

*Research Conferences*

*2004 - Supporting Student Wellbeing: what  
does the research tell us about social and  
emotional development of young people?*

---

Australian Council for Educational Research

Year 2004

---

## Individual and School Influences on Interdependence

John Ainley  
ACER

# Individual and school influences on interdependence



## John Ainley

*Australian Council for Educational Research<sup>1</sup>*

Ainley is Deputy CEO of the Australian Council for Educational Research (ACER) and Research Director of the National and International Surveys Program.

Over a period of more than 20 years Dr. Ainley has provided a number of policy-oriented reports on primary, secondary and higher education to State and Commonwealth education authorities. He has expertise in the investigation of school influences on a range of student outcomes including participation in senior secondary and higher education. His reports have been widely used by education authorities in the review and development of Australian educational policy and practice.

Dr. Ainley is the principal author of a report (Schools and the Social Development of Young Australians) that provides a national picture of student responses to issues in, and the ways in which schools provide for, the affective development of young people. This work is a development from a previous program of research on affective aspects of schools. Over a number of years he has maintained a continuing involvement in research on factors that influence the quality of school life for students in primary (Primary Schooling in Victoria) and secondary schools (School Organisation and the Quality of Schooling). He has been involved in the Longitudinal Surveys of Australian Youth that provide information to governments and education authorities about changing patterns of participation in higher education in Australia.

One of the major developmental purposes of schooling is that of independence which is seen as an outcome of competence and confidence. The capacities for independent thought, independent judgment and independent action are highly valued. However, a concern with developing independence needs to be balanced by a concern with interdependence. Schools, and families, have long recognised that they have a role in the development of interdependence. A sense of interdependence is at the heart of the social outcomes of schooling because it concerns relations with other individuals, groups and institutions. This paper examines individual and school influences on interdependence.

## Conceptual framework

In the present paper social outcomes of schooling are conceptualised as involving relations with others progressively more distant from the individual, with individuals or groups progressively less likely to be personally known to the individual, and with aspects of life that are more diffuse. This is similar to the concept of *circles of care* presented by Noddings (1992) which envisages the purposes of education around caring for self, caring for the inner circle, and caring for strangers and distant others.

- Relating to others refers to a sense of concern for individuals in one's immediate range of contact, and reflects a sense of personal empathy (Zahn-Waxler et al., 1992). This goal finds expression in many policy

statements by education systems and in the purposes of school programs such as personal development, peer support, peer mediation, and conflict resolution (Olweus, 1993). The development of appropriate ways of relating to others is a central feature of policy statements and school documents.

- Commitment to community well being focuses on relations with a wider community of others in society reflecting a sense of altruism and covers such issues as ensuring caring for children, racial equality and reducing poverty: 'caring for strangers and distant others'. The *Review of the Queensland School Curriculum* proposed a draft charter of values including 'a belief that we all share a responsibility to contribute to the welfare of our society' (Wiltshire, McMeniman & Tolhurst, 1994: 17) and the ongoing program of research on schools as 'caring communities' (Battistich et al., 1997) focuses on the enhancement of students' social and ethical development.
- Conformity to rules and conventions refers to a sense of seeing laws and rules as important to an individual's life. Many see this as a threat to pluralism because it implies acquiescence to a dominant culture. However, in a range of different ways, schools are concerned with enabling students to learn to live within their communities. Communities construct rules and develop conventions that govern the interactions between people.

<sup>1</sup>This paper is based on data from a project commissioned by the Commonwealth Department of Education Training and Youth Affairs (DETYA) as a national sample study for the Australian National Report on Schooling. A report of the study by John Ainley, Margaret Batten, Cherry Collins and Graeme Withers has been published under the title *Schools and the Social Development of Young Australians*. The assistance of DETYA, and the Steering Committee established by the Ministerial Council for Education, Employment, Training and Youth Affairs, is gratefully acknowledged.

Among the purposes of schools is the development of an understanding of how social rules and conventions are constructed, when and how those rules and conventions can be negotiated and changed, and how individual rights and obligations are embedded within them.

