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The effect of social contact on college teachers' attitudes toward students with severe mental handicaps and their educational integration

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ABSTRACT

74 full-time teachers in a tertiary college completed a 68-item questionnaire about their attitudes toward students with severe mental handicaps and their educational integration into ordinary colleges. The results showed that college teachers who (i) had training in teaching students with learning difficulties, (ii) were aware of the link programme between their college and a local school for pupils with severe learning difficulties, and (iii) had experienced social contact with severely handicapped students expressed more positive attitudes and emotional reactions toward severely handicapped students and their educational integration. The study concludes that in order to make link programmes more effective and to foster more favourable attitudes towards severely handicapped students, colleges need to engineer more opportunities for discussion about the rationale of link programmes and for making social contact with the students involved.

INTRODUCTION

Education for students who have difficulties in learning is in a state of transition and the last three decades have seen many remarkable changes in the field of special education. For instance, special educational provision beyond custodial care and integrated programmes for students who have severe mental handicaps are both relatively new ventures and world-wide movements (Bricker and Filler, 1985).

Integrating students with severe handicaps into mainstream education, as a form of educational placement, has created a great deal of controversy. Indeed, some educators have taken the position that such students should not be integrated into mainstream education (see Burton and Hirshoren, 1979; Noel, 1984; Stetson, 1984; Zigler and Hall, 1986). They cite several reasons for this view, such as lack of special services, lack of acceptance and positive attitudes, and lack of special training. However, most educators have strongly supported the view that such

students should be placed and integrated into ordinary pre-schools, schools and colleges (see Brown *et al.*, 1979; Certo, Haring and York, 1984; Stainback and Stainback, 1985). The main reasons for their views appear to be: integration provides opportunities for (a) social contact between non-handicapped and handicapped individuals; (b) mutual acceptance, tolerance and understanding; and (c) both handicapped and non-handicapped students to learn and practise social skills which are needed for functioning in a complex and heterogeneous society. 'Main-streaming' or integration of mentally handicapped students into ordinary classes and schools highlights teachers' attitudes as a major concern and places regular education teachers in a new responsibility. MacMillan, Jones and Meyers (1976) maintain that the success of integrated programmes and ultimately the willingness of regular teachers to accept mentally handicapped students in their classes depends upon the attitudes of regular teachers. It is therefore important to study teachers' attitudes in integrated settings, since teachers are in a strong position to help maximize the integration of severely handicapped students into ordinary schools (Stainback, Stainback and Dedrick, 1984). Such studies will show how teachers' attitudes affect the quality of integrated programmes for severely handicapped students and their everyday education. They will also show how teachers' willingness to accept these students in their classes affects the social and emotional adjustment as well as the academic achievement of such students in integrated settings.

More specifically, regular teachers can help facilitate the integration of severely handicapped students with non-handicapped peers by accepting severely handicapped students into their classrooms during certain non-academic activities, such as art, music, holidays and birthday parties. Regular teachers who have positive attitudes towards the integration of severely handicapped students also can encourage their non-handicapped students to visit the special classes or schools, to work as peer tutors and/or simply to spend a little time there with severely handicapped peers (Hamre-Nietupski *et al.*, 1984; Stainback and Stainback, 1981).

But, a literature review shows that regular education teachers are often ill-prepared and most of them unwilling to accept severely handicapped students in their classes. Williams, Vogelsberg and Schutz (1985) believe that teachers typically have little knowledge and experience of contact with severely handicapped students. They maintain that teachers are usually unsure how to communicate with such individuals and hold some negative attitudes toward them. Teachers feel that placing mentally handicapped students in ordinary classrooms will dilute the programmes or lead to disturbance and take up a disproportionate amount of time (Hudson, Graham and Warner, 1979).

The literature review also shows that an individual's attitude is influenced by different factors, of which social contact is crucial. Lack of contact with mentally handicapped students appears to be a major factor contributing to unknown fears, prejudices and stereotypes in many teachers. In recent years, the effects of social contact with mentally handicapped students on teachers' attitudes toward such students have received considerable attention. However, according to Gottlieb (1975) the relationship between proximity to the mentally retarded and attitudes toward them in general is not at all clear, and the literature shows both confusion and contradiction.

