

Deaf children's social relationships in mainstream schoolsⁱ

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Abstract

Arguments supporting the integration of deaf pupils in mainstream schools are often based on possible cognitive gains. We suggest that integration should also be assessed considering its social consequences for pupils. If deaf pupils are rejected or feel isolated in mainstream schools, their education may ultimately suffer.

We investigated the social adaptation of nine deaf pupils in two mainstream schools using three methods: peer ratings, sociometric status and interviews.

The average peer ratings received by deaf pupils were not significantly different from those of hearing pupils. Thus they were not more disliked by their peers. However, deaf pupils were significantly more likely to be neglected by their peers and less likely to have a friend in the classroom. Hearing pupils who were friends of deaf pupils described their friendship as involving pro-social functions whereas many who had no deaf friends found communication barriers an obstacle to friendship.

We conclude that, although deaf pupils are not rejected in mainstream schools, they may feel isolated. It is possible that schools can have a proactive role in helping hearing pupils learn how to overcome communication barriers and develop more positive attitudes towards deaf pupils.

The current policy of integration of pupils with special educational needs into mainstream schools should be assessed in terms of its potential impact on pupils' academic performance as well as its impact on their social adaptation. The aim of this research was to analyse the social relationships of deaf pupils attending mainstream schools.

Interviews with deaf adults about their past school experiences (Mertens, 1989) suggest that there is cause for concern for deaf children's social adaptation in mainstream schools. Deaf adults who attended special schools have more positive memories of their school days than those educated in mainstream schools. Pupils who experienced both types of school environment often report a strong preference for special schools (Gregory,

Bishop, & Sheldon, 1995). In a recent review of the literature, Musselman, Mootilal and MacKay (1996) concluded that, although not all results are equally negative, the preponderance of the evidence supports the conclusion that special schools for the deaf foster socio-emotional growth better than mainstream schools. Deaf students in mainstream schools report feeling socially isolated and lonely, and have lower self-esteem than those students in special schools.

These studies were conducted with adolescents, for whom the importance of social relations is widely acknowledged. Social adaptation is already very central in middle-childhood; Cole and Cole (2000), for example, point out that 75% of 11-12 year-olds' time in Western industrialised societies is spent with friends. Difficulties in peer relations at this age could then result in feelings of loneliness and isolation. Thus we decided to investigate peer relationships at the end of primary school. We also decided not to investigate social adjustment through self-reports but to use methods that involve both the deaf pupils and their peers. We know that these methods are reliable because: (a) pupils who are identified as rejected through these methods tend to maintain this status across grade levels; (b) more rejected pupils report feelings of loneliness (Asher & Wheeler, 1985) and show poorer social adaptation later (Coie & Dodge, 1983). But not all children who are rejected by their peers are aware of their negative social status (Asher, Hymel, & Renshaw, 1984). Thus it is desirable to complement information obtained in self-report studies with information obtained through other methods that take the peers' perspective into account.

Finally, we believe that taking peers' perspective into account is essential also because a long-term aim of integration might be to develop more positive perceptions of pupils with special needs amongst their peers who have no special needs. Integration may not automatically result in the development of more positive attitudes by hearing pupils towards their deaf peers. Cambra (1997) observed more positive attitudes of hearing pupils towards the deaf in Spain as a function of having deaf peers but Owers (1996) reports conflicting results for England. This means that it is desirable to investigate the impact of deaf pupils' integration on hearing children's perceptions of their deaf peers. If integration does not automatically lead to positive results, research that furthers our knowledge of how to develop more positive attitudes amongst the hearing pupils is urgently needed.

The present study investigated the social status of deaf pupils attending mainstream schools in London. Two measures of social status widely used in the identification of pupils at risk for social problems were adapted for use with deaf pupils. These methods of data collection were complemented by interviews. By using three different methods, we can investigate whether the measures provide converging information about the social status of deaf pupils in mainstream schools.

Method

Participants

Participants were nine deaf pupils in two mainstream schools and 62 hearing children who were classmates of the deaf pupils. The pupils were from Years 5 and 6 in School A (age range 11-13) and Year 5 in School B (age range 11-12). In both schools the deaf pupils spend much of their time in the same classroom as their hearing peers but also have separate lessons individually or in small groups. Class size is comparable across school and comprises approximately 24 pupils.

