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CHOICE BETWEEN GOVERNMENT, CATHOLIC, AND INDEPENDENT SCHOOLS: CULTURE AND COMMUNITY, RATHER THAN CLASS*

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Summary

School choice in Australia is largely a matter of community, culture and politics, not social class. On the choice between Government and Catholic schools, the only important factor is religion. Catholic schools are magnetic even to merely nominally Catholic families, and the attraction is stronger yet for devout families. Social class has virtually no effects, except that highly educated parents are slightly more likely to favour Catholic schools. With the choice between Government and Independent schools, too, family income makes little difference – families in the top income quintile are only two percentage points more likely than middle income families to send their children to Independent schools. Parental education and occupation are substantially more important: highly educated parents and those in high level jobs tend to favour Independent schools. This does not reflect greater affluence, because income is controlled in the analysis. Instead it reflects something else about the way advanced education and high occupational status affect choice. The diversity of schools in Australia accommodates the diversity of Australians' political values in several important ways: (1) trade union members only rarely choose Independent schools and (2) parents who favour the Liberal Party tend to be attracted by Independent schools while Labor partisans are more favourable to Government schools. We suggest that more detailed exploration of parental attitudes and social networks is the most promising future avenue for explaining school sector choice.

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Introduction

Are private schools the home of privilege, cocooning the children of elite families from the huddled masses? Nests of corruption where they get to know each other and form bonds that they will use as adults to monopolise access to good jobs? Or, more prosaically, are private schools solutions to differences among the citizenry in the values they want instilled in their children and answers to parents' desires to further their children's education through added skills?

Australia has long had three substantially separate streams of secondary education: Government schools, Catholic schools, and Independent schools (a diverse collection of non-Catholic private schools about two thirds of which are affiliated with Protestant churches). The streams differ in their cost: Government schools are free, Catholic schools charge modest fees¹, and different Independent² schools charge different levels of fees, sometimes high, sometimes low.³

Why do parents choose to pay extra for Catholic or Independent schooling when there are free Government schools available, mostly offering a pretty good level of instruction by international standards? Public debate rages over this issue, with some (mostly on the Right) insisting that secular and socialist values pervade the Government school system and so they need an alternative better tailored to their culture. By contrast, others (mostly on the Left) insinuate that government funding to Independent schools is a kind of corrupt subsidy of bastions of upper class privilege, as Labor's recent policy implies. Moreover, according to this line of reasoning, un-Australian values are being instilled in the children in Independent schools, so government (presumably Labor governments) should take a stronger hand in shaping the cultural/ideological orientation of these schools. Others argue that community identity with Catholicism is the chief attraction to the Catholic schools. Yet others hold that endorsement of individualist rather than collectivist solutions – a value generally embraced by the Right, but well within the Australian mainstream – predisposes parents to Independent schools. Discipline, order and safety, on which both Catholic and Independent schools are thought to have an advantage, may also be important. So may educational excellence, on which both Catholic and Independent schools have been shown to have an advantage (Evans and Kelley 2002; Marks 2004b).

¹ Anecdotal evidence suggests that even these modest fees are further reduced in case of need and that financial strain for large families is generally eased by sibling discounts.

² Terminology can be confusing in this area. This article follows Le and Miller (2003) in using the phrase “non-Government school” to refer to the Catholic schools and non-Catholic private schools collectively, and uses “Independent” schools to refer to the non-Catholic private schools. The term “Independent” is sometimes limited to a handful of very elite schools, so some other term might be better, because most schools in this category are of a much more modest character. But no familiar, clearer term is available, so we somewhat reluctantly use “Independent”.

³ Scholarships and informal fee reductions may ease some of this cost, but information is not readily available nationwide about how many children in Independent schools receive financial aid of this kind.

To examine how a variety of social and economic forces affect parents' school choices, this article uses large, representative nationwide samples with over 37,000 cases, from the IcssA-Pool and HILDA databases to achieve precise estimates. We first describe the relative popularity of Government, Catholic, and Independent schools over time. Next, we examine both the "view from the classroom" (the distributions of student characteristics within schools) and the "view from the family room" (the distributions of school sector choices among families with different characteristics). Finally, we use multivariate analysis to filter out the unique contributions of a variety of factors on school choice using the extensive information on family background available in the IcssA-Pool data. Our models assess the strength of social class, and also examine various aspects of culture and community identity

Prior Research

Although many studies probe differences in school effectiveness internationally, relatively few systematically assess the underlying selection process whereby parents choose one or another type of schooling for their children (Morgan 2001). In Australia, several studies provide important clues, but need to be extended in time to give a deeper historical perspective and to be broadened in the range of causal variables included.

Occupational status

The search for social class differences is an important strand of prior Australian research. Following early observations that the occupational distributions of fathers of students in Independent schools were more favourable than those of fathers of students in Government schools (Anderson and Vervoorn 1983; Graetz 1990; Western 1983), recent multivariate research finds that father's occupational status (a continuous measure of job quality and a reasonable proxy of permanent income) increases the probability of going to Catholic or to Independent school rather than Government school (Le and Miller 2003). This latter finding is, importantly, net of parents' education. Hence, the occupational linkage observed in prior bivariate analyses was not merely a proxy for parents' education and accompanying cognitive skills, but rather suggests something about income or occupational customs or status seeking or awareness of the importance of education. It should be noted that the sample on which these results are based only covers people born since 1960.

Income and wealth

This same multivariate analysis proxies family assets within cohorts with the number of bedrooms and bathrooms in the home⁴ and finds that having assets increases the probability of choosing Catholic school or Independent school rather than Government school. This suggests that there may be an income

⁴ This is a reasonable procedure for within-cohort analyses but not for between-cohort analyses.

effect as well as an occupational status effect. Accordingly, we include family income as well as father's occupational status in our models.

Parents' education

In Australia (as well as internationally), parents' education has a substantial effect on student achievement, even net of occupation (Marks 2004a), so it seems likely that it influences school choice, as well. A prior school choice analysis generally supports this expectation (Le and Miller 2003)⁵. Another analysis finds a parental education effect on school choice in Australia, although other class-related variables are not controlled in this analysis (Vella 1999), so the apparent relation might be spurious.

Culture and identity

Prior research on Australia is not extensive, but finds a very large effect of Catholic denomination on the probability of attending Catholic school, both in analyses that have a real measure of family religious identity (Vella 1999) and in analyses that proxy religious identity by national and ethnic origins (Le and Miller 2003). Compared to immigrants, long established Australians appear to be more likely to choose Catholic school over Government school, net of religion, in a bivariate analysis, but this could, of course, be due to many uncontrolled factors (Vella 1999).

Hypotheses

From these prior analyses, there emerge two key competing hypotheses about school choice. First, school choice could be largely a matter of class, with people higher on the social ladder being more likely than otherwise similar people lower in the hierarchy to send their children to Independent schools, or perhaps to Catholic schools. Second, school choice could be a largely a matter of culture and community, with different value emphases in different school sectors suiting diverse social groups.

Operationalisation

Class effects. To test the hypothesis that parental privilege is crucial to school choice it is important to include *father's occupational status* (or job quality) in the model as it is the most important clue to the family's position in the social hierarchy and to their "permanent income" across a lifetime. *Income* is also important, because Catholic and Independent education require extra expenses above and beyond one's ordinary tax payments, so, all else equal, people with

⁵ Unfortunately, the results are probably weakened by treating father's and mother's education as separate dichotomous variables, for prior research and theories about the educational climate of the home suggest that they should be treated as continuous variables and combined into a single index (Korupp, Ganzeboom, and Lippe 2002)

more money should be more easily able to afford private education. On the other hand, the fees for the Catholic system schools are low, and so are the fees for many Independent schools, so we do not expect the effect to be large.⁶

Culture and community. Exploratory analysis suggested that there is also a non-hierarchical element to occupation, with *farm families* being especially likely to send their children to Independent schools, so we include a dummy variable for having a father who is a farmer. It is well known that schooling was only available through Year 8 in many country areas of Australia through the 1950s, so farm families seeking further education tended to turn to Independent boarding schools. We suspect that this began a tradition which continues to encourage farm families to seek Independent schooling.

