

## ELECTIVE MUTE CHILDREN: PSYCHOLOGICAL DEVELOPMENT AND BACKGROUND FACTORS

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### INTRODUCTION

THERE are many forms of mutism. For convenience, mutism may be divided into that with a presumed biological basis and that which is considered to be psychological. The first type includes mutism which is sometimes associated with profound deafness, serious mental handicap, infantile autism or akinetic mutism.

There are two types of psychological mutism. Both have a dramatic presentation, and both are rare. The first is traumatic mutism, which has a sudden onset immediately following a psychological or physical shock and hence is considered by some to be a hysterical phenomenon. If novels are to be believed, this is a common event resulting from a traumatic emotional experience. While the theme is attractive in fiction, in fact we know of only one case presenting with this history in a fifteen-year period in a very busy health service and University Psychology and Psychiatry department.

The second type is elective mutism, a strange condition where talking is confined to a familiar situation and a small group of intimates. The usual account by the parents is that early speech development appears normal and for the next few years the parents have no anxieties about the child's general development. Later it becomes evident, even to parents, that the child has become unduly shy in the company of acquaintances or relatives beyond the immediate family group, particularly when away from the home. Much of our knowledge about this condition is derived from published studies of a handful of cases. So far there has been little attempt to gather together a sufficiently large number of electively mute children to allow even simple statistical analysis of the data or to compare them with a control group. This was the aim of the present study.

### REVIEW OF THE LITERATURE

Ten years before Kanner (1943) produced the classical description of infantile autism, Tramer (1934) coined the term elective mutism for an equally strange group of children who spoke with only a small group of intimates in specific situations, the most common of which was the child's home. Not until the 1950s did the condition begin to attract wider attention. Because of its rarity much of our knowledge about

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elective mutism comes from individual case reports or small samples with no control groups. In a recent review Rutter (1977) describes some of the other clinical features of the condition. Most elective mutes show temperamental features which are abnormal in some respect, some being apathetic and withdrawn, while others are timid, anxious and fearful. In most cases there are other indications of emotional disorder. Often the children are very dependent on their parents and strongly tied to their mothers.

One of the few investigations with a sample sufficiently large as to allow statistical analysis was that of Wright (1968), who studied a sample of 24 elective mute children aged five to nine years. Unfortunately, there was no control or comparison group. Brown and Lloyd (1975) surveyed all primary schools in Birmingham using a questionnaire approach—theirs is a study of prevalence of “non-speaking at school” in reception classes (children around five years of age). About 8 weeks after starting school, 42 out of 6072 children were not speaking at all (7.2 per 1000). The mildness of the condition is evidenced by the fact that some five months later about 20% of these previously non-speaking children were speaking frequently or occasionally to their teachers and 40% to other children. Unfortunately, complicating ethnic factors (some 24% of the controls and 41% of the non-speaking children came from West Indian or Asian immigrant families), the broadness of the ascertainment criteria and thus the mildness of the condition studied make for difficulties in interpretation of their findings in relation to sex ratio and family size.

On the other hand, even where there is a large sample, if the research does not address itself to the concept of elective mutism and the selection of such cases with sufficient rigour, it may give rise to more confusion than clarity. For instance, Hayden (1980) reports on 68 cases of elective mutism but there are questions about her methods. First, the diagnostic criteria are wide and loose; second, the duration of mutism may be as brief as eight weeks; third, in some cases the mutism appears to be total; fourth, there is inadequate specification of the settings in which the child speaks or refuses to speak; and, finally, there are no controls. Furthermore, three of the four groups described appear to have little in common with elective mutism as classically described; there are seven cases of speech phobic mutism, in which the child has an active fear of hearing its own voice, but a number of other features suggest a mild autistic condition; there are fourteen cases of reactive mutism, which resemble the condition which we have described as “traumatic mutism”, and sixteen cases of passive-aggressive mutism, which seems to include a number of inarticulate, withdrawn children presenting with aggressive antisocial behaviour. Only the thirty-one cases of symbiotic mutism have features which are more compatible with those described in the literature—the children cling to their mothers in a “symbiotic way” and while presenting an inhibited and sensitive exterior, are negativistic and controlling of adults, with their mutism appearing to have a manipulative purpose. However, even in this group there are some discrepant features: for example, most of the children are reported to be both submissive (100%) and stubborn (90%) at school, whereas only 3% are described as shy. Furthermore, in no other authenticated series of elective mutism is severe withdrawn catatonic-like behaviour described. In 79% of the reactive and 31% of the passive-aggressive groups, psychotic or prepsychotic behaviour in adolescence was reported