The schools have different approaches to communication and the education of deaf pupils. In one school (School A), a total communication approach is used. The teachers use Sign Supported English (SSE) in the classroom and offer additional support to the deaf pupils using SSE in small groups for literacy and numeracy. The pupils are quite competent in spoken English, which they use with the non-specialist teachers and peers. The second school uses the oral approach to education; the class teacher and the specialist teacher (School B) use English. The two schools are well resourced, including their physical condition, classroom equipment and books, and human resources. Specialist teachers of the deaf are available some of the time in the classroom in both schools. The specialist teachers also work with the deaf children in separate sessions outside the classroom, in small groups or individually.

Permission for participation was obtained from the headteacher, the class teacher, the parents and then the children. After we obtained the schools' agreement, we sent a letter to the parents explaining briefly the aims of the study and asking for their consent for their children's participation. No parents refused their consent.

Their class teacher, who told them that the researcher wanted to ask each child some questions about themselves and their friends, introduced the researchers to the participants.

The pupils were then interviewed individually. They were informed again of the aim of the interview and asked whether they would like to participate. All the pupils agreed to participate. If the children were to become upset at any point, the interview would be discontinued. However, this was not necessary.

Measures

Three instruments were used to investigate peer relationships and friendships with all 71 pupils: peer ratings, peer nomination, and a semi-structured interview. We consider here only the interviews with the deaf pupils and with those hearing peers that were either identified as friends of the deaf pupils or as non-friends (that is, who were rejected by or rejected the deaf pupils). The instruments were especially adapted for work with the deaf children and were presented individually and orally to the children by a hearing interviewer.

Procedure

Before the assessments were given, the researcher photographed all the pupils. Their photos were shuffled and then pasted in random order in rows and columns on a large sheet of paper, with a three-digit number written underneath as an identification number.

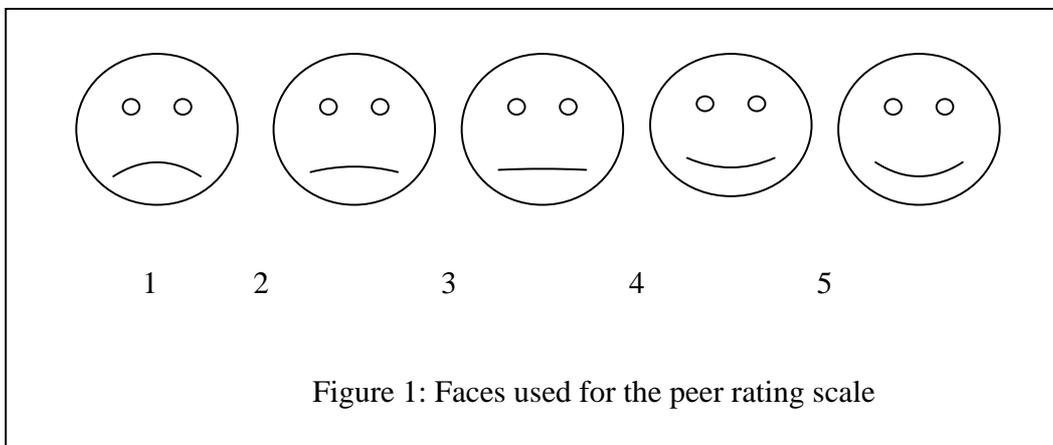
At the start of the assessments, the researcher developed a good rapport with the children because peer relationships are a very important and confidential matter for children of this age level. The researcher then explained that they would be talking about their relationships with their classroom peers and that nothing that they talked about would be revealed to the teacher or the peers. The pupils were also told that they could skip any questions that they did not want to answer or stop the interview, if they wanted to. One hearing-impaired child made use of the option to skip a question. The researcher then presented the peer ratings and the peer nominations assessments. Each instrument is described briefly in the following sections.