To illustrate, Stainback, Stainback and Dedrick (1984) and Harasymiw and Horne (1975, 1976) found that social contact with mentally handicapped students produced favourable teacher attitudes. They reported that the major benefit of integrated programmes was the facilitation of social contact between mentally

handicapped students and regular teachers and found that contact was the main variable affecting the attitudes of teachers.

Harasymiw and Horne (1975, 1976) compared the effect of social contact on the attitudes of 191 urban teachers from five integrated schools (experimental group) and 161 from five non-integrated schools (control group). The subjects did not differ on the variables of sex, age and level of education. Their attitudinal instrument was a questionnaire, composed of 52 Likert and 'Social Distance' type questions. They found that teachers who had experienced integrated schools showed significantly more favourable feelings and attitudes toward integration than teachers who had experienced non-integrated schools.

Stainback, Stainback and Dedrick (1984) studied the attitudes of 92 elementary and secondary teachers towards the integration of severely handicapped students into regular schools. The data were collected by means of the 'Severely Handicapped Integration Attitude Survey' which contained 14 items (Likert-type scale). Before the implementation of the questionnaire, the subjects were given a brief presentation and a series of 30 slides (ranged from pre-school to secondary levels) designed to describe typically severely handicapped students. The results showed a significant positive correlation between the amount of contact with severely handicapped students and the teachers' attitudes ($r = 0.33$, $p < 0.01$).

By contrast, Stephens and Braun (1980) have reported that social contact *per se* does not lead to favourable attitudes; they failed to find a relationship between social contact and attitude. They studied 865 regular teachers' willingness to accept educable mentally handicapped, physically handicapped and emotionally disturbed students into their classrooms. They reported that 61 per cent of the teachers showed a willingness to accept such students but 39 per cent showed no such willingness. They also found no significant relationship between reported contact with handicapped students and teachers' attitudes toward integrating these students into regular classrooms.

Surprisingly, Shotel, Iano and McGettigan (1972) reported that social contact could even produce unfavourable attitudes. They compared the attitudes of a total of 128 elementary teachers who were involved in integrated programmes (experimental group) with those elementary teachers who were involved in self-contained special classes (control group). They used a 13-item questionnaire to elicit the teachers' attitudes towards the integration of students who were labelled educable mentally retarded, learning disabled and emotionally disturbed. The findings showed no significant differences between the attitudes of the experimental and control groups.

All of the investigations described above have been carried out in the USA. The most frequent group of participants who have been studied are elementary teachers, and the most frequent group of students with special needs are students with mild handicaps (except in the study by Stainback, Stainback and Dedrick, 1984). Very little attention has been paid to college teachers' attitudes towards severely handicapped students and their integration. Thus, as Baker and Gottlieb (1980) maintain, research on the attitudes of regular teachers toward the integration of mentally handicapped students is in its infancy. The above studies also indicate that the effect of prior contact with mentally handicapped people on teachers' attitudes has been inconclusive and so that additional research in other cultures is warranted.

In Britain, following the publication of the Warnock Report (DES, 1978) and the implementation of the Education Act 1981, there has been an increasing emphasis on the integration of students with special needs, at all levels of schooling, into mainstream education. Currently many schools for children with severe learning

difficulties have begun to establish link programme with ordinary playgroups, neighbourhood schools and further education colleges, and so ordinary teachers are often being asked to provide some sort of integrated education for this population. As a result, 'link programmes' are gaining momentum and in recent years many students with severe handicapping conditions are increasingly being integrated and educated with their non-handicapped peers in mainstream education.

Hegarty (1988) maintains that link programmes are a significant development in the provision for students with special needs. He explains that link programmes take several forms and can involve the movement of pupils or staff, or both, in either direction. Jowett, Hegarty and Moses (1988) report that in 1985, of 268 special schools for children with a variety of special educational needs surveyed in England and Wales, 73 per cent were involved in link programmes, 10 per cent were planning to establish link programmes and 2 per cent previously had such programmes. It is of interest that schools for pupils with severe learning difficulties had the highest proportion of link programmes, whereas schools for pupils with physical handicaps had the smallest proportion.

