

## Changing Negative Attitudes Towards Persons with Physical Disabilities: An Experimental Intervention

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### ABSTRACT

An experimental study was designed and tested to change negative attitudes towards the physically disabled. A pre-post-test intervention was conducted including three conditions: (a) cognitive intervention; (b) cognitive and behavioural intervention involving equal-status contact with the target group; (c) no-intervention control. The sample consisted of 70 ninth grade students. Following baseline assessments of attitudes, attitude change was measured immediately following the intervention and at a follow-up three months post-intervention. The cognitive intervention provided information about physical disability and challenged stereotypic conceptions about the physically disabled. The behavioural intervention consisted of engaging in three paralympic disciplines under the instruction of a group of disabled athletes. The cognitive intervention alone did not result in significant changes in attitudes towards the physically disabled. However, the combined cognitive-behavioural intervention resulted in greater attitude change than the no-intervention condition, both immediately post-intervention and at a three months follow-up. The findings are discussed with regard to models of attitude change through equal-status contact. Copyright © 2006 John Wiley & Sons, Ltd.

*Key words:* attitude change; prejudice; physical disability; contact hypothesis

### INTRODUCTION

Statistics show that there are almost 4.5 million people with physical disabilities in Germany (Statistisches Bundesamt, 2001). Even with laws to support the rights of the disabled and an overtly shown positive attitude, there are still barriers in everyday life between disabled and nondisabled people. Western society is very much driven by the desire for physical perfection that is oriented towards the well-functioning, sporty, good-looking person (Barnes, 1996). Imperfection, such as physical disability, does not

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fit this ideal. Even when top-performing disabled athletes strive for medals in competitions, they are faced with prejudice. This was shown by a comment from a reporter interviewing a wheelchair-bound athlete, claiming—mistakenly—that physical disability was the only entrance qualification for participation in the Paralympic Games, unlike the strict qualification norms that had to be met for the Olympic Games (Buggenhagen, 1996).

Today there are numerous laws and norms to ensure equal treatment of people with disabilities, and we live in a society that takes pride in its tolerance and integration. Therefore, open antipathy or dislike towards people who are physically different is no longer socially desirable. However, feelings of discomfort, rejection or fear during interaction with a disabled person are still prevalent, accompanied by misconceptions about the behaviour, personality and achievement potential of the disabled (Seifert & Bergmann, 1983). As social psychological research on prejudice and stereotypes suggests, such reservations cannot be overcome solely by legal regulations and integration policies. Instead, measures are required that target individuals' cognitions, emotions, and behaviours towards the physically disabled. The present study presents an intervention designed to change attitudes towards the physically disabled in adolescents.

Negative attitudes towards people with disabilities begin to emerge early in the process of development. Young children already categorize people into disabled and nondisabled and favour the nondisabled (Maras, 1993; Richardson, Hastorf, Goodman, & Dornbusch, 1961). Lee and Rodda (1994) stress that false beliefs about disability that are acquired in childhood are due to a 'pervasive sociocultural conditioning' (p. 231). The existing social and cultural norms are geared towards achieving and maintaining beauty, youth and fitness of the body. In the media, disabled people are portrayed as sick, suffering, looking for help and having special needs (Ruffner, 1990). They are unable to conform to the cultural norms and therefore marginalized in society.

