

INTEGRATING YOUNG CHILDREN WITH DOWN'S SYNDROME

Gaze, Play and Vocalisation in the Initial Encounter

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INTRODUCTION

Since the publication of the Court (1976) and Warnock (1978) reports, the Education Act (1981) and the Education (Special Education Needs) Regulations (1983), it is now public policy to integrate Down's children into normal schools and playgroups. However, little guidance is available on how to maximise the benefit accruing to the Down's child. Older normal children and adolescents may have some understanding of mental handicap but preschool and primary children probably do not. The nature of their reaction to Down's children is clearly of interest since it will be likely to affect the success of attempts at integration at that level.

Sinson and Wetherick (1980, 1981a) observed seven Down's children, each of whom was enrolled in a different playgroup catering for normal children and had attended for a period of up to two years. Interactions were recorded on videotape from two opposed cameras. Two of the children were observed on the first day in their playgroups and were at first the centre of attention in the group. Within a few weeks however, the other children had lost interest in them and they became increasingly isolated. In time all the Down's children became isolates in their groups. From the videotape records it appeared that the Down's child failed in some way to respond to the advances made to him or her by the other children. We hypothesised that this failure might be due to an inability to observe the conventions of mutual gaze that are observed in interactions between normal children. McGrew, for example, (in Blurton-Jones, 1972) reports a finding, on introducing normal three-year-olds to a new nursery group, of 'visual inspection - staring while immobile (often by upright children engaged in activity)'. He also reports children walking towards a new child 'maintaining visual inspection which seems to focus on the face'.

Sinson and Wetherick (1981b, 1982) observed Down's children individually in home, playgroup, nursery and school environments and it appeared that the hypothesised conventions of mutual gaze might only apply at first meetings between individuals unknown to each other. Observations in the home showed no mutual gaze between Down's children and their siblings, but also none between the normal siblings as they played. Mutual gaze was not observed in either the home or the school environment between familiars. This finding was supported by experimental observations of groups of four three-year-old children. An unknown normal or Down's child was introduced into each group and mutual gaze was observed as a preliminary to interaction between members of the group and the introduced normal child but not between members of the group and the introduced Down's child. Several of the normal children did make an approach but more frequently the reaction of the normals was withdrawal as far as the limits of the play area permitted.

The evidence was that interactions between normal and Down's children failed at the outset in this situation, although sibling interaction in families containing a Down's child was satisfactory and apparently unaffected by the condition of the Down's child. Advances in our understanding of the normal child's behaviour

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seemed most likely to follow from detailed observations of normal children meeting a Down's child for the first time. We designed a situation which posed the fewest possible problems for the normal child, so maximising his confidence in the interaction. Encounters were videotaped between normal children aged $2\frac{1}{2}$ to 6 and Down's children aged 3 - 6. Each normal child met one Down's child only, of the same sex. The encounter took place in the normal child's own home and in the presence of his mother and the mother of the Down's child. By previous arrangement the room had been cleared of the normal child's own toys. A Fisher Price fire station was provided and the children played with it for a period of fifteen minutes while their mothers chatted. Every effort was made to simulate a normal visit between neighbours with children of similar ages. The videorecording concentrated on the normal child's reactions but was not intrusive. Children of this age very quickly lose interest in the camera and get on with what they are doing. They were under the impression that the camera was there to take a photograph of the fire station at the end of the play session. The behaviour of normal children meeting other normal children in this kind of situation is well known but as an additional control two groups of eight normal children (one male and one female) were videotaped meeting a normal guest child of the same age and sex as the Down's child they had previously met. The method of observation employed was derived from human ethological studies and is often termed 'childwatching' by its practitioners (e.g. Bruner, 1980). It draws from the combined experience of workers in ethology and in developmental, educational, social and experimental psychology. "An enormous amount has been learned about observing children in natural settings in the last decade - partly ironically enough, thanks to the pioneering work of the field ethologists who have taught us so much about how to observe creatures of any species, bird, ape or man." Bruner (op. cit., 1980).