A second cultural effect we explore is *parents' education* aside from its impact on occupational status and income, which should measure something about the educational orientation of the home.

Religious culture and identity can also be expected to play a role, most strongly in the case of Catholics, because their schools have, in general, the most intensely religious character. We include the largest denominations as dummy variables (*Catholic* and *Anglican*), with everything else as the reference category. *Parental churchgoing* frequency is also included. Political orientations may matter, too. For this reason, we include father's trade *union membership* because it is likely to incline parents against Independent schools and possibly against Catholic schools. This hypothesis comes about because trade unions have had a very strong voice in the values and organisation of Government schools and because the individualist ethos of the Independent schools is opposed to the collectivist approach which trade unions embody. The political orientation of the home is also likely to be expressed in *parents' political party* affiliation. Liberals are likely to find the ethos of the Independent schools congenial and, moreover, the Labor party has traditionally been opposed to non-Government schools.

As control variables we include *respondent's gender*, the population *size of the place* where the respondent grew up, and whether respondent grew up in an *intact family*, the *year they turned 14* to capture linear time trends, and the *number of siblings* to measure demands on the family wallet.

Details on model, method, and measurement are in the Technical Notes.

We examine these issues using data for 24,598 Australians from IsssA-Pool-Debut, the pooled International Social Science Survey/Australia⁷ for 1984-2002.

⁶ There is also an endogeneity problem here, because income is partly a matter of choice – whether one takes overtime, whether one takes a more convenient lower-paid job or a less convenient higher paid job, etc – so there could be a reciprocal effect that parents who want to send their children to private school earn more in order to do so. Nonetheless, the dominant opinion would clearly lead us to expect the key effect to be in the other direction, namely from income to private schooling. The effect we estimate here assumes this one-way causation, but it is perhaps best understood as an upper bound on the true effect of income on private schooling – if there is an effect in the other direction, then the true effect of income will be correspondingly smaller, but cannot be larger.

Our descriptive section also includes and additional 12,773 cases from the first year of HILDA, a new, large panel survey of labour market behaviour sponsored by FaCS (Wooden 2002). Combining these two datasets gives 37,371 cases with correspondingly precise estimates.

Description

Trends in school sector choice

All in all, about 10 per cent of Australians went to Independent secondary schools and about 16 per cent went to Catholic schools. Everyone else—the great majority, around 74 per cent—went to Government schools (Figure 1). Catholic schools have held a fairly constant share of students across most of the century. Among people reaching age 15 before 1940, 12 per cent went to Catholic school. Catholic schools were more popular with their immediate successors, with 17 per cent of the people who turned 15 in the 1950s being educated in Catholic schools. That figure has held essentially unchanged across the rest of the century, with 17 per cent of those educated in the 1990s also going to Catholic schools.

[Figure 1 about here]

For Independent schools, the picture is rather different. About 13 per cent of Australians reaching age 15 before 1940 attended Independent schools, but then their popularity waned. Of those turning 15 in the 1940s and 1950s, 10 per cent were educated in private schools, and that dwindled to 9 per cent in the 1960s and 8 per cent in the 1970s. At that point it might have seemed that the private schools were on the road to extinction. But then their fortunes changed. 10 per cent of those reaching school-leaving age in the 1980s were educated in Independent schools. By the 1990s, even more of the river of youth was flowing through the Independent schools, 15 per cent. Thus, Independent schools almost doubled their share of students in the last 50 years.

Government schools held nearly steady across most of the century, with about a 74 per cent share of students through those leaving school in the 1980s. But that then fell sharply to 68 per cent among those leaving school in the 1990s.

The view from the classroom

When a teacher faces a typical class, who does she see, what kinds of backgrounds have those children brought with them? When a child enters a new classroom, what are the family backgrounds of their schoolfellows? To answer

⁷ The *IsssA-Pool_Debut* file provides information from our first contact with *IsssA* primary respondents (i.e. it excludes siblings who form part of the *IsssA-Pool-Families* database and it excludes subsequent contacts with primary respondents, some of whom become part of the *IsssA-Panel* databases. An overview of the *IsssA* surveys is on the Data Page; details are in (Kelley and Evans 1999) and (Evans and Kelley 2004a).

these questions, this section describes the social composition of each school sector. Note that these results are bivariate, without any controls (so they can differ substantially from the later section of this article in which we separate the independent influences of the various causal variables).

Educational background. Over the long period covered by our data:

- o **Government school** teachers greeting their students would have met 17 per cent from families where the parents completed only primary school; 66 percent where the parents had some secondary school, but did not complete Year 12; 14 percent who had completed secondary school and stopped there; and 3 per cent who had completed university (Table 1, top panel; percentages read down). Children with university-educated parents, although few, are not absent from Government schools, despite some observers' perceptions that Independent schools are "skimming the cream".
- o **Catholic schools.** The educational backgrounds of students in the average Catholic school would have been very similar.
- o For **Independent schools**, still a majority of the students in the classroom would come from families where the parents had incomplete secondary or less. The main difference would have been that Independent school students came from homes with secondary schooling (34 per cent versus 14 percent in Government schools) and university (13 per cent compared to just 3 per cent). Thus, in the Independent sector, parents with university education are only slightly more numerous than parents with just primary education.

So, teachers in all three sectors would have found themselves teaching children from the full range of educational backgrounds. All types of school have majorities from families where the parents were early school leavers. There are differences only in emphasis, with well educated parents not quite so rare in the Independent schools as elsewhere.

[Table 1 about here]

Occupational background. What kinds of jobs did the fathers of children in the different school sectors have over this period?

- o In the **Government sector**, 14 per cent of the students came from farm families, 58 per cent came from families where the father worked in a manual or lower-level clerical job, 11 per cent had a father working in a higher-level clerical job or a sales job, and 18 per cent came from families where the father was a manager or a professional (Table 1).

- o **Catholic schools.** The distribution of father's occupations is very similar among students in Catholic schools, perhaps just slightly more favourable than in Government schools.
- o For **Independent schools**, the picture contains both similarities and differences. The percentage of farm families is about the same as in Government schools at 15 per cent. The percentage of the student body from families where the father is a manual worker or a lower level clerical worker is clearly lower in Independent schools (26 per cent) than in Government schools (58 per cent). The percentage of children from upper clerical and sales families is a little higher (16 per cent vs 11 per cent in Government schools), and the percentage of children from families where the father is a manager or a professional is considerably higher (43 per cent vs 18 per cent in Government schools).

Thus, children from families at the top of the occupational hierarchy are a larger fraction of the typical class in an Independent school than in a Government school. But they are still a minority there and, moreover, are far from absent from Government schools. Conversely, children from manual and lower-level clerical families make up a much larger fraction of the Government and Catholic schools' student body, but are still a quarter of the typical Independent school class.

Income. Since Catholic and Independent schools normally charge tuition, the commonsense expectation would be that Government school classrooms would be bursting with poor students, and empty of rich students, while the opposite would be true elsewhere. In fact, about 60 per cent of students in all three sectors come from the middle 3 quintiles of the parental income distribution, so teachers in all three types of school are mainly instructing children from average income homes.

