

Casual Interaction Between College Students with Various Disabilities and Their Nondisabled Peers: The Internal Dialogue

Catherine S. Fichten

Dawson College and

*Sir Mortimer B. Davis Jewish General Hospital
Montreal, Canada*

Kristen Robillard and Vicki Tagalakis

Dawson College, Montreal, Canada

Rhonda Amsel

McGill University, Montreal, Canada

ABSTRACT: Thoughts and feelings about casual social interaction between nondisabled college students and peers with various physical disabilities were explored in a sample of 127 nondisabled, 17 visually impaired, 10 hearing impaired, and 19 wheelchair-user college students. The results indicate that nondisabled students experienced more negative affect and thinking about interacting with students who have disabilities than with able-bodied peers; the nature of the disability made little difference. Thoughts and feelings of students with and without disabilities concerning interacting with able-bodied peers were generally similar. These findings suggest that difficulties between college students with and without disabilities during casual social interactions are due, primarily, to the nature of nondisabled individuals' cognitions and affect. Recommendations for future research and for the design of attitude change programming to facilitate interaction are made.

Many nondisabled people are uncomfortable with those who have disabilities (Fichten, Tagalakis, & Amsel, 1989; Marinelli & Kelz, 1973) and casual social interaction between individuals with and without disabilities, when they do not know each other well, is often problematic (Snyder, Kleck, Strenta, & Mentzer, 1979; Stovall & Sedlacek, 1983). In the college context, data indicate that nondisabled students have negative attitudes toward peers with disabilities which

can lead to problems in interaction. For example, nondisabled students were found to attribute characteristics to students with disabilities that are not only different and less socially desirable but also "opposite" to those they attributed to able-bodied students (Fichten & Amsel, 1986). As people usually like and seek out similar others (Byrne, 1969), one would expect nondisabled students to avoid or limit their contact with disabled classmates who are erroneously presumed to be dissimilar in a variety of important ways (cf., Fichten, Robillard, Judd, & Amsel, 1989).

Although inadequate social skills can contribute to problematic and infrequent interaction, Fichten and Bourdon (1986) showed that both nondisabled and disabled students know how to behave appropriately in frequently occurring interaction situations. This suggests that lack of knowledge about what constitutes effective behavior is not the principal cause of social strain between nondisabled and disabled peers. The results of this investigation did suggest, however, that cognitive and affective factors such as concern about the appropriateness of one's behavior and about the disabled peer's reactions are likely contributors to interaction difficulties on the part of nondisabled students.

Cognitive and Affective Factors

Cognitive and affective factors which have been shown to inhibit interaction include anxiety; expectancy of negative consequences; faulty appraisals of one's own performance and abilities; inaccurate evaluation of the other person's feelings, intentions and attitudes; and inhibitory thoughts and self-statements (Curran & Wessberg, 1981). Indeed, thoughts related to task performance have been shown to constitute an important aspect of anxiety and behavioral difficulties in a variety of domains (Bandura, 1982; Heimberg, Dodge, & Becker, 1987; Ingram & Kendall, 1987; Myszka, Galassi, & Ware, 1986). In our studies of casual social interaction between nondisabled and disabled college students, we have found that affective factors, such as discomfort and lack of ease, and cognitive factors, such as negative self-, other-, and situation-focused thoughts, are strongly related to each other and constitute important elements of interaction difficulties (Amsel & Fichten, 1988; Fichten & Amsel, 1988; Fichten, Bourdon, Amsel, & Fox, 1987; Fichten, Tagalakis, & Amsel, 1989). Our data reveal that negative and positive self-focused thoughts (e.g., "I don't want to be here." "I'm good with people."), other-focused thoughts (e.g., "He's probably shy." "She's probably an interesting person."), and situation-focused thoughts (e.g., "This may be difficult to talk about." "My friends will think well of me.") are all clearly related to affect and behavioral intentions (Fichten, Amsel, Robillard, & Tagalakis, in press; Fichten, Goodrick, Amsel, & McKenzie, in press). Specifically, our results show that nondisabled college students' thinking was more negative when they contemplated interacting with disabled than with able-bodied peers, especially where thoughts about the other person in an interaction were concerned (Fichten, 1986).

What is not yet clear, however, is whether nondisabled students differ when thinking about interacting with peers who have different types of disabilities.

