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Research Report Number 5

**ATTITUDES TO SCHOOL LIFE:
THEIR INFLUENCES AND THEIR EFFECTS ON
ACHIEVEMENT AND LEAVING SCHOOL**

Gary N. Marks

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EXECUTIVE SUMMARY

This report investigates students' attitudes to school life. Such attitudes may have implications for students' achievement and other educational outcomes as well as being a measure of educational outcomes in their own right. The study uses data from the first two waves of the 1995 year 9 cohort in the *Longitudinal Surveys of Australian Youth* (LSAY) project. This study examines three aspects of students' attitudes to school life: possible changes over time, the influence of individual and school-level variables on attitudes; and the effect of these attitudes on achievement and leaving school. The four dimensions of attitudes to school isolated here are students' general satisfaction with school, their attitudes to their teachers, their views on the opportunities their school provides, and their sense of achievement.

The main findings on the four dimensions of *Attitudes to School Life* are as follows:

- There appears to have been a decline between the mid-1980s and mid-1990s in year 9 students' general satisfaction with school and a smaller decline with their attitude to teachers;
- Only a small to moderate proportion of the variation in attitudes to school life is due to between school differences. Students' attitudes to their teachers display the largest between school differences;
- Students whose parents have more education are generally happier with school;
- Female students show higher levels of general satisfaction with school life, are more positive about their teachers and are more satisfied with their achievement at school;
- Students from non-English speaking backgrounds show higher levels of satisfaction with school on all four dimensions;
- Aboriginal and Torres Strait Islander students show no difference compared to other students on the *General Satisfaction*, *Teacher* and *Opportunity* scales but are less satisfied with their achievement at school;
- Students from Catholic and Independent schools have higher levels of general satisfaction and are substantially more satisfied with their teachers.;

The main findings from the analyses on the consequences of attitudes to school life on self perceived achievement in year 10 and leaving school are:

- Both the *General Satisfaction* and *Sense of Achievement* scales positively influence self-perceived (year 10) achievement;
- Of the four dimensions of *Attitudes to School Life*, only the *Sense of Achievement* dimension influences students leaving school during year 10.

Attitudes to School Life: Their Influences and Their Effects on Achievement and Leaving School

INTRODUCTION

Parents, teachers, school administrators and most students are united in the view that schools should be places which maximize students' learning and where students feel happy and secure, satisfied with their teachers and enjoy learning. A happy school environment should facilitate academic achievement. The renewed interest in 'school effectiveness' reflects a perception of the school environment as an important contributor to academic success. In addition, schools are committed to provide an education concerned with broader aspects of social and personal development, in other words the enhancement of the 'whole' student. The recent emphasis on civics education sees schools as one vehicle through which to develop the responsible citizen. Popular culture is replete with images of 'bad' schools characterized by continual disruption of classes, an 'us versus them' mentality toward teachers, a lack of interest in the curriculum and learning in general, and, in extreme cases, violence. It is the 'good' school, which the community strives for.

One measure of students' attitudes to school life, the *Quality of School Life Scale* (Epstein & McPartland, 1976), was developed in the United States, applying the concept of quality of life (defined as subjectively known and evaluated aspects of life) to a school setting, to measure students' attitudes to school in general, their interest in class work, and the nature of their relationships with their teachers. In Australia, the conceptualisation of the dimensions of school life and the measurement of those dimensions in the form of a self-report Likert scale was further developed by Williams and Batten (1981). They initially postulated four dimensions of school life, three to do with overall well-being (termed general affect, positive affect and negative affect) with a fourth dimension consisting of specific domains. These domains were concerned with students' feelings of status (sense of worth), identity (learning and getting on with others), adventure (in learning), and opportunity (relevance of schooling). After extensive empirical testing the instrument was refined to one consisting of 40 items, tapping seven dimensions of school life. These scales were identified as general well-being and negative affect, plus five specific domains of school life – to do with status, identity, opportunity, as well as achievement (a sense of being able to do well enough to succeed at school) and teacher-student interactions (Ainley, Reed & Miller, 1986). Over succeeding years, the *Quality of School Life Questionnaire* has been used in further studies, in both primary and secondary schools and in various school systems (Ainley, 1993; Ainley & Bourke, 1992; Ainley, Reed & Miller, 1986; Ainley & Sheret, 1992; Batten, 1989; Mok & McDonald, 1994). This instrument provided the basic structure of the scales and enabled researchers to isolate the dimensions of self-esteem or general satisfaction, student-teacher interactions, relevance of school or opportunity, and attitudes about the students' academic achievement at school.

