



Emotional and  
Behavioural Difficulties

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# Early intervention in behaviour

## A study of the FAST-Track programme

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**ABSTRACT** FAST-Track is a support programme for pupils with social and emotional behaviour difficulties. It is designed to integrate the school curriculum, social skills training, reading development, parenting skills and home-school liaison. A 3 year longitudinal study is reported in which schools implementing the full FAST-Track programme were compared with those implementing only the curriculum component. Changes in behaviour were monitored using an amended version of the Rutter Behaviour Rating Scale. Results did not show any clear difference between the two groups of schools but did show substantial differences between individual schools, highlighting the difficulty of demonstrating the effectiveness of intervention programmes given the multiplicity of other factors which determine behaviour change. The implications of these findings for the methodology and practice of intervention programmes in this area are explored.

**KEYWORDS**  
curriculum;  
FAST-Track;  
intervention  
study;  
rating scales

## Introduction

'Early intervention' became something of a buzzword in the late 1990s, especially within education. While society has always been concerned about juvenile crime, and perhaps to a lesser degree about school exclusions and children in care, the political slogans of the 1980s such as 'raising educational standards', 'improving family values' and 'a short, sharp shock' – and the strategies they supported – did not contribute towards a reduction in crime, drug addiction, school exclusion or the number of adolescents received into care. If anything, the opposite seemed to be the case. An increasing awareness of the escalating financial and human cost of the care system, residential schools, prisons and the probation service, and their inefficiency in effecting the required change, even in young children (Rutter et al., 1990) – to say nothing of the risks vulnerable youngsters are now known to have been exposed to – arguably led to a reconsideration of what was known about the causes of deviance. What started off in the early

1990s as an interest in 'value added' in education (linked to the political notion of schools competing in the marketplace), and its consequent 'baseline assessment' procedures, has, without fully shaking off its origin, now subtly changed into a form of early identification linked to intervention, at least in the basic skills area.

Meanwhile, the increasingly assertive voice of academic research into school standards and school effectiveness confirmed, and expanded on, findings of the late 1970s and early 1980s (Reynolds, 1976; Rutter et al., 1979) that schools do make a difference. Effective headteacher leadership, whole school policies, greater parental involvement, high achievement expectations as reflected in the curriculum and pupil-teacher interactions, as well as systematic monitoring, all contribute to higher educational attainments as well as lower exclusion rates (ILEA Research and Statistics Branch, 1986; Mortimore et al., 1988; Sammons et al., 1995).

There has been a gradual movement away from marketplace competition (though it still lingers in 'Best Value' schemes in local authority services) back to the notions of equal opportunities, 'social inclusion' and children's rights (Children Scotland Act 1995). This has once again put pressure on agencies such as social work, school health and education to come up with joint service plans, and to collaborate in initiatives such as breakfast clubs, after-school clubs, and more recently, Sure Start, child and adolescent mental health services, and the 'new community school' movement. There is now a growing acceptance that 'schools are a natural home base for prevention programming' (Durlak, 1995, p. 81). The climate seems right to improve ways of supporting schools to prevent, or at least offer early intervention in the prevention of, seemingly intractable deviant, aggressive and/or antisocial behaviour.

One such way of offering early intervention through schools is the FAST-Track programme (Conduct Problems Prevention Research Group, 1992). This is the name given to a large-scale (involving some 1200 pupils), multicomponent, multisite, longitudinal research study in the United States, based on a developmental model. Its five programme components are: (1) a teacher-led intervention involving the whole class group, based on the PATHS curriculum, discussed below; (2) child social skills training, within a small group, run by a 'school coordinator', who also offers (3) academic tutoring to prevent delay in reading; and (4) parenting skills training by the 'home coordinator', who also provides (5) home-school liaison. The 'school coordinator' tends to be teacher-trained, whereas the 'home coordinator' usually comes from a social work background.