Although some investigations have failed to show differences in attitudes, other studies have found that nondisabled individuals' attitudes are different toward people with physical, visual, and hearing impairments and that the nature of the interaction context influences preferences (Fichten, Robillard, Judd, & Amsel, 1989; Richardson & Ronald, 1977; Semmel & Dickson, 1966; Stovall & Sedlacek, 1983; Yucker, 1983). Social interaction in a college context with someone who uses a wheelchair, for example, can pose concerns about accessible locations and socializing off campus. Also, some people who use a wheelchair have physical deformities which can be disconcerting for nondisabled individuals. Assumptions about wheelchair-users' sex lives pose further affective barriers. Interacting with someone who has a visual impairment raises different issues, including concerns such as problems studying together and borrowing each other's notes. Awkwardness over using everyday words and phrases such as "Look here" and "Do you see my point?" can also pose difficulties, as can conversational disruptions due to communication via body language, facial cues, and gestural expressions. Hearing impairments are often not visible, yet difficulty in communicating verbally can set severe constraints on social interaction.

People who have different disabilities may have different experiences with their nondisabled peers. Thus, the nature of the disability may influence the thoughts and feelings of students with disabilities about interacting with their able-bodied peers as well. Moreover, nondisabled individuals' attitudes and behaviors may have an impact on individuals with disabilities through self-fulfilling prophecies.

Do nondisabled college students make distinctions in their thoughts and feelings according to type of impairment or do they respond similarly to individuals with disabilities in an "us versus them" manner, regardless of the nature of the disability? Do students with different disabilities think and feel differently about interacting with their able-bodied peers? To what extent can problems during interaction be attributed to nondisabled individuals' thoughts and feelings and to what extent to the thoughts and feelings of students with disabilities? It was the goal of the present investigation to examine these issues.

The results of a preliminary investigation (Fichten & Amsel, 1988) suggested that nondisabled students' thoughts about interacting with wheelchair-users did not differ substantially from their thoughts about interacting with peers who have visual impairments, although wheelchair-users' thoughts about interaction with able-bodied peers were somewhat more positive than thoughts of students with visual impairments. The findings from this study were not conclusive, however, because inventory measurement (questionnaire) was used rather than thought-listing (open-ended format). Data indicate that thought-listing and inventory measures differ, in that the inventory approach overestimates the frequency of other-focused thoughts (Fichten, Amsel, & Robillard, 1988). Given the importance of other-focused thoughts in relations between individuals with and without disabilities, in the present investigation a thought-listing measure was used. Moreover, an additional group of students — those with hearing impairments — was included.

METHOD

Participants

Participants were 127 nondisabled, 17 visually impaired, 10 hearing-impaired, and 19 wheelchair-user college students; there were 62 males and 111 females. Nondisabled participants were enrolled in upper-level undergraduate psychology courses at two Montreal colleges. Professors allowed the experimenter to recruit volunteers for the study and provided time at the end of the class to complete the measures. Approximately 95% of students present on the day of testing volunteered to participate.

Students with disabilities were enrolled in four Montreal colleges and constituted a convenience sample. All were volunteers recruited through personal contacts, organizations for individuals with disabilities, and the offices of coordinators of services for students with disabilities.

The mean ages for the nondisabled, visually impaired, hearing-impaired, and wheelchair-user groups were 21, 22, 28, and 27, respectively (it is common to find that students with disabilities are older than their nondisabled peers). Participants in the visually impaired sample were all "legally blind"; the mean duration of the visual impairment was 16 years ($SD = 8.32$, range = 2–27 years). In the wheelchair-user sample, the mean duration of wheelchair use was 12 years ($SD = 8.54$, range = 1–27 years). Subjects with hearing impairments all used the oral method; they had their impairment for an average of 18 years ($SD = 11.29$, range = 3–40 years).

Measures

General Information Form. This measure includes questions about sex, age, absence or presence of a physical disability, and duration of disability.

Ease. General level of comfort with able-bodied students, with students who use a wheelchair, and with students who have a hearing or a visual impairment was assessed using 6-point scales (1 = very uncomfortable, 6 = very comfortable). Results reported previously show that ease scores are significantly related to relevant criterion variables such as scores on self-statement inventories and measures of social anxiety, fear of negative evaluation, self-efficacy expectations, attitudes toward working together, and attitudes toward persons with disabilities (Amsel & Fichten, 1988; Fichten & Amsel, 1988; Fichten, Amsel, & Robillard, 1988; Fichten, Tagalakis, & Amsel, 1989).