Generally, the *Quality of School Life* surveys indicate that the majority of students have positive views of school. Ainley (1995) provides examples from both primary and secondary schools. For example, over 80 per cent of secondary school students agreed with the statement, 'My school is a place where the work I do is a good preparation for the future'. Over 70 per cent agreed with the statement that 'My School is a place where I

am a success as a student'. Among primary school students the level of positive agreement was even higher. So whatever the popular image of school environments, recent surveys of students using these batteries suggest that the overwhelming majority of students are happy with their schools.

An obvious influence on the student's attitudes to school is of course the school itself. Within the same school, students generally experience the same teachers, are subject to the same authority structure and interact with one another in the same physical environment. It stands to reason that attitudes to school should be largely due to schools themselves. However, the effect of the individual school is smaller than expected. Ainley, Batten & Miller (1984), found small but significant differences between schools. Mok and McDonald (1994) concluded that only 2 to 3 per cent of the variances in the *Quality of School Life* scales were explained by between school differences. Using a different methodology, Ainley (1995) found that between school differences accounted for about 11 per cent of the variance in general satisfaction with schools. This between school variation is generally considerably lower than that for achievement.

If school differences are small, what are the main influences on students' attitudes to school? Research has shown a consistent effect of gender, with girls being more satisfied with school in general, with their teachers and on the identity scale (Ainley, Reed & Miller, 1986; Ainley & Sheret, 1992). Students from non-English speaking backgrounds are generally more satisfied, with the largest effects on general satisfaction. This finding may reflect the greater importance immigrants place on education (Ainley, 1993; Ainley, Reed & Miller, 1986; Ainley & Sheret, 1992). There is little association between parents' occupation and attitudes to school. Most often studies find no association (Ainley, Goldman & Reed, 1990; Ainley, Reed & Miller, 1986; Ainley & Sheret, 1992) although some find a small positive association (Ainley & Bourke, 1992). In Canada an extensive study on students' attitudes to school found no impact of parental socioeconomic status (Isherwood & Hammah, 1981).

A major reason for the interest in attitudes to school is its possible influence on education outcomes. Most research has focused on achievement. Although there is an extensive body of literature on the effects of schools and school practices on achievement (the effective schools literature), students' attitudes to school life have little or no impact on achievement. In a recent review, Ainley (1995) notes that 'there is no strong and general link between school life scores and static measures of achievement'. However, results showed that the *Quality of School Life* measures did affect achievement growth. In the Ainley and Sheret study (1992, pp 147-148) the authors found modest but statistically significant associations between achievement growth and scores on the *Achievement*, *Teacher*, and *Relevance (Opportunity)* scales. The correlations were strongest with the *Achievement* scale ($r=0.29$).

Contrary to Ainley's conclusion of no effects on static measures of achievement, Mok and Flynn (1997) found that among Catholic schools the *Quality of School Life* measures had a significant impact on performance in the New South Wales Higher School Certificate, net of student and school characteristics. However, these effects do not appear to be large.

One would expect that attitudes to school would be an important predictor of whether or not students stayed on at school. More positive attitudes should decrease the probability of a student leaving school. Less work has been directed to this issue than to achievement. Ainley and Sheret (1992: 95) found a correlation of around 0.12 between attitudes to school and staying at school until year 11. This compares with correlations of around 0.20 between leaving school early and achievement measured by reading and mathematics tests. In a subsequent path analysis, attitudes to school life had a standardized effect of 0.10 on staying at school in year 11, net of an effect of 0.24 for measured achievement. This means that students with more positive attitudes were less likely to leave than students with more negative attitudes even if they had equal levels of measured achievement.

There are three parts to this investigation of students' attitudes to school life:

First, we compare the responses to these items from data collected in 1995 with earlier studies. This comparison will indicate if there have been changes over-time in students' attitudes to school.

Second, we investigate the effects of individual and school-level factors on four domains (or scales) of the quality of school life battery. This analysis is, in part, to confirm previous work but also to test if there are school system differences in responses to these items.

Finally, we examine the influence of attitudes to school in two areas: on self-perceived achievement in year 10; and on leaving school before year 11.

In these analyses we estimate the effects of these scales net of year 9 achievement measured by reading comprehension and numeracy tests, and social background. Appendix 1 presents the data and measures used for this report.