The PATHS (Promoting Alternative THinking Strategies) curriculum is

a six-volume social skills learning programme, which also aims to promote positive relationships (especially friendships), self-control and emotional literacy, as well as self-esteem. The programme is designed for children from ages 6 to 11 years. In the USA, intervention starts at the first point of transition, from kindergarten into elementary school, and carries on beyond the next transition point, from elementary into middle school. The appeal of this programme is not merely that there is compatibility between PATHS and 5–14 requirements in various curriculum areas including PSE and literacy, but, more to the point, that its components target all well-known risk factors established in the research literature (e.g. Mandel, 1997; Patterson, 1982; Richman et al., 1982; Rutter, 1985).

In 1999, education and social work managers of a medium-sized local authority in Scotland readily supported the proposal to try out the FAST-Track model as a pilot study, with its ultimate aim to prevent young pupils being excluded from mainstream education. As the PATHS curriculum was unknown, the first volume was trialled for 6 months in two primary schools, with very positive feedback from headteachers, staff and parents. While this trial was taking place, a project support group was set up as an advisory body (but also one that could link to resources). It comprised managers (or their representatives) of a number of community services, such as social work, school health, community education, pupil support services, educational psychology services, as well as the early years adviser and a primary headteacher. The FAST-Track coordinator (who was also one of the authors) and the behavioural outreach teacher who was to take on the role of school coordinator brought proposals to this initial meeting, and subsequently reported on project progress. At this first meeting it was agreed to adopt all aspects of the FAST-Track programme with one exception. Because all infant teachers in the authority were already providing an intensive 'early intervention' reading programme that was being evaluated, it was decided that the academic tutoring component would be left to the schools' own discretion and resources. It was also agreed that two 'target' schools were to be selected, mainly on deprivation and intake factors, with two 'comparison' schools. The latter would only be offered the PATHS curriculum as their sole mode of intervention. The former would be offered the entire FAST-Track programme as outlined above. The setting up of a teacher support group, not only to promote programme adherence but also to encourage the development of collegial support in dealing with challenging children, was seen as supportive. The teachers involved were also to receive two full training days, for which 'cover' would be provided. The pilot was to track an age cohort from school entry until the end of P3 (i.e. the third year of their primary education).

## **Project aims and methodological issues**

While the long-term project aims are easily defined, the purposes of a pilot study are usually more intricate and complex. Clearly, the FAST-Track project aims to promote social and educational inclusion for pupils deemed to be at risk, socially, emotionally and/or behaviourally, and in so doing to reduce the number of school exclusions and, it is hoped, ultimately the drift towards delinquency in the community. It also aims to offer support structures for teachers and parents in their efforts to cope with the challenging behaviours of their pupils and children. And in the end, it offers a model for a more effective use of resources, in that it offers children the means to develop more positively, rather than containing them and keeping them (and others) safe in small off-site classes.

These aims touch a complex variety of factors and issues, such as the identification of 'at risk' pupils, and the processes of engaging school staff and parents. Also relevant are the processes involved in working with other professionals to deliver the curriculum, lead parenting groups and run small nurture groups. There was also the need to evaluate the effect of a range of factors including school factors, home factors, child factors, attitudes and experience, to mention but a few. Accordingly, the data gathering process was broad-based and included two semi-structured interviews with all staff (at the beginning and the end of the year), some video recording of actual lessons, process notes on parent support groups and teacher support group meetings, and a field diary. The present article, however, will focus more particularly on the method of identifying 'at risk' pupils, and the means and results of tracking pupil progress over the 3 year period.