METHOD

Subjects

104 normal children who had never met a Down's child participated in the study (48 male, 56 female). Each met one of the 13 Down's children (6 male, 7 female). The ages of the normal children were $2\frac{1}{2}$, 3, $3\frac{1}{2}$, 4, $4\frac{1}{2}$, 5, $5\frac{1}{2}$, 6 and of the Down's children 3, $3\frac{1}{2}$, 4, $4\frac{1}{2}$, 5, $5\frac{1}{2}$ and 6. In addition two normal children (male, $4\frac{1}{2}$; female, 3) were used as 'guests' in the control condition - meeting two groups of normal children who had already met a Down's child of the same age and sex as the normal 'guest' child. All the normal subjects had been tested on the Peabody scale and were within the normal IQ range.

Equipment

A Sony B/W video camera on a fixed tripod, with 6:1 zoom lens; a JVC VHS video recorder; an extension microphone; domestic lighting, as available in various homes. The B/W video camera was replaced by a JVC colour camera with 6:1 zoom lens and integral microphone half way through the series. The camera was operated by the author, JCS.

Procedure

Each Down's child was taken with his mother to the homes of eight normal children of the same sex aged $2\frac{1}{2}$, 3, $3\frac{1}{2}$, 4, $4\frac{1}{2}$, 5, $5\frac{1}{2}$ and 6. The children were asked to play with a Fisher Price fire station and to set it out ready for a fire, as a photograph would be taken of it when they had finished. This explained the presence

of the camera. The complete 15-minute session was videotaped. Older children were also told that JCS was seeing whether the toy was suitable for their playgroup and were asked their opinion at the end of the session. Any effects of age (within the range studied) on behaviour in this situation could in principle be detected.

Each normal child met a Down's child of his or her own sex. There is evidence that cross sex interactions sometimes produce different results in play encounters but we were primarily interested in gaze and in similar work by Jormakka (1976), Exline (1971) and Baxter (1970) no sex differences were found in frequency of looking at the face of the other child.

RESULTS

Each of the 120 fifteen-minute tapes was replayed and the normal child's behaviour was scored under four headings.

1. Amount of time spent looking at the face of the Down's child. (A permanent Multi-X record was made, to enable amount of gaze to be scored cumulatively and also accurately located within the 15-minute session.)
2. Amount of time spent playing with the toy.
3. Amount of time spent in co-operative play with the Down's child.
4. Amount of time talking - distinguishing between talk only to adults and talk which also involved the Down's child, however briefly.

1. Time spent looking at the face of the Down's child.

Table 1 shows the average time in seconds that the normal children spent looking at the face of the Down's child. The very high averages for 'Male, 2½-year old' and 'Male, 5½-year old' result from the highest individual looking scores recorded; 320 secs. and 278 secs. respectively. There was very great individual variability in scores which ranged from 3 secs. to 320 secs. and no effect of age of normal child was detectable. The normal children often sought reassurance by looking at their mothers. Most were unwilling to participate unless they were in a position to maintain periodic eye-contact with her. Table 2 shows the average time per visit (in seconds) during which each Down's child was looked at by the normal child. No age or sex difference is apparent. The very high average for 'Male, 6-year-old' results from the fact that the two highest individual scores mentioned above were both attracted by this Down's child.

		Normal children aged							
		2½	3	3½	4	4½	5	5½	6
M		117.5	49.8	40.3	56.7	47.8	40.8	93.5	25.5
F		56.3	61.6	52.9	66.7	65.0	36.7	52.1	39.1

Table 1 Average time (in secs.) that each normal child looked at each Down's child.

Down's children aged

	3	3½	4	4½	5	5½	6
M	64.3	42.9	36.4	41.6	34.3	—	104.6
F	57.1	29.5	64.6	51.5	42.3	70.3	61.4

Table 2 Average time (in secs.) during which each Down's child was looked at by each normal child.

The average looking times reported do not, so far, show how untypical this amount of looking is. In meetings between normal children of this age, specific prolonged looking at the eye region is confined to the initial stages of the interaction - after that the children merely glance occasionally at each other as required by the play situation. Table 3 shows that although most looking at the face of the Down's child occurred in the first minute, looking was still occurring in the fourth, seventh and tenth minutes.

	First Minute	Fourth Minute	Seventh Minute	Tenth Minute
M	11.8	3.9	2.4	2.7
F	10.8	5.0	3.0	2.7

Table 3 Average time (in secs.) spent by normal children looking at the Down's child; in the first, fourth, seventh and tenth minutes of the fifteen-minute period.