Nevertheless, link or integrated programmes have been met with a variety of reactions ranging from acceptance and support to rejection and opposition. Also, most of the research carried out into the attitudes of ordinary teachers had been done in the USA (Hegarty, Pocklington and Lucas, 1981, p. 455). To date, very little is known about the social outcomes of such link programmes on teachers' attitudes (as well as about teachers' attitudes toward such programmes) and in Britain this field has been neglected. According to Jones (1984) one can legislate for physical access and the provision of educational opportunities, as it has been done, but one cannot legislate for acceptance and remove attitudinal barriers by law. He believes that the battle is far from won and that attitudinal barriers remain as a critical obstacle to the acceptance of mentally handicapped students in mainstream education.

The above studies and the current views on integrated programmes raise, therefore, many questions which are crucial in determining the success of such programmes. For example, two such questions are:

1. What is the effect of having or not having social contact with severely handicapped students on teachers' attitudes toward such students and their integration?
2. Do teachers who have experienced more social contact with severely handicapped students possess more favourable attitudes toward this group than those who have experienced less social contact?

The purpose of the present study, therefore, was to assess whether different amounts of social contact with severely handicapped students were related to the attitudes and emotional reactions of college teachers toward such students and their integration into further education colleges. It was hoped that the findings would help educational psychologists as well as social policy makers to maximize the effectiveness of educational integration programmes. It was hypothesized that college teachers who had more experience of social contact with severely handicapped students would express more favourable attitudes and reactions towards such students and their integration than would those who had no such experience of social contact with this group.

METHOD

Setting and Subjects

Since the beginning of the academic year 1984–85 a link programme has been established between a tertiary college* and a local special school for children with severe learning difficulties in order to extend the further education opportunities for students with severe learning difficulties. Both the college and the school are located in the borough of Newcastle-under-Lyme, Staffordshire, England. In 1987–88 the link programme was conducted for two days per week and nine students from the school, whose ages ranged from 16 to 19 years old, were selected and enrolled as part-time students at the college. These students had been identified by medical and educational professionals as persons with severe learning difficulties and their primary handicapping conditions consisted of severe mental handicaps, severe emotional disturbances, and so forth. The students with severe learning difficulties were supervised by one full-time and two part-time special education teachers. These students at the college experienced a number of different *non-academic activities*, such as physical exercise, independent living skills, craft and design in the Home Care Unit, shopping, gardening, using the library, and using the common refectory. Such activities provided unstructured social contact between the students with severe handicaps and the college teachers. However, there were no integrated classes or courses for the students with severe handicaps at the college.

The participants in the present study were 74 full-time college teachers from the tertiary college who ranged in their age from 26 to 56 years old or over.

Pilot Study

A pilot study was carried out in May 1988 in two stages. First, three heads of departments of the college were selected and then preliminary questionnaires were given to them. The preliminary questionnaire was developed from and expanded on the questionnaire used by McConkey, McCormack and Naughton (1983a, b). After completing the questionnaire, the respondents were interviewed individually for 10 to 15 minutes in order to ask them whether they had any difficulties in understanding the questions.

Second, four experts in the field of special education and psychology were identified and requested to complete and evaluate the pilot questionnaire in order to determine the potential content validity of the questions for measuring the attitudes of college teachers toward students with severe handicaps and their educational integration. The findings from the above procedures suggested that most of the questions were clear and relevant except for a few, which were then revised.

* A tertiary college is at the third level of education in England and offer a complete range of educational and training opportunities for students over the age of 16, including both academic programmes and those related to future employment.

Measuring Instrument

The main body of the questionnaire used in the present study was the same as that used in studying the attitudes of college students, except for a few alterations and modifications (See Beh-Pajooh, 1991). The final version of the questionnaire had four parts and contained 68 information and attitude items. For instance, some questions were designed to ascertain whether the respondents had received any training in teaching students with learning difficulties; whether they knew about the link programme; whether they had any contact with the students from school, and so forth. The questionnaire also included two scales, one called *The Emotional Reaction Scale* (ERS) which contained four items for measuring positive reactions and four items for measuring negative reactions. The items of this scale were followed by a three-point rating scale: 'Yes', 'No' and 'Don't Know' (see Table 1).