## **Methodology**

### **The rating scales construction**

Although the Child Behaviour Checklist or CBCL (Achenbach and Edelbrock, 1981) is clinically well researched, has established validity and is easy to analyse because of its software, its length (over 100 items) mitigates against its use for tracking the progress of a large number of pupils, especially where teachers, already overburdened by record keeping, are asked to complete the forms on all their pupils a number of times a year. For this reason, a version of the much shorter but equally validated Rutter Behaviour Rating Scale (Rutter, 1967) was devised for the present study. Named the Nursery Behaviour Rating Scale (NBRS), because it is first used at nursery level to identify the 'at risk' children, it has 30 items and is itself a modification of Behar and Stringfield's (1974) adaptation of the Rutter scale to suit a younger age group (3 to 6). In this adaptation, Behar and

Stringfield added 10 items and changed the wording of some others. Behar and Stringfield, however, also conducted a factor analysis which showed that six of the items were non-significant in terms of discriminatory powers. These items have been eliminated in the construction of the NBRS, while some of the other items have been reworded to be more in line with the original Rutter scale, and to allow for repeated measurements over at least 3 years. Copies of the NBRS can be obtained from the authors.

To enable comparison between home and nursery in the present study, a Home Behaviour Rating Scale (HBRS) was devised. This differed from the NBRS by replacing just one item and modifying three. The replacement was that 'frequently stares blankly into space' was changed to 'is easily jealous', partly because the former behaviour was less likely to occur in the home and partly because the latter was one of the high scoring items on the Child Behaviour Checklist (CBCL).

As an additional validity safeguard, the HBRS was checked against highly significant items on the CBCL to ensure that as valid a distinction as possible could be made between antisocial/conduct disorder and neurotic/withdrawn behaviour in a short, easily administered checklist that neither parent nor teacher could object to. Three more minor adjustments were made in line with the above: in item 1, 'has difficulty staying seated for long (e.g. story time)' was changed to 'has difficulty sitting still for any length of time (even when watching TV)'; in item 2, 'squirmy, fidgety' became 'demands your attention a lot'; and in item 12, 'frequent absences' became 'doesn't like going to school'. To allow parents an opportunity to add more personal views, and to ameliorate to a degree the negative flavour of the checklist, two open-ended questions were added to the HBRS the first time it was circulated to parents: 'What concerns you most about your child?' and 'Please describe the best things about your child'. For later administrations of the form, parents were simply asked to comment freely on their experience of the project.

### **Selection procedure**

In order to select the target and comparison schools, headteachers of all the 65 primary schools within the authority were written to. First, in April 1999, formal papers from education management were circulated. These outlined their plans for behavioural support and included a reference to the project as one of their chosen strategies. Then, a few weeks later, letters went out inviting the headteachers to volunteer for the project. Criteria for selection were explained in the letter. These were (1) the frequency of EBD behaviour as revealed in school audits which survey the number and severity of EBD in each school, and (2) the number of troublesome children previously identified in feeder nurseries. To this, 18 schools responded

positively. Some others expressed an interest, but realized that they would not meet the criteria for selection. Of the 18 schools, the 10 highest scoring schools were selected on the basis of raw EBD figures (based on the number of pupils requiring extra support) divided by school roll. This list included the two primary schools who had initially been involved in trialling the curriculum, because the headteachers were eager to continue. Of the remaining eight schools, six were visited in person to explain in more detail to the headteacher how the project was intended to work, what was expected of the school, and how the children would be identified. The other two were contacted by phone for the same purpose. The reaction of all the headteachers was uniformly positive, with a few suggesting they were even willing to pay to be able to opt in. Some reported having heard good things 'through the grapevine', while two others had seen the short-term effects of the 'Turtle Story' and technique (an element in PATHS) through the behavioural outreach service support.

Identification forms were distributed to these 10 schools and/or their feeder nurseries during these visits, or immediately after, with the request to fill in forms on all children whom staff felt would have some difficulty settling into school, or were likely to experience difficulty within the first few years of school (through knowledge of siblings and/or family circumstances). Guidelines for filling in the forms were provided. At this point two schools said that they were not aware of any children causing concern in their prospective intake. These two schools therefore took no further part in the project, leaving eight schools. All the forms were returned, or collected, by the third week of June 1999. These forms were not only scored but 'banded', giving the highest scoring children the highest weighting. This was so that the schools with the largest number of children with severe behavioural difficulties (score over 25 on the NBRIS) were more likely to become target schools. To ensure that no children with significant problems were overlooked, educational psychologists were asked to list those entrants to P1 (the first year of primary school) that had been referred to them. The support for learning officer was also asked to list the children in nursery provision that had required additional resources. This did not yield any new names.

