Economic and Social Research (MIAESR). The findings and views reported in this paper, however, are those of the authors and should not be attributed to either DSS or the MIAESR.

DISCLAIMER: The content of this Working Paper does not necessarily reflect the views and opinions of the Life Course Centre. Responsibility for any information and views expressed in this Working Paper lies entirely with the author(s)



(ARC Centre of Excellence for Children and Families over the Life Course)
Institute for Social Science Research, The University of Queensland (administration node)
UQ Long Pocket Precinct, Indooroopilly, Qld 4068, Telephone: +61 7 334 67477
Email: lcc@uq.edu.au, Web: www.lifecoursecentre.org.au

Abstract

Education is widely touted as an important mechanism for overcoming the disadvantages associated with growing up in a low socio-economic family. There is a plethora of research showing that young people with university-educated parents are more likely to graduate from university than their peers who have parents with lower levels of education. There is also evidence of an association between attending a fee-paying school and graduation from university. Wealthy families are better able to pay fees for elite private schools and tend to live in areas with better-resourced government schools. In this paper, I examine the effects of parental wealth on educational attainment, occupational status and wealth in young adulthood using data from the Housing, Income and Labour Dynamics in Australia (HILDA) Survey collected in 2002 and 2014. The results show that high levels of family wealth are associated with an increased likelihood of completing a university degree; and with having high levels of occupational status and wealth.

Keywords: Educational inequality; HILDA; wealth; Australia

Introduction

Post-industrial economies, like Australia, have expanded their higher education sectors to accommodate the increasing demand for professionals, due to both an increase in the number of professional occupations created by a combination of the technological revolution and credential inflation and an increase in the proportion of jobs available in these occupations (Van de Werfhorst, 2009). By almost doubling the number of universities, introducing alternative entry pathways and providing financial support for students from low socio-economic backgrounds, governments have encouraged young people to consider university study as an achievable pathway into a well-rewarded career. On the other hand, the introduction of student contributions, which have increased considerably over time, places a larger burden on young people from lower socio-economic backgrounds and may act as a deterrent to those who are risk-adverse. Given that university qualifications provide access to the professions and, therefore, high levels of occupational prestige and earnings, the association between social origins and graduation from university is particularly important. Despite the expansion of higher education, the association between social origin and educational attainment has endured in all advanced Western economies (Alon, 2009; Arum et al., 2007; Ball, 2010; Becker, 2003; Becker and Hecken, 2009; Blanden and Machin, 2004; Breen and Goldthorpe 1997; Breen and Jonsson, 2005; Breen et al., 2009; Chesters and Watson 2013; Davies et al., 2002; Gamoran 2001; Goldthorpe, 2003; Holm and Jaeger, 2008; Jonsson and Erikson, 2007; Pfeffer, 2008; Roska 2008; Roska and Potter, 2011; van de Werfhorst and Hofstede, 2007). Thus it would appear, as Ball (2010) concluded, school performance is an outcome of family circumstances rather than individual effort or ability.

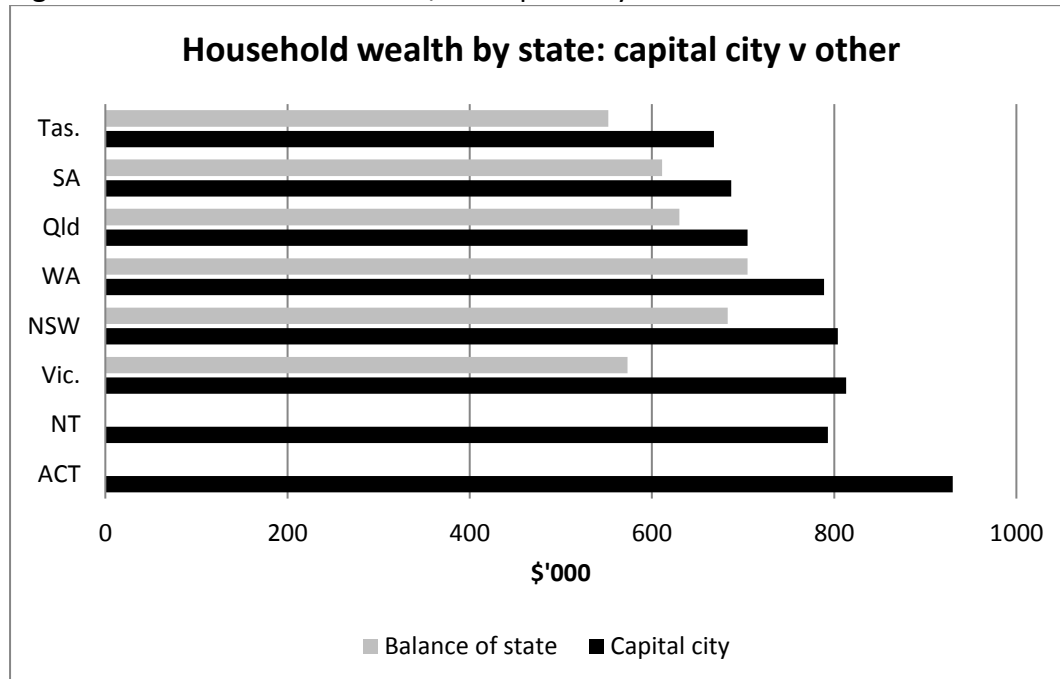
After reviewing previous research examining the association between social origins and educational attainment and some of the theories employed to explain this phenomenon, I introduce the research questions, data and analytical strategy. The presentation of the results is followed by the discussion and conclusion.