The second scale was called *The Attitude Scale* (AS) and this had 36 items; 20 of these items were worded either positively or negatively in order to measure positive attitudes and 16 items were similarly worded to measure negative attitudes. The items on this scale were randomly assorted and followed by a five-point Likert-type rating scale (Likert, 1932): Strongly Agree (SA), Agree (A), Undecided (U), Disagree (D) and Strongly Disagree (SD) (see Table 2). (Copies of the full questionnaire are available from the author on request.)

Procedure

The data were collected in June 1988 (that is at the end of the academic year 1987-88). Initially 123 questionnaires were placed in college teachers' pigeon holes and three questionnaires were delivered to the office of the Principal and Vice Principals. Each questionnaire was accompanied by a letter of the Head of the Special Needs Department which asked the participants to fill in the questionnaire and then return it in the attached envelope to his pigeon hole. On the first page of the questionnaire I had thanked the participants for their cooperation and pointed out some notes, such as 'this is a survey about what you think and feel towards severely mentally handicapped students and that there are no right or wrong answers'. They were also told that their answers should be based on their own personal and first reactions and that their answers would be used only for research purposes and would be treated confidentially. Approximately 20 minutes were required for completion of the questionnaire.

After three weeks 74 questionnaires were returned (that is a return rate of 59 per cent). From the information provided by the participants it was possible to group them into three sub-groups: High Contact (HC), Low Contact (LC) and No Contact (NC). This division was based on the frequency of the participants' social contact with the severely handicapped students at the College during the last six months.

Scoring and Statistical Analyses

The Emotional Reaction Scale (ERS)

To compute the total score for each subject on the emotional reaction scale, a score of +1 for 'Yes' and -1 for 'No' answers was assigned for the four positive items (for example, Find it a good experience? Find it enjoyable?). Similarly, a

score of -1 for 'Yes' and +1 was assigned for 'No' answers for the four negative items (for example, Feel scared? Find it tiresome?). Then the total score for each respondent was computed by subtracting the negative scores from the positive ones. Theoretically, the possible total scores ranged from -8, the most negative emotional reaction, to +8, the most positive emotional reaction (see Table 1).

The Attitude Scale (AS)

To compute the total score for each subject on the attitude scale, a score of +2 for either Strongly Agree or Strongly Disagree and +1 for either Agree or Disagree was assigned for attitude items that showed *favourable attitudes* (for example, items 4, 5, 11, 27, see Table 2). Similarly, a score of -2 for either Strongly Agree or Strongly Disagree, and -1 for either Agree or Disagree was assigned for attitude items that revealed *unfavourable attitudes* (for example, items 7, 17, 22, 28, see Table 2). After that, the total score for each subject was computed by subtracting the negative scores from the positive ones. In this manner, the possible total scores ranged from -72, the most negative attitude, to +72, the most positive attitude. It should be reported that on both scales a score of zero was given to 'Don't Know', 'Undecided' and 'no answers' and these were considered as neutral responses.

In order to analyse the responses *the Statistical Package for the Social Sciences* (SPSS/PC+) was used. In this study the subjects' total scores on each scale were the dependent measures and the other variables (for example, sex, age, degree of contact, etc) were the independent ones.

RESULTS

The final sample of 74 college teachers consisted of 38 (51 per cent) males and 36 (49 per cent) females. Of the total sample, 68 were lecturers and 6 had administrative positions, 74 per cent were married and 53 per cent of them at least had Honours Degrees. The majority of the sample (88 per cent) did not object to having the severely handicapped students at their college, but only 56 per cent of the respondents claimed that they did not mind teaching such students in their classes.

The Emotional Reaction Scale

In general, the sample showed positive emotional reactions to meeting a severely handicapped student whom they had not met before in their classes (mean = 2.18; SD = 2.98). More specifically, 64 per cent of them achieved positive scores ranging from +1 to +8 and 36 per cent negative scores ranging from zero to -4.