Some years ago Rutter et al. (1980) argued that schools differed in the behaviours and attitudes of their students. Moreover, they suggested that these differences could be related to the school climate: how teachers and pupils interacted with each other. More recently, Mooij (1999a, 1999b) argues that prosocial pupil behaviour can be seen as arising from influences at three levels: the social-pedagogical climate of the school, social climate and didactic aspects of the classroom and characteristics of the classroom. Research on schools as 'caring communities' (Battistich et al., 1997) has indicated that a sense of school community can be enhanced through identifiable classroom practices and is associated with a range of positive outcomes including concern for others, acceptance of out-groups, social skills, conflict resolution skills and empathy.

## Data

The data on which this paper is based are drawn from a national sample survey (Ainley et al., 1998) of schools and students in Year 5 and Year 10. The final sample consisted of 8144 students from 337 schools (3776 Year 5 students from 156 schools, and 4368 Year 10 students from 181 schools). The survey was conducted in the middle of the 1997 school year.

Data concerned with the 3 social outcomes are derived from student

responses to questionnaires. On the final form of the questionnaire students responded to a number of statements by indicating, 'how important each of these statements is to you'. Three scales are used in this paper:

- relating to others (12 items);
- commitment to community wellbeing (7 items); and
- adherence to rules and conventions (6 items).

In addition, students responded to a set of items about the environment of their school. On the basis of these responses it was possible to construct a measure of the extent to which they saw their school environment as stimulating, enjoyable and challenging. In this study an overall measure of the school environment was developed and scores from individuals in each school were averaged.

A sample of teachers in the same schools completed a teacher questionnaire through which they rated the emphasis that was placed by their school on student skills, knowledge and attitudes related to social development. Responses were obtained from an average of 7.5 teachers per school (up to 10 were invited in each school) separately for 'your own teaching' and 'your school'. In this analysis responses referring to the school on the scale concerned with orientation to the wider community were used.

Other information obtained about the students included gender, plans for completing school, socioeconomic background and whether or not they were of English-speaking background. School characteristics included the school sector (government, Catholic, independent), school location (city, town or rural), school size (number of students enrolled) and state.

## Analysis and results

### Comparisons of means

Table 1 contains the mean scale scores for a number of different categories. It can be seen that the most pervasive influences on these outcomes were year level, gender and school plans (intention to complete secondary school). On all of the scales, students in Year 10 scored lower than did students in Year 5. In all cases the differences between year levels are statistically significant. Based on the conventional definition of effect size differences between Year 5 and Year 10 the difference is large (0.7) for rules and conventions, moderate (0.5) for community wellbeing and small (0.2) for relating to others.

Boys and girls differ in their response to several of these measures of social development. The differences between girls and boys in terms of relating to others and commitment to community wellbeing are of moderate strength (ES = 0.5) and for adherence to rules and conventions the difference is of small to medium strength (ES = 0.4). For each of these dimensions the gaps between boys and girls are greater in Year 10 than in Year 5. Overall boys are less concerned with community wellbeing, relating to others and social rules than are girls and the gap widens between the late primary and middle secondary years.

Students who plan to complete secondary school have higher scores on many social development scales than those who planned to leave before Year 12. In terms of relating to others, community wellbeing, rules and conventions the differences between intending school completers and early school leavers are of small to medium

strength. No influence of ethnicity is evident overall although Year 10 students of non-English speaking background had a slightly stronger commitment to community wellbeing than other students. Socioeconomic status is not associated with these social outcomes.

### Multilevel analysis

A set of analyses was conducted using *Hierarchical Linear Modelling* (Bryk & Raudenbush, 1992). A principal purpose of these analyses was to examine whether the school environment was related to student scores on the social development scales. Results from three models are reported. In the first a range of variables at both the individual and the aggregated levels are included. In the second a school environment measure is included in addition to these variables. In the third a measure of school emphasis based on teacher views is included.