CHANGES OVER TIME IN ATTITUDES TO SCHOOLS

Many of the items incorporated in the 1995 LSAY Australia-wide survey of year 9 students have been used in previous studies. Since attitudes to schools vary according to year level, the comparisons presented in Table 1 are only for year 9 students. Results from the 1995 LSAY survey indicate the percentage of students agreeing (either agreed or strongly agreed) with each statement compared with results from surveys conducted in 1984 and 1987. There are some caveats regarding this comparison. First, the earlier surveys were restricted to single states (Victoria and NSW, respectively) and to government school systems. Second, not all items can be compared, since the LSAY survey incorporated some new items and did not include all the items used in the two earlier studies.

The percentages in Table 1 suggest there has been a decline in the levels of agreement on the *General Satisfaction* and *Teacher* items. In general, there was no change on the *Opportunity* and *Achievement* items.

The *General Satisfaction* items showing the largest declines were '*I find that learning is a lot of fun*' and '*I really like to go each day*' items. Smaller but not insubstantial declines were found for the '*I like learning*' and '*I get enjoyment from being there*' items. The declines in the four items in the *General Satisfaction* domain were unlikely to result from sampling differences.

Table 1 Attitudes to School Compared Over Time (Percentage Agreement)

QUALITY OF SCHOOL LIFE ITEM	1995 LSAY	1987 NSW ^a	1984 Vic. ^b
My School is a place where:			
I am given the chance to do work that really interests me	62.5		
I feel happy	72.0		
I like learning	73.0	82	78
I get enjoyment from being there	53.8	64	61
I like to ask questions in class	59.6		
I like to do extra work	27.4		
I really like to go each day	35.3	43	49
I enjoy what I do in class	59.7		
I get excited about the work we do	22.8		
I find that learning is a lot of fun	42.8	55	57
Have chance to do interesting work	60.5		
<i>MEAN for General Satisfaction Items</i>	<i>51.8</i>		
Teachers are fair and just			
Teachers are fair and just	63.5	64	69
Teachers listen to what I say	64.5	66	67
Teachers give me the marks I deserve	78.6	80	79
Teachers take a personal interest in helping me with my school work	44.8	55	60
The teachers help me to do my best	70.8	73	75
Teachers treat me fairly in class	72.2	86	88
<i>MEAN for Teacher Items</i>	<i>67.6</i>		
The things I learn are important to me			
The things I learn are important to me	87.1	91	90
The work I do is good preparation for the future	83.4	83	80
I have acquired skills that will be of use to me when I leave school	84.0	86	84
Things I learn will help me in adult life	85.8	90	86
The things I am taught are worthwhile learning	77.6	77	79
<i>MEAN for Opportunity Items</i>	<i>83.9</i>		
I have learnt to work hard			
I have learnt to work hard	78.1	77	76
I achieve a standard in my work I consider satisfactory	83.0	85	-
I always achieve a satisfactory standard in my work	75.1	73	88
I always try to do my best	82.3		
I know how to cope with the work	84.6	84	88
I know I can do well enough to be successful	90.2	89	92
I am a success as a student	79.0	68	77
<i>MEAN for Achievement Items</i>	<i>82.1</i>		

Percentage Agreement is the percentage of students indicating that they 'Agreed' or 'Strongly Agreed'.

a: Year 9 NSW Government Schools 1987 (Ainley & Sheret, 1992, pp. 59)

b: Year 9 Victoria Government Schools 1984 (Ainley, Reed & Miller, 1986, from Author)

The decline is not due to the different populations examined; (all students were included in the 1995 LSAY sample but only government school students in the other two studies). The results in Table 2 show that government school students tended to exhibit lower levels of satisfaction with school. So if anything the declines are likely to be greater than shown in Table 1.

The *Teacher* items that exhibited the largest declines were, '*Teachers treat me fairly in class*' and '*Teachers take a personal interest in helping me with my school work*'. Smaller declines were found for the '*The teachers help me to do my best*' and '*Teachers are fair and just*' items. No substantial declines were found on the other *Teacher* items, '*Teachers listen to what I say*' and '*Teachers give me the marks I deserve*'. As is the case for the *General Satisfaction* items, the observed declines are unlikely to be due to sampling differences between the three studies.

One possible explanation for these declines is that it may reflect an increasing disenchantment with schools and teachers by boys. Without reanalysing the earlier data we cannot completely discount this result. However, subsequent analyses showed that gender differences were small across the four scales, possibly smaller than reported in the literature. Furthermore, there was no substantial decline on the *Opportunity* and *Achievement* items. From these data, our conclusion is that among year 9 students there has been a decline over the last decade in satisfaction with school life in general and with teachers in particular.