Although there are differences in emphasis in the distributions of family incomes in the three sectors, the full range of incomes is well represented in all three (Table 1, Panel 3). Thus, 18 per cent of the children in Government schools come from families in the top quintile of the income distribution. These parents clearly could afford a fee-paying school, but choose the Government sector. Conversely, 10 per cent of children in the Independent school sector come from families in the bottom quintile of the income distribution, families who must be making great sacrifices or relying upon generous scholarships. The Catholic sector is intermediate, but more like the Government sector. Thus, there is little segregation by income.

Elites. What people at the top on all three aspects of the socioeconomic pecking order? Consider students from the top quintile of the income distribution whose parents completed at least Year 12, and whose father is a manager or professional: Families at the top of the heap. What fraction of the student body do they make up in each of the three sectors? The answer is a small minority in each sector – 4 per cent in the Government sector, 6 per cent in the Catholic

sector, and just 17 per cent in the Independent school sector. Although children from elite families form a larger share of the student body in the Independent sectors, but even there on parent-teacher night, a teacher with a class of 30 would probably encounter about 6 such families together with 24 from less exalted positions on the social ladder.

Religion varies more dramatically among sectors, but, even here, there is diversity (Table 1, Panel 5). A teacher in a Catholic school will see a large majority of students from Catholic families (67 per cent), but still a substantial minority, 33 per cent, from Protestant, Orthodox, and secular families. Catholic students are a small minority in both Government (10%) and Independent (15%) schools, but are not absent.

Politics. There are substantial political differences between sectors, although again, the full range is present in each sector (Table 1, Panels 6 and 7).

- o Unions: 43 per cent of students in the Government sector come from families where the father is a trade union member, compared to only 16 per cent in the Independent sector. The Catholic sector largely resembles the Government sector. Nonetheless, in all three sectors a child's classmates will mainly come from non-union families.
- o Similarly, both Labor and Coalition preferences are present in all three sectors, but not equally. In a Government school, a child's classmates would be roughly evenly divided among Labor supporters (the largest group), families with mixed or no political preferences, and families supporting the Coalition. The picture is broadly similar for the Catholic sector. By contrast, in Independent schools pro-Coalition families make up a narrow majority, 55 per cent, with 32 per cent having mixed or no political preference, and only 13 per cent pro-Labor.

Thus, a full spectrum of Australian society is present in all three sectors, but with clear differences in emphasis.

The view from the family room

When a parent thinks about their peers' school choices what do they see? Where do other similar people send their children?

Education. Among parents at all levels of education, all three sector choices are represented, but there are substantial differences in emphasis. 78 percent of people who left school with only primary education have sent their children to Government schools, 17 per cent to Catholic schools and 6 per cent to Independent schools (Table 2, Panel 1). The distribution for those with 7 to 11 years of education is nearly identical. Among people who persisted through 12 years of schooling, Government school is still the majority choice (62 per cent). Even university graduates are more likely to send their children to Government school (48 per cent) than to Catholic school (18 per cent) or Independent school

(33 per cent). So even among families at the top of the educational hierarchy, independent schools are a minority taste.⁸

[Table 2 about here]

Occupation. At all levels of the occupational hierarchy, Government sector schools are the majority choice, although to a greater extent in the families of manual and lower-level clerical workers toward the bottom of the heap (79 per cent) than among managers and professionals at the top (63 per cent). Independent schools are chosen by 5 per cent of manual and lower-level clerical families, 11 per cent of farm families, 13 percent of upper level clerical and sales families, and 20 per cent of families where the father is a manager or a professional. Catholic schools make up the rest, with little variation by occupational level.

Thus, families at all levels of the occupational hierarchy will see most of their peers sending their children to Government schools, some to Catholic schools, and a small minority to independent schools.

Income. Turning to money, 78 per cent of those in the bottom quintile of the income distribution send their children to Government school, 17 per cent to Catholic school, and 5 per cent to Independent schools. At the other extreme of the income distribution, the educational choices differ somewhat, but not greatly: 65 per cent send their children to Government school, 18 per cent send them to Catholic school, and 17 per cent send them to Independent schools. So even among the prosperous, most children go to government schools.

The elite. Even among the elite -- those in the top quintile of the income distribution who hold managerial or professional jobs, and who have at least completed secondary school -- Government school is the most common choice: 55 per cent of t send their children to Government school, 17 per cent to Catholic school, and only 28 per cent to Independent school.

Thus, there are class differences, but they are not overwhelmingly large. Government schools are everywhere the most common choice.

Religion. The most important source of difference is religion: 60 per cent of people who identify as Catholics send their children to Catholic school, and only 38 per cent to Government schools. More than 80 per cent on non-Catholics send their children to Government school. So by far the greatest educational separatism is based on religion, not on class.

Politics. Among both Labor and Coalition families, Government schools are overwhelmingly the majority choice.

⁸ We do not have measures of where people send their children according to how much they value educational achievement, but the best research to date indicates that Independent schools add more value than do Government schools (Evans and Kelley 2002; Marks 2004b), and it would be reasonable to surmise that parents may perceive that and take it into account in their school sector choices.

So from what we might call the **family room perspective** – what people would see if they brought their friends and neighbours together in a big party – Government schools are everywhere the predominant choice, mostly the overwhelming choice. Even among the elite, the top 5% of society, most of the children are in government schools. There is no sharp class separation among Australian schools. The only place Government schools fail to get a majority is among faithful Catholics.

There are only pockets of support for Independent schools, nowhere a majority, but instead scattered throughout society. Only in the most academic homes where both parents are university graduates, do children going to Independent schools make up as much as a third of the party.

Who sends their children where? Multivariate analysis

Why do different parents come to different choices about where to send their children? Multivariate analysis allows us to separate out the unique influences of a variety of partially overlapping factors.

Class differences

Are private schools bastions of class privilege? Of the social class measures we investigated, neither father's occupational status, nor family income, nor being from a farming family has a significant effect on going to Catholic school (Figure 2 and Technical Notes Table 1). Parents' education is the only class-related variable in our model that has a significant effect on the probability of sending one's children to Catholic school, but even it is not large.

[Figure 2 about here]

Eq. 2 provides an estimate of what would happen to school choice if every Australian parent had only 9 years of education, but everything else remained as it actually is – that is occupation, religion and all the other variables in Eq. 2 remained unchanged. The predicted probability varies from person to person but, averaged over the whole population, implies that 17 per cent would then go to Catholic school. In contrast, if every Australian parent had a university education, but everything else in Eq. 2 remained the same, then on average 19 per cent would go to Catholic school. The difference between the two scenarios (19 per cent minus 17 per cent = 2 percentage points) is our estimate of the effect of parents' education on choice of Catholic schooling (shown in Figure 2 and in Technical Notes Table 1, Row 5, Column 1). This is a robust and statistically significant difference, but only a small one.

Class differences are larger when it comes to choosing Independent schools, although they are far from segregated by class (Figure 3 and Technical Notes Table 1). Fathers who are professionals at the top of the educational hierarchy are 11 percentage points more likely to send their children to Independent

schools than are otherwise similar children whose fathers work in menial jobs (from EQ 1: a fat 16 per cent minus a thin 6 per cent equals 11 percentage points, after rounding). Nearly as large is the gap between farming and non-farming families, 9 percentage points.

However, poverty alone does not keep children out of Independent school. Families in the bottom income quintile were just as likely as their peers in the middle 3 income quintiles to send their children to Independent schools, while people in the top income quintile were only 2 percentage points more likely, all else equal.

Far more important is education. University graduate parents are 9 percentage points more likely than are matched parents who left school after Year 9 to send their children to Independent school, all else equal. For example, comparing a schoolteacher and a cabinetmaker on the same income, the schoolteacher is considerably more likely to send his children to Independent school. Indeed, the schoolteacher is more likely than a real estate salesman on twice his income to send his children to Independent school.

[Figure 3 about here]

Thus, there are virtually no class differences in choosing between Government schools and Catholic schools. There are class differences in sending children to Independent school, but these are mostly matters of education and occupation, rather than income.