Few studies have been conducted to modify negative attitudes towards the physically disabled through systematic interventions. One cornerstone of such interventions is the attempt to change the cognitive foundations of prejudicial attitudes through information (Ajzen & Fishbein, 1980). Roeher (1961) and Golin (1970) showed that with increasing information, negative attitudes towards the disabled were modified and stereotyping was reduced. However, Tröster (1990) argued that providing information is not sufficient to achieve lasting change of attitudes towards the disabled. Lee and Rodda (1994) even reported that attitudes deteriorated following presentation of information. They concluded that contact is required as an additional element to show positive results. Since Allport's (1954) initial presentation of the 'contact hypothesis', attempts have been made to change negative attitudes i.e. prejudice, towards outgroups by promoting contact with the target group. However, it soon became apparent that contact not always improves intergroup relations and may, indeed, aggravate tensions. For contact to lead to a reduction in prejudice, certain conditions have to be met: equal status, cooperative pursuance of common goals, institutional support through legal and policy decisions and the opportunity to form friendships (Allport, 1979; see Brown & Hewstone, 2005, for a comprehensive review; Cook, 1978). Although there is evidence that contact can be successful (e.g. Sherif & Sherif, 1953; Rapier, Adelson, Carey, & Croke, 1972; Weinberg, 1978), Yuker (1988) revealed that only half of 318 studies with contact situations proved successful in modifying attitudes towards the disabled, while the other half showed no or even negative effects. Lee and Rodda (1994) suggested that a combined strategy of both information and contact should be most successful. First, a basic knowledge should be acquired which

is subsequently connected to personal experiences during contact (Anthony, 1972; Haney & Rabin, 1984).

However, there is a lack of controlled interventions using an experimental pre-post-test design to examine the effectiveness of a combined approach and to assess its superiority over a more traditional information-based intervention. The present study was conducted to address this issue. The intervention was designed to compare a purely cognitive intervention with a combination of cognitive and behavioural intervention, and to contrast both with a no intervention control condition. The cognitive intervention focussed on prompting respondents to think about physical disability and to question their stereotypic conceptions of people with physical disabilities. The purpose of the combined cognitive-behavioural intervention was to introduce an additional element that facilitated equal-status personal contact with members of the target group. A sports and game context was chosen for the contact situation between physically disabled and nondisabled young people. It consisted of engaging in sports activities for the disabled under the instruction of disabled athletes. Sport activities contain a fun element and create an atmosphere in which initial inhibitions can be overcome. They enable participants to experience equal-status contact with disabled persons in a positively valued context.

The central hypothesis of the present research was that the combined cognitive and behavioural intervention would be more successful in changing negative attitudes towards the physically disabled than the cognitive intervention alone. This prediction was based on Allport's contact hypothesis, reasoning that combining information about an outgroup with personal contact in a cooperative and equal-status framework would lead to greater and more sustained attitude change than providing information alone.

Prior contact with physically disabled persons was included as an additional variable. Based on previous research (e.g., Kiger, 1997), it was hypothesized that participants who had been in personal contact with disabled people before the intervention would hold more positive attitudes towards this group than participants without direct contact experience. Including personal contact also enabled us to examine whether the interventions had differential effects on participants with and without prior contact experience. Two competing predictions can be advanced with respect to the effect of the intervention on participants with high vs low prior contact: On the one hand, if we assume that prior contact is associated with less negative attitudes, participants with high prior contact might be more responsive to the intervention and revise their attitudes even further in the positive direction. On the other hand, participants with low prior contact may be more affected by the intervention because it provides a new opportunity for them to gain first-hand experience in interacting with members of that target group.

## **METHOD**

### *Procedure and participants*

A total of 70 ninth grade secondary school students participated in the study. Twenty-six respondents were male, 44 were female. The mean age of the participants was 14.8 years ( $SD = 0.40$ ). Participants were allocated randomly to one of three experimental conditions: (a) *cognitive intervention* ( $N = 22$ ); (b) *combined cognitive and behavioural intervention* ( $N = 24$ ), and (c) *no intervention control* ( $N = 24$ ). Respondents participated in a total of three occasions: At T1, immediately prior to the start of the intervention, baseline

measures were collected. The effect of the intervention was measured twice: at T2, immediately following the intervention, and in a follow-up at T3 three months later.

The intervention consisted of two sessions, each comprising two school periods of a total of 90 minutes. In the first session, the cognitive intervention was administered to both intervention groups. In the second session, the cognitive intervention group received a further two periods of cognitive instruction. In contrast, the combined cognitive and behavioural intervention group met a group of disabled athletes and engaged in a series of collaborative sports activities with them. The details of the cognitive and behavioural intervention are described below. The control group did not receive any intervention, but completed the attitudinal measure at the same three data points as the intervention groups.