(most of the children in the speech phobic, reactive and passive-aggressive groups). In addition, three-quarters of the children suffered physical abuse severe enough to warrant investigation by the police. Finally, the large size of this sample is not consistent with the rarity of the condition as indicated by epidemiological research. We must, therefore, conclude that Hayden's is a rather unrepresentative sample, hence the unusual diagnoses and findings.

In a pilot study of pre-school children which preceded a study of children with speech delay (Fundudis *et al.*, 1979), two of the workers (Kolvin and Nolan) observed that unusual shyness occurred frequently, especially in girls, but tended to be transient. This consisted of a tendency to speak in a soft voice or an unwillingness to speak to their mothers or play in the presence of strangers; a tendency to cling and hide behind their mother's skirts; and a reluctance to respond to advances or coaxing. They concluded that a distinction had to be made between such transient states and shyness that was pathological both in its severity and duration. Members of the Newcastle department therefore use more rigorous criteria and define elective mutism as persistent, severe and pathological shyness beyond the home situation which is usually associated with abnormalities of temperament and relationships of the child with his/her mother. If the mutism had been evident at the start of school life then it had to show no signs of abating even over the infant school period. If the mutism appeared to have a later onset there had to be no evidence of diminution over a period of at least a year (Gonzalez, 1980). In consequence, Kolvin *et al.* (1979) point out that the prevalence rate of elective mutism is dependent on whether it is broadly or narrowly defined. If the condition is broadly defined, then a fairly large number of children who are unwilling to speak when they start school or nursery school will be labelled elective mutes.

The Newcastle Epidemiological Study (Fundudis *et al.*, 1979) attests to the rarity of the condition when more narrowly defined. Only two electively mute children recorded in a total city cohort of 3300 seven-year-old children based on the definition of inordinate selective shyness of strangers severe enough to persist into the seventh year of life. On the basis of this fairly narrow definition it was found that elective mutism occurred in 0.8 per 1000 of seven-year-old children. In theory, it is possible that electively mute children could have slipped through the screen, which was applied when the children were younger, but this is unlikely because, in addition to applying the screen, these workers examined all children of that age in special schools or institutions or referred by educational specialists in the city of Newcastle upon Tyne. As a number of these children improve with age, the prevalence rate is likely to be even lower in older children. At first sight it would appear that these Newcastle findings do not coincide with those of Brown and Lloyd (1975) with their report of a prevalence of 7.2 per 1000 of children who do not speak at school at the age of five. However, not only do they use a rather broad definition, but in addition, these numbers gradually declined so that 10 to 12 months after starting school 0.33 to 0.66 per 1000 were still not speaking at school. Hence, when considering *persistent* elective mutism the rates are broadly comparable. Nevertheless such rates must constitute only rough guides to prevalence as the sizes of the population studied were not large enough to produce reliable prevalence figures for relatively rare conditions. Furthermore, the Newcastle Epidemiological Study relied on individual

clinical assessments whereas Brown and Lloyd report that they used "a questionnaire technique requiring unsubstantiated statements from the child's parents . . . which is likely to reduce the accuracy and reliability of the data".

Mention must also be made of the personality deviation of childhood originally described by Asperger (1944) comprising gross lack of skills in social diplomacy associated with a degree of naïveté giving rise to an impairment of social relationships. He thought this personality variant might be transmitted genetically. Unfortunately, he gave it the confusing label of "autistic psychopathy". Van Krevelen (1971) has postulated that such a personality variant could be turned into an autistic psychosis by earlier brain damage. More recently, Wolff and Barlow (1979) have described "schizoid personality in childhood". They report the following clinical features—predominantly school age boys with difficulties of social adjustment at school. The majority were of average or above average intelligence; described by their parents as solitary and finding social activities to be stressful; also displaying negativism, obstinacy and aggressive outbursts in response to pressures to conform. Clinical examination revealed emotional detachment; a lack of empathy and sensitivity for the feelings of others; lack of adaptability at times achieving obsessional proportions; some attempted to avoid going to school, many refused to do games and a few refused to speak in class.