Context

Although previous research examining links between family socio-economic status (SES) and educational attainment has focused on parental education, in this paper, I examine the associations between family wealth, another dimension of family SES, and educational attainment. According to the ABS (2013), in 2011/12 the share of aggregate wealth held by households in the lowest quintile was 0.9% and the share of aggregate wealth held by households in the highest quintile was 60.8%. Another indicator of wealth inequality is the P90/P10 ratio which calculates the ratio between the value at the 90th percentile and the value at the 10th percentile. The P90/P10 ratio in 2011/12 was 54 indicating that the wealth of the household at the 90th percentile was 54 times greater than the wealth of the household at the 10th percentile.

Figures from the ABS (2013) also show that the distribution of household wealth varied by state/ territory and by location within states and territories. Households in the ACT recorded the highest mean household wealth at \$930,000 and households in Tasmania recorded the lowest mean household wealth at \$601,000. When these figures are disaggregated by location into capital city households and households located in the rest of the state, the largest wealth gap occurs in Victoria. The mean wealth of households located in the capital city of Victoria (Melbourne) was \$813,000 whereas the mean wealth of households located in the rest of Victoria was \$573,000. The smallest wealth gap occurred in Queensland where the mean wealth of households in the capital city (Brisbane) was \$705,000 and the mean wealth of households in the rest of Queensland was \$630,000. The graph in Figure 1, derived from Table A.1 in the Appendix, illustrates the wealth gaps in each of the six states. Only capital city households were included in the ACT and NT, therefore no comparisons can be made.

Figure 1 Household wealth 2011/12: capital city v balance of the state



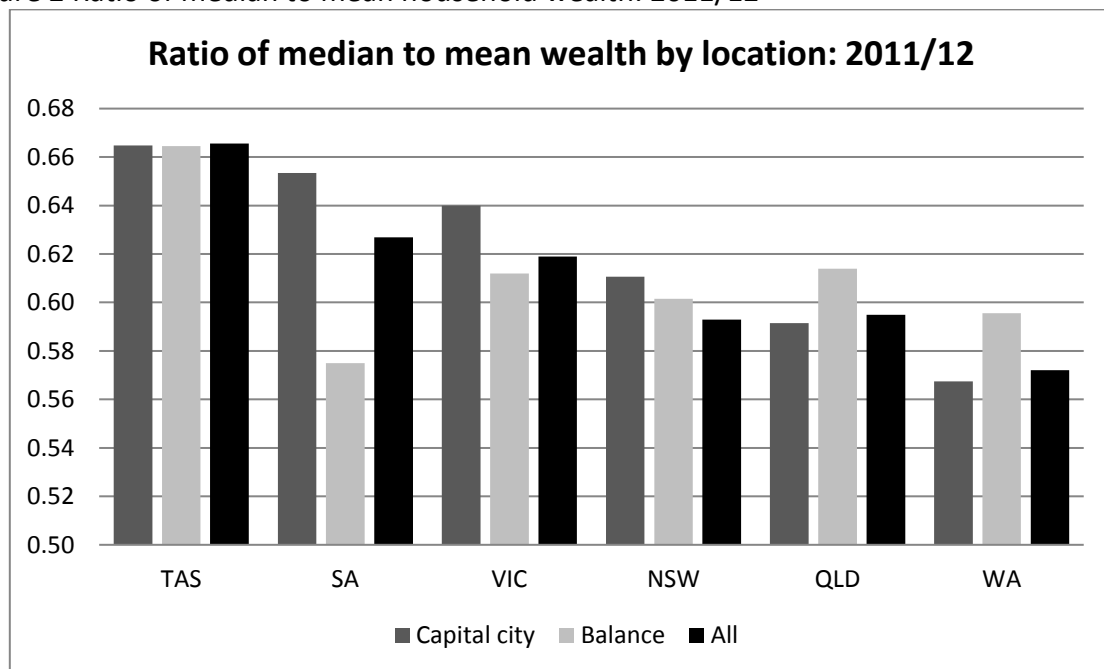
Source: ABS 2013 Household Wealth and Wealth Distribution

Another measure of inequality in the distribution of wealth is the ratio of median wealth to mean wealth. The closer the ratio is to 1, the more equal the distribution. The graph in Figure 2, derived from Table A.2 in the Appendix, shows the ratio of median wealth to mean wealth for all households in each state; households located in the capital city; households located in the rest of the state; and overall ratios for Australia. The ratio of median wealth to mean wealth is 0.60 for Australia overall. Household wealth is more equally distributed in Tasmania where ratio of median wealth to mean wealth for all households is 0.67. Wealth is also more equally distributed in South Australia (0.63) and Victoria (0.62) than in Australia overall. The ratio of median wealth to mean wealth for all households in Western Australia is 0.57 indicating a higher level of inequality in Western Australia. New South Wales (0.59) and Queensland (0.59) also recorded higher levels of wealth inequality than Australia overall.

The graph in Figure 2 also shows the differences in levels of wealth inequality within the capital cities and the balance of the states. The ratio of median wealth to mean wealth for households located in the capital city of South Australia (Adelaide) was 0.65 whereas the ratio of median wealth to mean wealth for households located in the rest of South Australia was 0.57. There was no difference between the ratio for households located in the capital

city of Tasmania (Hobart) and the ratio for households located in the rest of Tasmania (0.66). In Queensland and Western Australia, the larger median wealth to mean wealth ratios for households located outside of the capital cities is more than likely due to the location of mining operations in remote locations.

Figure 2 Ratio of median to mean household wealth: 2011/12



Source: ABS 2013 Household Wealth and Wealth Distribution

Summing up, these figures show that levels of inequality in household wealth vary according to location within each state/territory and location within capital cities or the rest of the state.