Peer ratings Peer ratings are obtained by asking each pupil to rate each peer in the class in terms of how much they like to play with the peer. For this study, the procedure was adapted in two ways to facilitate communication with the deaf pupils: by using photographs rather than the peers' names and by using a visual scale for the pupils to indicate how much they liked to play with each peer. The researcher asked the participants

to consider each photo at a time and indicate how much they liked to play with the child in the photograph. The instructions were:

‘Look at number 215; do you know him/her? I want to know how much you like to play with him/her. If you like playing with him/her a lot, you will show me this face (see Figure 1, right). This is a happy face. It shows that you like playing with him/her a lot. If you don’t really like playing with number 215, you show me this face (pointing to the left most drawing in Figure 1). This is a sad face. It shows that you don’t like playing with number 215. If you don’t mind one way or the other, you show me this one in the middle. If you like playing with him/her a bit, not a lot, you show this face (second one from the right). If you dislike playing with number 215 a bit, but not a lot, you point to this face here (second one from the left). So, for number 215, how much do you like playing with him/her? Point to the face that shows how much you like playing with number 215.

The instructions were presented flexibly: rephrasing and repetition were used if the children had questions or showed doubts in any way. Then the child was asked to point to the face that showed how much he/she liked to play with the peer in each photograph.



In order to obtain a peer rating, the faces are made to correspond with numbers, forming a scale from 1 to 5, as shown in Figure 1. Each child received a mean peer rating, which could vary between 1 and 5, obtained by averaging across the ratings given by all the children to that particular child.

Peer nomination Peer nominations followed essentially the traditional sociometric procedure, which has been validated in a number of studies of children's social adjustment in the peer group (e.g., Asher & Hymel, 1981; Coie & Dodge, 1983; Rubin, Bukowski, & Parker, 1998). The pupils were asked to nominate three peers they would like to invite to their house to play, three they would not like to invite to their house to play, and three they would like to do a school task with. In order to make the procedure easier for the deaf pupils, the numbered photographs used for the peer rating were also used for the peer nomination. Thus the participants did not actually say the name of a peer that they would not like to invite to their house to play but rather pointed at a photograph or said the number written under it. The first two questions are used for the analysis of the pupils' sociometric status; the latter is a buffer question used with the aim of ending the measure on a positive note.

Care was taken to ensure that the participants understood that their nominations would not be revealed to anyone. No participants refused to offer positive nominations; one deaf pupil refused to offer negative nominations. The researchers then spent some time talking with the participants about their school and their preferred activities as part of a procedure to reduce the children's focus on peer relationships.

The results of the peer nominations were used to identify popular, average, rejected, and neglected children. These categories result from considering the children's position within the group when two scores are calculated: social preference (that is, the frequency of the pupils' received positive nominations minus the frequency of the received negative nominations) and social impact (that is, the joint frequency of both positive and negative nominations). Popular children have a high social preference and a high social impact in the group. Average children have average scores for both measures. Rejected children have negative results for their social preference. Neglected children have low social preference and low social impact scores.

Peer nominations were also used to identify the deaf pupils' friends. Friendships are defined in this measure as mutual positive nominations.

Interviews The interviews were semi-structured to ensure that all the participants were asked about all the points in the investigation in the most natural manner at the time. The pupils were initially asked general questions about the school as a warm-up and then

they were asked who their best friends were. The interview varied after that, depending on whether the participant was hearing or deaf. The deaf children were asked whether they had difficulty in communicating with their best friends and what they did if they had difficulty in communicating with their friends. The hearing pupils were asked: 'I noticed that there are some children in your school who wear hearing aids. Are any of them your friends? Do you play with them?' They were then asked about communication difficulties and how these were solved if they did come up.