2. Time spent playing with the toy

As expected, each normal child spent most of the 15-minute period playing with the toy provided - which was both interesting and new to him or her.

3. Time spent in co-operative play

Table 4 shows that little co-operative play was observed, despite considerable verbal encouragement given by the mothers. The table shows total time in seconds and (in brackets) the number of normal children (out of eight in each group) who did play co-operatively. Altogether 77 normal children out of the 104 did not do so! Only the two youngest Down's children (i.e. the 3-year-olds) attracted a significant amount of co-operative play - this appeared to be due to their being classified as 'babies' by the normal children and treated accordingly.

Down's children aged

	3	3½	4	4½	5	5½	6
M	603 (5)	4 (1)	146 (1)	53 (2)	91 (1)	— —	204 (2)
F	603 (4)	166 (2)	89 (4)	145 (1)	259 (2)	0 (0)	52 (2)

Table 4 Total time (in secs.) during which co-operative play was observed between the eight normal children and the Down's child. Below (in brackets) is the number of normal children out of eight who contributed to the total.

4. Time spent talking: either to adults only or to adults and the Down's child.

Table 5 shows total time spent talking (in seconds) and the number of normal children who talked. Five male and 12 female children did not talk at all. Of the two 3-year-old Down's children, only the male attracted a significant amount of talk, as well as the co-operative play noted. Three of the male Down's children attracted no talk at all.

Down's children aged

	3	3½	4	4½	5	5½	6
M	241 (2)	424 (8)	152 (7)	174 (7)	260 (7)	—	305 (4)
F	66 (4)	181 (5)	218 (5)	246 (4)	126 (2)	28 (4)	65 (5)

Table 5a

	3	3½	4	4½	5	5½	6
M	572 (6)	0 (0)	51 (1)	0 (0)	103 (1)	— —	0 (0)
F	69 (1)	47 (2)	198 (3)	178 (3)	45 (1)	166 (4)	51 (1)

Table 5b

Tables 5 a & b Total time (in secs.) during which talk was observed. Below (in brackets) is the number of normal children out of eight who contributed to the total.
5a. Talk directed solely to one of the adults present.
5b. Talk directed at least in part to the Down's child.

Altogether 11 normal children out of 104 both talked to the Down's child and played co-operatively with him or her; 12 talked but did not play; 16 played but did not talk; 65 neither played nor talked. Of the 81 normal children who did not talk to the Down's child, 64 talked to one of the adults present.

5. Additional control subjects (see Table 6)

a. Time spent looking at the face of the guest

Two groups of eight normal children (one group male and one female) met a normal child of the same age and sex as the Down's children they had already met. The male group's average looking time was 16.1 secs for the normal guest and 49.6 secs for the Down's guest; the female group's averages were 11.2 secs and 72.5 secs respectively. Looking occurred only in the initial stages of the normal/normal interactions but continued throughout the normal/Down's interactions.

b. Amount of time spent playing with the toy

Both the male and female groups played for almost the whole period (13 - 14 mins) when the normal guest was present but only for 10 - 11 mins when the Down's guest was present. The normal guest was however, always encountered second.

c. Time spent in co-operative play

In the normal/normal encounters the amount of co-operative play in the male group was 406 secs (6 contributing) and in the female group 557 secs (6 contributing). In the normal/Down's encounters the amount of co-operative play in the male group was 43 secs (1 contributing) and in the female group 231 secs (6 contributing). In each case the normal child attracted substantially more co-operative play.

d. Time spent talking; either to adults only or adults and the guest child

The amount of talk in the normal/normal encounters was 502 secs for the male group and 341 secs for the female group. There was no case of talk being directed solely to an adult and all the normal children contributed. In the normal/Down's male encounters the amount of talk was 154 secs. - all directed to an adult; in the normal/Down's female encounters there was 76 secs of talk directed solely to an adult and 185 secs directed at least in part to the Down's child. Only two normal children contributed to the latter total.