#### *Model 1*

In model 1 the dependent variables were the three social development scales: relating to others, commitment to community wellbeing and adherence to rules and conventions. The independent variables were considered at two levels, student and school. The student level variables are: gender (1 for males, 2 for females), educational aspirations (1 for intending to complete Year 12 and 0 for not), and non-English speaking background (1 for a parent born in a non-English speaking country and 0 for neither). The aggregate level variables are year level (1 for Year 5 and 2 for Year 10) and sector (a set of two dummy variables (Catholic and Independent) with Government as the reference category). Results of the analysis are recorded in Table 2.

The results indicate a moderate effect of gender on three outcome variables:

- relating to others;
- community wellbeing; and
- rules and conventions.

All effects are in the direction of girls scoring more highly. There are small to moderate associations between educational plans for school completion and the social outcome measures. For each of the outcomes there is a negative effect associated with year level. There is a small influence of attendance at a Catholic or Independent school (compared to a government school) on relating to others.

A number of interaction effects involving gender and year level are evident. For relating to others, community wellbeing as well as rules and conventions, the interaction indicates that the gap between girls and boys is wider at Year 10 than at Year 5. There is also a significant interaction of non-English speaking background and year level on community wellbeing.

#### *Model 2*

In model 2 an additional variable was added at level 2: the school environment. Results are recorded in Table 3. Those results indicate that the school environment measure is associated with all three measures of social outcomes but the effect is small. Comparing the results in Table 3 with those in Table 2 indicate that inclusion of the school environment measure increased the percentage of variance explained by level 2 factors for all outcomes. Inclusion of the school environment measure also affected the influence of school sector. The negative coefficients associated with Catholic and Independent schools are a

consequence of the more favourable views of the school environment expressed by students in those schools compared to students in government schools. Overall it can be concluded that the school environments are associated with the social outcomes measured in this paper. Although the effect is small it is significant and consistent across a range of outcomes.

#### *Model 3*

In model 3 indicators of the school emphasis on social development with respect to the orientation of teaching to others in the wider community were investigated. This teacher-based measure was included in the place of the measure of student perceptions of the school environment. Results are recorded in Table 4. This teacher emphasis scale was significantly related to two of the social outcomes measures: relating to others and commitment to community wellbeing. It was not significantly related to adherence to rules and conventions. Although the effects are not large, it is of interest that teachers' perceptions of the school emphasizes on this aspect of social development are related to the importance that students place on relating to immediate others and to others in the wider community.

## Discussion

Gender and year level (singly or through the interactions between them) have major influences on the social development of young people. There is evidence of substantial disengagement from social concerns by boys between Year 5 and Year 10, which extends the information on gender differences previously reported (Jacobs et al., 2002). It may be that this has always been part of the development

process or it may be something that is being exacerbated by changes in the social environment in which young people grow to maturity. It is also evident that disengagement from social concerns is associated with disengagement from schooling. Those who plan to remain at school appear to have stronger connections to the wider community than those who plan to leave school before the end of the secondary stage.

A crucial question is whether schools can be expected to shape the social development of students. In this respect the results presented in this paper are consistent with other research findings (Rutter et al., 1980; Battistich et al., 1997; Mooij, 1999a, 1999b; Roeser, Eccles & Sameroff, 2000; Morais & Rocha, 2000). An engaging school climate, regardless of whether that is identified by students or teachers, is related to students regarding social outcomes connected to interdependence as being important to them in their lives. Schools vary in the extent to which students perceive the environment as interesting, challenging and supportive, as well as in student responses to the importance of social relationships for their lives. This result is consistent with a body of research on connectedness (Lee & Robbins, 1995). School environments that are supportive, challenging and stimulating exist where students feel that they belong and where there are multiple points of engagement. It is plausible that developing a sense of connectedness to other members of a school is part of the process of developing a sense of interdependence with others in a broader social community. It has been argued that disengagement from school is a precursor to leaving school (Finn, 1989). From the findings of this study it

can be suggested that it may also be a precursor to disengaging from wider social interaction.

