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Sociodynamic relationships between children who stutter and their non-stuttering classmates

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Abstract

Background: Previous research has indicated that children who stutter are more likely to be bullied and to hold a lower social position than their peers who do not stutter. However, the majority of this research has used data from respondents who were in the educational system more than 20 years ago. The current policy on integration of children with severe disabilities into mainstream education and the increased awareness of bullying in schools would indicate that attitudes toward children who stutter might have changed in the intervening period.

Method: The study uses a sociometric scale (adapted from Coie, Dodge, & Coppotelli, 1982) to assess children who stutter in classroom groups with fluent peers. The peer relationships between 16 children who stutter and their classmates (403 children in total) were examined.

Results: Children who stutter were rejected significantly more often than were their peers and were significantly less likely to be popular. When compared to children who do not stutter, the children who stutter were less likely to be nominated as 'leaders' and were more likely to be nominated to the 'bullied' and 'seeks help' categories.

Conclusions: The changes in integration policy and the implementation of anti-bullying policies in many schools appear to have made little impact on the social status of children who stutter. The incidence of bullying and rejection reported in this study has implications for schools and clinicians.

Keywords

Bullying; peer relationships; social behaviour; sociometrics; speech disorder

Stuttering is a widespread disorder that, according to work in the United States, affects approximately 5% of the population at some time in their life (Conture, 1996). It is also reported that the disorder disproportionately affects children. The usual age of onset is between three and five years (Dalton & Hardcastle, 1977) but around 80% of young children who are diagnosed as stuttering recover to normal fluency during school years (Starkweather, 1985; Yairi & Ambrose, 1999). Around one in a hundred of the adult population persist in their stuttering (Andrews & Harris, 1964; Bloodstein, 1987). The British Stammering Association consider that roughly 1 in 80 children in UK schools stutter.

This study examines acceptance of children who stutter by their peers. Peer rejection and bullying can have severe and long-lasting effects, as shown in the review by Parker and

Asher (1987). They examined low peer acceptance or peer rejection and their influence on later personal adjustment problems such as depression and early school dropout. Also, Sharpe (1995) found that pupils who were persistently bullied in school were likely to experience physical illness, sleeplessness and difficulty in concentrating on schoolwork. Hodges and Parry (1996) identified three peer-related factors that increased the risk of a child being bullied – few friends, low-status friends and rejection by peers. O'Moore and Hillery (1989), Martlew and Hodson (1991), Nabuzoka and Smith (1993) and Whitney, Smith, and Thompson (1994) have all reported that children with special educational needs are more susceptible to bullying than their peers, and are more likely to have few friends and be rejected.

The reason for thinking that social acceptance might affect children who stutter is that they are often reluctant or unable to participate verbally in school activities (or social groups in general). In turn, this may lead them to be seen as shy or withdrawn and possibly, because of these perceived characteristics, to have difficulties in peer relationships, making them targets of bullying. There is some previous research investigating sociodynamic factors and their relationship to stuttering and this is arranged for review under the techniques they have used. It is apparent that the majority of this research was carried out over a quarter of a century ago and, although useful from an historical perspective, may or may not be relevant to present practice (thus, highlighting the need for work on this topic in current schools).

Interest in social factors was popularised by Johnson (1930), in his autobiographical account of the early development of a child who stutters. In this, he described the intolerant behaviours that militate against the social integration of the speech handicapped. Van Riper (1982) pointed out that the organisation of social groups depends on communication and that stuttering impairs a person's ability to find and maintain a suitable place in the social structure. He suggested that this was most apparent in the harsh environment of school and playground – where 'teasing, mockery and rejection are common experiences for a child who stutters' (Van Riper, 1971, p. 204).

Empirical investigations, using the clinical instruments available around this time, followed from the interest these accounts stimulated. Children who stutter have to contend with a well-established negative stereotype of themselves. Woods and Williams (1971) found that even people with professional experience of working with dysfluent patients attributed undesirable characteristics to children who stutter. When asked to list adjectives to describe children who stutter, approximately 75% of clinicians used words that were grouped within the category of 'nervous and fearful' and 64% listed words that were included in the category 'shy and insecure'. Perrin (1954) found that children who stutter were not readily accepted as members of their classroom, and suggested that stuttering students who were more able to adjust to interpersonal situations responded better to therapy. McKinnon, Hess, and Landry (1986) reported that college students reacted to moderate speech disorders (including stuttering) with a tendency of increased social distance in addition to judgements of lower evaluation and higher anxiety.