Cognitive Role-Taking Tasks. This measure, fully described by Fichten (1986), is used to collect thoughts and feelings. Brief descriptions of hypothetical interaction situations between able-bodied college students and between nondisabled and disabled students are provided [e.g., "You are sitting with some friends in the cafeteria. A student of the same sex as you (in a wheelchair/ who has a visual impairment/ who has a hearing impairment) whom you don't know well comes and joins the group. You are introduced and shortly thereafter everyone else

leaves. You have 15 minutes before class]. Subjects are asked to imagine that they are involved in each situation and to list, in written form, the thoughts and feelings they experienced. After listing their thoughts concerning each interaction situation, subjects indicate, using 6-point scales, how comfortable they would feel in the situation (Comfort Interacting Scale). In the present investigation 12 interaction situations which have been shown to occur reasonably frequently in college contexts were used (Fichten & Bourdon, 1986). Descriptions of situations were adapted for each group of participants so that nondisabled subjects could complete the measure concerning interaction with able-bodied and with visually impaired, hearing impaired, or wheelchair-user students and so that students with disabilities could complete it with respect to interaction with able-bodied students, as well as with students having the same disability as their own.

Comfort Interacting Scale. This single item is presented after each thought-listing task on the Cognitive Role-Taking Tasks. It asks respondents to indicate, on a 6-point scale, how comfortable they would feel in the situation. Test-retest reliability coefficients (4 weeks) for the Comfort Interacting score range from .58 to .65 and, when interaction with able-bodied individuals is considered, scores on this scale are significantly related to established measures of social anxiety, such as Watson and Friend's (1969) Social Anxiety and Distress (SAD) and Fear of Negative Evaluation (FNE) scales ($r = -.48$ and $-.58$, respectively) (Fichten & Amsel, 1988). Although this scale has the same response format as the measure of ease, it should be noted that scores on this scale reflect comfort in *specific* interactions, rather than a generalized comfort level with different types of people.

Procedure

All participants completed the General Information Form, the ease measure and the Cognitive Role-Taking Tasks (including the Comfort Interacting Scale). Large print or audiotaped versions of all measures were supplied to participants with visual impairments. Nondisabled participants were randomly divided into three experimental conditions: hypothetical interaction with a same-sex college student who is visually impaired, hearing impaired, or a wheelchair-user. They completed the Cognitive Role-Taking Tasks twice, once with respect to interaction with a disabled student and once with respect to interaction with an able-bodied student (counterbalanced order). Disabled students also completed the Cognitive Role-Taking Tasks twice, once with respect to interaction with an able-bodied student and once with respect to interaction with a college student who had the same disability as their own.

Thoughts on the Cognitive Role-Taking Tasks were coded in accordance with a slightly modified version of Fichten and Martos' (1986) cognition coding manual into Curiosity, Neutral, and six valenced categories¹: Positive or Negative and either Self-Focused, Other-Focused, or Situation-Focused. The six valenced categories were based on 15 codes (Fichten, Amsel, Robillard, & Tagalakis, in press). Thoughts were rated by two coders who were blind to the subjects' status

and experimental condition (visually impaired subjects' responses were transcribed). Coders were trained to a 71% thought-by-thought interrater agreement criterion. Interrater agreements on seven spot-checks of reliability which included 1406 responses (approximately 20% of all responses) ranged from 75% to 85% [Kappa coefficient = .72].

RESULTS

Because previous data showed no significant sex differences in ease, comfort interacting, or thought listing (Fichten, Tagalakakis, & Amsel, 1989), scores of males and females were combined for all analyses.

Ease

Levels of ease of the four groups of subjects with able-bodied students were examined in a one-way analysis of variance (ANOVA) comparison. There were no significant differences between groups. A two-way mixed design ANOVA comparison [2 Type (Disabled/Nondisabled) X 3 Experimental Condition (Visually Impaired/Hearing Impaired/Wheelchair User)] on ease of nondisabled subjects showed a significant Type main effect, $F(1,115) = 40.98, p < .001$, but no effects of Condition or interaction of Type by Condition. Means (see Table 1) indicate that while nondisabled subjects were more at ease with able-bodied students than with students with a disability, there were no significant differences in ease with students who have *different* disabilities.