The target schools were identified as the two schools scoring highest on the identification forms. They had previously been ranked 3 and 5 on the EBD audit list. The two schools that followed in 'high scoring' (ranking 1 and 2 on the audit list) were offered the opportunity, and agreed, to become the comparison schools. All four headteachers expressed great satisfaction at being selected, although the headteacher of one of the comparison schools was disappointed not to be one of the target schools, since she felt her school staff were particularly struggling to cope with disruptive

behaviour. Two more schools 'volunteered' to be part of the project, by paying for the materials and providing their own cover during training sessions. All schools completed the NBRS on their pupils on a regular basis, although the 'volunteer' schools were not asked to distribute the HBRS.

## Data collection

In the first year of the pilot study, teachers were asked to complete the NBRS on all their pupils just before the start of the project (September 1999), and, because of their own observation that children change so much in the first term of schooling, in February 2000 and June 2000. Because of staff changes after the summer, the new teachers in P2 were asked to complete the forms again in September 2000 and June 2001, and again in P3 in September 2001 and June 2002. In theory, this would provide a reasonably robust tracking system, providing not too many pupils dropped out of the project. In reality, the completion of the NBRS was also hampered by staff changes. In at least four of the schools, the children were exposed to long-term supply teaching at least once, and most had short-term supply teaching. Understandably, not all of these teachers were prepared to fill in forms on children they did not know well. One of the 'volunteer' schools dropped out of the project during its final year, because of severe staff shortages. (Another indicator of change is that three of the headteachers left during the project.) This explains why, instead of a total sample size of 246 pupils in the six schools, the returns on one occasion dropped by almost half to 144.

All parents were encouraged to take part in the project by means of homework tasks relating to the PATHS curriculum. They were also asked to complete the HBRS at the start of the project, and subsequently at the end of each year. Forms and a covering letter were distributed by the teachers, via the children, and parents could return them in a secure, anonymous envelope which would only show the child's ID number. Initially parents were provided with prepaid return envelopes, but subsequently a £5 voucher was offered as a raffle in each of the two target schools and between the two comparison schools (who had smaller numbers). Newsletters were also used to maintain parental interest in what the project was trying to achieve. Interestingly, in view of the progress outcomes, the parents in the target schools returned most of the forms. Rates varied from 17 percent of parents never returning a form in school 2, to 74 percent not returning any forms in school 4. As for parents returning the form every time the school was provided with one, 14 percent of parents in school 1 returned the form every time, and 8 percent in school 3. In school 4, parents were not consistently given the form.

The design of the study, the numbers of forms distributed and the numbers returned are summarized in Table 1.

## The findings

The key dependent variables used in this analysis are the sums of the scores over the 30 items on the NBRS completed on seven occasions during the study and HBRS completed on four occasions. To justify using these sums, however, it is necessary to look at their reliability as measured by Cronbach's alpha coefficient. Table 2 gives the values of this for the seven time points at which the NBRS was completed and the four points at which the HBRS was completed. The number of items was 30 in each case, and the number of completed forms is given in the second last row of Table 1.

As all the coefficients (even those referring to the home completions where numbers of returns were very small) are 0.88 or above, the scale can be used as a summary measure of behaviour disorder with some confidence.