<i>Type of Guest</i>	<i>Time Looking at Guest</i>	<i>Time playing with toy</i>	<i>Time in co-op. play</i>	<i>Time in vocalisation</i>
Normal	2' 09"	111' 08"	6' 46"	8' 22"
Downs	6' 37"	87' 33"	0' 43"	2' 34"

Male/Male Interaction

<i>Type of Guest</i>	<i>Time Looking at Guest</i>	<i>Time playing with toy</i>	<i>Time in co-op. play</i>	<i>Time in vocalisation</i>
Normal	1' 30"	104' 11"	9' 17"	5' 41"
Downs	9' 40"	84' 27"	3' 51"	4' 21"

Female/Female Interaction

Table 6 Total time (in mins. and secs.) of interaction between two groups of eight normal children and a normal or a Down's guest child.

DISCUSSION

Most non-human primate studies highlight the fact that the first introduction of a newcomer into a group may see important new social behaviour - the literature on the human child newcomer is however, sparse. After Washburn's (1932) lead the *only research into child newcomer behaviour* has been produced by McGrew (1972) in England, Jormakka (1976) in Scandinavia and Gottman (Asher and Gottman, 1981) in America. Gottman has produced several studies in the last decade. None of these relate to handicapped children but all identify a particular pattern of behaviour (including visual behaviour) adopted by preschool newcomers to a peer group. Gottman hypothesises that unaccepted children in peer groups are still behaving as if they were newcomers, using a particular pattern of behaviour he terms 'hovering'. The first two stages of the present work (Sinson & Wetherick, op.cit.) highlighted similar patterns of gaze in group interactions between normal and normal newcomer children but patterns of gaze following introductions between normal and Down's children resulted in exaggerated and prolonged versions of the normal pattern. In Jormakka (1976) "the behaviour of unacquainted children in a two-child play situation was compared with the behaviour of well acquainted children . . . nonverbal acts and some aspects of speech showed considerable differences between strangers and acquaintances. Looking at the other's face, gaze avoidance, immobility and automanipulation were more frequent among unacquainted children and walking was less frequent among them". The initial encounter between unacquainted children usually began with gaze directed to the other's face in contrast to the acquainted children who hardly looked at each other. Jormakka concluded that looking played an important role in establishing contact between strangers. Her observational methodology was drawn from "categories adopted from ethological child studies" but videotape was not used. Since immobility was fairly common amongst strangers during the first minutes of observation, looking probably served at first as a means of reserved scrutiny of the other child "since long gaze correlated with automanipulation in unacquainted children - neither being observed in the acquainted children". Jormakka concluded that her two-child encounter resembled closely the behaviour of new children entering the nursery school group described by McGrew (1972). "Prominence of looking, automanipulation and the relatively small amount of locomotion and speaking were characteristic of behaviour in both cases." Similar behaviour was also observed in the videotapes of Sinson and Wetherick (op.cit.), where it occurred during the first five minutes of encounters

between unacquainted children. The results of the present study indicate a similar pattern of gaze and automanipulation in the initial stages of the normal/normal encounters which subsequently disappeared - whereas the normal/Down's encounters show an exaggerated form of this behaviour which is still occurring (when time sampled) in the 4th, 7th and 10th minutes of the encounter.

Bearing in mind that the normal children were in the most reassuring situation possible for them (i.e. in their own home, in the presence of their own mother and the mother of the Down's child) the degree of unwillingness to talk to, play co-operatively with, or interact in any way with the Down's child was remarkable. It was clear that the normal children were aware of the abnormality of the Down's child, even though none of them had any relevant previous experience and none were forewarned that there would be anything unusual about the visitor. Both mothers urged their children to interact - but to no avail. The results show that these difficulties did not arise in the unacquainted normal/normal encounters. The expected pattern of gaze was observed briefly in the initial stages of these encounters and the children then played co-operatively, talking happily to each other as can be seen in the videotape (Sinson and Wetherick, 1985). The youngest (3-year-old) Down's children attracted more interaction than the others because the normal children classified them as babies for whom (in their family experience) special allowance had to be made. It appears that regular contact with a Down's child from birth may permit successful interaction with him or her at a later stage, which could account for the successful interactions we had previously observed in families containing a Down's child with normal siblings.