Table 1 shows that the highest percentages of the college teachers that reflected *positive reactions* were expressed to the following items:

Item 4.	'Feel scared?'	74%	(NO)
Item 1.	'Know what to say?'	47%	(YES)

On the other hand, the highest percentages that reflected *negative reactions* were reported to the following items:

Item 2.	'Know how to communicate?'	33%	(NO)
Item 8.	'Lose your concentration?'	12%	(YES)

Table 1: Means and percentages of the college teachers' responses to the items on the emotional reaction scale (N = 74)

	Yes	No	Don't know	No answer
	%	%	%	%
1. Know what to say?	47	26	27	6
2. Know how to communicate?	38	33	29	8
3. Feel embarrassed?	12	69	19	6
4. Feel scared?	10	74	16	6
5. Find it a good experience?	28	8	64	7
6. Find it enjoyable?	10	10	80	6
7. Find it tiresome?	6	38	56	8
8. Lose your concentration?	12	52	36	10

Four-fifths (80 per cent) of the respondents reported that they did not know whether they would find it enjoyable or not (Item 6).

The Attitude Scale

The majority of the sample expressed positive attitudes toward severely handicapped students and their integration into mainstream college (mean = 20.31; SD = 13.01). More precisely, 91 per cent of the subjects obtained positive scores ranging from +1 to +49, whereas only 9 per cent received negative scores ranging from zero to -13.

Table 2 shows that the strongest agreement and agreement that reflected *positive attitudes* by the college teachers were expressed to the following items:

- Item 5. Severely handicapped students should be allowed to use the refectory (99%)
- Item 6. Severely handicapped students should be allowed to use the library (94%)
- Item 33. It would necessitate college teachers being trained on how to teach and communicate with severely handicapped students (91%)
- Item 9. Severely handicapped students should be allowed to have a normal and regular life (88%)

The strongest disagreement and disagreement that again reflected *positive attitudes* were expressed to the following items:

- Item 7. Severely handicapped students should be allowed to mix only with their own group at the college (92%)
- Item 17. Severely handicapped students should not be allowed to vote in the College Students' Union elections (70%)
- Item 3. Severely handicapped students should be allowed to continue their education only at special schools (66%).

The college teachers showed favourable attitudes towards integration and 90 per cent of them agreed that integration would offer more opportunities for social interaction between severely handicapped and non-handicapped students (item 26). 89 per cent of the respondents agreed that integration would offer more opportunities for social interaction between college teachers and severely handicapped students (item 25). 88 per cent of the respondents agreed that integration would give severely handicapped students a better chance to prepare themselves for social life (item 27) and 87 per cent of them agreed that integration would be beneficial for the social education of severely handicapped students (item 19).

On the other hand, the strongest agreement and agreement that reflected *negative attitudes* towards severely handicapped students and their integration were expressed to the following items:

- Item 22. Severely handicapped students would need attention more than non-handicapped students (78%)
- Item 32. A severely handicapped student would take more than his or her share of the teacher's time (56%)
- Item 20. Non-handicapped students would feel uncomfortable around severely handicapped students in the integrated classes (46%)
- Item 31. It would be difficult to maintain order and silence in the integrated classrooms (28%).

59 per cent of the college teachers were uncertain whether college teachers would feel uncomfortable in an integrated classroom and 49 per cent were uncertain whether it would be harmful for the academic education of non-handicapped students. Also, 55 per cent of the subjects were uncertain about the consequences of integration in terms of whether non-handicapped students would lose their concentration and 44 per cent were undecided whether college teachers would similarly lose their concentration easily.

Other Findings

The results of a one-way ANOVA and *t*-test for the mean scores on the attitude scale and on the emotional reaction scale in relation to the participants' sex, age, level of education, marital status and types of contact showed no significant differences among different groups. However, the above tests for questions on 'training', 'knowing about the link programme', 'having contact', and 'frequency of contact' produced significantly different results as follows.

Training

As Table 3 shows only 15 per cent of the respondents reported that they had training in teaching students with learning difficulties. This group expressed significantly more favourable attitudes and emotional reactions to severely handicapped students and their integration than the remainder (85 per cent) who did not have a such training ($t_{AS} = 2.07$, $df = 72$, $p < 0.02$; $t_{ERS} = 1.67$, $df = 72$, $p < 0.04$).