Though these studies present a coherent picture of problems a stuttering child has in different social groups, other studies have failed to find any influence of social factors on the status of children who stutter. Brissey and Trotter (1955) examined the social relationships within a group of speech-impaired children enrolled in a six-week summer residential clinic. They found no indication that social status was correlated with the severity of speech impediment. They concluded that the composition of the study group may have led the members to be more tolerant of speech dysfluencies compared with when one stuttering child had been in a group of fluent peers. Woods (1974) reported evidence that showed that the social relationships of a stuttering child were no better or worse than those of fluent

classmates. These studies using early clinical investigative tools, besides being dated, have not reported consistent findings.

Retrospective reports of problems in social groups by people who stutter have also been obtained. Mooney and Smith (1995) reported that bullying has an effect on the fluency of children who stutter. They found that 11% of adults who stutter said they had been bullied at school and that this had a negative effect on the fluency of their speech. Comparison of this with studies of fluent children, on the other hand, indicates that children who stutter are no more at risk of bullying than their peers. Haynie et al. (2001) reported that over 30% of schoolchildren stated that they had been bullied within the last school year (much higher than the 11% of adults that stutter who reported having been bullied by Mooney and Smith, 1995).

The most recent retrospective report was by Hugh-Jones and Smith (1999). In this study, 74% of 276 adults who stutter that took part in the survey reported that they had been bullied during their time at school. Of the 205 respondents that indicated they were bullied at school, 6% reported that the bullying had a long-term effect on their fluency. However, the study lacked a control group who do not stutter to establish whether fluent speakers were bullied less often. The authors also note other limitations in the project, common to all retrospective studies: respondents' recollections may be distorted and there is no way of validating the responses. The authors also concede that the sample may be limited by the fact that the respondents were a volunteer sample from the British Stammering Association, which may have resulted in a cohort that was particularly aware of the issues surrounding their dysfluency and its effects. The usefulness of data from retrospective studies is limited by the inherent problems with the methods as well as by the contradictory findings.

Sociometric methods have also been used to assess the dynamics of groups containing children who stutter. Marge (1966) reported a study that used these procedures to assess intellectual and social status, physical ability and speech skills of children who stutter. The study examined 197 third-grade (8–9 years) public school students, of whom 36 had been diagnosed with moderate or severe speech dysfluency. Sociograms were obtained on each of the four components investigated, based on Moreno (1960). Marge (1966) reported that dysfluent children held a lower social position than fluent ones. Sociograms were also obtained from teachers on the same four component skills for each child. The data from the study indicated that, with regard to intellectual skills in school and social activity outside school, the dysfluent child held a significantly lower position than that of his or her fluent peers. In the other areas of playground activity and speech skills, no significant difference between the groups was found. The results from the teachers corroborated the findings of the peers. Though these sociodynamic methods have made interesting findings, the study was limited to a single question about social status in each of four areas (classroom, playground, out of school and speaking) and is, again, dated.

The above methods used for investigating sociodynamics that have been reviewed have inherent problems and limitations, and contradictory findings have been reported. It is also notable that the majority of research into the social status of children who stutter uses data from respondents who were in the educational system more than two decades ago (either because the publications are dated or adult respondents provided retrospective reports). It is possible that the attitude of children toward their peers with disabilities (including those of speech) has changed in the intervening period.

The current study uses a sociometric scale to assess children who stutter in classes of fluent peers. Such scales have only been used once with children who stutter (Marge, 1966). The Marge (1966) method is limited in scope and dated. In this study, the method of Coie et al.