Results

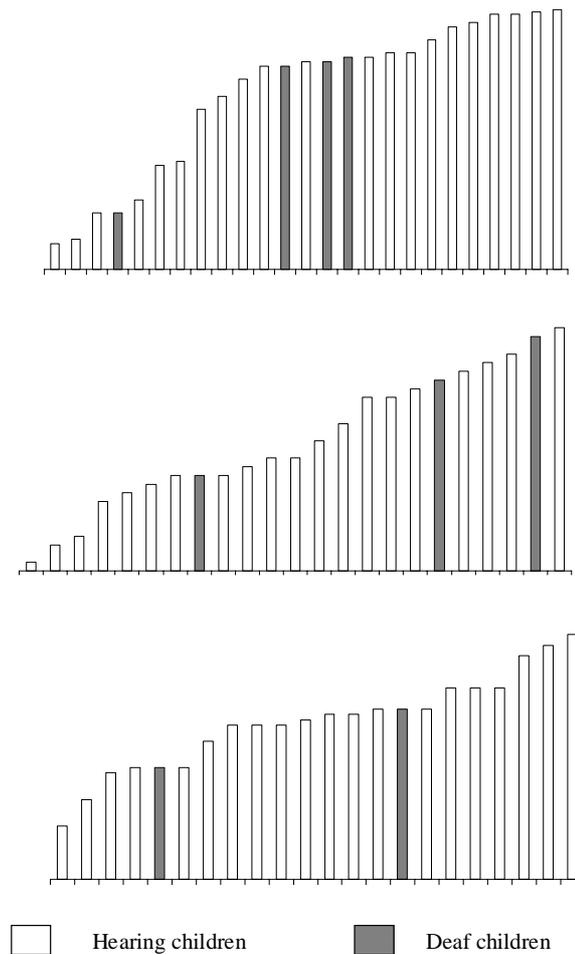
As an initial step, we tested the validity of the peer nomination and peer rating scales by examining the correlation between these two instruments. If these are valid instruments to assess pupils' social adaptation in school, the average peer rating scores should correlate positively and significantly with the measure of social preference obtained in the peer nomination. The children were placed in rank order in these two measures; the correlation between the two measures was statistically significant ($r=.57$). We conclude that our adaptation of these measures did not influence negatively their validity and that they provide convergent information about peer relations. It is therefore possible to use the measures for investigating whether the deaf pupils are at risk for poor peer relations in a mainstream school.

In the subsequent analyses, we will consider first whether the peer ratings received by deaf pupils are significantly lower than those received by hearing pupils and whether they differ in their distribution. Secondly, we will examine whether the deaf pupils are at risk for being rejected or neglected, and whether they are less likely to have friends in school. Finally, we will consider the functions of friendships as portrayed by hearing and deaf pupils in the interviews.

Peer ratings Figure 2 presents the rank position of the deaf pupils with respect to their peer rating scores in each of their classes. The graphs show that, in comparison to the hearing peers, the deaf pupils do not seem to receive lower ratings. We divided each class in thirds, with the lowest, average, and highest ranking pupils, and identified the number of deaf children in each of these groups. If the deaf children were perceived negatively by the peers, the proportion of deaf pupils located in the lower third should be significantly higher

than .33 (that is, than one third). Of the nine children, three were located in the lower third, four in the middle, and two in the upper third in terms of peer ratings. We conclude that there is no evidence that deaf pupils are at risk for being disliked by their peers in mainstream schools.

Figure 2: Total rank for each child - Top: School 1; Middle and bottom: School 2



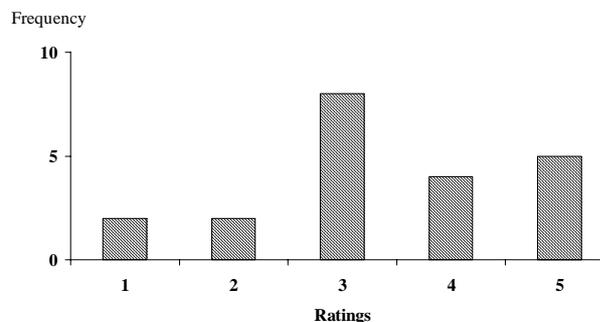
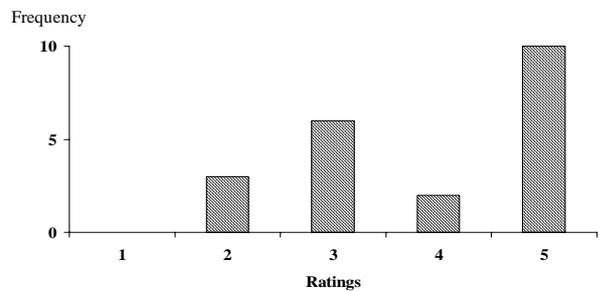
We also considered the distributions of peer rating scores for each of the deaf pupils. It was possible that they received average ratings that did not differ much from the hearing pupils' scores but that their distribution of scores would be distinct. Perhaps some hearing peers would rate them positively but an equal number would rate them negatively, producing average mean scores. If this were the case, we should observe a U-shaped

distribution of ratings for the deaf pupils. No deaf pupil had this distribution of scores. Two distributions are presented as an illustration in Figure 3, one for a pupil whose peer rating was in the higher third and the second for a pupil whose rating was in the middle third. We concluded from this analysis that the peer ratings measure does not provide any evidence for the hypothesis that deaf pupils are at risk for being disliked by their hearing peers in mainstream schools.