Table 2: Means & percentages of the college teachers' responses to the items on the attitude scale (N = 74)

	<i>In your view, students who are severely mentally handicapped (SMH)...</i>					
	SA	A	U	D	SD	NA*
	%	%	%	%	%	n
1. are honest and kind.	6	36	52	6	0	5
2. are clumsy and weak.	0	20	41	35	4	5
3. should be allowed to continue their education <i>only</i> at special schools.	4	3	27	48	18	1
4. should be allowed to continue their education at ordinary colleges.	25	46	22	7	0	2
5. should be allowed to use the refectory.	47	52	0	1	0	1
6. should be allowed to use the library.	43	51	6	1	0	1
7. should be allowed to mix <i>only</i> with their own group at the college.	0	5	3	43	49	1
8. have just the same problems as non-handicapped students have.	7	22	23	39	8	2
9. should be allowed to have a normal and regular life.	36	52	9	3	0	1
10. should <i>not</i> be allowed to have sexual relationships as non-handicapped students have.	4	8	33	29	25	2
11. should be allowed to have some classes such as art, music, and/or PE with non-handicapped students.	33	49	11	6	1	1
12. should be allowed to participate in all classes.	11	15	37	36	1	1
13. should be allowed to go on college field trips with other students.	23	50	19	8	0	1
14. should be allowed to become members of the College Students' Union.	33	60	4	3	0	1
15. have special problems apart from the problems that non-handicapped students have.	22	64	8	6	0	1
16. prefer to talk and play with other handicapped students rather than with non-handicapped students.	1	7	48	41	3	1
17. should <i>not</i> be allowed to vote in the College Students' Union elections.	3	7	21	42	28	2

Table 2 (continued)

<i>In your view, if severely mentally handicapped (SMH) and non-handicapped (NH) students were to be integrated and taught together in regular classes at the college...</i>		SA	A	U	D	SD	NA*
		%	%	%	%	%	n
18.	it would be beneficial for the social education of non-handicapped students.	29	54	13	4	0	2
19.	it would be beneficial for the social education of SMH students.	24	63	11	3	0	2
20.	NH students would feel uncomfortable around SMH students in the classroom.	1	45	35	19	0	2
21.	NH students would find it much easier to communicate with SMH people after leaving the college.	18	65	13	3	1	2
22.	SMH students would need attention more than NH students.	14	64	17	5	0	2
23.	it would be harmful for the academic education of NH students.	7	18	49	25	1	2
24.	it would be harmful for the academic education of SMH students.	1	13	38	46	3	2
25.	it would offer more opportunities for social interaction between college teachers and SMH students.	18	71	10	1	0	2
26.	it would offer more opportunities for social interaction between SMH and NH students.	21	69	8	1	0	2
27.	it would give SMH students a better chance to prepare themselves for social life.	24	64	110	3	0	2
28.	it would have negative effects on the emotional development of SMH students.	0	4	51	40	4	2
29.	college teachers would feel uncomfortable in such classrooms.	1	25	59	15	0	2
30.	SMH students would feel comfortable around NH students in such classrooms.	1	31	60	8	0	2
31.	it would be difficult to maintain order and silence in such classrooms.	4	24	40	29	3	2
32.	a SMH student would take more than his/her share of the teacher's time.	6	50	36	7	1	2
33.	it would necessitate college teachers being trained on how to teach and communicate with SMH students.	44	47	6	3	0	2
34.	college teachers would lose their concentration easily.	3	15	44	31	7	3
35.	NH students would lose their concentration easily.	4	25	55	13	3	3
36.	for SMH students it would be more important to learn social skills than academic skills.	7	40	38	13	3	2

* No Answer

Table 3: Means & SDs on the Attitude Scale (AS) and the Emotional Reaction Scale (ERS) by training, knowing about the link programme and having contact with the severely handicapped students (N = 74)

	n	%	AS		ERS		
			Mean	SD	Mean	SD	
<i>Training</i>							
With training	11	15	27.64	8.11	3.54	3.29	
Without training	63	85	19.03	13.32	1.94	2.88	
<i>Knowing about the link programme</i>							
Knowing	25	34	25.40	11.47	3.28	2.84	
Not knowing	49	66	17.71	13.08	1.61	2.91	
<i>Having contact</i>							
Having contact	31	42	25.77	12.16	3.09	3.21	
Not having contact	43	58	16.37	12.28	1.51	2.64	

Knowing about the link programme

As Table 3 indicates only one-third (34 per cent) of the sample knew about the link programme between the School and the College. This group obtained significantly higher mean scores on both scales than the remainder (66 per cent) who did not know anything about the link programme ($t_{AS} = 2.49$, $df = 72$, $p < 0.01$; $t_{ERS} = 2.35$, $df = 72$, $p < 0.02$).