INFLUENCES ON ATTITUDES TO SCHOOLS

Table 2 presents the results of the multilevel analysis of the four attitude to schools dimensions. This analysis shows the effects of influences on attitudes controlling for other influences, in other words 'other things being equal'. The first line of the table shows the intra-class correlation coefficients. It is an estimate of the proportion of variation in these measures that is attributed to between school differences. In accordance with the literature, the intra-class correlations are small. For the *General Satisfaction* scale about 6 per cent of the variation is due to between school differences, for the *Teacher* scale 7 per cent, and less than 4 per cent for the *Opportunity* and *Achievement* measures. It appears that even though these items are about school (*My School is a place...*), differences between schools account for little variation. As noted earlier, Mok and McDonald (1994) found only 2 to 3 per cent of the variation in the attitude to school scales could be explained by between school differences. The greater between school variation found in the current investigation is probably because the LSAY sample includes schools from all three sectors, whereas the Mok and McDonald study was restricted to Catholic schools in New South Wales.

Table 2 shows small but consistent gender differences on these indices with girls reporting greater levels of satisfaction about their school than boys. Girls are over 3 units more satisfied on the *General Satisfaction* and *Teacher* scales and score nearly two units higher than boys on the *Achievement* scale. (These scales range from 0 to 100). There is no gender difference on the *Opportunity* scale. Females also tend to score slightly higher on general happiness measures so their higher scores on these indices may just reflect a happier disposition. Similarly, there may be some kind of response bias in which girls are just more likely to respond positively on these types of questions. However, if this were

the case, there should also be a gender gap for the *Opportunity* index. One possible explanation for the gender differences is that the small number of male ‘troublemakers’ tends to reduce the mean levels for boys.

Students from higher socioeconomic groups are more likely to be happier at school and with their teachers. However in accordance with previous studies, this effect is very small. A ten unit difference in occupational status translates to a difference of only 0.3 units in the *General Satisfaction* and *Teacher* scales. (Appendix 1 provides details on the ANU3 measure of parental occupational status). The effect of parental occupational is even smaller on the *Opportunity* and *Achievement* scales.

The effect of parents’ education is greater than the effect for socioeconomic status. For a single year increase in the average level of parents’ education, satisfaction with school rises about 0.7 units on the *General Satisfaction*, *Opportunity* and *Achievement* indices so a five year difference in the average level of education means a difference of over 4 units on these indices. For a single year increase there is an increase of 0.3 units on the *Teacher* index. The greater impact of parents’ education compared to occupational status is probably due to more educated parents being more interested in and supportive of their children’s school life. Ainley and Sheret (1992) also report that student attitudes to school are positively related to parental expectations of post-secondary education, which is associated with parents’ education.

School socioeconomic status, measured by the mean occupational status of the students’ parents in each school, has minimal effects on attitudes to school. Only on the *Achievement* measure is its impact significant. The effect is negative so that students in higher occupational status schools tended to be less satisfied with their academic achievements at school. This may be because schools serving student populations of higher than average occupational backgrounds downplay their students’ achievement in order to encourage students to attain higher levels of achievement. In addition, schools of lower than average socioeconomic status may overstate their students’ achievement giving them greater satisfaction with their achievement.

Students who use a language other than English at home tend to be more satisfied with school. This group of students scored nearly 5 units higher on the *General Satisfaction* scale and four units higher on the *Opportunity* scale. The effects of a non-English background on the other two scales are smaller but in the same direction. There is a commonly held view that immigrant families place a higher value on education because they see education as the key to their children gaining better jobs and thus a higher social standing. These results support this view.

Although Indigenous students tend to perform academically at substantially lower levels than other students there is no corresponding difference in their attitudes toward school. Only on the *Achievement* measure do they score significantly lower than other students and this difference is much smaller than on achievement test scores. This finding is evidence against the idea that the poor academic performance of Indigenous groups is because of their disenchantment with school.