Figure 3: Frequency of ratings received by two deaf children

Top: Profile of a popular child

Bottom: Profile of an average child



Peer nominations The classification of pupils according to peer nominations was carried out by calculating the social preference and social impact scores for each pupil. Comparable cut-off points were used to define each of the categories within each class.

Pupils were classified as popular if their social preference score was above the 75th percentile (that is, their score was above that of 75% of the pupils in their class). According

to this criterion, 22% of the hearing pupils and 11% of the deaf pupils (one of nine) were considered popular. This difference in percentages is not statistically significant.

Pupils were classified as rejected if their social preference score fell below the scores of 25th percentile in their class. Approximately one third of the deaf pupils and one quarter of the hearing pupils were classified as rejected by this criterion. The difference between the proportion of rejected children across the two groups was not statistically significant.

Pupils were classified as neglected if their social impact score was lower than the 25th percentile. The percentage of deaf pupils classified as neglected was 67% compared to only 27% of the hearing pupils. This difference was statistically significant (according to a Fisher test of exact probabilities, $p = .02$).

Pupils are considered as average in their social status if they do not fall into either the neglected or the rejected categories. The percentages of hearing and deaf pupils classified as average were 53% and 11%, respectively. These proportions are significantly different statistically (Fisher exact probability $p = .03$), as is expected considering that significantly more deaf pupils were neglected.

Finally, we analysed whether the deaf pupils were as likely to have friends in the class as the hearing pupils. Friendships are defined in this measure as mutual positive nominations. The percentage of hearing pupils who had no friends in their class was 23%. In contrast, 67% of the deaf pupils had no friends in the class. A Fisher's exact test showed that this difference is statistically significant ($p=.01$).

Thus deaf pupils were less likely to be classified as average and more likely to be classified as neglected than their hearing peers. Deaf pupils were also less likely to have friends in the class than hearing pupils.

Neglected pupils have not been found to be consistently at risk for social adaptation and feelings of loneliness. It has been pointed out that friendship may be a protective factor for neglected pupils. If a pupil is neglected in the class but has one good friend, this may prevent the feeling of loneliness. Because in all the classes there was more than one deaf pupil, it was possible that the deaf pupils might be friends with each other, even if their hearing peers in the class neglect them. So, we analysed whether the neglected deaf pupils had friends in their class. Of the six deaf pupils classified as neglected, half had a friend in the class and the others did not. Of the 17 hearing pupils classified as neglected,

approximately two thirds had a friend and the others did not. Although the number of pupils is too small for a statistical analysis, it does not seem that the protective factor of having a friend in the class was at work more noticeably with the deaf than the hearing pupils. Thus we cannot conclude that friendships would be protecting the deaf pupils from loneliness.

Interviews In the interviews, we analysed both the pupils' reactions to communication difficulties and the functions of friendships for the deaf pupils' hearing friends.

It was acknowledged that communication difficulties between deaf and hearing pupils arise at least sometimes. The deaf pupils appeared more optimistic about their solution and consequences. They seemed to believe that these were easily overcome. For example, when a deaf pupil was asked what he did if, when he was playing with his friends, he said something and they did not understand or they said something and he did not understand. He answered that he repeated what he had said, or asked the others to repeat what they had said, and that this usually worked. In contrast, some of his classmates, when answering the same question, seemed less optimistic. Amongst the less optimistic replies were: "I try hard to make them my friends but sometimes they don't listen, sometimes they ... I just forget about it"; "I do nothing, I don't know what to do to them if they can't hear"; "I just leave them. It isn't worth it"; "Walk away"; "I forget about it, I just leave it".

The mutual positive nominations in the peer nomination task were confirmed as friendships in the interviews. This convergence across methods is encouraging because it strengthens our confidence in the validity of peer nomination as a technique for studying the adaptation of deaf pupils in mainstream schools.

The role of friendships for the hearing peers who had deaf friends seemed to differ from traditional roles of friendships amongst children but the number of mutual nominations is too small in this sample for generalizations. The hearing pupils clearly identified two different roles in their friendships with deaf pupils. First, they saw themselves as interpreters, showing the deaf friends what to do in games and helping them participate in activities by acting as role models ("Follow me and do what I do"). Second, they felt empathy for the deaf pupils' difficulties and wished to make them feel better ("I

feel sorry for X”). These roles in friendship contrast with those described for children in these age levels: having fun together, sharing secrets and feelings.