Religious differences

For Catholic school, the dominant effects are religious, suggesting that parental desires to inculcate in their children values consonant with their religion are the driving forces in school choice. People growing up in Catholic families are 45 percentage points more likely to go to Catholic school⁹ than are people from minority religion families, who are, in turn, 7 percentage points more likely than otherwise similar people from Anglican families (Figure 2 and Technical Notes Table 1).

For Independent school, religious group membership also matters, although much less. The children of Anglican parents are just 2 percentage points more likely to go to Independent school than are children from otherwise similar unchurched and minority religion families.

Active engagement with the church is also important. Regular church goers are 12 percentage points more likely to go to a Catholic school and 2 percentage points more likely to go to an Independent school. The story is actually a little

⁹ The comparison group here is people from non-Catholic and non-Anglican families. They are mainly non-Anglican Protestant, Greek Orthodox or secular, but they include tiny numbers of Buddhists, Hindus, Muslims, Zorastrians, and others.

more complicated than that because Catholic churchgoers are more distinctive than other churchgoers. To get better estimates of these effects we turn to EQ 2, which includes appropriate interaction effects.

Even among nominal Catholics who never go to church, Catholic identity encourages parents to send their children to Catholic school, (Figure 4a). About 31 per cent of them do so, as do 45 per cent of “festival” Catholics who attend church two or three times a year. Of slightly more diligent Catholic churchgoers who attend mass monthly, fully 59 per cent send their children to Catholic school. And devout Catholics are even more likely to send their children to Catholic school: fully 71 per cent of weekly churchgoers send their children to Catholic schools.

Anglicans and other non-Catholics are not very likely to attend Catholic school regardless of religiosity. However, frequent churchgoers among them are more likely to send their children to Catholic school. So it seems that the religious character of Catholic education is an attraction to devout Protestants (other than Anglicans), even though they give no allegiance to the Pope or the church of Rome.

[Figure 4 about here]

The picture is quite different when it comes to Independent schools – they are not the Anglican analogue of Catholic schools (Figure 4b). At all levels of religiosity, only a small minority of Anglicans send their children to Independent schools. Indeed, other non-Catholics are almost as likely as Anglicans to send their children to Independent schools. Thus Catholic schooling is basically about religiosity and religious identity, but Independent schooling is only very slightly about religion.

Political differences

Independent schools are partly about politics (Figures 3). Parents who are Liberals are about 6 percentage points more likely to send their children to an Independent school, and about 3 percentage points less likely to send their children to a Catholic school than to a Government school, all else equal.¹⁰ Politics also matters for Independent schools in another way: Families where the father is not a trade union member are 5 percentage points more likely to send their children to an Independent school than are otherwise similar families where the father belongs to a trade union. Thus, a Liberal family where the father is not a trade unionist would be 11 percentage points more likely to send their children to an Independent school than a Labor family with a trade unionist father.

¹⁰ It is perhaps worth remembering here that when the Labor Party split, in substantial measure over the issue of school funding, the disaffected Catholic portion showed no inclination to merge with the Liberals, but rather sought to maintain their identity as Labor by naming themselves the “Democratic Labor Party”

Because this is a survey of offspring we cannot know much about the parents' values, but the strong observed effects of even rather crude measures of parents' political orientations suggest that it is in values and attitudes that the real difference lies. Thus, a priority for future research about school choice, especially about choosing between Independent schools and Government schools should be examining to what degree differences in parental value priorities are at the root of the choice. Australian culture embraces a range of attitudes about individualism vs collectivism, about the importance of academic achievement, about self-mastery, and about many other things which warrant examination in this context.

Discussion

These results support the view that school sector choice is much more about culture and community than about class. Religious identity and churchgoing are at the heart of the decision between Catholic school and Government school, with all other factors at most giving tiny nudges in one or the other direction. Culture and community issues matter in Independent school choice as well. Parents' political preferences and trade union membership (or not) affect their school choice: Liberal supporters and people who do not join trade unions are particularly likely to send their children to Independent schools.

Family income plays only a cameo role in this drama, with the poor and the middle classes being equally likely to send their children to Independent school, and the prosperous – those in the top quintile of income – being only two percentage points more likely than people on lower incomes to do so, net of other factors. Indeed, family income is entirely irrelevant to decisions about Catholic school.

School sector choice is partly about parental education, with highly educated parents slightly preferring Catholic schools to Government schools and being strongly attracted to Independent schools. The strong rise in education over an extended period of time means also that recent generations of parents are more highly educated, which accounts for some of the drift from Government schools towards Independent schools. School sector choice is also partly about place in the occupational hierarchy, with families where the father has a professional occupation being about 11 percentage points more likely to send their children to Independent school than are matched families where the father has an unskilled job. Note that this difference does not reflect the difference in their economic circumstances, because that is controlled in the analysis. These are educational and occupational differences apart from the affluence they bring. A hypothesis worth testing in future research is that these observed educational and occupational differences come about through differences in social networks and in attitudes and values.

This does not necessarily mean that Government schools should be forced to provide “values education” from a traditional point of view in order to win back

families who hold traditional values, because many families who choose Government schools probably like the kind of implicit values education they already provide. Indeed, if Labor governments were to succeed in forcing children from Independent schools back into Government schools, this could generate a good deal of conflict, as value conflicts which are now contained by the variety of schools that are available would then be fought out within schools.

Technical Notes

Models

The multivariate models we estimate (with the individual subscripts suppressed for simplicity) are:

$$\begin{aligned} \text{IndependentSchoolingLogit} = & b_0 + b_1\text{FathersOccupationalStatus} + b_2\text{FatherFarmer} + b_3\text{ParentsIncome} \\ & + b_4\text{ParentsEducation} + \\ & + b_5\text{ParentsCatholic} + b_6\text{ParentsAnglican} + b_7\ln\text{ParentsChurchAttendance} \\ & + b_8\text{ParentsParty} + b_9\text{FatherUnionMember} \\ & + b_{10}\text{Male} + b_{11}\text{UrbanChildhood} + b_{12}\text{ParentsDivorced} \\ & + b_{13}\text{YearTurned14} + b_{14}\text{NumberOfSiblings} + e_1 \end{aligned} \tag{Eq. 1}$$

$$\begin{aligned} \text{CatholicSchoolingLogit} = & b_0 + b_1\text{FathersOccupationalStatus} + b_2\text{FatherFarmer} + b_3\text{ParentsIncome} \\ & + b_4\text{ParentsEducation} + \\ & + b_5\text{ParentsCatholic} + b_6\text{ParentsAnglican} + b_7\ln\text{ParentsChurchAttendance} \\ & + b_8\text{ParentsParty} + b_9\text{FatherUnionMember} \\ & + b_{10}\text{Male} + b_{11}\text{UrbanChildhood} + b_{12}\text{ParentsDivorced} \\ & + b_{13}\text{YearTurned14} + b_{14}\text{NumberOfSiblings} + e_2 \end{aligned} \tag{Eq. 2}$$

Results from these equations are in Table 3 and in Figures 2 and 3. The class hypothesis predicts that coefficients b1, b2, and b3 will be positive in both equations, and larger in Eq. 1. The culture and community effect predicts that b4 will be positive in Eq. 1, that b5 will be positive in Eq. 2, that b6 will be positive in Eq. 1 and negative in EQ 2, that b7 and b8 will be positive in both equations, and that b9 will be negative in Eq. 1, and perhaps in Eq. 2.

