THE RELATIONSHIP BETWEEN THE ACHIEVEMENTS OF 6TH CLASS PUPILS FROM DISADVANTAGED BACKGROUNDS AND THEIR ATTITUDES TO SCHOOL

Susan Weir and Lisa Milis
Educational Research Centre
St Patrick's College, Dublin

The focus of the study described in this paper is on the relationship between the performance of pupils from disadvantaged backgrounds in English reading and mathematics and a variety of pupil variables. The achievements in 2000 of 6th class pupils attending urban schools participating in the Breaking the Cycle scheme are described, and results of exploratory analyses aimed at discovering whether these were related to their attitudes to school and schoolwork and their scholastic self-concept are reported. The findings suggest that pupils held very positive attitudes to school, and evaluated their own performance at school favourably, despite having much lower achievement levels than the national samples of pupils on whom the tests were standardized.

There is an extensive international literature, including some data on pupils from disadvantaged backgrounds, on the attitudes to school, attributions for success at school, and scholastic self-concept of primary school pupils. Some studies have also investigated the relationship between pupils' attitudes to school and schoolwork and their achievements. On the basis of a study conducted in a working-class area of London's inner city, Blatchford (1996) reported few direct associations between pupils' attitudes and achievements. For example, no significant associations between scholastic achievement and pupils' positivity towards, or interest in, school were found. However, Cosgrove, Kellaghan, Forde, and Morgan (2000) found reading achievement among a national sample of Irish 5th class (11-year old) pupils to be modestly, but significantly, correlated with liking for school, and with pupils' preferred and expected level of educational attainment. As part of the Third International Mathematics and Science Study (TIMSS), a representative national sample of Irish 9-year olds were asked to indicate the extent to which they agreed that certain factors were necessary to do well in mathematics (Mullis, Martin, Beaton, Gonzalez, Kelly, & Smith, 1997). Sixty-five percent of pupils agreed or strongly agreed that luck was a prerequisite for success, while 91% agreed that success depended on doing lots of hard work and study at home. When 13-year

olds were presented with the same items in TIMSS, less than half as many (31%) attributed success in mathematics to luck, while a slightly greater percentage (95%) than that recorded for 9-year olds agreed or strongly agreed that success depended on doing lots of hard work and study at home (Beaton, Mullis, Martin, Gonzalez, Kelly, & Smith, 1996).

Earlier research in Ireland on the scholastic self-concept of 6th class pupils showed that pupils' self-evaluations in various curriculum areas were largely positive, as were their ratings in areas such as keenness to do well at school and interest in school (Kellaghan & Fontes, 1988). Pupils' self-ratings were highest in the area of English reading; intermediate in mathematics; and lowest for spoken Irish, written Irish, and Irish reading. The study did not, however, examine the relationship between pupils' perceived competence and actual test scores in the rated areas.

It should be noted that when pupils complete self-rating scales they may be subject to a 'better than average' effect (i.e., their ratings tend be distributed towards the positive end of the scale) (Myers, 1993). However, evidence from British and American studies suggests that scholastic self-evaluations relate more closely to pupils' measured achievements as they proceed from lower to higher grades. For example, Nicholls (1979) found that first graders (typically 6- to 7-year olds) had a tendency to rate their reading ability as close to the top of their class, but found no significant correlation between their self-ratings and their reading test scores, while, in contrast, self-ratings by 12-year olds were much more varied and highly correlated with grades achieved. Blatchford (1992) obtained similar results with a sample of pupils in London's inner city, in which a much smaller percentage of pupils at age 11 than at age 7 held exaggerated views of their own achievements in reading and mathematics. This led the author to conclude that older children appeared to be more realistic and accurate judges of their own abilities.

The focus of the study described in this paper is on pupils attending school in disadvantaged areas. It was designed to describe the reading and mathematics achievements of 6th class pupils in schools serving concentrations of pupils from disadvantaged backgrounds and to explore the relationship between their achievements and their attitudes to school.

METHOD

Sample

Schools. Pupils were drawn from urban schools participating in the Breaking the Cycle scheme, which was introduced by the Department of Education in

1996/97 to assist schools in addressing problems associated with catering for large numbers of pupils from disadvantaged backgrounds. Schools were selected for participation in the scheme on the basis of a 'disadvantage index' based on parents' education, employment status, income, and lone parenting. Thirty-three schools were selected to participate in the urban dimension of the scheme. These consisted of the 25 top scorers on the index, together with eight partner (or associated) schools. The scheme provides for reduced class size at junior level; grants for the purchase of books, teaching materials, and equipment; enhanced capitation grants; and targeted incareer development programmes for teachers. A profile of participating urban schools on some of the original selection indicators, based on data from a national survey of disadvantage in primary schools conducted in 2000, is provided in Table 1 (Weir, Milis, & Ryan, 2002).

Table 1

Percentage of Long-Term Unemployed Breadwinners, Medical Card Holders, Residents in Rented Local Authority Housing, and Lone-Parent Families Served by Breaking the Cycle Schools in 2000 (n=31)

% Long-term unemployed	% Holding medical cards	% Residing in local authority housing	% Lone-parent families
59.6	81.8	87.1	43.2

Data are presented for only 31 of the original 33 schools because one school in the scheme closed after the scheme started and another did not participate in the survey.