(1982) as adapted by Nabuzoka and Smith (1993) to investigate the sociometric status and social behaviour of learning disabled children is employed. (See Table 2 for the adapted sociometric category descriptions.) Each child in the social group is interviewed individually. During the interview, the child names the three children in the group they like the most and the three children they like the least. Each child is also asked to assign three children in the group to each of eight behavioural categories (shy, assertive, co-operative, disruptive, leader, seeks help, bully and bully victim). The peer nominations to social status groups ('liked most' and 'liked least') produces a Social Preference (SP) score, which measures popularity/rejection and a Social Impact (SI) score, which measures social influence. The peer nominations allow children to be allocated to one or more of the eight social behavioural categories. The questions addressed are whether children who stutter differ from fluent peers on (a) social status and (b) social behaviour.

Method

Participants

Four hundred and three children (range 8 years 3 months to 14 years 9 months) took part in the study. These children came from 16 classes in 16 different schools across England (see Table 1 for details). There was one child who stuttered in each of the 16 classes. The schools were located in rural, suburban and urban areas across England (details of the individual schools are indicated in Table 1). The mean age of the children who stuttered was 11 years 9 months and the mean age of the children who do not stutter was also 11 years 9 months. Fifteen of the 16 children who stutter were boys (mean age 11 years 9 months); the girl who stuttered was aged 11 years 6 months. Two hundred and four of the 387 children who did not stutter were boys (mean age 11 years 11 months) and there were 183 girls (mean age 11 years 7 months). Spontaneous speech samples were obtained from the children who stutter. These recordings were made in a relaxed atmosphere at a speech and language therapy clinic on topics such as family, school, television, computer games and so on. The children spoke continuously on these topics for at least two minutes and a two-minute extract was analysed. The number of stuttered incidences was assessed by the first author and a final year Human Communications Science student. The two assessments were made independently. Kendall's coefficient of concordance between the two judges was significant – Kendall's $W \chi^2(2) = 29.27, p < .05$. This indicates a high level of agreement between the two judges. Average stuttering rate across these two judges is indicated in the rightmost column of Table 1.

The children who stutter had been referred for therapy to a London clinic following initial diagnosis of stuttering by a speech pathologist in their local region. Twenty-five parents were asked about their willingness to allow their children to participate (all agreed). Subsequently contact was made with the schools of the children who stutter, requesting permission to conduct the study. Initial contact was by letter and 16 of the 25 schools approached agreed to take part in the study. The parents of the target child (the child who stutters), the headteacher, and the special educational needs coordinator in the schools involved were aware of the nature of the investigation. All the children (stuttering and fluent) and the parents of children who do not stutter were unaware of the true purpose of the study. The parents of the children who do not stutter were sent letters via their schools asking if their child could take part in a study on relationships. All of the children (stuttering and fluent) were informed that the investigation was about children's friendships and behaviours.

Not all of the children who stutter were on the register of special educational needs at their school. Those that were registered were at level one or two of assessment. In three cases the school was not aware that the target child was seeking treatment for stuttering until informed by the researcher. Many of the schools participating in the study were not prepared to

divulge details of special educational needs or academic attainment of the children who do not stutter. This prevented matching children for level of school attainment, which would have been desirable.

Procedure

Initially each class was seen as a group, at which point the general purpose of the research project was described and they were told that each child would talk individually with the researcher during the course of the day. Care was taken not to identify the stuttering child in the class as the focus of the study. It was stressed that the replies that the children gave to the researcher's questions would be treated confidentially and the children were requested not to discuss the interview with peers.

Following the brief introduction, each child was seen individually. It was considered that the presence of an authority figure (e.g., teacher) or other children might affect the children's responses, given the personal and confidential nature of the information the child provided. The interviews were conducted on a one-to-one basis in a room close to the classroom. The child was shown the class register and asked to confirm that he or she knew all the children. After establishing this, he or she was asked to pick three children of either sex they liked the most, and three children they liked the least (these provide the information for the social status scores of the children). The researcher then asked the child to nominate three children from the class who best fit each of eight behavioural descriptions: shy, assertive, co-operative, disruptive, leader, uncertain, bully and bully victim (see Table 2 for full descriptions of these behavioural categories). The descriptions for the behavioural categories were adapted from Coie et al. (1982). The children were allowed to nominate a child for more than one category. At the end of the interview, each child was reassured regarding the confidentiality of his or her responses and was reminded not to discuss the interview with classmates.