Socio-economic status and educational attainment in Australia

Researchers examining the effects of socio-economic status (SES) on child’s educational achievement and attainment generally agree that high SES parents are able to facilitate the development of their children’s cognitive abilities and provide them with the necessary cultural capital required for success at school (Ball, 2010; Bourdieu, 1984; Breen *et al.*, 2009; Roska & Potter, 2011; van de Werfhorst & Hofstede, 2007). Furthermore, they are able to provide a home environment conducive to intellectual development and encourage their children’s participation in appropriate extracurricular activities (Lareau, 2011). There is also

considerable evidence that the socio-economic background of peers has a significant influence on educational outcomes (Chesters & Daley 2015; Chesters & Haynes 2016; McConney & Perry 2010; Perry & McConney 2010; Sirin, 2005). As van Ewijk and Slegers (2010) point out, within schools, students interact on a daily basis and thus influence the behaviours and attitudes of one another therefore attending a school with high concentration of high SES students has a positive effect on the educational aspirations and expectations of low SES students. A comprehensive meta-analysis of existing research conducted by Sirin (2005) concluded that individual and school SES were positively correlated with academic achievement.

Another dimension that needs to be considered in the Australian context is the SES effect on the attendance of government and non-government schools. Government schools provide free, secular education to all children regardless of their location, family background, and disability status. Non-government schools are divided into two sectors: Catholic and independent. Catholic schools charge relatively modest fees that are sometimes waived for children from disadvantaged families. The independent school sector includes a diverse range of schools from very expensive Anglican colleges to relatively low-fee community schools. The likelihood of selecting a non-government school is associated with parental income, child's ability and the level of funding provided to both government and non-government schools (Epple et al. 2004). Between 1975 and 2014 the percentage of students attending non-government schools increased from 21% to 35% (ABS 1975; 2014). During this period, governments substantially increased funding for non-government schools, thus encouraging high SES families to abandon schools in the government sector (Watson & Ryan 2010). As an increasing proportion of high SES students transfer into the private system, disadvantage becomes concentrated in the government system resulting in lower, on average, levels of achievement and attainment (Teese 2000; Teese and Polesel 2003; Watson and Ryan 2010). Marks and McMillan (2007: 359) argue that the existence of independent schools provides a mechanism by which 'intergenerational inequalities are maintained', because wealthy families are able to select the more prestigious and more expensive independent schools for their children.

Considine and Zappala (2002) concluded that the link between higher levels of attainment for those attending non-government schools was related to the ability of these schools to

select academically stronger students from high SES families with greater financial resources. Marks et al. (2006) also linked the availability of material resources to levels of academic achievement arguing that high SES families are able to ensure that their children attain higher levels of education by paying fees for high SES private schools, or by purchasing homes in high SES areas close to high achieving government schools. Chesters and Haynes (2016) found that students who attended non-government schools were more likely than those who attended government schools to take the university track through upper secondary, net of the effects of academic achievement at age 15.

Theoretical perspectives

Social mobility researchers draw on a range of theories to explain the persistence of inequality in educational attainment according to family background. Rational Choice Theories argue that individuals are able to evaluate the costs and benefits of educational options and the probabilities of achieving particular educational outcomes. However, as Breen and Goldthorpe (1997) note, individuals are constrained in their choices due to their class position. Given that the direct costs incurred in undertaking university study are the same for all students and that the level of economic resources available to students from high socio-economic backgrounds exceeds that of students from low socio-economic backgrounds, social class continues to play a role in determining the uptake of higher education. Students from different social backgrounds have different perceptions of the costs of undertaking university education despite the actual costs being constant (Pfeffer, 2008).

Subjective Expected Utility Theory argues that inequality in education results from differences in the assessment of the costs and benefits of investing in, and the likelihood of successful completion of, educational qualifications according to social class (Becker, 2003). Becker and Hecken (2009:240) argue that 'the motive of status maintenance has a significant impact on diversion from universities' as students from the working classes are only likely to enrol in higher education if they believe there is a high probability that they will succeed.

Researchers using Relative Risk Aversion Theory suggest that inequalities in educational attainment persist because young people, regardless of socio-economic background, are more concerned with avoiding downward mobility than with achieving upward mobility (Breen and Goldthorpe, 1997; Goldthorpe, 1996; Goldthorpe, 2007; Goldthorpe and Breen 2007; Holm and Jaeger 2008). Breen and Goldthorpe (1997: 283) argue that parents seek to ensure that their children 'acquire a class position at least as advantageous as that from which they originate' therefore students from low-SES families have weaker incentives to pursue higher education compared to their peers from high SES families because a university degree is not necessary for students from low SES families to maintain their social position (Holm and Jaeger, 2008).

In this paper, I focus on the long term effects of family SES by examining whether family wealth is associated with educational attainment, occupational prestige and levels of wealth in young adulthood. The research questions are: Is family wealth associated with levels of educational attainment?; Is family wealth associated with levels of occupational prestige?; Is family wealth associated with levels of wealth accumulation?

Method

Data

The data for this study come from the Household, Income and Labour Dynamics in Australia (HILDA) survey. HILDA is a panel survey that collects data from the same respondents each year. In the first year, 2001, a nationally representative sample of all Australian households was selected and 13969 individuals aged 15 years or older living in those households were interviewed (Summerfield *et al.*, 2013). Wealth modules were included in the 2nd, 6th, 10th and 14th waves. I conduct analysis of the 2nd and 14th waves of the HILDA data collected in 2002 and 2014. For the analytical sample, I select young people aged between 15 and 24 years in 2002 (n= 2139).