### *Instruments*

At baseline prior to the first intervention session (T1), all groups completed a questionnaire measuring attitudes towards the physically disabled. The questionnaire was a slightly modified version of the 'Fragebogen zur Einstellung gegenüber Körperbehinderten' (EKB; 'Questionnaire about Attitudes towards the Physically Disabled') by Seifert and Bergmann (1983). This measure has been used in previous studies, both to measure attitudes towards the disabled and to evaluate the effects of interventions designed to modify these attitudes (Seifert & Bergmann, 1983). It comprises 38 negative statements about physically disabled people to which participants respond on a 7-point Likert type scale ranging from 'totally disagree' (0) to 'totally agree' (6). The items address four aspects: (a) *feelings of uncertainty or unease* in interaction with physically disabled persons (e.g. 'It is difficult to do the right things when interacting with someone who is physically handicapped'); (b) *reduced functional competency* of physically disabled persons (e.g. 'One should not expect too much from a physically disabled person'); (c) *emotional instability* and lack of social adaptability of physically disabled (e.g. 'Disabled people are often grumpy and moan about everything'); and (d) *rejection of integration* of disabled persons/advocacy of segregation (e.g. 'It is best for physically handicapped people to marry someone who is also handicapped'). Minor changes were necessary to some items to clarify their reference to physically disabled persons, rather than 'disabled persons' in general. For example, the item 'For a disabled person it is best to live together with other disabled people' was changed to 'For a physically disabled person it is best to live together with other physically disabled persons'. Five items were added to the original scale because the two aspects of functional instability (three new items; e.g. 'Physically disabled people often behave like small children') and rejection of integration (2 new items e.g. 'Most physically disabled persons prefer to withdraw from society') had fewer items in the original scale than the other two aspects. This brought the total number of items to 43.

Because of these modifications, the EKB was first tested in a pilot study involving 79 ninth grade students (34 boys and 49 girls, mean age = 14.80,  $SD = 0.43$ ) before it was used in the present study. Based on the results of the pilot study, 10 items were eliminated because of item-total correlations  $< 0.30$ . The internal consistency of the reduced scale was high with an  $\alpha = 0.94$ .

To measure participants' prior contact with physically disabled persons, a brief scale was developed which asked them to indicate, on a 4-point scale ranging from 0 = 'never' to 3 = 'very often', how much personal contact they had had with physically disabled persons in each of the following domains: (a) in their family; (b) amongst their

friends and acquaintances; (c) at school; (d) during their leisure time; (e) during a part-time job and (f) in other contexts. This measure was included to examine the possibility that increased personal experience with disabled people or the issue of physical disability would have an effect on initial attitudes and/or the effectiveness of the intervention.

A social desirability measure was also included to assess the extent to which changes in attitudes following the intervention might be due to socially desirable responding rather than genuine attitude change. A 17-item scale developed by Stöber (1999) was used for this purpose, containing items such as 'I'm always ready to acknowledge my mistakes and face up to their consequences'; 'I never hesitate to help those in need'.

At T2 (immediately post-intervention) and T3 (three months post-intervention), the EKB was presented again as the critical dependent variable indicating the effect of the intervention.

### *Intervention*

The intervention was designed to encourage attitude change by addressing the cognitive level in both experimental groups and by providing firsthand behavioural experience in the 'cognitive and behavioural intervention' group. The *cognitive intervention* consisted of seven elements:

- (1) Talking about personal experiences in interacting with disabled people. This unit was designed as a warming-up exercise to introduce the participants to the topic of physical disability.
- (2) Developing a definition of 'physical disability'. Participants were introduced to the WHO definition of disability, differentiating between impairment, disability and handicap (World Health Organization, 1995).
- (3) Introducing a taxonomy of disabilities based on the nine categories specified by the World Health Organization (1995).
- (4) Discussing the labelling of physically disabled people. Participants were presented with two denominations i.e. 'physically disabled people' and 'people with physical disabilities' and were encouraged to discuss whether there was a difference in meaning between the two. In this section, participants were also shown a 12-minute TV coverage of the 1996 Paralympic Games in Atlanta, including interviews with participants. Their statements were designed to highlight that people with physical disabilities are like 'normal' people in their thoughts and feelings and capable of top level athletic performance not within reach of the average nonhandicapped person.
- (5) Presenting a historical overview of how physically disabled people were treated by society in the past, providing information about the causes of various disabilities and about how different disabilities affect everyday functioning. For the latter task, participants were split up into five groups discussing one of the following disabilities: spasticity, paralysis, deafness, visual impairments and amputations/malformation of limbs.
- (6) Discussing the issue of interacting with physically disabled persons. This unit was based on five scenarios in which an interaction between a handicapped person and a nonhandicapped goes wrong (help is refused or given in an inadequate way). For example, one of the scenarios read as follows: 'An elderly couple goes shopping in a large shopping mall. A blind man with a white stick approaches them and says: "Excuse me, could you tell me where the next bank is?" "Yes, of course", the woman

answers, “it’s not far. You only have to walk past the boutique and the sports shop and you will see it on the right””. Participants were encouraged to think about their own behaviour in a similar situation and to discuss various ways of offering appropriate help.

- (7) Dispelling stereotypic conceptions about persons with physical disabilities. This was done by presenting empirical studies measuring life satisfaction among disabled and nondisabled people. These studies showed that there was little difference in overall satisfaction (Cameron, Titus, Kostin, & Kostin, 1973) and that by no means all disabled people said that they would wish their disability to go away if they could make a wish come true (Weinberg & Williams, 1978).

The cognitive intervention was conducted by the second author. To ensure that both groups received an equal amount of intervention time, the ‘cognitive only’ intervention was more extensive, taking up the time of the session that the ‘cognitive and behavioural’ group spent on the behavioural intervention. To make sure that the informational input was the same, both groups worked on the same topics, but the ‘cognitive only’ group had twice as much time elaborating on the tasks.

Following the cognitive intervention, participants’ feedback was measured by asking them to indicate (a) how much they had liked the session; (b) how much fun they thought the session had been and (c) how much they felt they had learnt about physical disability. Responses were made on a 4-point scale ranging from ‘not at all’ to ‘very much’.

The combined cognitive and behavioural intervention group received one session of cognitive intervention and a second session comprising practical activities in the gym with a group of physically disabled athletes. Nine physically disabled athletes, eight male and one female, came to the school and gave participants a hands-on introduction to three paralympic disciplines: goalball, wheelchair basketball and sitting volleyball. Six of the athletes had taken part in contests in their respective disciplines, the remaining three engaged in them as a leisure activity. Following a warming-up period during which the athletes introduced themselves and illustrated the three disciplines, participants were given the opportunity to engage in the three activities cooperatively with the athletes for 10–15 minutes per discipline. For goalball, which is a discipline for blind and visually impaired athletes, this involved being blindfolded; for wheelchair basketball, they had to sit in a wheelchair and complete an obstacle course. For sitting volleyball, they had to play the ball sitting down and moving around without using their lower extremities.

Following the behavioural intervention, participants were asked to indicate (a) how much they had liked the session; (b) how much fun they had had during the session; (c) how interested they had been in the new disciplines; (d) how much they felt they had learned; (e) how much they liked the athletes and (f) how exhausting they had found the session to be. All responses were made on 4-point scales ranging from ‘not at all’ to ‘very much’.

## RESULTS

### *Scale reliabilities and descriptive statistics*

The scale reliabilities for the EKB and the descriptive statistics for the total sample across the three data points are displayed in Table 1. The EKB was found to have good reliability

Table 1. Scale reliabilities and mean scores of the attitude towards the physically disabled scale

Measurement	$\alpha$	$M$	$SD$
Baseline	0.88	2.35	0.70
Post-intervention	0.94	2.10	0.84
Follow-up	0.95	2.24	0.92

Note: Lower scores indicate less agreement with negative statements about the physically disabled. Response scale ranged from 0–6.

at each of the data points. The two evaluation measures addressing participants' evaluation of the cognitive and the combined cognitive and behavioural intervention also had acceptable reliabilities of  $\alpha = 0.74$  and  $0.78$ , respectively. The six items measuring prior contact were combined into an overall score based on an  $\alpha$  of  $0.73$ . The mean score of the prior contact variable was  $M = 0.76$  ( $SD = 0.58$ , scale range: 0–3), indicating that prior contact with disabled persons was low in the present sample.