Results

Social status

For social status scores, the frequency of positive nominations and negative nominations ('liked most', LM, 'liked least', LL) for each child were computed and transformed into standardised normal deviates for like (ZLM) and dislike (ZLL) categories within each class. A social preference score (SP) was computed as the ZLM score minus the ZLL score. A social impact score (SI) was computed as the sum of the ZLM and ZLL scores. The SP and SI scores were then standardized within each classroom.

Each child was then classified into a group based on the following criteria: (a) *Popular*, receiving an SP score greater than 1.0, a ZLM score greater than 0, and a ZLL score less than 0. (b) *Rejected*, receiving an SP score less than -1.0, a ZLM score less than 0 and a ZLL score greater than 0. (c) *Neglected*, receiving an SI score less than -1.0, a ZLM score less than 0 and a ZLL score less than 0. (d) *Controversial*, receiving an SI score greater than 1.0, a ZLM score greater than 0 and a ZLL score greater than 0. (e) *Average*, receiving an SP score between -.5 and .5 and an SI score between -.5 and .5. (f) *Other*, all remaining children. The percentage of stuttering and non-stuttering children who fell into each of the status groups was calculated and is shown in Table 3.

More than twice as many children who stutter were rejected (43.75%) than children who do not stutter (18.86%), and 6.25% of children who stutter were found to be popular, compared to 25.84% of children who do not stutter. Children who do not stutter (26.87%) were more than four times as likely to be found in the average social grouping than were children who stutter (6.25%). There was little difference in the proportion of children who stutter and

children who do not stutter in the remaining three status groups. This indicates a trend toward children who stutter being viewed by their peers in a socially negative aspect and not as popular members of the class. Chi-square tests using raw data (observed frequencies) indicated that there were significantly fewer children who stutter in the popular ($\chi^2(1) = 3.14, p < .05$) category and more in the rejected ($\chi^2(1) = 5.98, p < .01$) and average ($\chi^2(1) = 3.39, p < .05$) categories. In each of these three analyses, one cell had $n < 5$. The contemporary view is that, with a sample size of more than 20, chi-square analysis can tolerate cells with $n < 5$ (Coolican, 1994). Overall, it appears, then, that the children who stutter are regarded more negatively with respect to social status.

The percentage of children allocated to each social group within each class was calculated. Thirteen out of the 16 children who stutter were in classroom social groups that contained a higher proportion of children than the mean for all schools. This could signify a trend for children who stutter to adopt the predominant social characteristic of their classroom group.

Behavioural categories

The number of nominations each child received for each of the eight behavioural categories (*shy, assertive, co-operative, disruptive, leader, uncertain, bully and bully victim*) was calculated. The criterion for assigning a child to a behavioural category was that he or she had to receive a number of peer nominations to that category which are at least one standard deviation above the classroom group mean for that category.

The percentages of fluent and stuttering children falling into each of the behavioural categories are shown in Table 4. Children who do not stutter were almost twice as likely to be nominated as *leaders* (12.92%) than were children who stutter (6.5%). There were considerably more children who stutter in the *bully victim* (37.5%) and *seeks help* categories (25%) than there were children who do not stutter (10.6% and 13.18% respectively). Children who stutter and children who do not stutter showed little difference in their nominations to the *shy, co-operative, disruptive, bully* and *assertive* categories. These data indicate that children who stutter predominate in the vulnerable behavioural categories of *seek help* and *bully victim* and are under-represented in the more positive category of *leader*. Of the trends noted, chi-square tests on the number of children in each category showed that the only significant difference was between the number of children who stutter and the number of children who do not stutter in the *bully victim* category ($\chi^2(1) = 10.80, p < .001$).

To summarize, children who stutter are more likely to be bully victims and to seek help. Second, children who do not stutter are more likely to be seen as leaders than are children who stutter. Third, behaviours such as shy, assertive, co-operative, disruptive and bully are equally likely in either group.

The relationship between social status (liked, disliked) and the peer behavioural nominations was examined separately for each of the speaker groups. All correlations between 'liked most' and the eight behavioural categories and 'liked least' and the eight behavioural categories were computed. It was expected that there would be a significant positive correlation between the 'liked most' nominations and behavioural categories such as *leader* and *co-operative* and between the 'liked least' nominations and the negative behavioural categories of *disruptive, seeks help* and *bully*. Correlation analysis showed that this was only the case for the fluent group with 5/8 liked most and 7/8 liked least correlations significant (Table 5).

