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Children with Physical Disabilities in Ordinary Schools: How do they Progress?

The central theme of this study has been the assessment of the educational attainment and the social and emotional adjustment of children and students with physical disabilities who are attending ordinary schools in Dublin. The results obtained demonstrate interesting trends - such as the tendency of teachers to judge children with physical disabilities as having lower abilities than other non-disabled classmates; these opinions were not supported by objective tests used in the study.

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INTRODUCTION

In Ireland, the principle of integrated education is acknowledged in various official documents, for example, *Towards a Full Life: The Green Paper on Services for Disabled People (1984)*. This report noted that segregation is unlikely to promote the optimum social and personal development of the disabled child and is a major obstacle to the achievement of integration and equality. Ten years later, however, the movement towards integration of children with disabilities in Ireland has so far been ad hoc, unplanned and lacking in policy. *The Green Paper: Education for a Changing World*, in 1992 states that "policy in this area will seek to provide for children with special educational needs in mainstream schools as far as possible and according as it is appropriate for the particular child."

As empirical and qualitative evidence are necessary for future planning and effectiveness, it was timely that a study of the experiences of integrated

education be undertaken with a view to effective planning for the future. With regard to integration in practice, the lack of available statistics and research in Ireland has been disappointing.

The purpose of this study was therefore to provide evidence and a greater understanding of the experience of children with disabilities in mainstream schools, looking in particular at their levels of attainment and their social and emotional adjustment.

DESCRIPTION OF THE STUDY

A total of 136 children attending ordinary schools in Dublin city and county took part in the study. Sixty eight of the pupils had visible physical disabilities affecting movement. They were matched by 68 pupils without a disability on the following variables: age, sex, IQ, and social class. The control children were taken from the same class or form as the disabled children. There were 23 girls and 45 boys in each group of disabled and non-disabled children.

Children with physical disabilities were identified by contacting all organisations, schools and government departments that supported or educated children with physical disabilities. The aim was to get the total cohort of children with physical disabilities attending ordinary schools in Dublin city and County Dublin. The age range of the disabled group was from 5.5 years to 21.5 years, while in the case of the non-disabled children the age range was from 5.5 years to 19.5 years of age. Forty four percent of the total sample were in primary schools, while the remaining 56 percent were in secondary schools. Table 1 shows the nature of disabilities among the children in the ordinary schools.

NATURE OF DISABILITIES

TABLE 1

Disability	Number	Percentage %
Spina Bifida	21	31.0
Spina Bifida and Hydrocephalus	17	25.0
Cerebral Palsy	16	23.6
Muscular Dystrophy	7	10.2
Others	7	10.2
Total	68	100.0

The 68 disabled schoolchildren were sub-divided into those with and those without neurological abnormalities*. The primary reason for doing so was to allow the authors to consider these groups of people separately in the statistical analysis, a practice which has been done in other studies (Anderson, 1973; O'Moore, 1977) of various groups of people with various disabilities. Previous research findings have identified differences between groups of people with and without neurological aspects to their disability. Thus, it was considered appropriate to examine separately the influence and nature of disability, as well as the presence or absence of neurological abnormalities.

The number of children with neurological aspects to their disabilities was 33, while the remaining 35 children with disabilities had no neurological abnormality. The seven other types of disabilities included spinal muscular atrophy, fragilitis, quadriplegic (athetoid), arthritis, scoliosis, and polio. Spina bifida was the most common type of disability, with spina bifida and hydrocephalus and cerebral palsy (neurological abnormality) together representing 48.7% of the disabled group.

The nature and severity of disabilities in terms of physical incapacity, were assessed using the Pultibec system (Lindon, 1963). Table 2 indicates the number of children, male and female, who had a mild, moderate or severe degreee of disability.