An evaluation of the scheme in urban schools was carried out over the first five years of its operation (Weir et al., 2002). Its aim was to examine the impact of participation in the scheme on schools, teachers, and pupils, and to assess the scheme's overall effectiveness in addressing educational disadvantage. Pupils' attitudes were assessed through the use of questionnaires to 6th class pupils in 1997 and 2000, while pupil achievement was assessed using standardized tests in English reading and mathematics in the same years. A selection of data collected in 2000 was used in the analyses presented in this paper.

Pupils. The total population from which pupils were drawn consisted of all pupils in ordinary 6th classes (N=789) in 23 of the 33 urban schools participating in Breaking the Cycle in 2000 that had pupils in 6th class. Teachers excluded 4.2% of pupils (N=33) from testing because they considered them unable to attempt the tests. The mean age of the remaining pupils (N=756) at the time of

testing was 12 years and 6 months. There was a slightly smaller percentage of girls than of boys, with boys representing 53.0% (N=401), and girls 47.0% (N=355) of the total sample.

Instruments

The Drumcondra Primary Reading Test (DPRT), Level 6, Form A was used to assess reading. It is a group-administered test based on an analysis of the primary school English curriculum, and of textbooks in English and other subjects in use at the time of the development of the test. It assesses two aspects of reading: Reading Vocabulary and Reading Comprehension. The Reading Vocabulary subtest consists of 40 questions, each containing a target word embedded in a short sentence, and four possible answers. The pupil must determine which of the four answers is closest in meaning to the target word. The Reading Comprehension subtest consists of three passages, each followed by 12 questions. For each question, the pupil must determine which of four possible answers is correct (Educational Research Centre, 1993).

The Drumcondra Primary Mathematics Test (DPMT), Level 6, Form A was used to assess mathematics. It is a group-administered test based on the primary-school mathematics curriculum and textbooks in use at the time the test was developed. Three aspects of mathematics are assessed in separate subtests: Computation, Concepts, and Problem-solving. The Computation and Concepts subtests each consist of 35 questions, while the Problems subtest has 30 questions. All items are multiple choice, and require the pupil to identify the correct answer from four alternatives (Educational Research Centre, 1997).

Pupil Questionnaire. At the time of achievement testing, pupils completed a questionnaire designed to elicit information on their attitudes to school and self, and on their educational and vocational aspirations and expectations. The questionnaire consists of five short sections, three of which are the subject of analyses in the current paper. The content of the three sections is as follows: educational aspirations and expectations, attitudes to school and attributions for success at school, and self-evaluation in 11 curriculum areas. Apart from two sample items, there were 21 items in the three sections which form the basis of analyses reported here, all of which required pupils to read a statement or question and to tick the most appropriate response from three or four options.

Procedure

Pupils' reading and mathematics achievements were assessed during the period May/June 2000. Psychology graduates, who were given special training in the administration of the tests, carried out the testing. The testing sessions took place in pupils' classrooms in the presence of their class teachers. Testing was spread over several days to avoid tiring pupils.

To assist pupils with reading difficulties in responding to the Pupil Questionnaire, the administrator read aloud each item and the range of possible responses, explaining how to complete each item in turn.

Analyses

All analyses involving achievement data are based on total reading and mathematics scores of pupils with complete achievement data (i.e., those with scores on all relevant subtests). Due to pupil absences on the days when tests were administered, reading achievement data were available for only 567 pupils (or 75.0% of the total cohort), while mathematics achievement data were available for 63.4% of pupils (N=479). Analyses involving correlations between achievement and questionnaire responses were based on smaller numbers of pupils. When pupils who were absent for the pupil questionnaire were taken into account, a total of 494 pupils had complete reading achievement and attitudinal data, while 449 had complete mathematics achievement and attitudinal data.

RESULTS

Reading Achievements

Mean total reading raw scores (i.e., a combined score for both parts of the DPRT) are used to describe pupils' achievements. Raw scores, representing the number of items correctly answered, are used to compare the performance of pupils in Breaking the Cycle schools with that of the pupils at 6th class level which provided normative information in the standardization of the test. The maximum possible total raw score on the DPRT is 76, which is achieved if all answers in the Vocabulary (40 items) and Comprehension (36 items) subtests are correct. Figure 1 shows that the distribution of reading raw scores among pupils in Breaking the Cycle schools is characterized by an over-representation of low scores and an under-representation of high scores.

The mean raw score of pupils on the reading test as a whole is 26.98 (SD=11.06), which may be compared with a mean of 40.38 (SD=14.95) for the norm group (Table 2). The corresponding percentile rank is 21, indicating that

6th class pupils performed as well as, or better than 21% of pupils at this level nationally. A mean raw score of 26.98, when expressed as the average percentage of correctly answered items, is 35.5%, which compares with 53.1% for the norm group. Thus, the overall reading achievement of 6th class pupils in Breaking the Cycle schools is considerably poorer than the reading achievement of 6th class pupils nationally. In fact, the mean raw score achieved by the former group is almost a full standard deviation below the national mean. More than half (54%) of pupils had scores that were one standard deviation or more below the national mean, whereas the scores of only 2.5% of pupils were one standard deviation or more above it. This contrasts with the performance of pupils nationally, where there were similar percentages of scores lying one standard deviation or more above and below the mean.