Several important issues have not yet been the subject of systematic adequate research.

1. Time of onset of mutism and, more specifically, whether there is a period of normal development (Salfeld, 1950; Reed, 1963). This includes comments on personality. In other words, is elective mutism a disorder with a definite onset of a lifelong personality deviation?

2. Are the developmental milestones achieved normally?

3. Are there any associated speech and language problems? Wright (1968) describes these as occurring in about 20% of cases and, in such cases, Rutter (1977) suggests that some of the children avoid speaking to cope with the teasing they receive because of mispronunciation.

4. Are there any associated neurological or auditory abnormalities?

5. Are there any cognitive abnormalities?

6. Do the electively mute children have any characteristic personality or temperamental abnormalities or any associated psychiatric abnormalities?

7. Is there a relationship between elective mutism and schizoid personality in childhood (Asperger, 1944; Wolff and Barlow, 1979)?

8. Is there a subgroup of cases with a common psychogenic origin?

The most commonly described interpersonal abnormality is of an over-dependent child and an over-protective and domineering mother. Faulty mother-child relationships are described as commonly occurring in the 27 cases described by Parker *et al.* (1960); others incriminate a family neurosis (Brown *et al.*, 1963) and another author lays stress on traumatic psychological experiences in infancy (Salfeld, 1950). In contrast, Reed (1963) did not find evidence of such infantile traumata (admittedly in only four cases).

9. What is the long term outcome?



TABLE 1. CHILD DATA

	Normal control group	Speech retarded controls	Elective mute group
Size of sample $n =$	102	84	24
Sex			
Girls	37 (36%)	30 (36%)	13 (54%)
Boys	65 (64%)	54 (64%)	11 (46%)
Mean size of sibship	3.37	4.35	3.5
Milestones			
1. Walking alone (mean age in months)	13.1	14.3	14.7
2. Speaking, i.e. use of phrases (mean age in months)	21.9	—	27.3
Bowel and bladder*			
1. Enuresis	15 (15%)	21 (25%)	10 (42%)
2. Encopresis	2 (2%)	6 (7%)	4 (17%)

\*In the case of bowel and bladder data the size of the sample of the speech-retarded group is reduced to 80.

### METHOD

One of us (I.K.) has, for many years, run a regular clinic for children with speech, language and behaviour disorders. Despite the large population served by this clinic, the number of children referred every year with elective mutism proved to be remarkably few. We therefore approached other agencies, such as general paediatric, speech, child psychiatry and child guidance clinics, both locally and in widely surrounding areas, who were likely to have electively mute children referred to them. In this way, over a period of about five to six years, we were able to collect a group of 24 electively mute children.

During the same period we had access to a population sample of 102 speech-retarded children and their matched control group, matched on three criteria—age, sex and postal district. However, in subsequent analyses the individual matching was not maintained—the total control group was used for every comparison (Fundudis *et al.*, 1979). These two groups of children were studied from the ages of six to eight years. The average age when the elective mute children were first diagnosed was 6 years 10 months with a standard deviation of 1 year 3 months. Obviously, the presentation and natural histories of the speech-retarded group of children ( $n = 84$ ), their matched control group ( $n = 102$ ) and of the elective mute group were different. Nevertheless, we considered that there were sufficient parallels in terms of age and broad type of problem for the population samples to provide appropriate comparison and control groups. To avoid confusion, we refer to the control groups specifically as “speech-retarded controls” and “normal controls”. Unfortunately, complete data were not always available for one or other of the samples.

### FINDINGS

#### Biological factors

*Sex.* There were slightly more electively mute girls (13–54%) than boys (11 = 46%). In contrast, among speech-retarded children there are almost twice as many boys (64%) as girls (Table 1). An important question is whether this ratio of girls to boys in elective mutism is a chance finding, because it is an extremely unusual sex ratio for child psychiatric disorders, where the reverse is usually true. However, the literature suggests that this is unlikely to be the case—first, Brown and Lloyd (1975)

report almost even numbers of boys and girls but their study is a rather special one with their data being confounded by their less rigorous diagnostic criteria and by the high rate of immigrants in the population studied (about 24% in their control group); second, Wright (1968) reports an even higher female:male ratio (2.4:1). It seems that elective mutism is more common in girls which is consistent with the fact that in pre-school children, emotional disorders of various kinds have at times been found to be more common in girls.