An orthogonal principal components factor analysis was run on these 11 variables (N1 to N7, H1, H3, H5 and H7), and a discernible factor structure appeared. As would be expected, the main factor explained most of the variance (67%) while the next two factors explained 12.3 percent and 8.6 percent respectively. Eight of the 11 original variables had loadings of 0.84 or above on the first factor, which appears to be a general 'predisposition to EBD' factor. The variables which did not load highly on the first factor were N1 (which had a loading of 0.86 on factor 2), H1 (which had a loading of 0.70 on factor 2) and N3 (which had a loading of 0.76 on factor 3). The finding for N3 is difficult to interpret but those for N1 and H1 suggest that the second factor is a primacy effect: the pupils' initial disorder

*Table 1* Dates and sizes of the data collection points for NBRS and HBRS

	Nursery							Home			
Collection point	N1	N2	N3	N4	N5	N6	N7	H1	H3	H5	H7
Month	Sept	Feb	Jun	Sep	Jun	Sep	Jun	Oct	Jun	Jun	Jun
Year	99	00	00	00	01	01	02	99	00	01	02
Forms returned	240	196	246	230	172	144	203	42	75	50	62
Forms sent	240	196	246	230	239	157	229	163	161	158	148

*Table 2* Alpha coefficients for each rating stage

Time	N1	N2	N3	N4	N5	N6	N7	H1	H3	H5	H7
Alpha	0.94	0.92	0.94	0.93	0.94	0.95	0.94	0.88	0.89	0.88	0.91



profiles at home and at school are similar but they rapidly take on a stability which is not predictable from their initial ratings. Such an effect could for instance be a measure of different degrees of anxiety experienced by different pupils at the prospect of starting school. It could also lend some empirical support to the view that if primary school is to make any impact on children's social and emotional development, it must do so soon after their arrival, as after that it may be too late.

Two of the most important variables of interest in this analysis are sex (boy/girl) and type of school (targeted/comparison). The mean rating scores and sample sizes for each of the seven school-based ratings are given in Table 3. It can clearly be seen that the boys have larger rating sums (indicating more prevalent behaviour difficulties) than the girls at each of the seven stages. The difference between the boys' and girls' means ranges from two to six points on the 30-point scale. Boys show a slight tendency towards increasing scores over time, though the increase is not smooth or continuous. Girls show hardly any evidence of change over time in either direction. However, these overall statements hide significant differences between targeted, comparison and 'volunteer' schools. For the comparison schools, boys' scores decrease steadily from a high point of 8.72 at N1 to 5.26 at N7. The girls similarly fell from 4.80 to 2.92 over the course of the study. In targeted schools, however, the pattern was very different. Girls remained steady from N1 to N3 but then experienced scores between 1.5 and 2 points higher from N4 onwards. This pattern was even more marked for the boys in targeted schools; they too remained steady from N1 to N3 but

Table 3 Means of NBRS ratings and sample sizes by sex and type of school

Sex	School type		N1	N2	N3	N4	N5	N6	N7
Boys	Non-targeted	Mean	8.72	8.17	8.46	6.78	3.71	5.76	5.26
		<i>N</i>	43	42	37	37	34	33	34
	Targeted	Mean	6.40	5.67	6.44	11.59	10.89	11.57	11.65
		<i>N</i>	52	52	54	49	46	42	43
	Volunteer	Mean	9.39	10.29	4.45	11.02	3.60	–	9.16
		<i>N</i>	46	17	49	47	15	0	44
	Total	Mean	8.09	7.32	6.28	10.05	7.17	9.01	8.95
		<i>N</i>	141	111	140	133	95	75	121
Girls	Non-targeted	Mean	4.80	5.30	3.37	2.80	1.89	3.21	2.92
		<i>N</i>	30	30	30	30	28	29	25
	Targeted	Mean	4.16	4.23	4.07	5.56	6.38	5.16	6.81
		<i>N</i>	44	48	46	39	39	37	31
	Volunteer	Mean	8.18	7.11	6.03	5.19	2.33	–	4.75
		<i>N</i>	28	9	30	32	9	0	28
	Total	Mean	5.45	4.9	4.42	4.62	4.25	4.30	4.96
		<i>N</i>	102	87	106	101	76	66	84

then returned means greatly increased by about five rating points thereafter. The girls in the 'volunteer' schools showed a fall from 8.18 to 4.75, though on a very small number of returns (varying from 9 to 32). The data relating to the boys in the 'volunteer' schools were based on a slightly larger numbers of returns but the pattern over time was very erratic, showing marked dips at N3 and N5 but much larger values for N1, N2, N4 and N7. The 'volunteer' schools did not return any forms for either boys or girls at point N6.