Figure 1
Distribution of Raw Scores of 6th Class Pupils in Breaking the Cycle Schools on the Drumcondra Primary Reading Test (N=567).
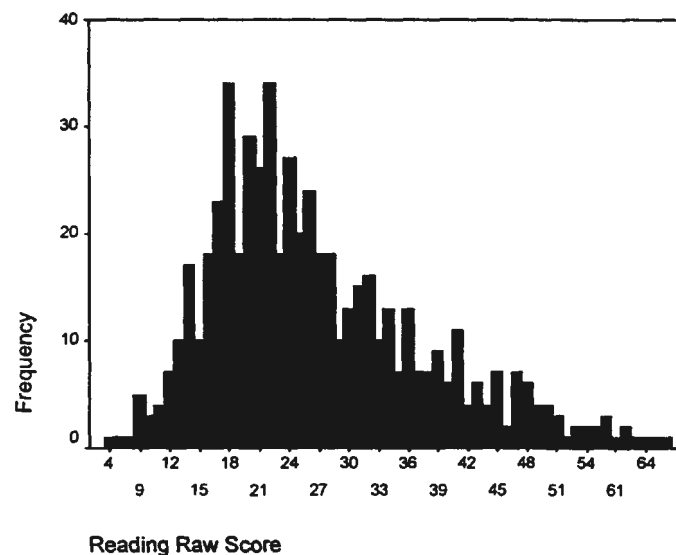

Reading Raw Score

Table 2

Mean Raw Scores (and SDs) on the Drumcondra Primary Reading Test of 6th Class Pupils in Breaking the Cycle Schools and of Pupils in the Standardization Sample, and the Percentage of Pupils with Scores that are One Standard Deviation Below and Above the National Mean

	Breaking the Cycle (N=567)	Standardization Sample
Mean raw score	26.98 (SD=11.06)	40.38 (SD=14.95)
1 SD below mean	54.0%	18.0%
1 SD above mean	2.5%	21.0%

Normative data are based on the spring norms for Level 6 of the test.

It is instructive to examine the percentage of pupils with extreme scores (i.e., below the 10th decile or 10th percentile and above the 1st decile or 90th percentile), as the 10th percentile is the point at which the provision of learning support to pupils is indicated (Department of Education, 1993). The reading scores of pupils in our sample by decile, which are shown in Table 3, indicate that a much greater percentage of pupils had scores below the 10th percentile (36.5%) than above the 90th (1.1%). Indeed, more than half (58.2%) of pupils had reading scores in the bottom two deciles, where one would expect the scores of about 20% of pupils in the norm group to lie.

Table 3

Percentages of 6th Class Pupils in Breaking the Cycle Schools Scoring at each Decile Level on the Drumcondra Primary Reading Test (N=567)
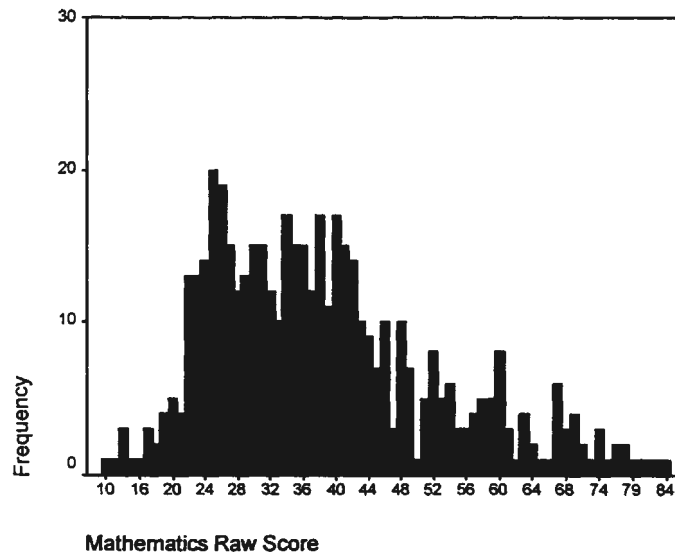
Decile	% Scoring at Decile Level
1st	1.1
2nd	0.7
3rd	1.7
4th	5.3
5th	5.5
6th	7.6
7th	9.5
8th	10.4
9th	21.7
10th	36.5

Mathematics Achievements

Mean total mathematics score (i.e., an average raw score for all pupils in all three parts of the DPMT combined) is used to describe achievement in mathematics. The maximum possible raw score on the test is 100, which is achieved if all items in the Computation (35 items), Concepts (35 items), and Problems (30 items) subtests are answered correctly. The distribution of mathematics scores (Figure 2), as in the case of the distribution of reading achievement scores, is characterized by a marked positive skew.