Table 2 Influences on Attitudes to School Domains, 1995

	General Satisfaction	Teachers	Opportunity	Achievement
Intra-Class Correlation	0.062	0.074	0.026	0.036
<u>Model Estimates</u>				
Intercept	-2.69 ^{***}	-2.91 ^{***}	-2.30 ^{***}	-1.86 ^{***}
Female	3.47 ^{***}	3.34 ^{***}	-0.22	1.85 ^{***}
Parental Occup. Status	0.03 ^{***}	0.03 ^{**}	0.01	0.02 ^{**}
Parents' Education	0.77 ^{***}	0.35 ^{***}	0.77 ^{***}	0.70 ^{***}
Non English Spkg. Bck.	4.74 ^{***}	1.57 [*]	3.92 ^{***}	2.75 ^{***}
Aboriginal & Torres Strait	-0.68	-1.40	-1.81	-3.34 ^{***}
<u>School Sector (Ref: Gov.)</u>				
Independent School	2.10 [*]	4.09 ^{***}	1.13	0.23
Catholic School	1.59 [*]	2.75 ^{***}	1.74 ^{**}	1.34
School SES	-0.04	-0.06	-0.06	-0.08 [*]

* 0.01 <P<0.05; ** 0.001 <P<0.01; *** P<0.001

Of the school-level variables, school sector does have a significant effect on these attitude to school dimensions. Students at independent (non-government non-Catholic) schools are substantially more satisfied with their teachers, scoring (on average) 4 units higher than government school students.

Students at Catholic schools are also more satisfied with their teachers and, like students at independent schools, have higher average scores on the *General Satisfaction* scale. Catholic school students score nearly 2 units higher on the *Opportunity* scale than do government school students. There are no significant sector differences in relation to the *Achievement* scale.

EFFECTS OF ATTITUDES TO SCHOOLS ON SELF-RATED ACHIEVEMENT

Self-perceived achievement is measured by three variables that refer to self-rated ability in English, mathematics and overall school achievement. Our initial model (Model 1) specified self-rated ability or self-perceived achievement as dependent on the attitudes to school life and year 9 test scores. These models were analysed by ordinary least squares regression. Since these measures are relative to other students in the same level at the same school there is no need to correct for school effects. In the analyses of English and mathematics achievement, the scores from both year 9 tests were included because they are likely to have different effects. (Additional analyses showed that the high correlation between reading and mathematics test scores did not produce unstable estimates). For analyses of general achievement, the scores on the two tests were combined. General school achievement was also analysed with a fuller model (Model 2) which included the individual-level variables used in the preceding analyses. We included these variables to test if they have residual effects on self-rated ability when controlling for achievement and attitudes to school.

Table 3 Effects on Self-Perceived Achievement

	English	Mathematics	All Subjects Model 1	All Subjects Model 2
<u>Model Estimates</u>				
Intercept	64.84***	60.51***	65.91***	68.28***
<u>Attitudes to</u>				
General Satisfaction	0.13***	0.04	0.10***	0.07***
Teachers	0.03	0.05*	0.01	0.01
Opportunity	-0.08***	-0.02	-0.02	-0.02
Achievement	0.37***	0.39***	0.32***	0.32***
<u>Test Scores</u>				
Reading Comprehension	1.56***	0.09	-	-
Numeracy	0.32***	2.41***	-	-
Combined			0.81***	0.83***
<u>Demographic & Social Background</u>				
Male	-	-	-	0.39
Parental Occup. Status	-	-	-	0.04***
Parents' Education	-	-	-	0.56***
Non English Spkg. Bck.	-	-	-	-3.07***
Aboriginal & Torres Strait	-	-	-	0.70
<u>School Sector (Ref:Gov.)</u>				
Independent School	-	-	-	0.15
Catholic School	-	-	-	-0.65
<u>State/Territory (Ref:NSW)</u>				
ACT	-	-	-	1.81*
NT	-	-	-	-2.62
Vic	-	-	-	1.14*
Qld.	-	-	-	0.41
SA	-	-	-	0.71
WA	-	-	-	1.45*
Tas	-	-	-	3.45***
<u>School-level Variables</u>				
School SES	-	-	-	-0.07*
School Achievement (year 9)	-	-	-	-0.16
General Satisfaction	-	-	-	0.07
Achievement Attitudes	-	-	-	0.14*
R Square	0.18	0.20	0.30	0.32

* 0.01 <P<0.05; ** 0.001 <P<0.01; *** P<0.001

In addition to the school-level variable, mean school occupational status, we included mean school achievement, and mean school scores on the *General Satisfaction* and *Achievement* scales. These variables test for additional contextual effects of schools.

Table 3 shows that for self-perceived achievement in English, the *Achievement* scale showed a significant and moderate effect. A 10 unit increase in this scale increased self-perceived achievement by 3.7 units. *General Satisfaction* had a weaker effect and *Opportunity* had a weak negative effect. Not surprisingly, the largest impact is from objective achievement, in this case the measure of reading comprehension. A difference of 10 points on this test translated to a difference of over 15 units on self-perceived ability in English. The effect of the numeracy test score on self-perceived English achievement was considerably weaker. The standardised effects give an indication of the relative strength of the effects. (These are reported but not shown in Table 3). Reading comprehension test score and the *Achievement* index had the largest standardised effects at around 0.25 followed by *General Satisfaction* (at 0.10), *Opportunity* (0.06) and numeracy test score (0.05).