## References

- Ainley, J., Batten, M., Collins, C. & Withers, G. (1998). *Schools and the Social Development of Young Australians*. Camberwell, Victoria: ACER.
- Battistich, V., Solomon, D., Watson, M. & Schapps, E. (1997). Caring school communities. *Educational Psychologist*, 32 (3), 137–52.
- Bryk, A. & Raudenbush, S. (1992). *Hierarchical Linear Models: Applications and data analysis methods*. Newbury Park, CA: Sage.
- Finn, J. D. (1989) Withdrawing from school. *Review of Educational Research*, 59 (2), 117–142.
- Jacobs, J., Lanza, S., Osgood, D., Eccles, J. & Wigfield, A. (2002). Changes in children's self-competence and values: gender and domain differences across grades one through twelve. *Child Development*, 73 (2), 509–27.
- Lee, R. & Robbins, S. (1995). The relationship between social connectedness and anxiety, self-esteem and social identity. *Journal of Counselling Psychology*, 45 (3), 338–45.
- Mooij, T. (1999a). Promoting prosocial pupil behaviour: a multilevel theoretical model. *British Journal of Educational Psychology*, 69 (4), 469–78.
- Mooij, T. (1999b). Promoting prosocial pupil behaviour: secondary school intervention and pupil effects. *British Journal of Educational Psychology*, 69 (4), 479–504.
- Morais, A., & Rocha, C. (2000). Development of social competences in the primary school: a study of specific pedagogic practices. *British Educational Research Journal*, 26, (1), 91–119.
- Noddings, N. (1992). *The Challenge to Care in Schools: An alternative approach to education*. New York: Teachers College Press.
- Olweus, D. (1993). *Bullying at School: What we know and what we can do*. Oxford: Blackwell.
- Roeser, R., Eccles, J. & Sameroff, A. (2000). School as a context of early adolescents' academic and social-emotional development: a summary of research findings. *Elementary School Journal*, 100 (5), 443–71.
- Rutter, M., Maughan, B., Mortimore, P. & Ouston, J. (1980). *Fifteen Thousand Hours*. London: Open Books.
- Salomon, G. & Perkins, D. (1998). Individual and social aspects of learning. In P. Pearson and A. Iran-Nejad (eds), *Review of Research in Education*, 23. Washington: AERA.
- Wiltshire, K., McMeniman, M. & Tolhurst, T. (1994). A futures perspective for the Queensland curriculum. Chapter 3 in *Shaping the Future: Report of the review of the Queensland school curriculum*. Brisbane: Government Printer.
- Zahn-Waxler, C., Radke-Yarrow, M., Wagner, E. & Chapman, M. (1992). Development of concern for others. *Developmental Psychology*, 28, 1038–47.

**Table 1** Social development scale scores by various characteristics

Characteristic	Value	% Sample	Scale		
			Relating to others	Community wellbeing	Rules & conventions
Year level	Year 5	46%	<b>50.8</b>	<b>52.4</b>	<b>53.7</b>
	Year 10	54%	<b>48.9</b>	<b>47.8</b>	<b>46.7</b>
Gender	Male	47%	<b>46.8</b>	<b>47.4</b>	<b>48.2</b>
	Female	53%	<b>52.5</b>	<b>52.3</b>	<b>51.6</b>
School plans <sup>a</sup>	Pre-Year 12	32%	<b>48.2</b>	<b>48.8</b>	<b>48.9</b>
	Year 12	68%	<b>50.6</b>	<b>50.6</b>	<b>50.5</b>
NESB <sup>b</sup>	ESB	73%	49.7	49.6	49.8
	NESB	27%	50.4	51.1	50.4
SES <sup>c</sup>	Low	46%	48.6	47.7	47.2
	High	54%	49.3	48.0	46.9

Note: Figures are shown in bold where differences are statistically significant at the .001 level after allowance for clustering in the sample.