Figure 2
Distribution of Raw Scores of 6th Class Pupils in Breaking the Cycle Schools on the Drumcondra Primary Mathematics Test (N=479)

Mathematics Raw Score

Pupils in Breaking the Cycle schools achieved a mean raw score of 38.65, compared to a mean of 58.72 achieved by the norm group (Table 4). The score corresponds to a percentile rank of 15, indicating that pupils in our sample performed as well or better than 15% of pupils nationally. Overall, pupils in Breaking the Cycle schools achieved an average of 20% fewer mathematics items correct than pupils at this level nationally, and their mean raw score is well over one standard deviation below the national mean. A greater

percentage of pupils on the mathematics test than on the reading test achieved scores that were one standard deviation below the mean (65.8%), while a smaller percentage achieved scores that were one standard deviation above it (1.5%). When pupils' mathematics scores are reported by decile (Table 5), the extent to which they are concentrated at the lower end of the distribution is highlighted: 65.8% of pupils scored in the bottom two deciles, and only 1.9% in the top two deciles.

Table 4
Mean Raw Scores (and SDs) on the Drumcondra Primary Mathematics Test of 6th Class Pupils in Breaking the Cycle Schools and of Pupils in the Standardization Sample, and the Percentage of Pupils with Scores that are One Standard Deviation Below and Above the National Mean

	Breaking the Cycle (N=479)	Standardization Sample
Mean raw score	38.65 (SD=14.17)	58.72 (SD=17.88)
1 SD below mean	65.8%	19.0%
1 SD above mean	1.5%	18.0%

Normative data are based on the spring norms for Level 6 of the test.

Table 5
Percentages of 6th Class Pupils in Breaking the Cycle Schools Scoring at Each Decile Level on the Drumcondra Primary Mathematics Test (N=479)

Decile	% Scoring at Decile Level
1st	0.2
2nd	1.7
3rd	1.4
4th	3.2
5th	3.7
6th	4.2
7th	8.8
8th	11.0
9th	24.9
10th	40.9

*The Relationship Between Reading and Mathematics Achievement and Pupils'
Attitudes*

Descriptive statistics and results of correlational analyses aimed at
discovering whether achievement is related to pupils' attitudes to school and
schoolwork, attributions for scholastic success, and scholastic self-concept are
reported in this section.

Pupils' Educational Aspirations, Expectations, and Liking for School. Table 6
shows percentages of pupils who indicated the extent to which they liked school,
and their desired and expected level of educational attainment. The table also
shows the average total reading and mathematics scores of pupils grouped
according to each response category within each item. Correlations between
pupils' scores on each item and their reading and mathematics test scores are
also reported.

Table 6
*Mean Reading and Mathematics Scores of 6th Class Pupils in Breaking the
Cycle Schools According to Reported Levels of Liking School and Staying in
School, and Correlations Between These Reports and Test Scores in Reading
and Mathematics*

	How much do you like school?				Correlation with Achievement Score
	Like a lot (14.0%)	Like (50.0%)	Dislike (17.8%)	Dislike a lot (18.3%)	
Reading mean	26.5	28.6	28.1	24.6	-.08
Mathematics mean	36.0	39.7	41.1	37.6	.03
	How far would you like to go in school?				
	Finish Primary School (4.3%)	Do the Junior Certificate (8.2%)	Do the Leaving Certificate (35.9%)	Go to College/ University (51.6%)	
Reading mean	19.3	21.2	24.8	30.8	.32***
Mathematics mean	31.1	33.0	36.4	42.2	.24***
	How far do you think you will actually go in school?				
	Finish Primary School (2.3%)	Do the Junior Certificate (14.2%)	Do the Leaving Certificate (50.8%)	Go to College/ University (32.7%)	
Reading mean	16.9	20.7	26.8	31.8	.34***
Mathematics mean	25.0	33.9	37.9	43.3	.26***

*** *p*<.001

Liking for school was not significantly correlated with either reading or mathematics scores. It appears that the relationship between liking school and achievement was not linear, and that pupils who said that they liked school 'a lot' had lower (although not significantly so) mean reading and mathematics scores than pupils who said that they just 'liked' school. Furthermore, in the case of mathematics achievement, pupils who said that they disliked school, or disliked school 'a lot', had higher mean mathematics scores than pupils who liked school 'a lot', although, again, the differences are not significant. The relationships between pupils' educational aspirations and expectations and their achievements are more linear: higher reading and mathematics scores are associated both with pupils wishing to remain in full-time education longer, and expecting to stay in education longer. Those who indicated that they would like to complete the Leaving Certificate, or to attend college or university, tended to achieve higher test scores than those who indicated that they would like to leave at the end of primary schooling or after the Junior Certificate. Similarly, pupils who expected to complete the Leaving Certificate, or to attend college or university, tended to have higher test scores than pupils who anticipated that they would finish their formal education after primary schooling or after completing the Junior Certificate. Pupils who said that they did not want to go beyond primary schooling, or did not expect to, had the lowest reading and mathematics mean scores of any category, while those who indicated that they wished to go to college or university had the highest mean scores.