The outcome variables, measured in wave 14, are: educational attainment; occupational prestige; and wealth. Given that university qualifications are the gatekeepers to professional occupations (Arum et al. 2007), the educational attainment variable differentiates respondents who have completed a university degree from those who have not in 2014. The

occupational prestige variable is derived from the current job if employed in 2014 and previous job if not employed in 2014 and is based on the AUSIE06 index of occupational prestige which ranges from zero (low status) to 100 (high status). The scores assigned to individual occupations reflect the role of occupation in mediating the effects of educational attainment on earnings (McMillan et al., 2009). HILDA collected wealth data at the household level in both 2002 and 2014. Individual wealth in 2014 is included as an outcome variable and family wealth in 2002 is included as a predictor variable. I divide the wealth distributions into quintiles to allow for comparisons to be made over time. The upper and lower bounds of the wealth quintiles for 2002 and 2014 are presented in Table A.3 in the Appendix.

Five control variables are included in the analysis: sex; age cohort; parental education; family type when aged 14; and school type. Sex is coded 0 for male and 1 for female. Age cohort refers to age in 2002 and has two categories: 15-19 years; and 20-24 years. Parental education is derived from the highest level of education of either parent. In 1990, Colleges of Advanced Education (CAE) and Institutes of Technology (IT) were amalgamated and rebadged as universities, therefore, qualifications from universities, CAEs and ITs are included as higher education qualifications. The parental education variable has four categories: no post-school qualification; Vocational qualification (VET); Higher Education qualification (HE); and missing.

The family type variable is coded 1 if both parents were living in the family home when the respondent was aged 14 years and 0 if only one parent was present. The living with parents in 2002 variable is derived from the family type and marital status variables. Respondents who were single and living in couple families with children or in lone parent families were coded as living with their parents in 2002. School type has three categories: government; Catholic and independent.

In 2014, 890 respondents from 2002 did not participate in the survey however, as shown in Table 1 the samples in Wave 2 and Wave 14 are broadly similar. In 2014, females were slightly over-represented accounting for 52% of the respondents. The proportion of respondents in each age category was the same in both 2002 and 2014. The proportion of respondents in each category of the type of school variable was also similar. In 2002, 27% of

respondents were missing on parental education and in 2014 just 7% were missing on parental education. After removing those with missing values the percentage of respondents with university-educated parents was 39% in both 2002 and 2014; the percentage of respondents with VET- qualified parents was 34% in 2002 and 33% in 2014; and the percentage of respondents with parents who had no post-school qualifications was 27% in both 2002 and 2014.

Table 1. Sample characteristics wave 2 and wave 14 [890 missing in wave 14]

characteristic	2002 n=2139		2014 n=1249	
	n=	Per cent	n=	Per cent
Sex				
Male	1076	50	605	48
Female	1063	50	644	52
Age cohort				
15-19	1189	56	696	56
20-24	950	44	553	44
Family type @ age 14				
Both parents	1537	72	909	73
Other	602	28	340	27
Live with parents 2002				
No	753	35	431	35
Yes	1386	65	818	65
Parental education				
School only*	426	20 [27]	319	26[27]
Vocational*	529	25[34]	388	31[33]
Higher Education*	612	28[39]	453	36[39]
missing	572	27	89	7
School type				
Government	1474	69	867	69
Catholic	382	18	214	17
Independent	280	13	168	13

*percentages in each category after the removal of missing values included in brackets

Analytical strategy

Before conducting the analyses to answer the research questions, I conduct preliminary descriptive analysis to examine the associations between parental education and family wealth; family wealth and type of school attended; and family wealth and educational attainment. To answer the first research question, 'Is family wealth associated with levels of educational attainment?', I conduct logistic regression analysis to estimate the odds ratios

for completing a university degree according to family wealth. Odds ratios are always positive. An odds ratio of less than one indicates a negative effect whereas an odds ratio of more than one indicates a positive effect. The key explanatory variable is family wealth quintile in 2002 and I include three control variables: sex; age cohort; and type of school attended.

To answer the second research question, 'Is family wealth associated with levels of occupational status?', I conduct ordinary least squares regression analysis to examine whether occupational status varies according to family wealth quintile in 2002 controlling for highest level of education, sex, age cohort, and type of school attended. Regression coefficients represent the average change in occupational status that can be attributed to change in each of the explanatory variables, net of the effects of all of the other explanatory variables.

To answer the third research question, 'Is family wealth associated with levels of wealth accumulation?', I examine the association between own wealth in 2014 and family wealth in 2002 controlling for the effects of highest level of education, sex, and age cohort. Wealth data are collected at the household level therefore it is not possible to determine the wealth of individuals unless they are living in single person households. For those living in couple households in 2014, I divide the household wealth figure by two on the assumption that the wealth is equally shared by each partner (in Australia this is a reasonable assumption because if couple divorces, each partner generally receive an equal share of the family wealth). I drop out those living in households with more than two adults (n=701). Due to the skewed distribution of wealth, I take the log of wealth.

Descriptive results

The majority of previous research has focused on the association between parental education, rather than parental wealth, and child's educational attainment, however, the focus of this paper is family wealth. ABS data indicate that household wealth varies according to state of residence. Figure 3 shows the association between state of residence and family wealth in 2002. The respondents from Victoria were fairly evenly distributed

between the wealth quintiles whereas the respondents from the Northern Territory were concentrated in the bottom two wealth quintiles and respondents from the ACT were concentrated in the top two quintiles.