Discussion and conclusions

This study suggests that deaf pupils do not seem to encounter strong negative feelings in mainstream schools in their relationships with the hearing peers. The average ratings that they received from their peers were not different from those received by hearing pupils and neither was the distribution of the ratings. Deaf pupils, like hearing pupils, attract positive and negative reactions, and these are most likely related to personal characteristics that are independent of their hearing status.

However, hearing pupils prefer a hearing peer as a friend. The likelihood of deaf pupils being chosen as a guest to play at home with was proportionally smaller than that of a hearing pupil. The same was observed for mutual positive nominations: deaf pupils were less likely to have a friend in the same class than hearing pupils. The hearing pupils who had deaf friends indicated pro-social reasons for the friendship, rather than the typical enjoyment and intimacy reasons offered by pupils at this age.

Differences between deaf and hearing children with respect to friendships have been found previously by Ledeborg, Rosenblatt, Vandell and Chapin (1987), who observed pre-schoolers' interactions in the playground over a 7-months period. They distinguished two types of positive interactions between children, sporadic friendship, defined by occasional and positive interaction often through parallel play, and long-term friendship, defined by preference for each other and often involving interactive play. Throughout the course of the year, all hearing and deaf children in their study had at least one long-term friendship. But there was a significant difference between the hearing and deaf children's friendship pattern: whereas the majority of the hearing children's friendships was long-term, the most common pattern of friendship for the deaf children was sporadic. Thus, deaf pre-school children were just as capable of positive interactions with peers as hearing pupils, but these positive interactions led to them being a preferred peer in significantly fewer cases. Our results show this same pattern in spite of the age differences in the samples. Ledeborg et al. suggest that this instability in deaf children's friendship may be a cause for concern. They hypothesise that a possible source of unstable friendships may be deaf children's more

likely exposure to negative experiences in interactions, which would render the relationships more fragile and easily disrupted. If this is the case, schools may have an important role to play in helping deaf pupils develop more stable relationships. Perhaps schools can be more proactive in anticipating how deafness may unwittingly result in negative interactions with peers. This would allow schools to encourage hearing pupils to understand the perspective of their deaf peers, thereby counteracting the negative perceptions that might otherwise result from these interactions.

A possible example of this type of situation is communication difficulties. We pointed out earlier on that some hearing peers felt that they did not know how to solve communication difficulties. The hearing pupils who had deaf friends were also aware of these communication difficulties. However, in contrast to others who gave up, these few hearing pupils thought it was worth it to make the effort and help their deaf friends. Schools might well investigate how best to promote this positive attitude amongst the hearing pupils. One of the hearing pupils who displayed a more positive attitude indicated that that he would like to be a teacher of the deaf when he grows up. This is a positive influence of being in the same class as deaf pupils.

The results of this study are to some extent positive. Pupils who are rejected by their peers are at risk for social adaptation and dropping out of school. We found no evidence of a greater incidence of rejection of deaf pupils than of hearing pupils, and thus no evidence that deaf pupils are at risk in mainstream schools. However, there was some cause for concern in the interviews. Some of the hearing pupils experienced communication difficulties as a clear barrier and did not seem to think that these barriers can be overcome. Thus the results suggest the need for schools to be proactive in facilitating communication between deaf and hearing peers in order to promote the integration of deaf pupils in the social networks of children. The mere exposure to the deaf peers did not result immediately in more understanding and greater awareness of how to communicate with the deaf.

Finally, we stress that the three methods used in this study showed convergent results. This is a very important finding because there is little information so far about how deaf pupils fit into the peer network in mainstream primary schools. Observational studies require large investments and do not necessarily provide sufficient data for generalizations to be made. The methods adapted in this study from traditional approaches to the analysis

of children's friendships and social networks in school proved to be valid in so far as they provide converging information. The use of these more quantitative methods will enable large-scale studies to provide more information about deaf pupils' social adaptation in school in the future. It will then be possible to analyse more closely the impact of proactive integration policies adopted in different schools.

Bottom: Profile of an average child

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