For self-perceived achievement in mathematics *Achievement* had a similarly large effect as for achievement in English. Although there was no significant impact for *General Satisfaction*, there was a significant impact for the *Teacher* scale. Therefore, students with poorer relations with teachers reported lower self-rated maths ability although the effect was comparatively weak. The effect of test scores is quite different for mathematics than for English. Numeracy test score had a strong effect with a standardised coefficient of 0.33 whereas reading comprehension test score had a standardised effect of only 0.01.

Self-rated general achievement showed a pattern similar to that for English. *Achievement* had the largest effect of the attitude to school life domain measures with a smaller effect for *General Satisfaction*. The combined test score had the largest impact with a standardised coefficient at about 0.30. There are no significant effects for the *Teacher* or *Opportunity* scales. These results are further evidence that the attitude to school life domains have an independent effect on (self-rated) achievement.

It could be argued that these domains have a relationship with self-rated ability because they are both correlated with a third variable or an underlying dimension common to both. There may be personality factors at work. Some students tend to rate themselves highly and also feel better about school. Others rate their abilities lower and are also less happy about school. In other words, it is possible that these relationships are possibly spurious since personality traits may be correlated with both attitudes to school and self-rated achievement. What we need is a control for this subjective component of self-rated ability which will partial out any stable personality factors. Fortunately the 1995 survey also included self-rated achievement measures. When included in further regression analyses (the results are presented in Table A1 in Appendix 2) we found that, although self-rated achievement in 1995 was highly correlated with self-rated achievement in 1996, the patterns of significant effects for the other variables are similar to those reported above. The size of the effects of *Achievement*, and in some instances achievement test scores, declined although they remained significant. For almost all other variables the estimates are only slightly smaller.

Table 3 also shows that there were several demographic and social background variables that had significant effects on self-rated general achievement in year 10. However, their additional explanatory power to the model of self-rated ability or perceived achievement is minimal. The adjusted R square shows only a marginal increase. There is a small effect of parents' occupational status. (A 10 unit difference in ANU3 scores translates to a difference of about 0.4 units on the achievement measure. An extreme difference of 100 ANU3 units translates to only a 4 unit difference on self-rated achievement). Parents' education also had a weak effect. A five year difference in the average years of formal education of parents produced an increase in self-perceived ability by about 2.5 units (of the 100 unit measure). Students whose first language at home is not English scored over 3 units lower. There was no effect of gender or of being an Aboriginal or Torres Strait Islander.

The effects of school-level variables are rarely significant and are not large. There are however effects for state or territory. Other things being equal, students going to school in the ACT, Victoria, Western Australia and Tasmania reported higher levels of self-rated achievement than New South Wales students. This suggests that state school systems differ somewhat in the perceptions they give to students on how well they are doing.

EFFECTS OF ATTITUDES TO SCHOOLS ON LEAVING SCHOOL

Table 4 presents the logistic estimates for leaving school. According to the 1996 mail survey, a total of 286 students reported that they had left school. Logistic regression is used because of the dichotomous nature of the dependent variable. In the following text we interpret these logistic effects as odds ratios which are calculated as the exponent of the estimates. Of the four *Quality of School Life* scales, only *Achievement* had significant effects. The effect is not insubstantial. A 10 unit difference on this scale means produces an odds ratio of 0.81 in the reduced form model. In other words, students scoring 10 units lower on this scale are 1.2 times more likely to leave school than students scoring 10 units higher. This effect is net of year 9 test scores. Test scores have a stronger effect. A 10 point difference in test scores (out of 40) translates to an odds ratio of 2.45. A 20 point difference, such as the difference between a student of above average achievement and one of poor achievement, produces an odds ratio of over 6 in the likelihood of staying at school.

There were some additional effects of social and demographic variables on early school leaving. Students with more educated parents were less likely to leave school. A substantial difference of five years in average parental education produced an odds ratio of 1.6. Students in Catholic schools were less likely to leave school. There were no significant effects for either Aboriginal and Torres Strait backgrounds or coming from a home where English is not the first language. There were significant differences between the States and Territories. Students from Victoria, Queensland and South Australia were less likely to leave school early than students from New South Wales. Tasmanian students were more likely to leave school early. It should be noted that the Tasmanian school system has senior colleges at major centres, which may contribute to higher rates of school leaving. There were no effects of the school-level variables used here.