Finally, it is of note that the allocation of behavioural category or social status does not depend on severity of stuttering. The category *bully victim*, for instance, included a child

with a severe stutter (16 words per minute) and a child with a mild stutter (3 words per minute). Similarly for the social status 'rejected', there was a child with a severe stutter (14.5 words per minute) and another with a mild stutter (2.5 words per minute).

Discussion

Social status

Results from the study indicate that there is a trend for children who stutter to hold a lower social position than that of children who do not stutter. A higher proportion of children who do not stutter were in the positive social status groups than were children who stutter. Only one child who stutters was nominated to the 'popular' status group and a higher percentage of children who stutter were nominated to the negative status group of 'rejected'. The significant difference between the speaker groups in terms of social status is consistent with findings of previous research on other groups of children (Perrin, 1954; Marge, 1966; Wood & Williams, 1976). The difference in social status between children who stutter and children who do not stutter has also been found in previous research.

Stuttering is not a disorder that requires a statement of special educational need in terms of statutory LEA provision, though children who stutter may be on the register of special educational need at their school. However, in the light of changes in special needs education that have occurred since earlier research into the socialisation of children who stutter, the significant differences in social status reported above could be viewed with some concern. In the past 25 years there has been a considerable increase in the integration of children with severe disabilities into mainstream education. Following the Warnock (1978) report which highlighted the need for specific teacher training and resources to accommodate special needs children into mainstream schools, Hegarty and Pocklington (1982) found that there was an increase in the degree of acceptance of children with disabilities on the part of mainstream teachers: 90% of all respondents felt that the placement of handicapped pupils at their school was appropriate. Howarth (1987) suggested that pupils reflect teacher attitudes, and this, combined with direct contact, is the most effective way of improving attitude among pupils. After a period of initial curiosity, the presence of pupils with special needs is accepted as a matter of course and rejection is uncommon (Howarth, 1987). There is also ample opportunity for direct contact, with between 18% and 20% of children in mainstream education being designated as special needs (Howarth, 1987). Before this period of integration and acceptance of children with special educational needs, children who stutter were one of only a few groups of children in mainstream education with an overt disability. This would have made them a high-profile target for the teasing, bullying and rejection that have been reported in previous research. Following the integration of children with special needs into mainstream education, this profile would be considerably lessened and, together with the improved attitude reported by Howarth (1987), would point toward a higher level of social acceptance for children who stutter. These views in society at large do not appear to be reflected in the judgments of children who stutter by their classmates in this study.

Children in this study were allocated to social status groups derived from the nominations of their peers. Based upon these nominations, children who stutter were often allocated to social status groups that reflected the predominant social culture of the classroom in which the study took place. In 13 out of the 16 classes that participated in the study, the stuttering child was found to be in a social status group that was, proportionally, larger than the mean for that group across all schools. That is to say, the stuttering child would seem to be adopting the prevailing social profile of the particular class, perhaps in a bid to be socially accepted or perhaps to avoid being noticed and therefore avoid the bullying and teasing that his or her stuttering may attract. For example, if the classroom group contained a high percentage of controversial children (children who are *assertive*, *leaders*, *bullies* etc., and are

therefore liked and disliked almost equally) the stuttering child might well adopt this social identity.

Social behaviour

As with social status, there was a tendency for children who stutter to be seen to be different to their non-stuttering peers with regard to social behaviour, though with these measures most of the comparisons were found to be non-significant. Children who do not stutter were seen by their peers as more representative of the positive behavioural categories than were children who stutter. One child who stutters (6.25%) was nominated to the behavioural category of *leader* compared to 12.9% of their fluent peers. Children who stutter tended to be nominated to behavioural categories that reflect vulnerability or inadequacy. Children who stutter were more likely to be nominated to the *seeks help* category (25% compared to 13.8%) and significantly more likely to be seen as *victims of bullying* (37.5% compared to 10.6%). However, children who stutter were seen as more *co-operative* than children who do not stutter.