SEVERITY OF DISABILITY

TABLE 2

Severity of Disability	Boys	Girls	Total	% of Overall Total
Mild	6	3	9	13.3
Moderate	33	18	51	75.0
Severe	6	2	8	11.7
Totals	45	23	68	100.0

Over 32% of the children had major locomotion difficulties; they were wheelchair users most of the time. Sixteen (26.2%) of the children had only

*The term neurological abnormality refers to upper central systems abnormalities; and is common amongst people with spina bifida and hydrocephalus and cerebral palsy.

slight difficulties with running and walking but did have poor dexterity and were slow in speed. Some also had difficulty with stairs and crowds. With regard to toileting, 55.8% of the children had no problems, while for 34.4% of them a urinary bag or catheter for bladder control was necessary. The remaining 9.8% necessitated assistance with their toileting as well as needing to use urinary aids. The majority (88.5%) of the children had normal eye vision. Only 2 (3.3%) experienced a loss of binocular vision or had a latent squint. The remaining 8.2% had minor eyesight difficulties which were corrected by glasses for near or distance vision. All but one of the children had normal hearing. The other child was assessed as being borderline normal or having a variable hearing loss for long distance conversation. The majority of the children (93.4%) were found to speak well relevant to their age level. Three (4.9%) children had mildly defective speech with some lack of clarity, but they were still intelligible to strangers. Only one child had a definite speech defect.

MAJOR FUNCTIONAL EFFECT OF DISABILITY

TABLE 3

Type of Problem	Number	Percentage %
Impaired Mobility	50	82.0
Impaired Hand Control	8	13.1
Incontinence	3	4.9
Total	61	100.0

It is seen from Table 3 that for the majority (82.0%) of children the major functional effect of their disability was an impaired mobility. Impaired hand control was the second major functional effect of disability for 13.1% of the children, while incontinence was a major functional effect for nearly 5% of the children in this study.

TESTS ADMINISTERED IN STUDY

The children were interviewed individually and the following tests administered:

Intelligence

Raven's Coloured Progressive Matrices for Children under 11.5 years of age.
Raven's Progressive Matrices (sets A to E) for Children over 11.5 years of age.

Educational Attainment

WISC-R to senior infants and first class pupils. Drumcondra Attainment Tests (English and Maths) for pupils in second class primary to 2nd year secondary school. Drumcondra Differential Aptitude Tests (Verbal Reasoning, Spelling, Language Usage and Numerical Ability) for 3rd year to sixth year second-level pupils).

Personality

The Early School Personality Questionnaire (Coan and Cattell, 1958) for age range 6 to 8 years.

The Children's Personality Questionnaire (Porter and Cattell, 1963) for age range 8 to 12 years.

The High School Personality Questionnaire (Cattell and Beloff, 1963) for age range 12 to 18 years.

Self Esteem

Piers-Harris Children's Self-Concept Test (Piers, 1969).

Parents and teachers were interviewed individually and were given Burks' Behaviour Rating Scales (Burks, 1977) to complete.

RESULTS OF TESTS

TABLE 4 Means standardised scores on the Raven's Progressive Matrices (Sets A, Ab, C and A,B,C,D, & E) by school level for the total sample.

School Level	Group Size	Disabled	Non-Disabled	SD	t-value
Senior Infants/ First Class	12	106.6	113.2	11.54	1.37
Second Class	10	93.7	105.0	10.83	1.56
Third/Fourth Class	14	101.4	105.0	12.49	.75
Fifth/Sixth Class	24	97.3	99.6	8.75	2.2*
1st Year Secondary	22	91.5	94.2	8.52	1.39
2nd Year Secondary	24	88.6	93.1	9.7	2.47*
3rd-6th Year Sec.	30	100.9	101.0	10.23	0.10

* $p<.05$

Intelligence

All the disabled children and their controls were within the normal range of intelligence. However, from Table 4 it can be seen that there are statistically significant differences in the non-verbal intelligence of the disabled children and their controls who were in fifth and sixth class in first level schools and in second year in second level schools.

Educational Attainment

Only two statistically significant findings were found in the educational attainments of the disabled and non-disabled children. Firstly, the disabled children in senior infants and first class had poorer mathematical skills than had the controls. The mean standardised score on the WISC-R mathematics test was 13.5 and 15.6 respectively ($p<.01$). Secondly, the disabled secondary level pupils were weaker at spellings than were the controls. The mean standardised score on the DAT was 93.3 and 102.4 respectively ($p<.01$). There were no differences of statistical significance in the educational attainment of the disabled children with or without neurological impairments.