Figure 3 Family wealth quintile by state/territory in 2002

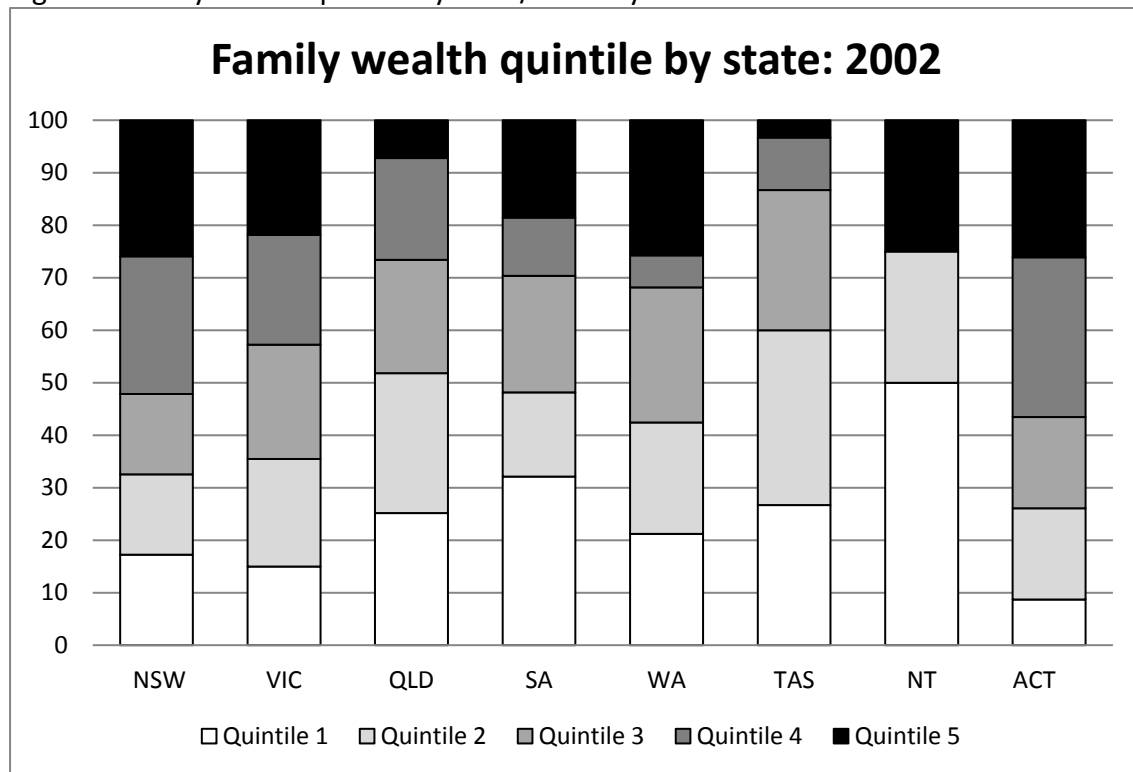


Table 2 lists the mean and median values of family wealth according to parental education and state of residence for the respondents who were living with their parents in 2002 (n=818). As expected, higher levels of parental education are associated with higher levels of family wealth. The mean family wealth of respondents with higher-educated parents was more than double that of those with parents who had no post-school qualifications (\$730,690 compared to \$335,342). The mean family wealth of those residing in the ACT (\$938,389) was four times that of those residing in Tasmania (\$226,913) and three times that of those residing in Queensland (\$304,860). The mean family wealth of those attending independent schools was more than double that of those attending government schools (\$1,108,459 compared to \$429,367). Summing up, levels of family wealth increases as parental education increases. Levels of family wealth vary according to state/ territory of

residence. Those attending independent schools are more likely to come from high wealth families.

Table 2 Mean and median family wealth according to parental education and state of residence for those living with their parents in 2002

		Mean family wealth 2002	Median family wealth 2002
Parental education	n=	\$	
School only	185	335342	201615
Vocational	262	524557	250689
Higher Education	311	730690	527590
Missing	60	647782	275191
State			
NSW	255	714059	480260
VIC	220	540520	381260
QLD	139	304860	238995
SA	81	467047	277748
WA	66	825131	280976
TAS	30	226913	162645
NT	4	382237	147675
ACT	23	938389	589834
School type			
Government	553	429,367	265104
Catholic	156	687,962	487019
Independent	109	1,108,459	795194

Next, I examine the association between parental education and family wealth and type of school attended. High levels of parental education and higher levels of family wealth are associated with a higher likelihood of attending an independent school. As shown in Table 3, 20% of those with university-educated parents attended independent schools compared to just 8% of those whose parents held no post-school qualifications. Almost one-third of those in the highest family wealth quintile attended an independent school compared to just five per cent of those in the lowest wealth quintile.

Table 3 Type of school attended according to parental education and family wealth

n=818		Government	Catholic	Independent
Parental education	n=	%	%	%
School only	185	76	16	8
VET	262	73	16	11
Higher education	311	57	23	20
Missing	60	70	22	8
Pearson chi2 (6)	30.15			
p< 0.0001				
Family wealth	n=	%	%	%
Quintile 1	164	82	13	5
Quintile 2	163	79	16	5
Quintile 3	164	75	15	10
Quintile 4	163	55	32	14
Quintile 5	164	48	20	32
Pearson chi2 (8)	104.95			
p< 0.0001				

To examine the effects of family wealth on individual wealth in young adulthood, I restrict the analysis to young people who were living with their parents in 2002 and living alone or in a couple family with no more than two adults in 2014. Table 4 shows that high levels of family wealth are associated with high levels of individual wealth in young adulthood. Of those from low wealth families (Quintile 1 in 2002), 36% were in the bottom wealth quintile in 2014 and just 8% were in the top wealth quintile in 2014. Of those from the wealthiest families in 2002 (Quintile 5 in 2002), 38% were in the top wealth quintile in 2014 and just 6% were in the bottom wealth quintile in 2014.

Table 4 Association between family wealth if living with parents in 2002 and own wealth if living in own family in 2014

n= 701	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
	n=132	n=140	n=144	n=142	n=143
Wealth quintile 2014	%	%	%	%	%
Quintile 1	36	26	20	13	6
Quintile 2	29	20	17	20	15
Quintile 3	16	24	22	20	18
Quintile 4	11	19	24	23	22
Quintile 5	8	11	17	23	38

Results from regression models

The results of the logistic regression model developed to answer the first research question are presented in Table 5. Net of the effects of sex, age and type of school attended, increases in family wealth are associated with increases in the likelihood of completing a university degree. Those in the highest family wealth quintile were more than four times more likely than those in the lowest wealth quintile to have completed a university degree. Type of school attended has an independent effect with those who attended a Catholic school being 1.5 times more likely and those who attended an independent school being 1.9 times more likely than those who attended a government school to graduate from university.