*Family size and birth order.* The elective mute children come from families of the same size as those of the controls. Of greater importance is the expected distribution of ordinal positions in relation to family size. The birth order data has been analysed using Slater's (1962) method. His formula expresses in the form of a coefficient the place in the sibship for an individual for any size of family except an only child. The numerical expression has a mean of 0.5 with limits of 0 and 1. The elective mute group are born significantly early in the sibship (a coefficient of 0.34). These findings do not coincide with those of Brown and Lloyd (1975) but we believe their family size and birth order data is likely to have been distorted by the high rates of immigrants in their sample.

*Perinatal complications.* Unfortunately, the perinatal data were not in a form that allowed valid comparison between the elective mute and control groups. All we can say is that 3 (12%) of the electively mute children had suffered significantly perinatal complications. The only other comparable clinical information related to a previous study of autistic children where the rates, using similar criteria, were at least three times as high in the case of the autistic children (Kolvin *et al.*, 1971). This suggests that the rates we found in the elective mute children are not particularly high.

*Milestones.* Comparable data on walking and talking were available for only 21 of our electively mute children and were based on information provided by the parents, usually when the children were more than five years old. Such information is, therefore, retrospective and is in contrast to the earlier and therefore more reliable information on milestones which was available for the population samples (Fundudis *et al.*, 1979).

While the mean age of walking alone was slightly later than that of the controls for both the speech-retarded group and the elective mute children, it was not significantly so. On the other hand, the elective mute children spoke significantly later than did the children in the control group. Furthermore, about 10 (42%) of the elective mute children were bed-wetters and 4 (17%) were soilers (defined as incomplete bowel or bladder control at the age of six or older); as compared with about 15 (15%) of the controls and 21 (25%) of the speech-retarded children who were bed-wetters, and 2 (2%) of the controls and 6 (7%) of the speech-retarded children who were soilers. The rates of enuresis and encopresis were therefore significantly greater in the groups of elective mute children than in the control group.

*Speech and hearing impairment.* Vigorous efforts were made by speech therapists over a period of months to assess directly the speech of the electively mute children. In many cases, this was achieved only by indirect means such as the use of audiotapes of conversations while the child was speaking to an intimate. Using such clinical methods, it was found that 12 (50%) of the elective mute children had immaturities of speech and/or other speech difficulties. An important question

concerns the rate of residual speech problems which are to be expected in infant school children. Morley (1965), in her population survey of Newcastle upon Tyne, using a clinical approach, reports a 6% rate at six and a half years. In our own epidemiological study of infant school children (Fundudis *et al.*, 1979) the children's speech was not categorized as normal and abnormal but rather scored on the Edinburgh Articulation Test (Anthony *et al.*, 1971). The only guide available from this latter research is that 9 (9%) of the normal control group had high scores (that is one and a half standard deviations beyond the mean). Thus from the evidence available to us, the rate of speech abnormalities in the elective mute group of children is particularly high.

Wright (1968) reports such speech problems in only 20% of his cases but, as we emphasize later, his was a school sample and therefore likely to contain less severe cases: ours was a clinic sample and likely to contain more selected and therefore more severe cases. Such differences in severity are likely to be the basis of differences in incidence of speech problems in studies of elective mute children reported in the literature.

Finally, the hearing of the elective mute group did not differ from that of the controls.

*Physical abnormalities.* In nineteen of the twenty-four children EEG records were available in our department and in one additional case there was a clinical history of epilepsy. Analysis of the data on the above twenty children revealed that three of these had a history of clinical epilepsy and/or clear cut pathology on the EEG (that is spike and wave phenomena). In an additional three cases the EEGs were described as immature. These findings are in keeping with evidence of developmental immaturity described earlier.