Table 4 Effects on Leaving School before Year 10

	Left School Model 1	Left School Model 2
<u>Model Estimates</u>		
Intercept	-3.22 ^{***}	-3.25 ^{***}
<u>Attitudes to</u>		
General Satisfaction	0.01	-0.01
Teachers	0.00	0.01
Opportunity	0.00	0.00
Achievement	-0.02 ^{***}	-0.01 ^{***}
<u>Achievement</u>		
Test Scores Combined	-0.09 ^{***}	-0.08 ^{***}
<u>Demographic & Social Background</u>		
Male	-	0.25
Parental Occupational Status	-	-0.00
Parents' Education	-	-0.10 [*]
Not English	-	0.15
Aboriginal & Torres St.	-	0.63
<u>School Sector</u>		
Independent School	-	-0.41
Catholic School	-	-0.62 [*]
<u>State/Territory</u>		
ACT	-	-0.67
NT	-	-0.23
Vic	-	-0.58 [*]
Qld.	-	-0.72 ^{**}
SA	-	-0.94 ^{**}
WA	-	-0.43
Tas	-	1.80 ^{***}
<u>School-level Variables</u>		
School SES	-	-0.01
School Achievement (Year 9)	-	-0.02
General Satisfaction	-	0.03
Achievement Attitudes	-	-0.05

* 0.01 <P<0.05; ** 0.001 <P<0.01; *** P<0.001

CONCLUSION

This investigation suggests that over time there has been a decline in students' general attitudes to school life and in their attitudes to their teachers. The decline may be influenced by a variety of factors including lower satisfaction among young people with institutions generally, greater press coverage of problems with schools and teachers, differences in teachers' profiles or teaching methods, or changes in the organisation of schools. These explanations are of course speculative and there is no reason to suggest any one of them is correct. Since attitudes do have effects on later educational outcomes the decline is cause for some concern.

This study confirms that between-school differences in attitudes to school are small. Differences in students' attitudes to school within schools are considerably larger than differences between schools. This result suggests that individual school factors themselves do not have an appreciable effect on students' attitudes to their schools and teachers. This is not to say there are no effects of more general school factors. Teachers, the type of courses students take, pastoral care, and school policies toward low and high achievers may all contribute to students' attitudes to school. However, such effects are not consistent among all students at the same school.

Other findings from the literature are also confirmed by this study. These include, small gender differences, the weak relationship with parental occupational status, and the slightly higher satisfaction levels reported from children of non-English speaking backgrounds. The lack of a significant difference for Aboriginal and Torres Strait Islander students on the *General Satisfaction* and *Teacher* scales is surprising. However, Indigenous students are less satisfied with their achievement at school.

Finally, the findings indicate that attitudes to school do make a difference to subjective evaluations of year 10 achievement and leaving school. These effects are not large but do make a difference and are not subsumed by general ability. Therefore an improved school environment is likely to have positive effects on school achievement. A student's attitude to their achievement at school has a moderate effect on the probability of leaving school early. Again this effect is independent of prior (year 9) achievement. This suggests that there are cases where a student's decision to leave school early is based to some extent on subjective judgement of their school achievement.

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APPENDIX 1: DATA AND MEASURES

Data

The data used in this report was derived from the 1995 Year 9 sample of *Longitudinal Surveys of Australian Youth* (LSAY) project. This is a research project, conducted by the Australian Council for Educational Research (ACER), which investigates the changing educational and labour force participation of different age groups of young people. In 1995, an initial national sample of over 13,000 year 9 students was established. The students were surveyed in their schools, where they completed a questionnaire about themselves and their families, and undertook reading comprehension and numeracy tests.

Measures

The questionnaire contained a section about students' attitudes to school. Students were asked about a range of items – school in general, how they got on with their teachers, and how they felt about school work and their achievements at school. The items were prefaced by the words '*My school is a place where...*', and students were asked to indicate whether they strongly agreed, agreed, disagreed or strongly disagreed with each one. The 29 items used to ascertain students' opinions about their school and the combined percentages of students who strongly agreed or agreed with each of the items are shown in Table 1.