To evaluate whether disabled subjects were more at ease with students who have a similar impairment or with able-bodied students, a series of *t*-tests were carried out. Inspection of the means (Table 1) and *t*-test results reveal a trend for

Table 1. Mean Ease With Different Types of Students

Participants	Ease with Students Who Are				
	Able-bodied	Visually Impaired	Hearing Impaired	Wheelchair User	
Nondisabled	<i>M</i>	5.01	4.16	4.38	4.12
	<i>SD</i>	.99	1.21	1.13	1.28
	<i>n</i>	118	45	28	54
Visually impaired	<i>M</i>	4.69	5.07		
	<i>SD</i>	1.40	1.62		
	<i>n</i>	17	17		
Hearing impaired	<i>M</i>	4.90		5.60	
	<i>SD</i>	1.20		0.70	
	<i>n</i>	10		10	
Wheelchair-user	<i>M</i>	5.16			4.21
	<i>SD</i>	1.12			1.81
	<i>n</i>	19			19

Note Higher scores indicate greater ease. Maximum score = 6. For clarity, scores of all nondisabled participants were combined in the able-bodied stimulus person experimental condition.

hearing-impaired participants to be more at ease with hearing-impaired students than with able-bodied students, $t(9) = 1.91, p < .10$; although the means were in the same direction, the comparison on visually impaired participants' scores did not approach significance. Wheelchair-users, on the other hand, were found to experience significantly greater ease with able-bodied students than with students who use a wheelchair, $t(18) = 2.81, p < .05$.

Comparisons of nondisabled and disabled participants' scores concerning ease with each other indicate that wheelchair-users were significantly more at ease with able-bodied students than were nondisabled students with wheelchair-users, $t(67) = 3.05, p < .01$. While the means were in the same direction, the comparisons on interaction between nondisabled students and those with visual or hearing impairments were not significant. Moreover, while subjects with visual and hearing impairments were significantly more at ease with visually or hearing impaired students than were nondisabled subjects, $t(56) = 2.27, p < .05$; $t(34) = 3.15, p < .01$, this was not the case for wheelchair-users.

Feelings During Interaction

To evaluate comfort during social interactions with able-bodied students, a one-way ANOVA comparison of the four groups of subjects' Comfort Interacting scores was carried out. Post hoc tests on the significant ANOVA, $F(3, 159) = 3.08, p < .05$, and inspection of the means presented in Table 2 showed that nondisabled subjects were generally more comfortable interacting with able-bodied students than were disabled subjects, although only the comparison between hearing impaired and nondisabled subjects was significant ($p < .05$). Nondisabled subjects were significantly more comfortable interacting with able-bodied students than with those who have disabilities, $F(1, 115) = 9.79, p < .01$, but showed no significant differences in comfort with students with different disabilities.

A series of t -tests evaluated whether disabled participants were more comfortable interacting with students who have the same disability as their own or with able-bodied students. The only significant difference occurred in the case of visually impaired participants, who were more comfortable interacting with visually impaired students than with able-bodied students, $t(15) = 2.19, p < .01$. Although not significant, means for students with hearing impairments followed the same pattern. Wheelchair-user participants' scores did not follow this trend.

There were no significant differences between disabled and nondisabled participants' anticipated comfort when interacting with each other, nor were there significant differences between disabled and nondisabled participants' comfort during interaction with disabled students.

Thoughts

Findings concerning the relative importance of positive and negative thoughts for adaptive behavior, successful performance, and social anxiety are confusing and inconsistent, with some studies showing that negative thoughts are more

Table 2. Mean Comfort in Various Situations

Participants	Comfort with Students Who Are				
	Able-bodied	Visually Impaired	Hearing Impaired	Wheelchair User	
Nondisabled	<i>M</i>	4.40	4.16	4.24	4.62
	<i>SD</i>	.84	1.01	0.96	0.99
	<i>n</i>	118	43	27	48
Visually impaired	<i>M</i>	3.97	4.47		
	<i>SD</i>	0.97	0.96		
	<i>n</i>	16	16		
Hearing impaired	<i>M</i>	3.57		3.98	
	<i>SD</i>	1.31		1.04	
	<i>n</i>	10		10	
Wheelchair-user	<i>M</i>	4.33			4.32
	<i>SD</i>	1.30			1.27
	<i>n</i>	19			19