*Onset and personality.* Evidence of insidious development of shyness from the earliest years of life was found in 19 (over 80%) of our cases, and only in 3 (12%) was there a suggestion that it had emerged more suddenly at a later age. However, examination of our case records suggests that, even with the supposedly more acute onset, the condition may have remained unrecognised or may not even have been considered by the parents as unusual until the essential abnormality becomes drastically obvious when the child enters the school setting. This is similar to Wright's (1968) descriptions of 80% of this cases, in whom there was an insidious onset of excessive shyness and failure to talk to strangers, while the other 20% had an abrupt onset of mutism at the time of school entrance.

Apart from shyness and a great determination not to communicate verbally, the children displayed a wide variety of personality patterns, often with a complex personality picture. We almost invariably found a streak of negativism and poor malleability both at school and at home; this was minor in some cases and marked in others. After careful study of the case notes we classified the subsidiary personality patterns, as they present in social situations, as submissive; sensitive and weepy; and moody—aggressive, sulky and stubborn.

The most common patterns, seen in half the children, was of sulkiness and aggressiveness, with the child presenting as rather sulky to strangers and rather aggressive at home. This was underpinned by what has been described as a "will of iron" with the children invariably getting their own way. About one-quarter

combined shyness in social situations with an apparently submissive attitude in the home and the other quarter seemed to be very sensitive children who tended to weep and be easily distressed either in social or home situations.

*Social relationships and behaviour.* We also studied the children's relationships with both adults and with peers. We were interested in whether elective mutism appeared to be more severe in relation to adults or to peers. Careful study of the details in the case notes provided a rather varied picture and after careful consideration we decided to classify such relationships into three broad categories. First, where withdrawal was greater in relation to peers; second, where withdrawal was greater in relation to adults, and third, where it was equal. Withdrawal proved to be more frequent in relation to peers than in relation to adults—indeed, we found that in 8 (33%) cases the withdrawal was greater in relation to peers, in 14 (58%) cases there was an equal degree of withdrawal in relation to peers and adults; in only 2 (8%) cases was the withdrawal greater in relation to adults. Again these findings in relation to a clinical sample appear inconsistent with the findings in the Brown and Lloyd study (1975) of children not speaking at school, which found greater reluctance to speak to teachers than to other children at school. However, not only are these differences between the groups studied in terms of duration and severity of the problem but also as to the type of behaviour studied—in the Brown and Lloyd study it was in relation to speaking at school and in our study in relation to social withdrawal covered all situations outside the home.

We also studied the severity of social withdrawal in relation to both adults and peers beyond the immediate family. The picture was again varied with only 1 (4%) of children being slightly withdrawn in relation to adults, 12 (50%) being moderately withdrawn and 11 (46%) being seriously withdrawn. In contrast, 8 (33%) were moderately withdrawn in relation to peers and 16 (67%) were seriously withdrawn.

In addition to studying the personality and temperament functioning of the elective mute children, we investigated their behavioural problems. Of a wide range of abnormal behavioural characteristics, the principal ones were bowel and bladder control problems. Eleven (46%) of the 24 children either wet themselves or soiled themselves, either during the day or night, or both.

The next most common type of problem was excessive and unusual motor activity, which was displayed by 7 (29%) of the children. In essence, we observed two cases with overactivity and five cases with unusual motor movements, particularly grimacing and tics. Other problems included two children who were seriously obsessional, another who suffered from fainting attacks and yet another who developed sexual exhibitionism in adolescence.

In summary, of our 24 cases, there were 17 (71%) with associated behavioural problems, some of which were multiple and the most common of which were bowel or bladder problems followed by motor activity problems. Only in 7 (29%) cases were there no other associated problems.

*Intelligence.* Because of the nature of the handicap of the elective mute children, we discounted verbal I.Q. as a valid means of assessing intellectual ability, and instead used performance I.Q. as a major measure of level of intelligence. In the majority of cases the Wechsler Intelligence Scale for Children (Wechsler, 1949) was used; however, for a few younger children, we had to rely on the Merrill-Palmer Scale (Stutsman, 1948) which in the main is highly loaded with non-verbal items.