The lack of significant differences between the two experimental groups with regard to classifications to behavioural categories may be a function of the small number of children who stutter in the study. However, a similar pattern was reported by Nabuzoka and Smith (1993) in a study with children with learning difficulties. Although children who stutter are not regarded as having special educational needs, the findings of this study, and that of Nabuzoka and Smith (1993), could point toward there being different criteria of popularity for children that are different from the perceived norm.

There was a significant difference in the relationship between peer behavioural nominations and the peer nominations of 'liked most' and 'liked least'. The 'liked most' nominations for children who do not stutter were significantly positively correlated with nominations for the behavioural categories of *assertive*, *co-operative* and *leader*, and were significantly negatively correlated with the *bully victim* category. This was not the case with children who stutter, where the only significant result was a negative correlation between 'liked most' nominations and the *bully* category. There were similar differences in the relationship between the 'liked least' and behavioural nominations; whereas 'liked least' nominations for children who do not stutter showed significant positive correlations with the behavioural categories of *disruptive*, *seeks help*, *bully* and *bully victim* and significant negative correlation with *shy*, *co-operative* and *leader*, this was not the case for the children who stutter.

There are some indications from the data that children who stutter may be similar to children who do not stutter in some areas of behaviour. For example, the proportions of children seen as assertive were similar in the two groups. However, this does not appear to have any impact on the social status of the children who stutter. Where social acceptance for children who do not stutter was significantly correlated with being *assertive* and being a *leader*, this was not the case for children who stutter. Even when socially accepted, children who stutter were not viewed by their peers as leaders or as being assertive. This may be because there are few role models for children who stutter of leaders in the media or sport with whom children who stutter can be identified.

The difference in social behaviour between the speaker groups could also be explained by the coping strategies adopted by the children who stutter. Analysis of the data also showed that children who stutter tended to be more co-operative than their fluent peers, which could point to a deliberate policy adopted by children who stutter. This could involve maintaining a circle of friends by co-operation, a policy which would ensure protection and safety. Such a strategy would preclude any leadership aspirations and would ensure that a stuttering child

would not 'stand out from the crowd'. A coterie of friends would ensure that the stuttering child is not isolated at the lower end of the social scale, whilst a lack of assertiveness would prevent the child from standing out as a leader. It would appear that the stuttering child is aware of his or her dysfluency and is probably aware, through previous, perhaps isolated, incidents of the teasing and rejection that dysfluency can incur. By adopting a social policy of maintaining a close circle of friends and avoiding any high-profile situations, the stuttering child would hope to minimise the risk of such incidents. Even if the stuttering child had the necessary resources to take on a role demanding leadership, it would seem unlikely that he or she would do so.

Conclusions

The small number of children who stutter observed in this study prevent any definitive conclusions being drawn about the social status of children who stutter. However, if the finding for children who stutter to adopt the prevailing social profile stands up to further test, it would have implications for therapeutic practice. First, the pattern of behaviour indicates that children who stutter are not only aware of their dysfluency but are also aware of the negative reactions it could prompt from fluent peers. Second, it would indicate that children who stutter tend not to be prepared to expose themselves to the risk of negative peer reaction and subsequently adopt the predominant social mood of the classroom group. In the light of this trend, the social skills training given to children who stutter in many therapeutic programmes might need to address this inclination for children who stutter to 'go along with the crowd'.

The findings of this study have further implications for clinicians and teachers. The knowledge that children who stutter are significantly more at risk of being bullied than are their peers and that they are at risk of being rejected or neglected in a social environment should be of assistance in planning therapeutic techniques. Specific social skills training and advice on how to cope with teasing and bullying could assist children who stutter in avoiding exclusion from normal social interaction.

The problem of bullying in school has received considerable attention in the past decade and is now investigated during inspections of schools by the Office for Standards in Education (OFSTED). Schemes such as the DFE Sheffield Anti-Bullying Project have demonstrated that incidences of bullying can be reduced by implementing whole-school anti-bullying policies, environmental improvements and individual work with bullies and victims. So there is reason to believe that the level of bullying in schools generally is decreasing. However, there is little evidence that the particular problems of children who stutter in schools, as indicated by the results of this study, are being fully recognised. The British Stammering Association has produced a pack for schools and teachers – *Bullying and the dysfluent child in primary school*—and has appointed a full-time Education Liaison Officer. But it is apparent that more needs to be done to support teachers and schools in addressing the problems faced by children who stutter in mainstream education. This study found that children who stutter were more likely to be rejected and to be victims of bullying than were their peers. This would indicate that difficulties in establishing and maintaining friendships are an important factor in the problems experienced by children who stutter. As children are often reluctant to involve adults when bullying occurs, a peer support system (Cowie & Sharp, 1996) may assist those children who stutter and who are rejected or bullied by their classmates.