Comparative data on liking for school were obtained for 5th class pupils in 1998 in the National Assessment of English Reading, in which 59.8% of pupils said that they liked school (Cosgrove et al., 2000). Thus, a greater percentage (64.0) of pupils in Breaking the Cycle schools than in the national sample liked school (χ^2=3.8; df=1; p<.05). However, both the educational aspirations and expectations of pupils in the national sample exceeded those of pupils in Breaking the Cycle schools. In the latter, 12.5% of pupils said that they did not wish to remain in school beyond primary schooling or the Junior Certificate, compared to 5.6% of pupils in the national sample (χ^2=37.9; df=1; p<.001), while 16.5% did not expect to stay in school after primary level or the Junior Certificate, compared to 5.2% of pupils in the national sample (χ^2=96.1; df=1; p<.001). Much higher percentages of pupils in the national sample wished to (χ^2=148.5; df=1; p<.001), and expected to (χ^2=206.0; df=1; p<.001), attend college or university. Furthermore, the discrepancy between the educational aspirations and expectations of pupils was greater among Breaking the Cycle

pupils, with 18.9% fewer expecting to go to college than wishing to, compared with a difference of 11.6% in the national sample. In Breaking the Cycle schools, significant positive correlations were found between pupils' educational aspirations and test scores in reading (r=.32; p<.001) and mathematics (r=.24; p<.001). Slightly stronger correlations were found between pupils' educational expectations and reading (r=.34; p<.001) and mathematics (r=.26; p<.001) scores. These correlations are higher than those between reading test scores and pupils' responses to similar items relating to educational aspirations (r=.10; p<.05) and expectations (r=.15; p<.05) in the national sample (Cosgrove et al., 2000).

Pupils' Attitudes to Schoolwork. The percentages of pupils endorsing each response option on items relating to attitudes to schoolwork are presented in Table 7. More than 4 out of every 5 pupils agreed or strongly agreed with the statement 'I am proud of my school work', while only a very small percentage strongly disagreed with it. Pupils were less positive about being asked questions in class. Slightly more than two-thirds welcomed questions, but the remainder did not. When pupils were asked to judge their own performance at school, a large majority (86.4%) said that they were doing well. The majority is even larger when pupils were asked to indicate their level of agreement with a statement concerning the importance of doing well at school. Almost all (97%) either strongly agreed or agreed that it was important.

Correlational analyses reveal that pupils who felt they were doing well in school, and who placed some importance on their academic success, had relatively high achievement scores (Table 7). Thus, agreement with the statements 'I feel I'm doing well in school,' 'It is important to me to do well at school,' and 'I like to be asked questions in class,' was associated with higher reading scores. The extent to which pupils agreed that they were proud of their schoolwork did not correlate significantly with reading or mathematics achievement since so many pupils (almost 90%) agreed or strongly agreed that they were proud of their schoolwork.

Analyses of responses to items designed to investigate pupils' attributions for success in school revealed that those who agreed that success at school depends on luck and being 'smart' had lower scores on both reading and mathematics tests. In other words, belief that success at school was due to factors beyond pupils' control was associated with poorer reading and mathematics skills. However, achievement in either subject area was not related to the perception that success at school required 'lots of hard work and study at home'.

Table 7

Percentages of 6th Class Pupils Reporting How They Felt About Various Aspects of Schoolwork, and Correlations Between Their Responses and Their Test Scores in Reading and Mathematics

Questionnaire Item	% Choosing				Correlation	
	Strongly Disagree	Disagree	Agree	Strongly Agree	Reading Score	Mathematics Score
I am proud of my school work	1.7	9.9	60.9	27.5	.06	.04
I like to be asked questions in class	6.1	24.3	47.7	21.9	.12*	.01
I feel I'm doing well at school	2.5	11.1	57.1	29.3	.18***	.17***
It is important to me to do well at school	1.0	2.0	23.4	73.6	.11**	.09
To do well at school you need to be very smart	13.6	32.0	29.8	24.7	-.16***	-.13**
To do well at school you need to be lucky	44.8	38.3	11.1	5.8	-.26***	-.17***
To do well at school you need to do lots of hard work and study at home	2.3	7.9	34.1	55.6	-.08	-.05

*p<.05; **p<.01; ***p<.001

Pupils' Evaluations of Their Performance at School. Pupils were asked to rate their own performance relative to others in their class in different types of schoolwork. For each type, they were asked to indicate whether they thought they were 'near the top', 'around the middle', or 'near the bottom' of their class. The percentages of pupils endorsing each response option for each type of schoolwork are reported in Table 8. Correlations between pupils' self-ratings in each curriculum area and their reading and mathematics scores are also presented.

For all types of schoolwork, the greatest percentage of pupils rated their performance as being near the top of the class in English writing (61.4%), followed by English reading (60.1%), and Sport (58.8%). The subject areas which attracted the greatest percentage of 'near the bottom' responses were Irish reading (33.3%), followed by Irish writing (22.5%) and History (16.7%). Pupils' positive self-evaluations of their performance in Mathematics, Irish reading, English reading, History, and Geography are associated with higher mathematics and reading scores. In other words, pupils who perceived themselves to be near the top of their class in these subjects performed better in

reading and mathematics than pupils who thought that they were near the bottom of the class. This contrasts with the finding that pupils who felt that they had strong creative skills and were near the top of their class in Art and Craft had relatively poor reading and mathematics scores. Positive self-evaluations in Sport were also associated with lower reading scores, while positive self-evaluations in Music were associated with lower mathematics scores. The highest correlation in the set is between pupils' self-evaluations in Mathematics and total mathematics score ($r = .25$).