**Table 2** Results of multilevel analyses of influences on social outcomes excluding school environment measure

Independent variables	Dependent variables					
	Relating to others		Community wellbeing		Rules & conventions	
	Coefft	Std error	Coefft	Std error	Coefft	Std error
<u>Student level</u>						
Gender	<b>5.61</b>	0.26	<b>4.96</b>	0.26	<b>3.37</b>	0.25
Year 12 intended	<b>1.96</b>	0.26	<b>1.95</b>	0.26	<b>2.50</b>	0.24
NESB	-0.08	0.28	0.45	0.28	0.16	0.28
<u>Aggregate level</u>						
Year Level	<b>-3.16</b>	0.36	<b>-5.16</b>	0.34	<b>-7.67</b>	0.32
School type <i>Catholic</i>	<b>1.49</b>	0.40	0.63	0.36	0.02	0.37
<i>Independent</i>	<b>1.38</b>	0.41	0.10	0.42	0.12	0.41
<u>Interactions</u>						
Gender by level	<b>3.31</b>	0.51	<b>2.92</b>	0.51	<b>1.02</b>	0.48
NESB by level	1.01	0.57	<b>1.65</b>	0.55	0.25	0.54
% Variance level 1 factors	11.3		9.9		7.0	
% Variance level 2 factors	4.9		8.3		13.9	

Figures are shown in bold where the coefficient is significant at the 0.05 level.

**Table 3** Results of multilevel analysis of influences on social outcomes including school environment measure

Independent variables	Dependent variables					
	Relating to others		Community wellbeing		Rules & conventions	
	Coefft	Std error	Coefft	Std error	Coefft	Std error
<u>Student level</u>						
Gender	<b>5.52</b>	0.26	<b>4.86</b>	0.26	<b>3.25</b>	0.24
Year 12 intended	<b>1.90</b>	0.25	<b>1.87</b>	0.25	<b>2.37</b>	0.24
NESB	-0.11	0.28	0.44	0.27	0.10	0.27
<u>Aggregate level</u>						
Year Level	<b>-3.16</b>	0.32	<b>-5.15</b>	0.30	<b>-7.70</b>	0.27
School environment	<b>0.14</b>	0.02	<b>0.15</b>	0.01	<b>0.17</b>	0.01
School type <i>Catholic</i>	0.67	0.38	-0.29	0.37	<b>-1.01</b>	0.32
<i>Independent</i>	0.59	0.36	-0.77	0.37	<b>-0.86</b>	0.35
<u>Interactions</u>						
Gender by level	<b>3.17</b>	0.51	<b>2.83</b>	0.51	0.85	0.47
NESB by level	0.97	0.56	<b>1.55</b>	0.54	0.13	0.52
% Variance level 1 factors	11.8		9.8		6.7	
% Variance level 2 factors	7.2		10.7		16.8	

Figures are shown in bold where the coefficient is significant at the 0.05 level.

**Table 4** Results of multilevel analysis of influences on social outcomes including teacher-based index of school emphasis on social orientation

Independent variables	Dependent variables					
	Relating to others		Community wellbeing		Rules & conventions	
	Coefft	Std error	Coefft	Std error	Coefft	Std error
<u>Student level</u>						
Gender	5.64	0.26	4.95	0.25	3.36	0.25
Year 12 intended	2.01	0.26	1.97	0.25	2.52	0.24
NESB	-0.10	0.28	0.40	0.27	0.08	0.27
<u>Aggregate level</u>						
Year Level	-2.93	0.36	-4.87	0.35	-7.44	0.33
Emphasis on social	0.26	0.10	0.30	0.10	0.18	0.10
School type <i>Catholic</i>	1.06	0.40	0.15	0.36	-0.32	0.39
<i>Independent</i>	1.07	0.41	-0.25	0.41	-0.13	0.41
<u>Interactions</u>						
Gender by level	3.31	0.51	2.96	0.50	1.06	0.48
NESB by level	0.91	0.56	1.51	0.54	0.28	0.53
% Variance level 1 factors	11.8		9.8		7.0	
% Variance level 2 factors	5.0		8.4		14.2	

Figures are shown in bold where the coefficient is significant at the 0.05 level.