Most of the items, but not all, were drawn from the initial *Quality of School Life Questionnaire*. All of the items used in 1995 were positively worded, so that a higher percentage of students agreeing indicated a higher level of satisfaction with school. The scales correspond to measures used in earlier ACER studies and the work of Mok & Flynn. There is a general satisfaction scale or index (*General Satisfaction*), a measure comprising items on relationships with teachers (*Teachers*), a scale comprising items that focus on the relevance of school work to future life (*Opportunity*) and a scale of items about the students' achievement at school (*Achievement*).

As indicated earlier, the data from the 1995 Year 9 LSAY cohort include scores on two tests of reading comprehension and numeracy. These tests are included in the LSAY surveys, which investigate how early school achievement affects subsequent education and labour market outcomes. The highest possible score for each test is 20. An overall measure of early school achievement was derived from the scores to both tests. The tests include many items used in previous national studies of literacy and numeracy (the 1975 and 1980 ASSP studies) and in longitudinal studies of Australian young people (the 1989 *Youth in Transition* study and the *Australian Youth Survey*). For these analyses these measures were centered about their means.

The second (1996) wave of the Year 9 LSAY sample (when most were in year 10) included questions on self-perceived achievement. This question asked how well students were doing in each of their subject areas compared to other students in their year level. Students could choose 'Very Well', 'Better than Average', 'About Average', 'Not very Well', 'Very Poorly' and 'Not Doing any subject in this area'. There was a degree of skewness in responses to these items with smaller proportions of students indicating they were performing less well than average. Three measures were constructed. The first measure was based on the students' self-rated achievement in English, the second for mathematics and the third combined their self-rated achievement for all subjects. These measures were adjusted so that they ranged from 0 to 100. 'Perceived achievement' was

used since objective achievement for year 10 was not available. The correlations between perceived achievement and objectively measured achievement are moderate. Ainley and Sheret (1992:73) report correlations for New South Wales year 10 students of 0.41 for self-rated and actual achievement in mathematics and 0.43 for English. Although objective achievement measures would be preferable, the reality is that such measures for year 10 would require separate analyses for each State.

The 1995 survey obtained data on the students' gender, the occupations and highest education levels of their parents, the language they spoke at home and whether the student was an Aboriginal or a Torres Strait Islander. From responses to these questions appropriate measures were constructed. Gender, language at home and Aboriginal or Torres Strait background were measured as dichotomous variables. The ANU3 scale of occupational status was constructed from the data on parents' occupations using fathers' occupation, if available, or mother's occupation, if father's was missing. The ANU3 scale ranged from 0 to 100. Parent's education was first converted to years of formal education and then the average taken if information was available for both parents.

APPENDIX 2: TABLE OF RESULTS**Table A1 Effects on Self-Rated Achievement controlling for Year 9 Achievement**

	English Achievement	Maths Achievement	Achievement All Subjects Model 1	Achievement All Subjects Model 2
<u>Model Estimates</u>				
Intercept	64.49***	60.23***	65.70***	67.77***
<u>Self-Perceived Ability in 1995</u>				
English	0.41***			
Maths		0.41***		
All Subjects			0.29***	0.29***
<u>Attitudes to</u>				
General Satisfaction	0.09***	0.02	0.07***	0.05***
Teachers	0.03	0.06*	0.01	0.01
Opportunity	-0.05**	-0.01	-0.00	-0.00
Achievement	0.14***	0.15***	0.15***	0.14***
<u>Test Scores</u>				
Reading Comprehension	0.99***	0.10	-	-
Numeracy	0.20**	1.41***	-	-
Combined			0.59***	0.59***
<u>Demographic & Social B/ground</u>				
Male	-	-	-	-0.18
Parental Occupational Status	-	-	-	0.03***
Parents' Education	-	-	-	0.36***
Not English	-	-	-	-2.69***
Aboriginal & Torres St.	-	-	-	0.48
<u>School Sector (REF:Gov.)</u>				
Independent School	-	-	-	-0.12
Catholic School	-	-	-	0.28
<u>State/Territory (Ref:NSW)</u>				
ACT	-	-	-	1.75*
NT	-	-	-	-2.62
Vic	-	-	-	1.06*
Qld.	-	-	-	0.45
SA	-	-	-	0.87
WA	-	-	-	1.64*
Tas	-	-	-	2.82**
<u>School-level Variables</u>				
School SES	-	-	-	-0.06*
School Achievement (Year 9)	-	-	-	-0.11
General Satisfaction	-	-	-	0.11*
Achievement Attitudes	-	-	-	0.05
R Square	0.30	0.30	0.39	0.40

* 0.01 <P<0.05; ** 0.001 <P<0.01; *** P<0.001