In an attempt to look more systematically at changes over time, a new variable called Benefit was defined as  $(N6 + N7) - (N1 + N2)$ . The sum of N1 and N2 is a measure of the extent of the pupil's behaviour difficulties at the start of the study, while the sum of N6 and N7 is the corresponding measure at the end. Hence the difference is a measure of the extent to which rating scores increased (i.e. behaviour worsened). Negative values of Benefit therefore represent an improvement in behaviour. One practical drawback of Benefit is that it is only defined for pupils for whom scores are returned for all of N1, N2, N6 and N7. As can be seen from the last two rows of Table 1, incomplete data was a major problem for the present study and the numbers of pupils for whom all four data points were complete was disappointingly small. Nevertheless, given the erratic nature of much of the data in Table 3, it was felt that two data points at each end of the comparison period were necessary in order to impart a degree of stability to the results.

The effects on Benefit of sex and whether the school was targeted or not are summarized in Table 4 (since none of the 'volunteer' schools returned N6, they do not feature in this calculation). Their statistical significance was investigated by performing a two-way ANOVA. The results

*Table 4 Mean values of Benefit by sex and school*

School	Sex	Mean	<i>N</i>
School 1 (targeted)	Boys	26.14	21
	Girls	18.79	14
	All pupils	23.20	35
School 2 (targeted)	Boys	-12.50	10
	Girls	-4.64	14
	All pupils	-7.92	24
School 4 (non-targeted)	Boys	-6.00	15
	Girls	-7.07	14
	All pupils	-6.52	29
School 5 (non-targeted)	Boys	-6.53	17
	Girls	-1.20	10
	All pupils	-4.56	27

showed that behavioural change in comparison schools was much more positive than in targeted schools ( $F = 21.46$ ,  $d.f. = 1$  and  $111$ ,  $p = 0.000$ ). About one-sixth of all the variance in the data could be accounted for by the difference between targeted and comparison schools (eta squared =  $0.166$ ). But there was no difference between boys and girls ( $F = 0.525$ ,  $d.f. = 1$  and  $111$ ,  $p = 0.470$ ) and no interaction between sex and type of school ( $F = 1.46$ ,  $d.f. = 1$  and  $111$ ,  $p = 0.229$ ).

However, Table 4 should be considered in the light of the school-by-school pattern of means. Values of Benefit could be calculated for only four of the six schools since, as already noted, the 'volunteer' schools (schools 3 and 6) did not administer N6. The mean values of Benefit for schools 2, 4 and 5 were  $-7.92$ ,  $-6.52$  and  $-4.56$  but the mean for school 1 was  $+23.20$ . It is likely therefore that the apparent effect of whether the school was targeted is due to the large behaviour changes in school 1 and is not a general feature of targeted schools.

In addition to school effects there are significant teacher effects. Ratings N1, N2 and N3 were carried out by the same teachers. Differences between them are significant (about 11% of the variance in each of N1, N2 and N3 can be attributed to differences between teachers) and stable (the rank order of the mean ratings of the eight teachers who completed both N1 and N2 were exactly the same). Similarly, N4 and N5 were completed by the same teachers and differences between them respectively accounted for 18 percent and 32 percent of the variance in the data. The correlation between their rankings was  $+0.79$ . Finally N6 and N7 were done by the same teachers, differences accounting for 40 percent and 32 percent of the data. The correlation was  $+0.98$ .