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Table 1

LEA, school type, pupil age range, single or mixed sex, number of pupils enrolled for the schools used in the study. The severity of the stutter of the child under investigation is also indicated in the right-most column

LEA	Type of school	Age range	Sex	Number on roll	Severity (stuttered words per minute)
Surrey	Secondary	11–16	Mixed	600	5.5
Worcestershire	Primary	5–11	Mixed	640	16
Hounslow	Secondary	11–19	Mixed	1240	2.5
Essex	Primary	4–11	Mixed	200	12.5
Surrey	Independent prep	3–13	Mixed	290	6
Oldham	Primary	3–11	Mixed	200	18.5
Suffolk	Secondary middle	9–13	Mixed	470	2
Essex	Primary	5–11	Mixed	254	9.5
Barking	Junior	7–11	Mixed	467	14.5
Hounslow	Primary	3–11	Mixed	630	11
Norfolk	Secondary	11–16	Mixed	850	3.5
Hillingdon	Independent secondary	11–18	Boys	776	3
Redcar & Cleveland	Secondary	11–16	Mixed	726	13.5
Southampton	Primary	4–11	Mixed	310	7
Lincolnshire	Secondary	11–16	Mixed	247	6
Hounslow	Secondary	11–18	Mixed	2335	1.5

Table 2

Description of behavioural categories (Adapted from Coie et al., 1982)

Shy	Very quiet with other children and adults, often likes to play or work by themselves; it is very hard to get to know a child like this.
Assertive	Will always get their ideas across. Likes to be in charge and tries to get people to do things their way.
Co-operative	A child like this is good to have in your group (class) because he or she is pleasant and helpful, joins in, shares and gives everyone a turn.
Disruptive	This child upsets people in the group (class), interrupts when people are talking, does not share with others.
Leader	Is chosen by other people to be in charge, is helpful and responsible with other children.
Uncertain	Lacks confidence in their own ability, asks for help even before they have tried very hard.
Bully	Someone who picks on other children, teases them or says or does nasty things to them for no reason.
Bully victim	Someone who is picked on, teased or has nasty things said or done to them for no reason.

Table 3

Percentage of children meeting criteria of nomination to social status groups by fluent and stuttering groups

Social status	Fluent (n = 387)	Stuttering (n = 16)
Rejected	18.86	43.75
Neglected	4.39	6.25
Controversial	8.79	12.5
Popular	25.84	6.25
Average	26.87	6.25
Other	15.25	25

Table 4

Percentage of children meeting criteria of nomination to behavioural categories by fluent and stuttering groups

Behaviour	Fluent (n = 387)	Stuttering (n = 16)
Shy	12.4	12.5
Assertive	14.21	12.5
Co-operative	15.5	18.75
Disruptive	14.21	18.75
Leader	12.92	6.5
Seeks help	13.18	25
Bully	13.18	12.5
Bully victim	10.6	37.5

Table 5

Comparison of correlations between peer behavioural nominations and sociometric measures of liked most and liked least

Behaviour	Social status			
	Liked most		Liked least	
	Children who stutter (<i>n</i> = 16)	Fluent (<i>n</i> = 387)	Children who stutter (<i>n</i> = 16)	Fluent (<i>n</i> = 387)
Shy	-.353	-.057	-.157	-.088
Assertive	.137	.213***	-.043	.145**
Co-operative	.232	.279***	-.239	-.225***
Disruptive	.486	-.106	.055	.464***
Leader	.101	.341***	-.253	-.106**
Seeks help	.168	-.151**	.476	.194***
Bully	-.116	-.011	.195	.426***
Bully victim	.254	-.289***	-.462	.391***

** = sig, $p < .025$.

*** = sig, $p < .005$.