Table 8

Percentage of 6th Class Pupils Who Considered Themselves to be 'Near the Bottom', 'Around the Middle', or 'Near the Top' of Their Class at Different Types of Schoolwork, and Correlations Between Their Self-Evaluations and Reading and Mathematics Scores

Type of schoolwork	Response Option			Correlation	
	Near the Bottom	Around the Middle	Near the Top	Reading Score	Mathematics Score
Mathematics	9.8	58.6	31.6	.22***	.25***
Irish reading	33.3	43.9	22.8	.21***	.19***
Irish writing	22.5	48.1	29.4	.06	.06
English reading	4.3	35.6	60.1	.16***	.12*
English writing	3.5	35.1	61.4	.09*	.04
History	16.7	54.6	28.7	.24***	.09*
Geography	16.4	50.2	33.4	.21***	.15**
Science/Nature	12.4	55.0	32.5	.08	-.01
Art and Craft	10.3	34.8	54.8	-.09*	-.10*
Music	15.9	35.3	48.8	-.08	-.09*
Sport	8.5	32.7	58.8	-.14**	.01

*$p<.05$; **$p<.01$; ***$p<.001$

The mean English reading and mathematics scores of pupils grouped according to their perceived competence in various aspects of school work are presented in Table 9. Pupils who rated themselves as near the top of their class at English reading had higher reading scores than those who rated themselves at around the middle of the class, who in turn had higher reading scores than those who rated themselves near the bottom of their class. A similar relationship was found between pupils' self-ratings of their mathematics standing and their

mathematics achievement scores. However, the number of pupils who perceived themselves as being near the bottom of their class in both subjects is small, so caution should be exercised when interpreting these findings.

Table 9
Mean Reading and Mathematics Scores of Pupils Who Rated Themselves 'Near the Bottom', 'Around the Middle' and 'Near the Top' in English Reading and Mathematics Relative to Others in Their Class

Subject Area	Response Option		
	Near the Bottom in English Reading (4.3%)	Around the Middle in English Reading (35.6%)	Near the Top in English Reading (60.1%)
Reading	19.9	24.4	29.5
	Near the Bottom in Mathematics (9.8%)	Around the Middle in Mathematics (58.6%)	Near the Top in Mathematics (31.6%)
Mathematics	32.6	37.3	43.7

Percentages in parentheses are percentages of pupils choosing option.

CONCLUSION

The analyses reported in this paper resulted in three main findings. First, both the reading and mathematics achievements of pupils in Breaking the Cycle schools in disadvantaged areas compare extremely unfavourably with those of pupils in the general population of 6th class pupils. Second, pupils held very positive attitudes to school and evaluated their own performance at school favourably. Third, there appears to be a discrepancy between the first and second findings, in that pupils' positive attitudes and self-evaluations contrast sharply with their poor achievements.

The poor average achievement levels revealed in our analyses are consistent with what would be expected of pupils from disadvantaged backgrounds. In reading, more than half of pupils scored in the bottom quintile (i.e., the point at or below which the scores of 20% of pupils nationally lie). Performance relative to the national group was even poorer in mathematics, with almost two-thirds of pupils scoring in the bottom quintile. Many studies have found that pupils' performance at school is strongly related to their home backgrounds, and that children from materially poor backgrounds perform less well than children from more favourable backgrounds (see McLoyd, 1998). Some commentators have suggested that the social context of the school is a key factor in achievement, and

that the disadvantages associated with poverty are exacerbated when there are high concentrations of pupils from poor backgrounds in a school (Patterson, 1991). Since the majority of families served by schools in our sample were characterized by long-term unemployment and dependence on state assistance for housing and medical care (see Table 1), our findings lend some support to the existence of such a social context effect.

Pupils' attitudes towards school were generally very positive. Nine out of ten pupils agreed that they were proud of their school work; a similar number felt they were doing well at school; and virtually all agreed that it was important for them to do well at school. A majority (65%) indicated that they liked school, which is significantly higher than the percentage reported for a national sample (Cosgrove et al, 2000). While the educational aspirations and expectations of pupils in Breaking the Cycle schools were lower than those of pupils in the national sample, correlations between test scores and pupils' educational aspirations and expectations were higher. Although this difference is difficult to interpret, it may indicate the views of their prospects of Breaking the Cycle pupils were more realistic than those of pupils in the national sample. An alternative explanation might lie in the differing ambitions of pupils. Almost 76% in the national sample (excluding those who said they did not know how far they wanted to go in school) indicated that they wished to proceed to third-level education, and therefore, the spread of scores on this variable was limited.