To allow for the possibility that religious community membership effects are especially strong among those more deeply engaged in the community we also estimate models with extra interactions allowing the effect of churchgoing to vary according to the denomination:

$$\begin{aligned} \text{IndependentSchoolingLogit} = & b_0 + b_1\text{FathersOccupationalStatus} + b_2\text{FatherFarmer} + b_3\text{ParentsIncome} \\ & + b_4\text{ParentsEducation} + \\ & + b_5\text{ParentsCatholic} + b_6\text{ParentsAnglican} + b_7\ln\text{ParentsChurchAttendance} \\ & + b_8\text{ParentsParty} + b_9\text{FatherUnionMember} \\ & + b_{10}\text{Male} + b_{11}\text{UrbanChildhood} + b_{12}\text{ParentsDivorced} \\ & + b_{13}\text{YearTurned14} + b_{14}\text{NumberOfSiblings} \\ & + b_{15}(\text{ParentsCatholic}*\ln\text{ParentsChurchAttendance}) + b_{16}(\text{ParentsAnglican}*\ln\text{ParentsChurchAttendance}) + e_3 \end{aligned} \tag{Eq. 3}$$

$$\begin{aligned} \text{CatholicSchoolingLogit} = & b_0 + b_1\text{FathersOccupationalStatus} + b_2\text{FatherFarmer} + b_3\text{ParentsIncome} \\ & + b_4\text{ParentsEducation} + \\ & + b_5\text{ParentsCatholic} + b_6\text{ParentsAnglican} + b_7\ln\text{ParentsChurchAttendance} \\ & + b_8\text{ParentsParty} + b_9\text{FatherUnionMember} \\ & + b_{10}\text{Male} + b_{11}\text{UrbanChildhood} + b_{12}\text{ParentsDivorced} \\ & + b_{13}\text{YearTurned14} + b_{14}\text{NumberOfSiblings} \\ & + b_{15}(\text{ParentsCatholic}*\ln\text{ParentsChurchAttendance}) + b_{16}(\text{ParentsAnglican}*\ln\text{ParentsChurchAttendance}) + e_4 \end{aligned} \tag{Eq. 4}$$

The estimated probit coefficients for Eqs 1 to 4 are in Technical notes Table 1.

Data

Data are from IsssA-Pool-Debut, the pooled International Social Science Survey/Australia¹¹ for 1984-2002, with 24,598 cases. Our descriptive section also includes an additional 12,773 cases from the first year of HILDA, a new, large panel survey of labour market behaviour sponsored by FaCS (Wooden 2002). Combining these two datasets gives 37,371 cases with correspondingly precise estimates.

The surveys were conducted between 1984 and 2002, asking both old and young about their educational experiences. Thus they cover educational experiences from early in the 1900s through the dawn of the twenty-first century.¹² A detailed analysis has found no significant differences between the surveys, except those reflecting the different dates on which they were conducted (Evans and Kelley 2004b). The causal analysis relies on the IsssA-Pool-Debut data alone, because of the wider array of causal variables pertaining to family background available there.

Measurement

The dependent variable is the kind of school respondent “mostly” attended for secondary school: “Government”, “Catholic” or “Other”.

The independent variables are measured according to the AES standards (Evans and Kelley 2004a) which follow conventional survey practice. The only non-standard variable is parents' income.

Parents' income

We have no direct measure of parents' income because survey respondents are not generally able to provide reliable information on their parents' income. They do, however, provide reliable information on their parents' education, occupation, supervision, labour force participation and the like. We estimated parents' income from those known facts in the following way. (1) First, we estimated the impact of education, occupation, supervision, labour force participation and the like on the (log of) family income of contemporary families by OLS regression. (2) Next, we assumed that this relationship held equally in the past, and so predicted their parents' income on the basis of their parents' education, occupation, labour force participation, and the like. The resulting estimate is a plausible but by no means perfect proxy for family income, and we used this proxy in some analyses.

¹¹ The IsssA-Pool_Debut file provides information from our first contact with IsssA primary respondents (i.e. it excludes siblings who form part of the IsssA-Pool-Families database and it excludes subsequent contacts with primary respondents, some of whom become part of the IsssA-Panel databases. An overview of the IsssA surveys is on the Data Page; details are in (Kelley and Evans 1999) and (Evans and Kelley 2004a).

¹² We confine our analysis to adults age 21 and older.

The estimating equation is:

Variable	B	SE B	Beta	T
EDUCQ	.025630	.003443	.161275	7.444
OCCSTATQ	.003600	3.9070E-04	.206906	9.215
SUPER3Q	.236724	.022586	.201801	10.481
SELFEQ	.017019	.033738	.013528	.504
OWN2Q	.103667	.042383	.065266	2.446
GOVTQ	-.065521	.018814	-.064779	-3.483
LNURBANQ	.006583	.002547	.045702	2.585
SEDXWRKQ	.031160	.001593	.343437	19.557
(Constant)	10.222974	.042726		239.270
Adjusted R Square	.37628			
Standard Error	.38213			
n=3247 varying somewhat with missing data				

where SEDXWRKQ is a measure of the spouse's education and employment. Parents' income was then estimated from the corresponding equation for parents' characteristics, and adding a random component with mean zero and standard deviation equal to the standard error in the estimating equation:

$$\begin{aligned}
 P_LnIncQ = & FAEDYR2Q * .025630 + FASTATQ * .003600 + FASUPR3Q * .236724 \\
 & + FaSelfEQ * .017019 + FaOwn2Q * .103667 + FaGovtQ * -.065521 \\
 & + LnUrb14Q * .006583 + mEdXWrkQ * .031160 + 10.222974 \\
 & + .38213 * NORMAL(1)
 \end{aligned}$$

The result then reflects what parents' income would have been if they had lived under the economic conditions of 1984-2001, in year 2000 dollars. That will somewhat over-estimate parents' incomes (because of productivity growth in the interval between the reference year for parents' characteristics and the survey date), but nonetheless put parents in approximately their correct position in the income hierarchy relative to other families at the time.

We constructed three dummy variables for families in the top quintile, the middle quintiles, and the bottom quintile from this estimate of family income. Specifically, we ranked families from lowest to highest income and located the appropriate cutting points. We did this separately by decade, so parents are always compared with other families at about the same point in time. For example, in the 1990s a family with income over \$92,000 was in the top 20% of the income distribution and so qualified for the top quintile, families with less than \$42,000 were in the bottom quintile, and everyone else was in the middle.

Missing Data

In the multivariate analysis, missing data are imputed by maximum likelihood using a variant of the well-regarded EM algorithm as implemented in the Amelia program (Allison 2000; Honaker, Joseph, King, Scheve, and Singh 2003; King, Honaker, Joseph, and Scheve 2001). Because of the large sample size and the small percentage of missing data, we use a single imputation. Alternative estimates obtained by discarding cases with missing data on any variable lead to virtually identical conclusions (results available on request). We prefer the results using imputed data because they make fuller use of the available information and so provide more precise estimates.

Because the dependent variables are dichotomous, we use probit analysis to estimate the models. Probit coefficients (like the alternative logistic regression coefficients) are not readily interpretable on their own, so in order to tap their implications we present in text and in Figures 2 and 3 are the percentage point differences implied by the coefficients from the above equations, for example, that people with Catholic parents are 45 percentage points more likely to attend Catholic school than are otherwise similar people whose parents are unchurched or members of minority religions. The coefficients are given in Technical Notes Table 1.

Method: Predicted values

To discover estimated levels of sector choice for Figure 4, we use a variant of the “whole population standardisation” approach (Evans and Kelley 1991), based on the Eqs. 1 to 4. Because the models are non-linear, the calculations are a little more complicated than the simple but conceptually equivalent calculations with linear equations, for example from OLS. For linear models, the natural choice is to construct an artificial case with average characteristics – for example, with the population mean age, sex, education, and so forth. Inserting these values in the equivalent of Eq. 1 gives a sensible predicted value for the dependent variable; indeed this predicted value is, conveniently, the same as the population mean for the dependent variable. Furthermore, and equally convenient, the effect of a small change in one of the independent variables (the slope) for this hypothetical average person is the same as for anyone else in the population. For example, the effect on the dependent variable of a 1 year increase in age from the population mean (say from 44.4 to 45.4) is the same as it would be for a young person (say, from 16 to 17), or for an old person (say, from 80 to 81). Moreover, other characteristics of the person are irrelevant; so, for example, the slope for a university educated 25 year old Catholic is the same as for an illiterate 80 year Protestant. Thus with a linear model we can accurately and completely describe the equation's implications by the mean of the dependent variable and the slopes evaluated for the average (or any other) person, plus a random term.