One of the objects of this study was to establish whether there was any particular age or set of circumstances for young normal or Down's children at which integration should ideally commence. Subsequently they may attend toddler group the youngest Down's children that mix most easily with normal children, especially if both mothers are present. All three studies show evidence that the Down's child is willing to mix with other normal children and, given the opportunity, demonstrates an adequate amount of social and intellectual competence to sustain social relationships, whereas the normal child shows no wish to interact with the Down's child. The ordinary family situation of neighbours visiting each others homes to enable their normal and Down's children to play together may be the point at which integration should ideally commence. Subsequently they may attend toddler group together, with their parents. This would help to ensure that the young Down's child does not enter toddler group (and subsequently nursery or playgroup) as an isolate. It seems unlikely that successful social integration can be made to occur by the presently prevailing method of introducing one Down's child into an unknown pre-school peer group or reception class.

SUMMARY

Earlier studies of the introduction of Down's children into groups of normal children of the same age showed that the Down's child remains isolated in the group. An observational study was conducted (using videorecording) of same sex play encounters between a Down's child aged 3 - 6 ($n = 13$) and a normal child aged $2\frac{1}{2}$ - 6 ($n = 104$), in the normal child's own home and in the presence of both mothers. The Down's children again showed themselves able and willing to interact with the normal child but the normal children were clearly aware of the Down's child's abnormality (though without relevant previous experience) and their behav-

our showed evidence of the exaggeration and prolongation of patterns of behaviour involving gaze that are normal between children meeting for the first time but quickly disappear in a normal/normal encounter. Distortions were also observed in patterns of play and vocalisation.

Only the youngest Down's children (three-year-olds) were acceptable to the normals possibly because they were classified as 'babies' and treated accordingly. This may explain why an earlier study found no problem in interactions between Down's children and their normal siblings in the family situation.

Integration of the Down's child (in the age-range studied) is more likely to be achieved if he or she is young enough to benefit from being classified as a 'baby' (for whom special allowance must be made) and if he or she has the benefit of prolonged contact with normal children in the neighbourhood and family play situations with mothers present, from an early age.

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References

- ASHER, S. R. & GOTTMAN, J. M. (1981) *The Development of Children's Friendships*. New York: Cambridge Univ. Press.
- BAXTER, J. C. (1970) Interpersonal spacing in natural settings. *Sociometry*, 33, 444-456.
- BLURTON-JONES, N. G. (1972) *Ethological Studies of Child Behaviour*. London: Cambridge University Press.
- BRUNER, J. S. (1980) Oxford Pre-School Research Project (5 vols.) *Under Five in Britain*. London: Grant McIntyre.
- COURT (1976) *Fit for the Future*. Report of the Court Committee of Enquiry into Child Health Services. Cmd. 6684. London: HMSO.
- DEPARTMENT OF EDUCATION AND SCIENCE, DES & DHSS Circular 1/83 31st January 1983. "Assessments and statements of special educational need".
- EDUCATION ACT 1981: HMSO 1981 0105460818.
- EXLINE, R. V. (1971) The glances of power and preference. In Cole, J. K. (Ed.) *Nebraska symposium on motivation*. Lincoln: University of Nebraska Press.
- JORMAKKA, L. (1976) The Behaviour of children during a first encounter. *Scand. Psychol.* 17, 15-22.
- McGREW, W. C. (1972) Aspects of social development in nursery school children with emphasis on introduction to the group. In *Blurton-Jones (1972)*.
- SINSON, J. & WETHERICK, N. E. (1980) *Katy Goes to Playschool*. Videotape.
- SINSON, J. & WETHERICK, N. E. (1981a) The behaviour of children with Down's Syndrome in normal playgroups. *J. Ment. Defic. Res.* 25, 113-120.
- SINSON, J. & WETHERICK, N. E. (1981b) *What Katy (and Anna, Rachel, David etc.) Did Next*. Videotape.
- SINSON, J. & WETHERICK, N. E. (1982) Mutual gaze in pre-school Down's and normal children. *J. Ment. Defic. Res.* 26, 123-129.
- SINSON, J. & WETHERICK, N. E. (1985) *Integrating young Down's children*. Videotape.
- WARNOCK (1978) *Special Educational Needs*. Report of the Warnock Committee of Enquiry into the Education of Handicapped Children and Young People. Cmd. 7212. London: HMSO.
- WASHBURN, R. W. (1932) A scheme for grading the reactions of children in a new social situation. *J. Genet. Psychol.* 40, 84-99.

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