Some studies have found that children from disadvantaged backgrounds are more likely to have an external locus of control (e.g., Battle & Rotter, 1963). That is, they are more likely to perceive events that influence them as the result of external forces beyond their personal control rather than as a consequence of their own actions. It has also been argued that children from disadvantaged backgrounds are more likely to attribute scholastic failure to external factors such as bad luck than to internal factors such as lack of hard work and study (e.g., Wigfield & Asher, 1984). Thus, one might have expected pupils in Breaking the Cycle schools (compared to pupils in representative national samples such as TIMSS) to show higher levels of agreement with the contention that luck or natural talent (being 'smart') is a prerequisite for scholastic success. However, pupils' responses to items designed to investigate attributions for success at school revealed an interesting contrast. In TIMSS, 65% of Irish 9-year olds attributed success in mathematics to luck (Mullis et al., 1997), compared to slightly less than half (31%) as many 13-year olds (Beaton et al., 1996). However, only 16.9% of pupils in Breaking Cycle schools (whose average age was 12½ years) attributed doing well at school to luck. Just over a half (54.5%) attributed success at school to being 'smart' when asked about the importance of

'natural talent/ability' as a determinant of success at mathematics compared to 72% of 13-year olds and 87% of 9-year olds in the TIMSS national samples. There were only slight differences between the percentages of respondents in TIMSS and in Breaking the Cycle Schools who agreed that success depended on doing lots of hard work and study, an attitude one would expect to find to a greater extent in a sample of pupils characterized by a predominantly internal locus of control.

The scholastic self-evaluations of pupils in Breaking the Cycle schools were mainly favourable for a variety of curriculum areas. There is some evidence of the operation of a 'better than average' effect (Myers, 1993). In all but one of 11 curriculum areas (Irish reading), greater percentages of pupils rated themselves 'near the top' of the class than 'near the bottom'. However, the extent of the positivity varied with curriculum area. The most and least positive self-evaluations were assigned in the areas of English and Irish respectively, a finding that replicates that of Kellaghan and Fontes (1988). However, it is surprising that pupils considered English to be their strongest subject, given their relatively poor average test score in English reading. Despite this, self-ratings in reading and mathematics were significantly correlated with actual test scores in both subject areas, indicating that pupils who scored highly tended to rate themselves more positively relative to others in their class. The correlation between test scores and self-ratings was higher for mathematics than for English reading, although it would have been difficult to obtain a high correlation in reading because so few pupils (only 4.3%) rated themselves as 'near the bottom' of the class.

The fact that pupils held very positive attitudes towards school appears to be at odds with the average scores they achieved in reading and mathematics. Despite their relatively weak achievements, a greater percentage of pupils in Breaking the Cycle Schools than of pupils in a national study (Cosgrove et al., 2000) liked school. One might have expected to obtain a significant positive correlation between liking school and test scores, as was found in the latter study, presumably because pupils who do well at school have more positive school experiences than those who perform poorly, but this was not the case. Thus, in Breaking the Cycle schools, a positive view of school seems to have depended on factors other than scholastic achievement. It is possible to speculate on what some of these factors might be. For example, data collected as part of the evaluation of Breaking the Cycle indicate that, in 2000/2001, senior pupils spent an average of over one and a half hours a week engaged in special projects and out-of-school activities which were supported by special funding under the scheme (Weir et al., 2002). These activities may involve excursions of

various kinds, as well as sporting, dramatic, cultural, historical, and arts-related activities, which may increase enjoyment of school for participating pupils. Furthermore, pupils who are academically weak may channel their energies into less academic pursuits, such as sport or music. Conversely, pupils who direct their energies into sporting or creative activities may fail to prioritize more academically-oriented curriculum areas. There is some evidence for these hypotheses from the data, in that positive self-ratings in sport are negatively related to reading achievement, positive self-ratings in music are associated with lower mathematics scores, and positive self-ratings in art and craft are associated with both lower reading and mathematics scores.

It may also be the case that teachers have lower expectations for less academically able pupils, and consequently may fail to challenge them, or may over-praise moderate efforts. Such treatment may result in pupils developing an unrealistic or exaggerated view of their own progress or ability. Teachers generally hold higher expectations for middle-class students than for students from poor backgrounds (Brophy & Good, 1974). On the other hand, Entwisle and Hayduk (1978) found that expectations of children from disadvantaged backgrounds for success exceeded the grades the children were actually awarded. Furthermore, these children continued to hold high expectations despite receiving poor results. The authors hypothesized that the overestimation of ability was a result of teachers' overuse of positive reinforcement, a strategy commonly used by teachers of children from disadvantaged backgrounds. This may help to explain why pupils' self-evaluations in the present study are so positive despite their poor average achievements. It is also possible that teachers fostered in their pupils a positive attitude to school which was not solely dependent on academic success. If this is so, it is to be welcomed, as pupils who enjoy school may remain in formal education longer.