For non-linear equations none of this is true.¹³ The predicted value for an artificial case with average characteristics may be far from the average (as it is for Eqs 1 and 2 in Australia) and the slopes can vary greatly from person to person. So there is no simple summary. What we have done, a variant of “whole population standardization” (Kelley and Evans 1991), is to calculate predicted values for every single person in the sample and average those figures. The results depend both on the equation and on the population chosen as a baseline for comparison (here we use a representative national sample of Australians). For example, the predicted percent of professionals choosing Catholic schooling from Eq. 2 is obtained by changing every case in our sample to have a

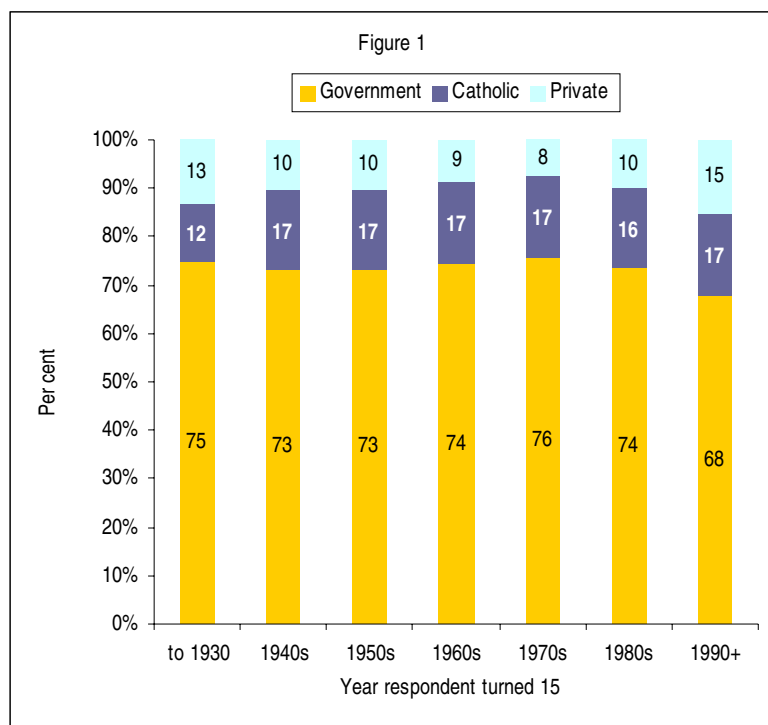
¹³ This applies to, among others, equations with non-linear independent variables (for example, quadratics); to equations with interactions; and to equations like logit and probit with non-linear links between the index function and the predicted value, even when the index function is itself linear (as in Eqs. 1 and 2).

professional father (status = 1) but leaving all other variables unchanged; then computing predicted values from Eq. 2 for every case (using the coefficients in Technical Notes Table 1, Panel B); and then averaging the result. Similarly, the predicted percent for unskilled workers is obtained by changing every case to have an unskilled worker father (status = 0) and proceeding similarly. The difference between these two predictions we report as the effect of father's occupational status on choice of Catholic schooling (Figure 2 and Technical Notes Table 1, row 1, column 1). In the event, there is no significant difference between these predicted values, so the effect is zero. For the effect of occupation on choice of Independent school is obtained similarly using the coefficients from Eq. 1. In the event, the average for professionals is 16.2 percent, compared to 5.6 percent for unskilled workers, a difference of 10.6 percentage points (reported in Figure 3 and in Technical Notes Table 1, row 1, column 2).

[Technical notes Table 1 about here]

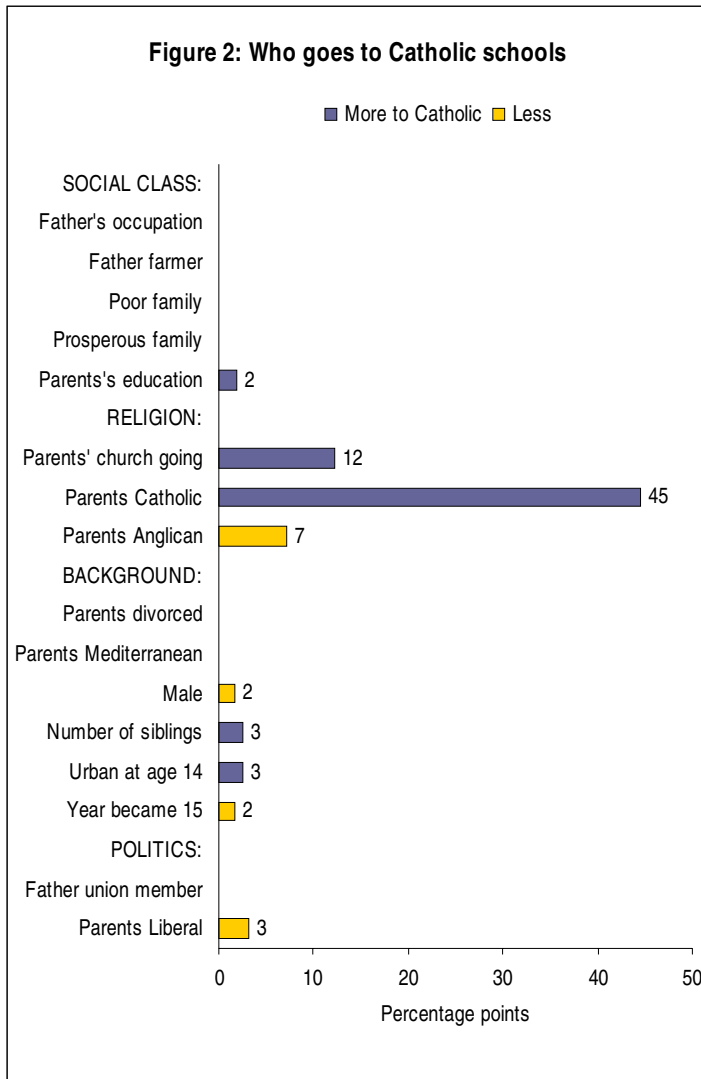
Figures and Tables

Figure 1. Type of secondary school attended by time: percentage “mostly” attending Government, Catholic, and Independent sector schools. Australians born before 1982. N= 37,371.