The data relating to the Home Behaviour Rating Scale were even more

Table 5 Means of HBRS ratings and sample sizes by sex and type of school

Sex	School type		H1	H3	H5	H7
Boys	Non-targeted	Mean	–	9.13	11.42	7.13
		<i>N</i>	0	15	12	8
	Targeted	Mean	13.37	10.93	14.06	16.12
		<i>N</i>	30	29	18	24
	Total	Mean	13.37	10.32	13.00	13.87
		<i>N</i>	30	44	30	32
Girls	Non-targeted	Mean	–	10.70	4.07	6.30
		<i>N</i>	0	10	14	10
	Targeted	Mean	11.92	8.86	6.50	7.69
		<i>N</i>	12	21	12	26
	Total	Mean	11.92	9.45	5.19	7.31
		<i>N</i>	12	31	26	36

affected by incomplete returns than the NBRS. Table 5 gives the mean values for those forms which were returned, by sex and type of school ('volunteer' schools did not administer the HBRS). Overall, the values are greater than those referring to the NBRS: at point N3/H3 for example, data on both forms were returned for 75 children. The HBRS mean was 6.1 points higher than the NBRS mean for the same children. As with the NBRS, boys returned larger values than girls and, also as with NBRS, boys in the targeted schools tended to return the largest values towards the end of the study period. The numbers of returns from the comparison schools, however, were never greater than 15 for any one collection point and it is unsafe to make any detailed inferences on sample sizes of this type.

## Discussion

The present research was essentially intended to be an evaluation study. The fundamental question underlying the research was whether the introduction of the full FAST-Track scheme in the targeted schools led to a fall in EBD behaviour in those schools compared with similar schools where the full scheme was not implemented. In theory, therefore, the interpretation of the results is simple, involving a comparison of two numbers. In practice, however, a more careful look at the data shows how simplistic this is. The comparison should have been between the two targeted schools on the one hand against the two comparison schools on the other. In fact a more meaningful contrast was between school 1 on the one hand and the remaining schools on the other. Clearly there is something different about school 1 but it is not the FAST-Track scheme, as the pattern of score changes was not observable in school 2, the other targeted school. If schools 1 and 2 had been comparable in all relevant respects before the start of the research, the effect of FAST-Track might have been observable: clearly they were not.

Detailed information on what might have been causing the difference between school 1 and the others is not available, but one clue might be found in pupil characteristics and turnover. During the period of the study, school 1 had a higher proportion of its pupils eligible for free school meals (49%) than any of the other schools (which varied from school 6 at 43% to school 3 at 16%). Also, of the 57 pupils which school 1 had at the start of the study, 17 left (none of whom were amongst the highest scorers on the NBRS), while the school gained only five extra pupils. Schools 2 and 4 also lost about one-third of their pupils but, of these, about one-third were amongst the most disruptive pupils and these two schools also recruited about as many pupils as they lost. The implication of these changes is that school 1 was left with an increasing proportion of highly disruptive

children and this would have obvious effects on day-to-day classroom dynamics. Hence it is likely that the changes in the profile of the pupil populations were acting to the disbenefit of school 1 relative to the other schools, and these of course are matters over which schools have little if any control.

Perhaps the single most important message which comes through from these data is the extreme difficulty of detecting the effects of educational intervention given the size of the effects which other variables have on the dependent variable. In addition to school differences, the results showed the size and stability of differences between teachers when completing the rating scale. It is possible that this is wholly due to teachers having classes with markedly different prevalences of EBD behaviour, although the raw data for intake were remarkably similar for both target schools. It is equally possible that at least part of the teacher effect is due to differences in teachers' tolerance of disruption, their skills in managing this disruption and/or their different definitions of what constitutes EBD as opposed to youthful high spirits. And, as early evaluation of FAST-Track in the USA showed (Conduct Problems Prevention Research Group, 1997), the intervention effect can also be mediated by the teachers' willingness and ability to accept the PATHS curriculum as a classroom model (rather than just a set of lesson plans). There is some evidence in the teacher interviews and video analysis to suggest that all these factors played a significant part. It is likely therefore that the identity of the teachers who assess as well as manage a particular pupil or group of pupils will be an important determinant of the results. Against this backdrop, any programme of targeting resources or introducing interventions will have to have a fairly large impact if it is to show up amongst the plethora of other factors which are driving the data at the same time.