Table 5 Odds ratios for having a university degree in 2014

	Odds ratio	Std. error
Family wealth in 2002		
Quintile 1 (ref.)		
Quintile 2	1.20	0.35
Quintile 3	2.62***	0.71
Quintile 4	3.24***	0.88
Quintile 5	4.35***	1.19
Female =1	1.66**	0.27
Age cohort 2002		
15-19 years (ref.)		
20-24 years	1.32	0.23
School type		
Government (ref.)		
Catholic	1.53*	0.31
Independent	1.85**	0.43
constant	0.13***	0.03
n=	818	
Pseudo R Square	0.0831	

The results of the linear regression model examining the association between family wealth and occupational prestige in young adulthood are presented in Table 6. After controlling for the effects of level of education, sex, age cohort and type of school attended, higher levels of family wealth are associated with higher levels of occupational prestige. Those from high wealth families scored, on average, more than seven points higher on the occupational prestige scale than those located in the lowest family wealth quintile. Type of school

attended has an independent effect with attendance of a Catholic or independent school associated with, on average, an extra four points on the occupational prestige scale.

Table 6 Regression coefficients for association between family wealth in 2002 and occupational prestige in 2014

	Coefficient	Std. error
Family wealth in 2002		
Quintile 1 (ref.)		
Quintile 2	4.18*	1.92
Quintile 3	4.73*	1.93
Quintile 4	5.91**	1.98
Quintile 5	7.40***	2.04
Education level 2014		
<Year 12 (ref.)		
Year 12	9.76***	2.15
VET	8.93***	2.04
University	36.12***	2.11
Female =1	1.83	1.23
Age cohort 2002		
15-19 years (ref.)		
20-24 years	-1.38	1.39
School type		
Government (ref.)		
Catholic	3.95*	1.62
Independent	4.20*	1.92
constant	28.44***	2.11
n=	818	
Adj. R Square	0.4313	

Finally, I examine the association between family wealth in 2002 and individual wealth in 2014. The outcome variable for the linear regression model is the log of wealth in 2014. The results presented in Table 7 show that net of the effects of level of education, sex and age cohort, higher levels of family wealth are associated with higher levels of individual wealth in young adulthood. Level of education does not have an independent effect, nor does sex. Being in the older cohort has a positive effect on wealth which is to be expected given that wealth is accumulated over the life course.

Table 7 Regression coefficients for association between family wealth and own wealth in 2014

	Coefficient	Std. error
Family wealth in 2002		
Quintile 1 (ref.)		
Quintile 2	1.11**	0.38
Quintile 3	1.53***	0.38
Quintile 4	1.65***	0.39
Quintile 5	2.44***	0.40
Education level 2014		
<Year 12 (ref.)		
Year 12	0.42	0.44
VET	0.28	0.41
University	0.29	0.42
Female =1	-0.09	0.24
Age cohort 2002		
15-19 years (ref.)		
20-24 years	1.32***	0.27
constant	8.45***	0.43
n=	701	
Adj. R Square	0.0888	

Note log of wealth in 2014

Discussion

Previous research examining links between family SES and educational attainment has focused on parental education, generally finding that educational attainment increases as the level of parental education increases. In this paper, I examined the associations between family wealth, another dimension of family SES, and three outcomes: educational attainment, occupational prestige and own wealth. The results presented here indicate that family wealth has a positive effect on all three outcomes

Preliminary analyses showed the strong correlations between family wealth, parental education and type of school attended. Individuals living in families with the highest levels of family wealth were more likely than those living in families with low levels of family wealth to have attended an independent school confirming the Marks et al. (2006) finding that parents with higher levels of economic resources are more likely than those with low levels of economic resources to pay private school fees. As Watson and Ryan (2010) predicted, students from low SES families were concentrated in government schools with 82% of students from families in the lowest family wealth quintile attending government

schools compared to 48% of students from the highest family wealth quintile. Only 8% of students with parents who had no post-school qualifications attended independent schools compared to 20% of those who had university-educated parents. Using data from the 2003 cohort of the Longitudinal Surveys of Australian Youth (LSAY03), Chesters & Haynes (2016) found that students with highly-educated parents were almost seven times more likely than those with low-educated parents to be attending an independent school.

Previous research indicates that the type of school attended has implications for educational attainment with students attending independent schools being more likely than those who attended government schools to complete a university degree even after controlling for the effects of parental education (Chesters & Haynes 2016). One explanation of this is that the SES of peers has a significant influence on educational achievement and attainment therefore low SES students attending independent schools benefit from mixing with their high SES peers (van Ewijk & Slegers 2010).

This scenario is confirmed by the logistic regression analysis conducted to answer the first research question. After controlling for the effects of sex, age and family wealth quintile, those who had attended a non-government school were more likely than those who had attended a government school to complete a university degree. As expected, family wealth quintile had a positive effect with the likelihood of completing a university degree increasing as level of family wealth increased.

The association between family wealth and occupational prestige was also positive. After controlling for highest level of educational attainment, those who were located in the highest family wealth quintile scored more than seven points, on average, higher on the occupational prestige scale than those who were located in the lowest family wealth quintile. As expected, level of educational attainment had the strongest effect on occupational prestige with those holding university qualifications scoring, on average, 36 points higher on the occupational prestige scale than those with low levels of education.