When asked to evaluate their scholastic progress more generally, almost 9 out of 10 said that they felt they were doing well at school. While this finding appears incompatible with their measured achievements, other research conducted in Ireland has yielded similar results. Hayes and Kernan (2001) reported that children attending schools designated as disadvantaged by the Department of Education and Science scored higher than children in non-designated schools on self-assessments of competence, despite having significantly poorer achievements than pupils in non-designated schools. Although the findings appear similar, it should be noted that Hayes and Kernan's work was based on much younger children. Young children are relatively inaccurate judges of their abilities, though more realistic self-evaluations emerge as children move into middle childhood (Blatchford, 1992; Nicholls,

1979). It is, therefore, surprising that so many pupils in 6th class in Breaking the Cycle schools rated themselves so positively.

Despite their poor achievements, most pupils appeared to like school, and almost 9 in 10 wished to remain in school until at least the Leaving Certificate. The data on pupils' attitudes and attributions were limited, and only tentative conclusions may be drawn about their relationship with achievement. However, it appears that pupils held fairly realistic views of the determinants of scholastic success, and there is no evidence that, as a group, they were characterized by attitudes suggestive of an external locus of control (a characteristic frequently associated in the literature with poorer performance, as well as with students from disadvantaged backgrounds). However, while pupils seemed to have an appreciation of their academic standing relative to other members of their class (their relative self-ratings in reading and mathematics were significantly correlated with test scores in these areas), in more general terms, there appears to be an incongruity between their assessments of their academic competence and their measured achievements. Further work on this issue is indicated, with a possible focus on exploring the relationship between attitudes and self-assessments in specific subject areas. It would also seem important to investigate the role of teacher feedback (possibly by employing observational methods in the classroom), as well as parent input, in shaping pupils' attitudes. A limitation of the present study is that it did not address the issue of gender, as many studies indicate that girls are more positively disposed than boys towards school (e.g., Kellaghan & Fontes, 1988). Finally, a potentially worthwhile further area of inquiry would be to assess the attitudes, aspirations, and academic self-concepts of a sample of pupils from disadvantaged backgrounds in early post-primary school to investigate whether the positivity shown at primary level persists when pupils are faced with the differing demands of the post-primary environment.

REFERENCES

Battle, E.S., & Rotter, J.B. (1963). Children's feelings of personal control as related to social class and ethnic group. *Journal of Personality, 31*, 482-490.

Beaton, A., Mullis, I.V.S., Martin, M.O., Gonzalez, E.J., Kelly, D.L., & Smith, T.A. (1996). *Mathematics achievement in the middle school years: IEA's Third International Mathematics and Science Study (TIMSS)*. Chestnut Hill, MA: TIMSS International Study Center, Boston College.

Blatchford, P. (1992). Academic self-assessment at 7 and 11 years: Its accuracy and association with ethnic group and sex. *British Journal of Educational Psychology, 62*, 35-44.

Blatchford, P. (1996). Pupils' views on school work and school from 7 to 16 years. *Research Papers in Education, 11*, 263-288.

Brophy, J., & Good, T.L. (1974). *Teacher-student relationships: Causes and consequences.* New York: Holt, Reinhart & Winston.

Cosgrove, J., Kellaghan, T., Forde, P., & Morgan, M. (2000). *The 1998 National Assessment of English Reading.* Dublin: Educational Research Centre.

Department of Education. (1993). *Report of the Special Education Review Body.* Dublin: Stationery Office.

Educational Research Centre. (1993). *The Drumcondra Primary Reading Test.* Dublin: Author.

Educational Research Centre. (1997). *The Drumcondra Primary Mathematics Test.* Dublin: Author.

Entwisle, D.R., & Hayduk, L.A. (1978). *Too great expectations: The academic outlook of young children.* London: Johns Hopkins University Press.

Hayes, N., & Kernan, M. (2001). *Seven years old: School experience in Ireland. National report of the IEA preprimary project.* Dublin: Centre for Social and Educational Research, Dublin Institute of Technology.

Kellaghan, T., & Fontes, P.J. (1988). Gender differences in the scholastic self-concepts of Irish pupils. *Irish Journal of Education, 22*, 42–52.

McLoyd, V.C. (1998). Socioeconomic disadvantage and child development. *American Psychologist, 53*, 185-204.

Mullis, I.V.S., Martin, M.O., Beaton, A., Gonzalez, E.J., Kelly, D.L., & Smith, T.A. (1997). *Mathematics achievement in the primary school years: IEA's Third International Mathematics and Science Study (TIMSS).* Chestnut Hill, MA: TIMSS International Study Center, Boston College.

Myers, D.G. (1993). *Social psychology.* New York: McGraw Hill.

Nicholls, J.G. (1979). Development of perception of own attainment and causal attributions for success and failure in reading. *Journal of Educational Psychology, 71*, 94-99.

Patterson, L. (1991). Socioeconomic status and educational attainment: A multi-dimensional and multi-level study. *Evaluation and Research in Education, 5*, 97-121.

Wigfield, A., & Asher, S.R. (1984). Social and motivational influences on reading. In P.D. Pearson (Ed.). *Handbook of reading research* (pp. 423-453). New York: Longman.

Weir, S., Milis, L., & Ryan, C. (2002). *The Breaking the Cycle scheme in urban schools: Final evaluation report.* Report to the Department of Education and Science. Dublin: Educational Research Centre.