From Table 2 it can be seen that there is a step-wise progression of the mean performance I.Q. with the elective mutes having a mean I.Q. of 85, whereas that of the Residual Speech Retarded Group is 95 and that of the control group 101. In other words, the mean non-verbal ability of the elective mute group is even below that of children who previously had speech delay. Nevertheless, the performance I.Q. of the Elective Mute Group covers most ranges of intellectual ability with the majority of these children falling within the normal range of intelligence. However, there is a heavy concentration in the dull-normal and backward categories compared with the control group. Furthermore, about one in five proved to be of subnormal intelligence. The shift to the left in our sample of electively mute children appears even greater than that found in the Wright (1968) study but the percentage in the dull-normal group range and below is about the same in the two samples. Finally, we found a wide difference between the mean performance I.Q.s of the girls (89) and boys (79) but with the small size of the samples the difference did not achieve statistical significance.

TABLE 2. DISTRIBUTION OF PERFORMANCE I.Q. IN PERCENTAGES

I.Q.	Normal controls	Speech retarded controls	Elective mute
115+	12	8	0
100-114	44	30	14
85-99	37	41	48
84-70	7	20	19
69-	0.0	1	19
Size of sample	(n = 100)	(n = 82)	(n = 21)
Mean I.Q.	101.17	94.94	84.95

#### SOCIAL AND FAMILY FACTORS

*Social class.* The families of our elective mute children showed a fair spread across the social classes with slightly more families in lower social classes than in our control group. This slight downward gradient can be discounted. Wright (1968), too, describes electively mute children coming from a cross-section of socio-economic backgrounds. Brown and Lloyd (1975) report high rates in lower social classes but the findings are confounded by the presence of a high percentage of immigrants.

*Parental, psychiatric and personality disorder.* The literature is full of examples of abnormalities of parental personality and also parental psychiatric problems, which are often given as explanations for the elective mutism. In this paper we confine ourselves to a comparison of rates of personality and psychiatric disturbance within the families. The most common problem was in social relationships, in particular those involving serious aggression or considerable reserve or shyness among the parents. In 8 (33%) of the families one of the parents showed these personality patterns. In two more families there was evidence of other parental personality abnormalities. Considering all the personality problems, irrespective of type, we find that in 10 (42%) of the 24 families one of the parents had a personality which

can best be described as markedly unusual. Brown and Lloyd (1975) report that more than a half of the children who do not speak at school have at least one shy parent whereas in the case of the controls this occurs in less than 5%. Taken together these two rather different studies suggest the presence of important familial or genetic factors or influences.

The main psychiatric problems identified were severe neurosis in 4 (16.6%) of families and parental depression in another 4 (16.6%). Combinations of the above occurred in a number of families.

Perhaps a better way of looking at such parental personality and psychiatric problems is to see what percentage of families present with either a major personality or psychiatric problem or serious marital disharmony or combinations of these. This proved to be so in 58% of our cases (14 of the 24 families). Wright (1968) reports a higher percentage of disturbed families, i.e. about 75%, but his definition is wider because it includes reports of parental shyness in childhood. The only validly comparable information we had on the control and elective mute families was the percentage of parents who had been seen on an in-patient or out-patient basis at a psychiatric clinic. Five (20%) of mothers of the elective mutes had received specialist psychiatric help, compared with only 8 (8%) of the normal controls: (this difference, however, falls short of statistical significance). Four (16%) of fathers of elective mutes had received specialist psychiatric help, compared with 3 (3%) of those of the normal controls ( $p < 0.01$ ). These figures reinforce the view that there is an excess of psychiatric disturbance in the families of elective mute children. The question is whether this is a true excess, or whether it is determined by the families coming to the attention of the authorities because of their elective mute children. It was common to find an abnormally strong and persistent bond of interdependence between the mother and child; and often there were reports of the children having difficulty in separating from their parents. Our study can make no contribution to an understanding of the origins of such mother-child relationships.

In only two families one or other of the parents had had a speech problem.

*Significant separations during the formative years.* This was defined as separation of at least 6 months in the first 5 years of life. It occurred in 14 (14%) of the controls and 6 (25%) of the elective mute children but the differences were not significant.

*Siblings.* In only two of the families was there recorded evidence of disturbance amongst siblings severe enough to merit medical referral. In one of these there was clear-cut elective mutism and, in the other, severe shyness with overtones of elective mutism. It is interesting to note that Wright (1968) found three sets of affected siblings in his series; this suggests that in some case there is a familial basis. It must be emphasized that in our study none of the siblings were examined by the authors. In three families there was a sibling with mild or severe mental handicap and in another family there was a spina bifida child, making a rate, by family, of physical or mental handicap, of 4 (17%).