Note. Higher scores indicate greater comfort. Maximum score = 6. For clarity, scores of all nondisabled participants were combined in the able-bodied stimulus person experimental condition.

important and others showing that positive thoughts are more important (cf., Fichten, Amsel, & Robillard, 1988). Recently, it has been proposed that positive and negative thoughts may serve different functions in mediating cognitions, affect, and behavior (Ingram & Wisnicki, 1988; Kendall & Ingram, 1987). Because of these conceptual considerations, a number of researchers, most notably Schwartz and his colleagues (Schwartz, 1986; Schwartz & Garamoni, 1986, 1989), have suggested that different ratios (i.e., differences in the proportion of positive thoughts to positive plus negative thoughts) characterize distinct states of mind (SOMs) which reflect functional and dysfunctional thinking about events. An impressive body of evidence reviewed by Schwartz and Garamoni (1986, 1989) suggests that these ratios do indeed reflect functional and dysfunctional thinking about events. Because it appears that it is the proportion of positive or negative thoughts, rather than the frequencies, which characterize and mediate adaptive behavior, the SOM ratio proposed by Schwartz and Garamoni [Positive/(Positive + Negative)] was used in data analyses in the present investigation. As suggested elsewhere (Amsel & Fichten, in press), a correction factor of 1 was used whenever the frequency of either positive or negative thoughts was 0.

Previous data showed that the frequency of situation-focused thoughts is very low (Fichten, 1986). However, such thoughts have been shown to contribute to the discriminating power of valenced thoughts (Fichten, Amsel, Robillard, & Tagalakis, in press). Therefore, situation-focused thoughts were included in valenced total thoughts scores (sum of self-, other- and situation-focused thoughts), although no separate analyses were carried out on thoughts which focused on the situation.

Nondisabled Participants' Thoughts. To evaluate nondisabled participants' thoughts concerning interaction with nondisabled, visually impaired, hearing impaired, and wheelchair-user students, two 2-way mixed design ANOVA comparisons [2 Type (Disabled/Nondisabled) x 3 Experimental Condition (Visually

Impaired/Hearing-Impaired/Wheelchair-User) on two focus-of-attention variables (Self/Other) were carried out on SOM scores. In addition, ANOVA comparisons were also made on total SOM scores; these include not only self-focused and other-focused thoughts but also situation-focused thoughts. To illustrate differences between the frequencies of positive and negative self- and other-focused thoughts, means for each thought type as well as for SOM scores are provided in Table 3.

Although there were no significant findings for self-focused thoughts, results on other-focused thoughts indicate a significant main effect for Type, $F(1,124) = 48.16, p < .001$. As the means in Table 3 show, this was due primarily to more frequent negative thoughts about disabled than about able-bodied students. The means and the significant interaction, $F(2,124) = 3.20, p < .05$, showed that while there were no significant differences in thoughts about different types of disability groups, there was significantly more positive thinking regarding able-bodied students than regarding hearing-impaired, visually impaired, or wheelchair-user students. As the valenced means in Table 3 show, (a) in all cases there were more positive than negative self-focused thoughts, (b) there were more other-focused negative than positive thoughts in all disabled stimulus person conditions, and (c) more self- than other-focused thoughts were listed in general. Moreover, the means and the results of the ANOVA on total thoughts clearly indicate that nondisabled individuals had relatively more positive and fewer negative thoughts about interacting with able-bodied than with disabled students, $F(1,124) = 26.36, p < .001$.

Because of the suggestion in previous studies that differences in thought frequency are likely to be greatest on other-focused negative thoughts, a series of planned *t*-tests were performed on nondisabled participants' self-focused as well as other-focused valenced thoughts. The only consistent significant differences found were on other-focused negative thoughts; these showed more such thoughts concerning interaction with students in each of the three disability groups than with able-bodied students (visually impaired condition, $t(44) = 4.29, p < .01$; hearing-impaired condition, $t(27) = 3.60, p < .01$; wheelchair-user condition, $t(53) = 6.71, p < .01$).

Thoughts Concerning Interaction with Able-Bodied Students. To compare nondisabled, wheelchair-user, and visually and hearing-impaired students' thoughts concerning interaction with nondisabled students, three one-way ANOVA comparisons were carried out on SOM scores (on self-focused, other-focused and total thoughts). The results showed no significant differences for any of these comparisons. As the means indicate, substantially more self- than other-focused thoughts were listed, and there were more positive than negative self-focused and total thoughts.