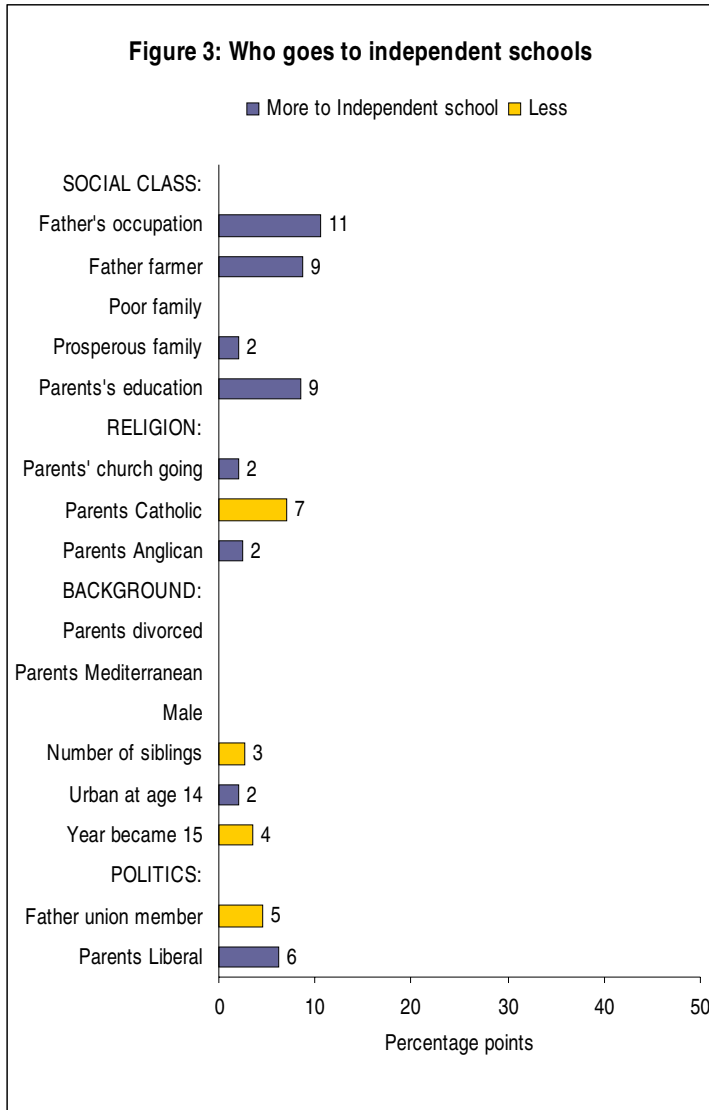
Source: IsssA-Pool-Debut and HILDA-Wave-1.

Figure 2. Who goes to Catholic schools? Multivariate probit analysis of choosing Catholic school. Implied percentage point differences for various influences. Australians born before 1982, N=24,598.



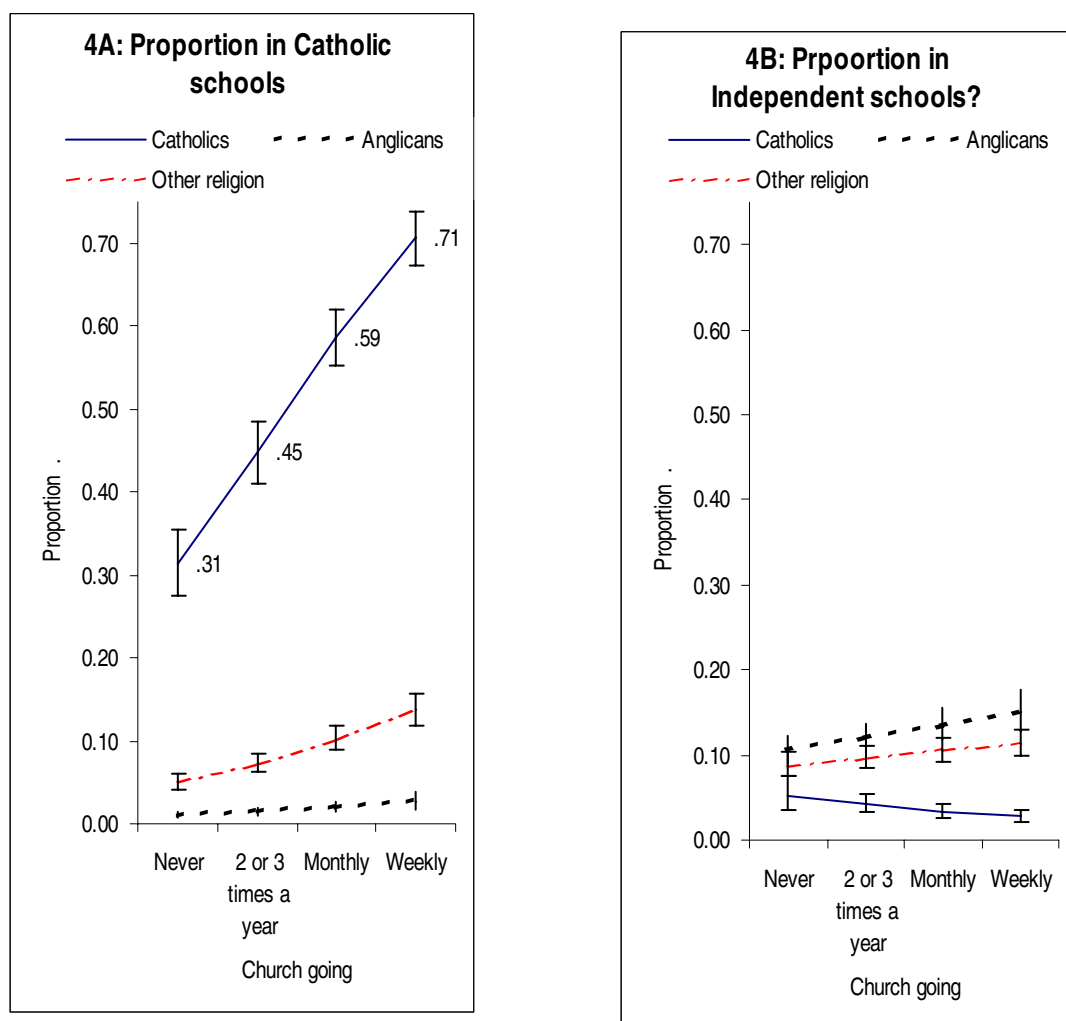
Source: IsssA-Pool-Debut and Technical Notes Table 1, column 1.

Figure 3. Who goes to Independent schools? Multivariate probit analysis of choosing Independent schools. Implied percentage point differences for various influences. Australians born before 1982, N=24,598.



Source: IsssA-Pool-Debut and Technical Notes Table 1, column 2.

Figure 4. Interactions of religious affiliation and church attendance on proportion choosing Catholic schools and Independent schools. Whole population standardisation based on multivariate probit analysis. Australians born before 1982, N=24,598.



Source: IsssA-Pool-Debut and Technical Notes Table 1, Panel B.

Table 1. View from the classroom: Percentages of students with different characteristics in each school sector. Australians born before 1982. N=24,598

	Government schools	Catholic schools	Independent schools
Parents' education:			
Primary only	17	16	10
7 to 11 years	66	62	44
Secondary	14	19	34
University	3	4	13
(Total)	100%	100%	100%
Father's occupation:			
Farm	14	11	15
Manual & lower clerical	58	54	26
Higher clerical & sales	11	15	16
Managers & professionals	18	21	43
(Total)	100%	100%	100%
Family income:			
Poor, bottom quintile (%)	20	18	10
Prosperous, top quintile (%)	18	22	35
Elite:			
Parents at least secondary school; manager or professional; prosperous (%)	4	6	17
Religion:			
Catholic (%)	10	67	5
Trade union:			
Father union member (%)	43	40	16
Parents' politics:			
Both Labor	39	38	13
Mixed or none	31	35	32
Both Liberal or National	30	27	55
(Total)	100%	100%	100%

(Cases)¹ 13,760 to 18,132 3,185 to 4,193 1,868 to 2,370

1. Varies from question to question due to missing data and because not all questions were asked in the HILDA survey.
Source: IcssA-Pool-Debut and HILDA.