Having contact

On this question, the subjects were asked to indicate generally their social contact, if any, with the severely handicapped students from the school. Table 3 reveals that 42 per cent of the sample had social contact with the severely handicapped students. This group obtained significantly higher mean scores on both scales than the remainder (58 per cent) who did not have social contact with these students ($t_{AS} = 3.26$, $df = 72$, $p < 0.001$; $t_{ERS} = 2.33$, $df = 72$, $p < 0.01$).

Types of contact

The most frequent types of contact with the severely handicapped students which the college teachers reported were 'Seen them in the corridors (46 per cent)', 'Had conversation with them' (35 per cent) and 'Seen them in the refectory' (30 per cent). Only 5 per cent of the respondents reported that they had seen the severely handicapped students in the library. It should be noted that some of the participants had contacts in more than one way. The results of the one-way ANOVA for four different types of contact with the severely handicapped students and the mean scores on both scales showed no significant differences among those subjects who had reported various types of contact ($F_{AS} (3,82) = 0.44$, N.S.; $F_{ERS} (3,82) = 0.40$, N.S.).

Frequency of contact

On this question, the subjects were asked to indicate the frequency of their social contact with the severely handicapped students during the last six months in terms of Often, Sometimes and Not-at-all. Then, in order to address the research hypothesis from the information provided by the subjects, it was possible to group

the sample down into three sub-groups: High Contact (HC), Low Contact (LC) and No Contact (NC).

Table 4: Means & SDs on the Attitude Scale (AS) and the Emotional Reaction Scale (ERS) by the frequency of contact with the severely handicapped students (N = 74)

	n	%	AS		ERS	
			Mean	SD	Mean	SD
Often (HC)	8	11	20.75	11.77	4.12	2.90
Sometimes (LC)	26	35	25.15	13.89	2.77	3.10
Not-at-all (NC)	40	54	17.07	11.91	1.40	2.69
Total	74	100	20.31	13.01	2.18	2.98

As can be seen in Table 4, 54 per cent of the college teachers indicated that they had no social contact with the severely handicapped students during the last six months (NC group). The mean scores of this group on both scales were lower than those who reported that they had a high or a low degree of social contact with these students (HC and LC groups). The results of the one-way ANOVA on *The Attitude Scale* showed that the mean scores of the three groups differed significantly [$F_{AS}(2,71) = 3.23, p < 0.04$]. Following this significant F-ratio, a Scheffé post-hoc analysis was performed: the results showed that only the differences between the mean scores of LC group and NC group were statistically significant ($p < 0.05$) but that there were not significant differences between the mean scores of HC group and NC group as well as HC group and LC group (this may be due to the small size of the HC group, $n = 8$).

Similarly, the mean scores of three groups were compared on *The Emotional Reaction Scale*. The results showed that the three mean scores differed significantly [$F_{ERS}(2,71) = 3.87, p < 0.02$]. A Scheffé post-hoc analysis showed that no significant differences existed between the mean scores of any paired groups.

DISCUSSION

The results generally support the main hypothesis that those college teachers who have experienced social contact with severely handicapped students will express more positive attitudes and emotional reactions towards such students than those who have not experienced such contact. More specifically, in the present study those college teachers who had training in teaching students with learning difficulties, those who were aware of the link programme between the School and the College and those who had experienced social contact with the severely handicapped students were more likely to express favourable attitudes and emotional reactions towards severely handicapped students and their educational integration.

The present findings support the studies reported earlier by Beh-Pajoo (in press), Stainback, Stainback and Detrick (1984) and Harasymiw and Horne (1975, 1976). Such findings, however, should be approached cautiously because causation and correlation cannot be separated in these studies. It is quite possible that participants with more favourable attitudes to students with mental handicaps would be interested in seeking out more social contact with such students than those with unfavourable attitudes. In order to explore the effects of holding positive attitudes on having contact or the effect of having contact on forming positive

attitudes – the problem of causation – we would need to study attitudes before and after contact with adequately controlled pre- and post-attitude assessment studies.