Comparisons to evaluate differences between disabled participants' thoughts about interacting with students who have the same disability as their own and with able-bodied students showed differences only for visually impaired participants' self-focused and total thoughts, $t(16) = 2.33, p < .05$, $t(16) = 1.99, p < .07$, with more positive thinking about interacting with disabled students.

Table 3. Thoughts Concerning Interaction

Participants	Focus of attention	Thoughts Concerning Interaction with Students Who Are											
		Able-Bodied			Visually Impaired			Hearing Impaired			Wheelchair User		
		Pos.	Neg	SOM ¹	Pos.	Neg	SOM ¹	Pos	Neg	SOM ¹	Pos.	Neg	SOM ¹
Nondisabled	Self	10.82	3.81	.72	10.20	4.09	.69	9.36	3.86	.70	10.70	4.13	.71
	Other	1.44	.91	.54	1.27	2.51	.42	1.18	2.50	.41	1.17	2.81	.39
	Total	12.73	4.81	.72	11.78	6.71	.63	10.96	6.61	.64	12.13	7.09	.63
Visually impaired	Self	13.29	5.71	.72	14.06	3.06	.81						
	Other	1.29	1.47	.49	1.35	1.00	.52						
	Total	14.94	7.35	.70	15.88	4.59	.77						
Hearing impaired	Self	13.11	5.22	.69				11.00	3.44	.70			
	Other	.67	.33	.53				1.22	1.33	.47			
	Total	14.56	5.67	.68				13.11	5.00	.72			
Wheelchair user	Self	12.89	4.44	.74							12.17	3.33	.76
	Other	.83	1.17	.46							1.00	2.06	.46
	Total	14.00	6.00	.71							13.39	6.11	.68

Note. For clarity, scores of all nondisabled participants were combined in the able-bodied stimulus person experimental condition
¹SOMs refer to Schwartz and Garamoni's (1986, 1989) states of mind ratios [Positive/(Positive + Negative) thoughts]

Thoughts Concerning Interaction with Each Other. Analyses to compare nondisabled participants' thoughts concerning interacting with students who have a disability (visually impaired, hearing-impaired, or wheelchair-user) with disabled participants' thoughts concerning interaction with able-bodied students showed only a trend for hearing-impaired participants to have higher other-focused SOM scores concerning interacting with able-bodied students than nondisabled participants had concerning interacting with hearing-impaired students, $t(35) = 1.94, p < .10$.

Thoughts Concerning Interaction with Disabled Students. Comparisons of disabled and nondisabled participants' thoughts concerning interacting with students with disabilities showed differences only in the case of visual impairment. Results indicate that visually impaired participants' self-focused and total SOM scores were more positive than were those of nondisabled participants in the visually impaired experimental condition, $t(60) = 2.37, p < .05$, and $t(60) = 2.75, p < .01$, respectively.

DISCUSSION

Nondisabled Students

The results revealed that nondisabled students were less at ease with their peers who have disabilities than with those who are able-bodied and that they were less comfortable when anticipating interacting with disabled peers in a variety of situations. Nondisabled students' thoughts about interacting with peers who have disabilities were also found to be considerably less positive than their thoughts about interacting with able-bodied students, especially where other-focused thoughts were concerned. These differences were due primarily to more other-focused negative thoughts rather than to fewer positive ones.

Examination of other-focused negative thoughts shows that nondisabled individuals expect students with disabilities to experience a variety of negative consequences, especially affective ones, during the interaction (e.g., "She may feel out of place." "He might get upset." "She'll feel terrible." "What if he gets offended?"). Their thoughts also reflect the assumption that the other person is "not OK" (e.g., "Poor soul." "It must be really hard for him." "She must be having a tough time." "He probably has few friends."). Negative self-focused thoughts were concentrated on negative affect, such as anxiety (e.g., "I want to find out more but I'm too nervous to ask."), metacommunication — worrying about what the person with the disability is thinking about one's own thoughts and behaviors (e.g., "I hope he doesn't think I pity him."), and uncertainty about what to say or do in the situation (e.g., "Should I talk to her or not?").