Table 2. View from the family room: Percentages of students in each school sector for families with various characteristics.¹ Australians born before 1982. N=24,598

	Government schools	Catholic schools	Independent schools	(Total)	Number of cases
Parents' education:					
Primary only	78	17	6	100%	3,998
7 to 11 years	77	17	7	100%	15,653
Secondary	62	19	19	100%	4,119
University	48	18	33	100%	925
Father's occupation:					
Farm	76	13	11	100%	4,838
Manual & lower clerical	79	16	5	100%	19,667
Higher clerical & sales	67	20	13	100%	4,367
Managers & professionals	63	16	20	100%	7,436
Family income:					
Poor, bottom quintile (%)	78	17	5	100%	3,496
Prosperous, top quintile (%)	65	18	17	100%	3,839
Elite:					
Parents at least secondary school; manager or professional; prosperous (%)	55	17	28	100%	1,110
Religion:					
Catholic (%)	38	60	2	100%	4,705
Other religions (%)	82	7	11	100%	19,990
Trade union:					
Father union member (%)	79	17	4	100%	6,765
Parents' politics:					
Both Labor	79	18	3	100%	8,889
Mixed or none	72	19	10	100%	7,891
Both Liberal or National	69	14	17	100%	7,915

1. Not all questions were asked in the HILDA survey. These are the same data as the preceding table, but percentage in the opposite direction.
Source: IcssA-Pool-Debut. and HILDA.

Technical Notes Table 1. Type of school attended. Predicted effects and maximum likelihood probit estimates with robust standard errors. Australia. 1984-2002. N =24,598.

A. Predicted difference (high - low) Other variables at mean (Percentage points; from Eq. 1)				B. Coefficients and standard errors							
Comparison (high score)		Catholic school	Indep-entent school	Catholic school Eq. 2		Catholic school Eq. 4		Independent school Eq. 1		Independent school Eq. 3	
				b	SE	b	SE	b	SE	b	SE
Social class:											
Father's occupation	Highest (vs lowest)	<i>ns</i>	10.6	-.06	.057	-.05	.057	.69	.057	.69	.057
Father farmer	Yes	<i>ns</i>	8.8	-.06	.047	-.05	.047	.51	.048	.51	.048
Poor family	Income in bottom quintile	<i>ns</i>	<i>ns</i>	.02	.031	.02	.031	-.10	.038	-.10	.038
Prosperous family	Income in top quintile	<i>ns</i>	2.2	.09	.030	.09	.030	.15	.030	.14	.030
Parents's education	University (vs year 9)	1.9	8.6	.02	.005	.02	.005	.08	.006	.08	.006
Religion:											
Parents' church going	Weekly (vs never)	12.2	2.1	.15	.007	.12	.008	.03	.007	.04	.009
Parents Catholic	Yes	44.6	-7.0	1.50	.025	1.25	.043	-.68	.051	-.39	.082
	<i>(Interaction: Catholic & church going)</i>	--	--	--	--	.11	.014	--	--	-.11	.028
Parents Anglican	Yes	-7.3	2.5	-.76	.048	-.72	.062	.15	.027	.13	.036
	<i>(Interaction: Anglican & church going)</i>	--	--	--	--	-.03	.025	--	--	.02	.016
	<i>Other protestant & NEC (reference group)</i>	--	--	--	--	--	--	--	--	--	--
Background:											
Parents divorced	Yes	<i>ns</i>	<i>ns</i>	-.13	.056	-.12	.055	-.05	.055	-.05	.055
Parents Mediterranean	Yes	<i>ns</i>	<i>ns</i>	-.06	.057	-.05	.058	.04	.094	.03	.094
Male	Yes	-1.6	<i>ns</i>	-.10	.023	-.10	.023	-.05	.025	-.05	.025
Number of siblings	3 sibs (vs none)	2.6	-2.7	.05	.006	.05	.006	-.06	.007	-.06	.007
Urban at age 14	Rural vs metropolitan	2.5	2.0	.03	.004	.03	.004	.02	.004	.02	.004
Year became 15	1990 (vs 1950)	-1.6	-3.5	.00	.001	.00	.001	-.01	.001	-.01	.001
Politics:											
Father union member	Yes	<i>ns</i>	-4.6	-.08	.027	-.08	.027	-.34	.030	-.35	.030
Parents' party	Liberal (vs Labor)	-3.1	6.3	-.18	.031	-.17	.031	.44	.032	.44	.032
	(constant)	--	--	-1.93	.083	-1.84	.084	-2.34	.090	-2.35	.091
Wald chi ² (df=16 for model 1, 18 for model 2)				5666	--	5928	--	1639	--	1659	--

[1] For example in row 1, someone born into a family average in parents' education, religion, background and politics, but where the father had a low status occupation like unskilled laborer, would have the same chance of going to Catholic school as someone from an otherwise identical family whose father was a high status professional (Column 1). However, their chance of going to a private school, 5.6%, would be lower than the professional's child, 16.2%; the difference between these, a 10.6 percentage point advantage to the professional's child, is shown in column 2 of row 1. *ns* (and coefficients in smaller type) -- not significantly different from zero at p<.001, two-tailed.
Source: IJSSA-Pool-Debut

References

- Allison, Paul D. 2000. "Multiple Imputation for Missing Data: A Cautionary Tale." *Sociological Methods and Research* 28:301-09.
- Anderson, Don S. and A. e. Vervoorn. 1983. *Access to Privilege: Patterns of Participation in Australian Post-Secondary Education*. Canberra: Australian National University Press.
- Evans, M. D. R. and Jonathan Kelley. 1991. "Prejudice, Discrimination, and the Labor Market: Attainments of Immigrants in Australia." *American Journal of Sociology* 97:721-59.
- Evans, M.D.R. and Jonathan Kelley. 2002. "Private Schools and Educational Success." Pps. 67-73 in *Australian Economy and Society 2001: Education, Work, and Welfare*, edited by Jonathan Kelley. Sydney: Federation Press.
- Evans, M.D.R. and Jonathan Kelley. 2004a. *Australian Economy and Society 2002: Religion, Morality, and Public Policy in International Perspective, 1984-2002*. Sydney: Federation Press.
- Evans, M.D.R. and Jonathan Kelley. 2004b. "The Effect of Family Structure on Life Satisfaction: Australian Evidence." *Social Indicators Research* forthcoming.
- Graetz, Brian. 1990. "Private Schools and Educational Attainment: Cohort and Generational Effects." *Australian Journal of Education* 34:174-91.
- Honaker, James, Anne Joseph, Gary King, Kenneth Scheve, and Naunihal Singh. 2003. "Amelia: A Program for Missing Data." Department of Government, Harvard University (available at <http://GKing.Harvard.Edu>).
- Kelley, Jonathan and M.D.R. Evans. 1999. "Australian and International Survey Data for Multivariate Analysis: The IsssA." *The Australian Economic Review* 32:298-303.
- King, Gary, James Honaker, Anne Joseph, and Kenneth Scheve. 2001. "Analyzing Incomplete Political Science Data: An Alternative Algorithm for Multiple Imputation." *American Political Science Review* 85:49-69.
- Le, Anh T. and Paul W. Miller. 2003. "Choice of School in Australia: Determinants and Consequences." *Australian Economic Review* 36:55-78.
- Marks, Gary N. 2004a. "On the Conceptualization and Measurement of Socioeconomic Background: Evidence from Analyses of Student Achievement in over 30 Countries." in *Seminar presentation*. Melbourne: Melbourne Institute of Applied Social and Economic Research.
- Marks, Gary N. 2004b. "School Sector Differences in Tertiary Entrance: Improving the Educational Outcomes of Government School Students." *Australian Social Monitor* 7:35-40.
- Morgan, S. L. 2001. "Counterfactuals, Causal Effect Heterogeneity, and the Catholic School Effect on Learning." *Sociology of Education* 74:341-74.
- Vella, F. 1999. "Do Catholic Schools Make a Difference? Evidence from Australia." *Journal of Human Resources* 34:208-24.

Western, John S. 1983. *Social Inequality in Australia*. Melbourne: Macmillan.
Wooden, Mark. 2002. "Hilda Survey Annual Report, 2002." Melbourne Institute of Applied Economic and Social Research, University of Melbourne.

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