*Baseline data*

Differences in attitudes at baseline were examined through a 2 (respondent sex)  $\times$  2 (prior contact)  $\times$  3 (condition) ANOVA. Respondents were assigned to the high vs low prior contact groups on the basis of median split. This analysis yielded a significant main effect for condition, showing that the 'cognitive only' group scored significantly lower on the EKB ( $M = 1.99$ ) than both the 'combined cognitive and behavioural' group ( $M = 2.51$ ) and the control group ( $M = 2.56$ ),  $F(2,74) = 5.03$ ,  $p < 0.01$ . It also yielded a significant main effect for prior contact with more negative attitudes in the low contact group ( $M = 2.52$ ) than in the high contact group ( $M = 2.18$ ),  $F(1,75) = 4.31$ ,  $p < 0.05$ . However, the extent to which participants had prior contact with physically disabled persons did not vary between conditions, Chi-Square ( $df = 2$ ) =  $2.03$ ,  $p = 0.36$ . There was no significant main effect for respondent sex, and none of the interactions were significant. The correlations between the variables included in the study are presented in Table 2.

*Intervention effects*

To examine the effect of the intervention on attitudes towards the disabled, a 3 (condition)  $\times$  2 (prior contact)  $\times$  3 (time) analysis of variance was computed with condition and prior contact as a between-subjects factors and time as a within-subjects factor. To control for the effects of social desirability, this variable was included as a covariate. This analysis yielded only one significant effect. The interaction between condition and time was significant, indicating a significant effect of the intervention,  $F(1,136) = 3.71$ ,  $p < 0.01$ . The means corresponding to this effect are displayed in Table 3. Planned

Table 2. Intercorrelations between the measures

	(1)	(2)	(3)	(4)	(5)
(1) Attitude T1		0.76***	0.04	-0.15	-0.27*
(2) Attitude T2			0.14	-0.19	-0.33**
(3) Attitude T3				-0.11	-0.05
(4) Social desirability					-0.04
(5) Contact with the disabled					

\* $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\* $p < 0.001$ .

Table 3. Mean attitude scores at baseline, post-intervention and follow-up adjusted by social desirability

Condition	Time	T1: Baseline	T2: Post-intervention	T3: Follow-up
Cognitive		1.98	1.89	1.89
Cognitive and behavioural		2.52 <sup>a</sup>	1.95 <sup>b</sup>	2.07 <sup>b</sup>
Control		2.55	2.45	2.73

<sup>a,b</sup> $p < 0.05$ .

Note: Lower scores indicate less agreement with negative statements about the physically disabled. Response scale ranged from 0–6.

contrasts showed that only the combined cognitive and behavioural condition was successful in reducing negative attitudes towards the disabled, both immediately post-intervention and at the three months follow-up. The cognitive intervention on its own failed to produce significant effects, and the mean scores of the control group also did not change from baseline to the two subsequent measurement points. The interaction of prior contact and time was not significant, nor was the three-way interaction between condition, prior contact and time. Thus, differences in prior contact with disabled persons did not result in differences in the responsiveness to the intervention.

T2 evaluation measures showed that that the intervention was rated in positive terms in both intervention conditions. On a scale ranging from 1 to 4, the mean evaluation score across the two sessions was  $M = 2.81$  ( $SD = 0.61$ ) for the cognitive only group and  $M = 3.49$  ( $SD = 0.38$ ) for the combined cognitive and behavioural group. The difference between the two groups was significant,  $F(1,45) = 19.20$ ,  $p < 0.001$ , indicating that the combined cognitive and behavioural group evaluated the intervention more positively than did the cognitive only group.