Wealthy parents have the cultural and economic resources required to ensure that their children are well-prepared for school, are enrolled in the most prestigious schools and are able to supplement their educational experiences with extracurricular activities (Lareau 2011) in order to maintain their social status. Given the strong association between parental wealth and type of school attended, the results presented here suggest that parents are

seeking to select the most advantageous peer group for their children and improve their chances of holding aspirations for university study.

Relative Risk Aversion theorists argue that family background is associated with levels of educational attainment due to individuals being concerned with the need to achieve the same social class as their parents (status maintenance). This examination of the association between family wealth and educational attainment confirms previous results linking parental education with educational attainment. High levels of family wealth are associated with an increased likelihood of attending a non-government school and with completing a university degree.

The results presented here also show that net of educational attainment, family wealth is positively associated with own wealth in 2014 suggesting that being highly educated may not, in itself, overcome the disadvantages associated with low family wealth. Tracking this cohort over a longer time period is warranted to determine whether the effects of family wealth dissipate over time. The young people in this study were aged between 15 and 24 years in 2002 and between 27 and 36 years in 2014.

Conclusion

This examination of the associations between family wealth and educational attainment, occupational prestige and own wealth in young adulthood focused on a less researched dimension of socio-economic status. The results provide further evidence of the strong association between family background and educational attainment, even within comprehensive schooling systems. The availability of non-government schools, particularly those in the so-called independent sector, allows high SES parents to select their children's peer group and ensure that they are influenced by other children from high SES families. Thus Australia's claim to being an egalitarian society is undermined by an education system that segregates students according to family wealth and reproduces inequalities in educational attainment.

References

- ABS (Australian Bureau of Statistics) (1975) *Schools 1975* Cat. No. 4202.0 Available at: www.abs.gov.au. Accessed 13/06/15
- ABS 2013 *Household Wealth and Wealth Distribution, Australia, 2011-12*. Cat. No. 6554.0 (Table 1). Available at: www.abs.gov.au. Accessed 25/04/16
- ABS (Australian Bureau of Statistics) (2014) *Schools Australia 2014* Cat. No. 4221.0 Available at: www.abs.gov.au. Accessed 13/06/15
- Alon, S. (2009) The Evolution of Class Inequality in Higher Education: Competition, exclusion, and adaptation. *American Sociological Review*, 74, 731-755.
- Arum, R., A. Gamoran and Y. Shavit (2007) 'More inclusion than diversion: Expansion, differentiation and market structure in higher education', pp. 1-38 in Y. Shavit, R. Arum and A. Gamoran (eds.), *Stratification in Higher Education: A comparative study*. Stanford: Stanford University Press.
- Becker, R. (2003) 'Educational expansion and persistent inequalities of educational: Utilising subjective expected utility theory to explain increasing participation rates in upper secondary school in the Federal Republic of Germany', *European Sociological Review*, 19(1): 1-24.
- Becker, R. and A.E. Hecken (2009) 'Why are working class children diverted from universities? An empirical assessment of the diversion thesis', *European Sociological Review*, 25(2): 233-250.
- Blanden, J. and S. Machin (2004) 'Educational inequality and the expansion of UK higher education', *Scottish Journal of Political Economy*, 51(2): 230-249
- Breen, R. and J.H. Goldthorpe (1997) 'Explaining educational differentials: Towards a formal rational action theory', *Rationality and Society*, 9: 275-305.
- Breen, R. and J.O. Jonsson (2005) 'Inequality of opportunity in comparative perspective: Recent research on educational attainment and social mobility', *Annual Review of Sociology*, 31: 223-43.
- Breen, R., W. Muller, R. Luijkx and R. Pollak (2009) 'Non-persistent inequality in educational attainment: evidence from eight European countries', *American Journal of Sociology*, 114(5): 1475-1521.
- Chesters, J. and Daly, A. (2015) The Determinants of Academic Achievement among Primary School Students: a Case Study of the Australian Capital Territory, *Australian Journal of Labour Economics* 18(1): 131-144.
- Chesters, J. and Haynes, M. [(2016) Reproducing social inequality within comprehensive school systems: The case of Australia. in *Differentiation in Secondary Education and its Short- and Longer-Term Effects on Inequality of Educational Opportunities*. H.-P. Blossfeld, S. Buchholz, N. Kulic, J. Skopek, and M. Triventi (eds). Edward Elgar.
- Chesters, J. and Watson, L. (2013) Understanding the persistence of inequality in higher education: Evidence from Australia', *Journal of Education Policy* 28(2): 198-215