Social and Emotional Adjustment

Childrens Self-Ratings:

Analysis of the data in relation to personality and self-concept produced few significant differences. The EPSQ, CPQ and HSPQ showed that only one of the 16 factors yielded a statistical significant difference between the disabled children and their controls. Namely, the disabled children were less outgoing than were the non-disabled. The mean sten scores were 5.06 and 5.86 respectively (t-value = 2.41, df65, $p<.01$). The disabled girls were significantly less outgoing than the non-disabled girls. The mean sten scores were 4.5 and 6.1 respectively (t-value 2.86, df2 1, $p<.01$).

The results from the Piers-Harris Self-Concept scale indicated that the disabled children had lower self-esteem than the non-disabled children. The mean scores were 56.5 and 59.9 respectively. The difference between the means were however, not statistically significant (t-value = 1.68, df 67).

Parent and Teacher Assessments

The behaviour of the children as assessed by the parents in the Burks' Behaviour rating scale showed that only two of the nineteen individual items were found to be statistically significant. The disabled children had poorer attention ($p<.01$) and were more aggressive than were the non-disabled children ($p<.01$). Neither of

these behavioural categories was found to be significant among the teacher ratings.

The teachers, however, assessed the disabled children as being more withdrawn ($p<.001$), more dependent ($p<.01$) and as having poorer ego strength ($p<.01$) than the non-disabled children. From table 5 it can, however, be seen that these behaviours characterise only a minority of the disabled pupils.

TABLE 5 Teacher Assessments of the Burks' Behaviour Rating Scale

Behaviour Item	Not Significant		Significant		Very Significant	
	Disabled	Non-Disabled	Disabled	Non-Disabled	Disabled	Non-Disabled
Excessive Withdrawal	45	58	16	7	5	1
Excessive Dependency	58	65	8	1	0	0
Poor Ego Strength	53	62	13	4	0	0

In addition the teachers rated the disabled pupils on the above scale as being poorer in 'intellectuality' and 'academics' than the non-disabled. Out of the 66 disabled pupils on whom there were ratings, 15 of them were rated as 'significantly poor' and a further one as 'very significantly poor' in intellectuality. Furthermore 10 disabled children were rated as 'significantly poor' with a further six as 'very significantly' poor in 'academics'.

DISCUSSION OF THE FINDINGS

The results obtained show that there were few statistically significant differences in the overall educational attainments and psychological adjustment of children with or without physical disabilities. These findings therefore support earlier claims made by Anderson (1973), O'Moore (1981), Hegarty et al (1981) and Baker and Bovair (1989) that children with physical disabilities in ordinary schools perform adequately and are able to cope as satisfactorily as their ordinary peers.

The differences in arithmetic skills which were found between the disabled and non-disabled infants and first class children seem to be attributed to the very poor performance of one disabled child. Furthermore the weaker performance in spellings which was reflected among the second level disabled children may be related to the discrepancy which was found in the intellectual abilities of the 2nd year disabled pupils and their controls.

Previous studies have emphasised the role played by the presence or absence of a neurological handicap on the academic achievement and psychological development of a disabled child (Rutter et al, 1970, Anderson, 1973, O'Moore, 1980). The present study however, found that children with neurological impairments did not differ significantly from those without neurological adjustment.

It is of note, that the teachers in this study were more negative in their judgements and assessment of the disabled children. They tended to assess them as having poorer qualities or lower abilities than the non-disabled, yet these findings were not confirmed by the objective tests used in the study. The discrepancies found may be a reflection of stereotype views of disabled children as a function of inadequate training in special education.

The differences which were found between the disabled and their controls with regard to the level of withdrawal behaviour, dependency and ego strength suggest that extra care needs to be taken to ensure that children with special needs are adequately supported by both their teachers and their peers. Indeed examination of the social relationships of the present sample of disabled children which it is hoped will be published at a later date, indicated that greater awareness and instruction in the subject of handicap both at teacher training and in-service level is needed. Guidelines from the Departments of Education and Health as proposed by the Special Education Review Committee (Department of Education, 1993) should also be issued without delay. However, as integrated education puts a tremendous responsibility on teachers, the role of support teachers cannot be underestimated. Namely, support teachers would offer assistance in the context of the classroom/school activity and thus contribute to the academic, social and emotional development of children with physical disabilities. They would also liaise with parents wherever necessary. If conditions of employment were made attractive experienced teachers from special schools would be uniquely placed to take up such posts.

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