#### FOLLOW-UP

As we have had the opportunity of studying these children and following them for periods ranging from 5 to 10 years, we have been able to determine the long-term outcome while the children were still at school. (A longer term follow-up

beyond school age is currently being undertaken.) We emphasize that this is outcome against the background of the most intensive form of treatment that was available at that time. Nevertheless, we do not claim that the improvement was determined by treatment alone as we have no way of knowing what the rate of spontaneous improvement would have been.

Eleven of the 24 children improved. In all but one of these, the improvement occurred before the child was ten years old. Eight children had not improved by the age of ten and, when subsequently followed up, only one of these was found to have improved. It would, therefore, seem that when marked improvement occurs it does so before the age of ten, and those who fail to improve by this age are likely to be suffering from a more intractable form of elective mutism. This is in keeping with the impression that there was a good prognosis for later adjustment of the younger children (Wright, 1968).

We also studied the degree of improvement, although this was difficult to define precisely. We therefore adopted the broad definition of better social relationships with adults or peers. In this respect, we rated the children on a three-point scale as "marked improvement" (where the previous mutism was no longer evident), "moderate improvement" (where there was some slight residual evidence of elective mutism) and "no or slight improvement", the latter including suggestions by parents or teachers that the child was beginning to show signs of relating and speaking to either children or adults. By these criteria, 3 children (12.5%) were markedly improved, 8 (33%) were moderately improved and 13 (54%) were slightly or not improved. It is notable that behavioural improvement usually seemed to occur in parallel with improvement in mutism.

We decided to try to identify which children would improve. It must be emphasized that these are only pointers, because the sample was too small to allow for the emergence of statistically significant differences, even when the differences are substantial. The only trends we have been able to identify are that more girls (7 = 54%) than boys (4 = 36%) improved. There were no differences or even trends in relation to family size or ordinal position. There were no mean I.Q. differences between the group of children that improved and the group that did not. Overall psychiatric or personality disturbances of the children showed no differences. However, when we studied parental factors we found that 7 (54%) of those children who did not improve had parents with personality problems compared with 4 (36%) of those who did improve. Hence the family background may affect prognosis.

#### DISCUSSION

A review of our 24 cases of elective mutism suggests several possible aetiological factors. The reversal of the usual sex ratios reported in studies of psychiatric disorders of children is not easily explained. One possibility is that girls are more vulnerable to excess of temperamental abnormalities, especially where there is a familial predisposition to problems of social relationships. The delay in onset of speech milestones, excess of developmental mispronunciation and EEG immaturity tend to refute the hypothesis of a predominantly psychogenic basis and instead suggest that there may be an important maturational component which slowly diminishes with

age. This does not mean to say that other factors do not play a part. There appear to be important parental personality factors, but the mechanisms by which they exert their effect are not clear. Other possibilities which merit consideration are genetic transmission of an unusual personality pattern, or learned patterns of behaviour.

It is commonly alleged that there is an interval of normal development between development of speech and onset of elective mutism but, as described above, our data provide very little evidence in support of this view.

Another factor of importance is the intelligence of the children, where there is clear evidence of poorer non-verbal intelligence of the elective mute children and there is a high rate of associated behavioural problems. Thus, the problem is not only one of elective mutism but of a variety of associated psychological problems including speech, bowel and bladder function, and temperament. We do not know whether these problems are secondary to the mutism or have common antecedents to the mutism.

This research can make only a small contribution to the understanding of the fascinating condition of elective mutism. We believe that we are dealing with a heterogeneous condition—for instance, elective mute groups with or without personality problems in the parents and children who do not speak in schools with or without marked personality deviations in the child. Thus, not only is the picture of elective mutism a complex one but the evidence suggests that the etiology is multifactorial.