- Considine, G and Zappala, G. 2002 'The influence of social and economic disadvantage in the academic performance of school students in Australia' *Journal of Sociology* 38(2): 129-148
- Davies, R., E. Heinesen and A. Holm (2002) 'The Relative Risk Aversion Hypothesis of Educational Choice', *Journal of Population Economics*, 15: 683-713
- Epple, D., Fiflio, D. and Romano, R. 2004 Competition between private and public schools: testing stratification and pricing predictions. *Journal of Public Economics* 88:1215-1245
- Gamoran 2001 'American schooling and educational inequality: A forecast for the 21st Century', *Sociology of Education* 74:135- 153
- Goldthorpe, J.H. (1996) 'Class analysis and the reorientation of class theory: The case of persisting differentials in educational attainment', *The British Journal of Sociology*, 47(3): 481-505.
- Goldthorpe, J. (2003) 'The myth of education-based meritocracy: Why the theory isn't working', *New Economy*, 10: 234-239.
- Goldthorpe, J. (2007) *On Sociology 2nd edition Volume two: Illustration and Retrospect*. Stanford: Stanford University Press.
- Goldthorpe, J. H. and R. Breen. (2007) 'Explaining Education Differentials: Towards a Formal Rational Action Theory', pp. 45-72 in J. Goldthorpe (ed.) *On Sociology 2nd Edition Volume Two: Illustration and Retrospect*. Stanford: Stanford University Press.
- Holm, A. and M.M. Jaeger (2008) 'Does relative risk aversion explain educational inequality? A dynamic choice approach', *Research in Social Stratification and Mobility*, 26: 199-219.
- Jonsson, J. O. and R. Erikson (2007) 'Sweden: Why educational expansion is not such a great strategy for equality- theory and evidence', pp. 113-139 in Y. Shavit, R. Arum and A. Gamoran (eds) *Stratification in Higher Education: A comparative study*. Stanford: Stanford University Press.
- Lareau, A. (2011), *Unequal childhoods: Race, class and family life, second edition with an update a decade later*. California: University of California Press.
- Marks, G.N., Cresswell, J. and Ainley, J. 2006 'Explaining socioeconomic inequalities in student achievement: the role of home and school factors' *Educational Research and Evaluation: An International Journal on Theory and Practice* 12(2): 105-128
- Marks, G. N. and McMillan, J. (2007) Australia: Changes in Socioeconomic Inequalities and University Participation. In Y. Shavit, R. Arum and A. Gamoran (eds.). *Stratification in Higher Education: A Comparative Study*. Stanford: Stanford University Press, pp. 351-373
- McConney, A. & Perry, L. (2010), 'Science and mathematics achievement in Australia: The role of school socioeconomic composition in educational equity and effectiveness', *International Journal of Science and Mathematics Education*, 8, 429-452.
- McMillan, J., A. Beavis and F.L. Jones (2009) 'The AUSIE06: A new socioeconomic index for Australia', *Journal of Sociology*, 45(2): 123-149.

- Perry, L. & McConney, A. (2010), 'Does the SES of the school matter? An examination of socioeconomic status and student achievement using PISA 2003', *Teachers College Record*, 112(4), 1137-1162.
- Pfeffer, F.T. (2008) 'Persistent inequality in educational attainment and its institutional context', *European Sociological Review*, 24(5): 543-565.
- Roska, J. (2008) 'Structuring access to higher education: the role of differentiation and privatisation', *Research in Social Stratification and Mobility*, 26: 57-75.
- Roska, J. and D. Potter (2011) 'Parenting and academic achievement: Intergenerational transmission of educational advantage', *Sociology of Education*, 84(4): 299-321.
- Sirin, S. (2005), 'Socio-economic status and academic achievement a meta-analytic review of research', *Review of Educational Research*, Fall, 75(3), 417-453.
- Summerfield, M., R. Dunn, S. Freidin, M. Hahn, P. Ittak, M. Kecmanovic, N. Li, N. Macalalad, N. Watson, R. Wilkins and M. Wooden (2011) *HILDA User Manual- Release 10*, Melbourne Institute of Applied Economic and Social Research, University of Melbourne.
- Teese, R. 2000 *Academic Success and Social Power: Examinations and Inequality* Melbourne: Melbourne University Press
- Teese, R. and Polsel, J. 2003 *Undemocratic Schooling: Equity and Quality in Mass Secondary Education in Australia* Melbourne: University of Melbourne Press
- Van de Werfhorst, H. G., 2009 'Credential Inflation and educational strategies: A comparison of the United States and the Netherlands', *Research in Social Stratification and Mobility* 27(4): 269-284
- Van de Werfhorst, H.G. and S. Hofstede (2007) 'Cultural Capital or Relative Risk Aversion? Two Mechanisms for Educational Inequality Compared', *The British Journal of Sociology*, 58(3): 391-415.
- Van Ewijk, R. And Slegers, P. 2010 'Peer ethnicity and achievement: a meta-analysis into the compositional effect' *School Effectiveness and School Improvement: An International Journal of Research, Policy and Practice* 21(3): 237-265
- Watson, L. and Ryan, C. 2010 Choosers and Losers: The impact of government subsidies on Australian secondary schools. *Australian Journal of Education* 54:86-107

APPENDIX

Table A.1 for Figure 1

	Capital city	Balance	Difference
Vic.	813	573	240
NSW	804	683	121
WA	789	705	84
Qld	705	630	75
SA	687	611	76
Tas.	668	552	116
Aust.	781	638	143
ACT	930
NT	793

Source: ABS 2013 Household Wealth and Wealth Distribution

Table A.2 for Figure 2

	Capital city	Balance	All
TAS	0.66	0.66	0.67
SA	0.65	0.57	0.63
VIC	0.64	0.61	0.62
NSW	0.61	0.60	0.59
QLD	0.59	0.61	0.59
WA	0.57	0.60	0.57
Australia	0.61	0.60	0.60
ACT	0.66		0.66
NT	0.41		0.44

Source: ABS 2013 Household Wealth and Wealth Distribution

Table A.3 Wealth decile cut off points

	Family wealth 2002 (n=818)		Own wealth 2014 (n=701)	
	Lower	Upper	Lower	Upper
Quintile 1	0	74553	0	15380
Quintile 2	74554	244900	15381	55144
Quintile 3	244901	445205	55145	123000
Quintile 4	445206	799960	123001	270500
Quintile 5	799961	5301756	270501	2849592

Table A.4 Association between parental education and family wealth quintile

n=818	School only n=185	Vocational n=262	Higher Education n=311	Missing n=60
Wealth quintile 2002	%	%	%	%
Quintile 1	29	26	8	28
Quintile 2	28	23	14	18
Quintile 3	23	19	20	18
Quintile 4	9	19	29	13
Quintile 5	12	14	30	22

Table A.5 Outcome variables [Wave 14]

Variable	Freq.	Per cent
Education 2014		
<year 12	164	13
Year 12	268	21
VET certificate	297	24
VET diploma	117	9
University	264	21
Post-grad	139	11
	Mean	Std dev.
Occupational prestige	51.75	22.86