Furthermore, in the present study the sample was possibly unrepresentative of the total population of college teachers (as 41 per cent of them did not return their questionnaire). It is possible that the non-respondents were more neutral or even had negative attitudes towards severely handicapped students and their integration into the College. Another difficulty is that, in general, attitudes are not a unitary dimension and cannot be captured by a single score. So more research is needed to uncover the various variables which impact on the formation, modification and maintenance of attitudes to severely handicapped students and their integration.

A startling findings in the present study was that 66 per cent of the college teachers did not know anything about the link programme between the School and the College, and that 58 per cent of them did not have any social contact with the severely handicapped students. Also, one-third of the college teachers said that they did not know how to communicate or what to say when meeting severely handicapped students. The likely reason for such findings is that since the beginning of the link programme at the College there had been no preparation programmes or 'awareness raising sessions' for the college teachers. Additionally, there were no structured contacts and integrated classes. Therefore, in most cases, the college teachers did not know the severely handicapped students, especially by their names, and this problem made it frequently difficult for the college teachers to initiate conversations with these students.

In sum, the present study confirms a positive relationship between having social contact with severely handicapped students and holding favourable attitudes towards them. It suggests that link programmes can contribute to the social integration of severely handicapped students into ordinary colleges. This study also suggests that to achieve an effective and successful integrated programme we need to remove visible, as well as invisible, barriers through:

- (a) providing information for teachers about the benefits of integrated programmes for both groups of non-handicapped and severely handicapped students via in-service training programmes and workshops;
- (b) familiarizing teachers about the rationale of link programmes prior to the implementation of such programmes;
- (c) providing systematic efforts to increase exposure to and social contact with severely handicapped students;
- (d) providing a supportive environment for those teachers who enjoy having social interaction with severely handicapped students and who respect their rights to be in mainstream education without any restriction. Otherwise, link programmes may lead instead of social integration only to the physical placement of mentally handicapped students in mainstream education – which is essential but not sufficient.

NOTE

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RÉSUMÉ

74 enseignants travaillant à temps plein dans un Collège Supérieur ont complété un questionnaire comprenant 68 questions et portant sur leurs attitudes envers les étudiants porteurs d'un handicap mental sévère et sur leur intégration dans les collèges d'enseignement secondaires. Les résultats montrent que les professeurs du Collège qui (1) avaient été formés pour enseigner aux élèves ayant des difficultés d'apprentissage, (2) étaient au courant du programme liant leur Collège à des écoles locales accueillant des élèves qui ont de sérieuses difficultés à apprendre et (3) avaient eu des contacts sociaux avec des étudiants sévèrement handicapés, avaient une attitude et des réactions émotionnelles - les plus positives envers les élèves handicapés sévèrement et leur intégration scolaire. La conclusion de cette étude est que, pour rendre plus effectif des projets liant écoles ordinaires et écoles spéciales et pour favoriser une attitude plus positive à l'égard d'étudiants sévèrement atteints, les responsables des Collèges doivent offrir davantage d'occasions pour discuter sur les raisons d'être de ces programmes d'échanges et sur les motifs présidant au développement de contacts sociaux entre les étudiants concernés.

ZUSAMMENFASSUNG

74 vollzeit-beschäftigte Lehrer einer beruflichen Schule (tertiary college) beantworteten einen 69 Punkte umfassenden Fragebogen über ihre Einstellungen zu Schülern mit schwerer geistiger Behinderung und ihre Integration in normale berufliche Schulen. Die Ergebnisse zeigten, daß Lehrer, die (1) Erfahrungen mit der Unterrichtung von Schülern mit Lernschwierigkeiten hatte, die (2) um das Kooperationsprogramm zwischen ihrer Schule und der örtlichen Schule für Schüler mit schwerer behinderung Bescheid wußten, und die (3) bereits eigenen Kontakt mit schwerstbehinderten Schülern hatten, positivere Haltungen und emotionale Reaktionen äußerten. Die Untersuchung kommt zu dem Schluß, daß in den beruflichen Schulen mehr Möglichkeiten der Diskussion über die Bedeutung von Kooperationsprogrammen und der Kontakte zwischen beteiligten Schülern geschaffen werden müssen, um die Kooperation wirksamer zu machen.