Given the content of nondisabled students' thoughts, it is not surprising that they did not distinguish between students with different disabilities. Instead, nondisabled students seemed to make only a binary distinction between able-bodied and disabled students.

Disabled Students

Comparisons of nondisabled and disabled students' scores showed no significant differences among groups on ease or on thoughts concerning interaction with able-bodied students, although students with disabilities, especially those with hearing impairments, were slightly less comfortable interacting with able-bodied students than were nondisabled students. Generally, however, students with disabilities experienced comparable levels of ease and their thinking was as positive as was that of nondisabled students when anticipating interaction with able-bodied peers.

Comparisons of disabled participants' thoughts and feelings concerning interacting with disabled and with able-bodied students showed inconsistent results. Visually impaired participants' thoughts were more positive and they were more comfortable when they contemplated interacting with visually impaired rather than with able-bodied peers. Wheelchair-users, on the other hand, were more at ease with able-bodied students than with wheelchair-users. Moreover, visually impaired and hearing-impaired participants were more at ease with disabled students than were nondisabled participants, although this was not the case for wheelchair-users.

The findings on visually and hearing-impaired students suggest a slight tendency toward binary ("us" vs. "them") thinking on the part of disabled students. The inconsistency between wheelchair-users and students with other impairments is similar to previous findings (Fichten & Amsel, 1988). The heterogeneous nature of the wheelchair-user group and factors such as having had one's disability for a briefer time period (i.e., some wheelchair-users were recently members of the "nondisabled" population) may account for differences between wheelchair-users and students with other disabilities.

Interaction with Each Other

As for interacting with each other, results showed few significant differences between students with and without disabilities. Wherever differences were found, the results show that nondisabled participants' affect and thoughts were more negative than were those of respondents with disabilities.

Types of Thoughts

Valence and focus-of-attention both appear to be important dimensions of thoughts concerning interaction in the college context. The results showed that thoughts about oneself were more frequent than thoughts about the other person and that positive thoughts were generally more common than negative ones. This tendency to have more positive than negative thoughts was much more pronounced when self-focused thoughts were evaluated. When thoughts about the other person in the interaction were considered, thinking generally showed a 50-50 balance between positive and negative thoughts.

The importance of the focus-of-attention dimension becomes particularly evident when thoughts about interaction with different groups of people are evaluated. The social cognition literature, as well as the Hope, Heimberg, Zollo, Nyman, and O'Brien (1986) study, suggest that it is the frequency of self-focused thoughts that is an important predictor of social anxiety and distress. In the present investigation, however, as was the case in all of our previous studies of thoughts concerning interacting with different types of people, it was found that negative thoughts about the other person are particularly important when evaluating interaction with individuals who have disabilities. This suggests that thoughts about the other person are more reactive to situational demands than are self-focused thoughts. Therefore, when designing programming to facilitate interaction between nondisabled and disabled students, special attention should be placed on the reduction of negative thoughts about people with disabilities.

Implications for Research and Practice

Before drawing firm conclusions, it must be noted that the present study has a number of limitations which can affect the generalizability of the results. First, the samples of students with and without disabilities may not be representative of the population. Second, the results reflect thoughts and feelings across a variety of interaction situations; this could have masked important situation-specific differences. Perhaps the most significant limitation is that all interactions in the present study were hypothetical. While hypothetical and actual interactions have been shown to result in similar thoughts and ratings (Zweig & Brown, 1985), the issues investigated in the present study should be explored in more naturalistic contexts.

The findings suggest that thoughts and feelings on the part of nondisabled students are likely to interfere with problem-free interaction between college students with and without disabilities. The present results are consistent with other findings from studies which have also shown that students with disabilities are generally as comfortable with their able-bodied peers as are nondisabled individuals (Fichten, Robillard, Judd, & Amsel, 1989; Fichten & Bourdon, 1986).

Nondisabled students' scores in the present study failed to differentiate between interaction with peers with different disabilities. Of course, this may be due to the particular methodology used in the present study. Alternately, it is possible that novelty and salience effects are operating; these can result in impressions, thoughts, and feelings which are schema based and reflect simple-minded categorizations based on the mere presence of a disability, whatever its nature. Therefore, when planning intervention programs designed to facilitate interaction, it is nondisabled students' thoughts and feelings that must be altered, rather than those of students with disabilities. In such endeavors, thoughts about persons with disabilities should be carefully evaluated and possibly targeted for change.