However, if the data were not successful at identifying the effect of FAST-Track, they do show some other interesting patterns. First, they reinforce evidence from previous studies that the Rutter scale can be adapted and still retain a high level of internal consistency, as shown by the Cronbach alpha coefficients in Table 2. Secondly, they suggest that there is something of a watershed at the end of the first year of primary education (between points N3 and N4). For the two comparison schools and for one of the targeted ones (school 2), NBR scores are steady through the first year of primary school and fall, albeit unevenly, after that. In school 1, however, they rise markedly at the start of the second year and remain high thereafter. It would be necessary to conduct a more detailed study, perhaps comparing the two targeted schools, to determine the reason for this difference. Certainly it does not seem to be related to the implementation of FAST-Track. A more likely explanation may be found in classroom

dynamics. The presence of a disruptive minority of pupils can upset the social balance and lead to an increase in the frequency of disruptive behaviour amongst those pupils previously less affected (Stormshak et al., 1999).

A comparison of Tables 3 and 5 shows that mean scores for HBRS (completed by parents) are generally higher than those for NBRS (completed by teachers), a finding similar to other studies such as Richman et al. (1982). The interest of this finding, however, lies more in the questions it raises than in any inferences which can be based on it. Is it because children genuinely behave worse at home than at school? Is it because parents observe their children's behaviour in a wider context than simply within the relative structure of the classroom? Or is it because parents are emotionally more involved and therefore more critical than teachers are? Another possibility is that those parents who are experiencing greater than average difficulties with the children's behaviour are more likely to return the form in an attempt to highlight the problems they are facing – although the data indicate there was no difference in returns. Or is it because teachers are on average less likely to wish to return high scores on the NBRS as they do not wish to give the impression of being unable to cope? As with many research results, this finding allows a range of interpretations: only further, more detailed research could allow differentiation between them.

However, despite their limitations, the findings reported above do have implications for some of the issues raised in the introduction. There are three issues in particular which the findings highlight. The first is that the transition from nursery to primary represents an opportunity, and possibly a unique one, to effect change in the educational trajectory of the child. Even by the later part of the first year, a degree of stability seems to characterize children's behaviour which makes subsequent change much more difficult. Whatever the effectiveness of an intervention then, it is likely to be greater if it is located at the start of primary education and if it contains a strong emphasis on the importance of the first few months in inculcating attitudinal and behavioural change.

The second issue is that whatever might be the inherent merits of any intervention programme, it is unlikely to be enough on its own to secure a substantial and persistent improvement in the children's behaviour. What happens in the classroom is of course important but it is only one strand in a broader educational context. Another strand concerns a programme of staff development and professional support for teachers encouraging reflective practice. Effective school leadership will also foster a structured, disciplined ethos in the classroom which communicates to children a framework within which they can recognize the types of behaviour which are and are not acceptable. Another strand is the recognition of the central role of parents, though not merely in the passive role of being informed of

what is happening in class and of their children's academic and behavioural progress. Parents can also take an active role, seeing themselves as agents who can use the home environment to reinforce what is happening in class and – crucially – can exert a positive influence on it. The FAST-Track programme was designed to take account of this broader context but, as the results above show, it was still not easy to make much impact on the plethora of other variables in play at the same time.

This leads on to the third main issue, which is the advantages of monitoring disruptive behaviour, in as objective a way as possible, as part of the ongoing self-evaluation of the school. Very often, the results of this monitoring may not show what was expected. But the results can nevertheless be important. In the present case, the results did indeed show patterns of differences between the schools, but not the patterns which were expected. This does not, however, make them less valid or less interesting or less valuable for effecting educational improvement. The differences between school 1 and the other schools are not explained by these results but raise questions which, if explored further by different, possibly qualitative, data, could identify ways in which the deterioration of the behaviour of pupils in this school could be avoided for future cohorts.

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