It is nevertheless worthwhile trying to undertake a preliminary review of the types of children who do not suffer from psychosis but who have serious difficulties in social adjustment at junior schools. The most common group is those children who simply do not speak at school entry. We believe that most of these are transient adaptation reactions to the usual stresses and strangeness of the new school situation which may simply be an extension of an existing family pattern of shyness or a modelling of social behaviour on parental reactions. Most of these (over 90%) improve spontaneously over the first school year (Brown and Lloyd, 1975). It is of note that immigrant children are particularly prone to this reaction (Bradley and Sloman, 1975; Brown and Lloyd, 1975)—for instance, in the Brown and Lloyd (1975) population study over 40% of the elective mute children were immigrants. From our own study we have come to the conclusion that the vast majority of children who simply refuse to talk on entry to the reception class not only differ quantitatively but also qualitatively from those who both present themselves as clinical problems and are diagnosed as such and that the term elective mutism should be reserved for the latter group. If such a distinction is not made there is the very real danger that a relatively large number of potentially normal children will be labelled pathological and meriting treatment. It is likely that the residual small percentage of children in the Brown and Lloyd (1975) study who did not speak even a year after starting school would be similar to those children clinically diagnosed as "elective mutes".

The next question is the relationship of elective mutism with schizoid personality in childhood. While both groups have initial problems of social adjustment mainly manifesting outside the home or school there are many important differences. While the schizoid group are often described by the mothers as "solitary", "remote"



and "strange" (Wolff and Barlow, 1979), in the case of the elective mute group the parents were often not aware that anything was unusual until the children entered school. The schizoid group are described as showing obstinacy and aggressive outbursts particularly when attempts are made to get them to conform but in the case of the elective mutes the obstinacy is more usually combined with greater withdrawal or retreat. In both groups there is evidence of lifelong personality deviations in most of the children rather than an illness with a definite onset (Wolff and Barlow, 1979). While obsessionality was universal in the schizoid personality group it only occurred occasionally in the elective mute group. By definition all the elective mute group did not speak outside the home or at school whereas in the case of the schizoid group only a few refused to speak in class; while delay in milestones and speech problems were common in the elective mute group, they are not reported in the case of the schizoid personality group. The mean performance I.Q. of the schizoid personality group (Wolff and Barlow, 1979) was similar to our elective mute group, probably because Wolff and Barlow (1979) matched their schizoid children for I.Q. with reasonably well functioning autistic children. Finally, the sex ratios are quite different—in the schizoid personality group it is 9 boys : 1 girl; whereas in the elective mute group it is the reverse, i.e. 1.1 girls to 1 boy. These sex ratios are difficult to explain, especially as a few of Wolff and Barlow's cases actually refused to speak in class and technically might be considered to be elective mutes. One explanation could be that a greater number of girls than boys with elective mutism improve in the course of time and that schizoid personality disorder constitutes the residuum of elective mutism. But our data does not fully support this theory as there is only a trend to greater improvement of girls than boys. Thus there is only tenuous evidence of a continuity of elective mutism in younger children into schizoid personality disorder in somewhat older children. The differences which exist, including those of sex ratio, suggests that the condition of elective mutism is mostly distinct from the condition of schizoid personality disorder—but there might be a marginal overlap between the two conditions.

Finally, an important point is the different rate of improvement reported by different research workers. Common clinical experience in the U.K. suggests that elective mutism is a rather intractable condition. Hence the 79% good to excellent short-term improvement described by Wright (1968) stands in sharp contrast to the 46% long-term improvement described in this study. The most obvious explanation is that Wright's simple diagnostic criterion of "refusing to talk at school" was less rigorous than ours. Hence his series was likely to contain a considerable proportion of cases with milder degrees of mutism and, indeed, spontaneously remitting shyness as the child became accustomed to the usual stresses and strangeness of the new school situation.

#### SUMMARY

Twenty-four elective mute children were studied—this proved to be a rare condition, affecting slightly more girls than boys. They were compared with 84 speech-retarded controls and 102 normal control children. The main findings in the case of the elective mute children were as follows.

1. Evidence of immaturity of development, particularly of speech, and an excess of speech abnormalities.
2. A higher rate of behaviour problems, and high levels of enuresis and soiling.
3. In the majority of cases, an insidious development of excessive shyness from the earliest years of life.
4. Performance I.Q. covering most ranges of ability, but with a significant excess in the lower ranges.
5. A high rate of psychiatric disturbance in the families of elective mute children.
6. And, finally, on follow-up, elective mutism proved to be a rather intractable condition.

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