Traditional techniques to change nondisabled individuals' attitudes have relied on providing information and on facilitating contact, on an equal status basis, with

people who have disabilities. Interventions based on these two factors alone have, however, generally resulted in only minor improvements (Amsel & Fichten, 1988; Yunker, 1988).

The present results on thoughts and feelings suggest three additional techniques of changing attitudes. These include (a) training nondisabled individuals to examine and challenge their negative thoughts and feelings, (b) teaching nondisabled students to devote more cognitive processing time to actively think about people with disabilities, and (c) providing individuals who have disabilities with strategies to help them change nondisabled individuals' maladaptive thoughts and feelings.

The cognitive therapy literature shows that teaching people to challenge maladaptive thoughts results in beneficial changes in a variety of feelings and behaviors (cf., Michelson & Ascher, 1987). Therefore, systematic efforts to train nondisabled individuals to identify and to rebut negative cognitions, when coupled with equal status contact, may have similar benefits in reducing discomfort, prejudice, and discrimination. Although this is an empirical question, research has not yet explored the effectiveness of such interventions. Training programs for rehabilitation professionals provide excellent opportunities to conduct such research.

In the social cognition literature a variety of studies have shown that the novelty and the salience of an individual can result in cognitive errors due to information processing which relies primarily on attentional focus rather than on deeper levels of cognitive activity (Fiske & Taylor, 1984; Taylor & Fiske, 1978). Potential consequences of the novelty and salience of people with disabilities are as follows: (a) nondisabled individuals are more likely to focus on the disability than on the person, (b) the disability is likely to be seen as responsible for a variety of behaviors and outcomes, and (c) the person with a disability is likely to be perceived coherently (i.e., as a stereotyped "handicapped person"). If thoughts about individuals with disabilities are influenced primarily by novelty and salience, then interventions designed to make nondisabled individuals think actively about the characteristics of the person with the disability, whether these are similar or different from their own, may be of benefit. Research to evaluate this possibility is currently proceeding in our laboratory.

Finally, a series of studies from the social psychology literature suggests that there are numerous things people with disabilities can say or do to make interaction more comfortable. Tactics shown to be effective include making the able-bodied person more comfortable by being the first to acknowledge the disability, legitimizing curiosity, stressing some positive elements of having the disability, and suggesting that it is appropriate to use terms related to the disability such as walk, see, and hear (Bazakas, cited in Siller, 1984; Belgrave & Mills, 1981; Evans, 1976; Hastorf, Wildfogel, & Cassman, 1979; Mills, Belgrave, & Boyer, 1984). Another approach is to demonstrate that one has attitudes and values similar to those of nondisabled peers. For example, it was shown by Belgrave (1984) that expressing interest in the other person or discussing one's participation in typical college activities (e.g., buying tickets for a performance, partying,

studying for exams) results in favorable impressions and attitudes. The findings of such studies suggest that if the only available strategy for attitude change is to provide information, this should be done by portraying individuals with a disability who follow the above-mentioned suggestions.

Public awareness of people with disabilities has increased tremendously in the past decade. Modern technology continues to provide the means to surmount environmental barriers, allowing people with disabilities to become more visible in everyday situations. However, the invisible barriers remain. The task of challenging and changing the nondisabled population's attitudes, thoughts, and feelings requires careful planning. Television and print media provide easy access but could, unintentionally, do more harm than good. Both laboratory and field research are urgently needed to evaluate the impact of different types of media portrayals of interactions between people with and without disabilities on able-bodied individuals' thoughts, feelings, attitudes, and social behavior in the everyday world.

NOTE

¹Examples of valenced thoughts in each focus-of-attention category: Self-Focused Positive: "I enjoy meeting new people." Self-Focused Negative: "I'd better be careful how I say things." Other-Focused Positive: "She seems to be an interesting person." Other-Focused Negative: "He will probably just get tongue-tied if I start talking to him." Situation-Focused Positive: "It sounds like fun." Situation-Focused Negative: "This will be a difficult thing to manage."

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Note: Kristen Robillard is also at Jewish Family Services in Montreal, Canada.

Offprints: Requests for offprints should be sent to Catherine Fichten, Department of Psychology, Dawson College, 3040 Sherbrooke Street West, Montreal, Quebec, Canada H3Z 1A4.

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