To examine whether the difference in attitudes between the cognitive only and the cognitive plus behavioural group was due to the fact that participants in the latter condition were more positive about the intervention, another ANOVA was conducted with these two groups, using a 2 (condition)  $\times$  3 (time) factorial design with time as a within-subjects factor, including evaluation of the intervention as a covariate. This analysis confirmed the significant condition by time interaction,  $F(1,33) = 4.48$ ,  $p < 0.05$ , replicating the pattern of means reported above.

## DISCUSSION

The present study explored the possibility of changing attitudes towards the physically disabled through a custom-tailored intervention administered in a school context. It compared the effectiveness of a purely cognitive intervention and a combined cognitive and behavioural approach and tested both against a no-intervention control group. The findings supported the hypothesis that a combined cognitive and behavioural intervention can reduce negative attitudes towards physically disabled persons. The effects were stronger immediately following the intervention but still significant at a 3-months follow-up. Thus, it can be concluded that an intervention lasting no longer than two sessions of 90 minutes each was successful in bringing about significant and sustained attitude change. It was found that initial attitudes towards the disabled were more positive by participants who had personal experience in interacting with disabled persons. Nonetheless, the effect

of the cognitive plus behavioural intervention was observed regardless of participants' prior contact experience.

It is important to note that the behavioural intervention was built into a sports setting and involved contact with a rather unrepresentative group of disabled people i.e. highly competent athletes. Social cognition research shows that being confronted with an untypical member of an outgroup is less likely to lead attitude change towards the outgroup in general than being exposed to a prototypical outgroup member (Weber & Crocker, 1983). Meeting members of a target group that disconfirm the general stereotype about the group promotes 'subtyping', i.e. declaring these persons as untypical members of their group, thereby protecting the original stereotype. Despite such heightened barriers against stereotype change, the present contact situation had an effect on more general attitudes towards the physically disabled as measured by the EKB. Thus, it appears that the specific behavioural experience had the potential to change more general attitudes about the physically disabled.

The present findings can be interpreted in the context of Allport's (1954) contact hypothesis. Allport argued that negative attitudes towards an outgroup can be changed through personal contact with members of the outgroup, provided the contact is cooperative and on an equal status level. These conditions were clearly met by the present behavioural intervention. By creating a positively valued context through the joint activities with the disabled athletes, personal contact led to less negative attitudes towards the physically disabled than the cognitive intervention alone.

This clear-cut finding notwithstanding, the present study is limited in a number of ways. One is that it is unable to ascertain whether the superior effectiveness of the combined cognitive and behavioural intervention was due to the fact that both elements were included or attributable exclusively to the behavioural element. To address this question, a further condition using a 'behavioural only' intervention would have been required. This possibility was discussed in the planning stage of the study but eventually rejected. It was felt that confronting ninth graders with a group of severely physically disabled athletes without any prior cognitive preparation and to ask them to adopt the role of a physically handicapped person by being blindfolded, sitting in a wheelchair and pretending to be unable to move their lower extremities could potentially have had detrimental effects and would therefore have been ethically questionable.

A second limitation refers to the fact that hands-on behavioural experience and personal contact with the disabled athletes coincided in the behavioural intervention group. Since only participants in this group actually met the athletes, it is impossible to say whether it was the personal encounter or the direct behavioural experience that accounted for the greater effectiveness of this intervention element. This limitation was due to practical difficulties in bringing the disabled athletes to the school for more than one occasion, or, for that matter, to achieve realistic behavioural experiences in the different disciplines without the involvement of disabled athletes. Future studies should try to incorporate an element of personal encounter with disabled persons into the cognitive intervention to address this issue and obtain a more fine-grained picture of what made the behavioural intervention more successful. Finally, the limited sample size in this study calls for replications using a larger number of respondents. Nonetheless, the fact that substantive effects emerged with such a limited data base points to the robustness of the findings.

Overall, the study shows that it is possible to change negative attitudes towards people with physical disabilities in an intervention integrated into a school setting. The present findings suggest that this can be achieved by an intervention that combines cognitive

information with personal contacts with disabled people and first-hand role-taking experience of the impairment caused by different forms of physical disability.

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