

## **Thoughts About Encounters Between Nondisabled and Disabled Peers: Situational Constraints, States-of-Mind, Valenced Thought Categories<sup>1</sup>**

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*This study explores three issues: thoughts and feelings of individuals with and without physical disabilities concerning encounters in different situations, ways of grouping self-statements into valenced categories, and use of states-of-mind (SOM) ratios as an alternative to positive and negative thought frequencies. Data from 127 able-bodied and 46 physically disabled college students indicate that, in everyday social encounters, nondisabled individuals' thoughts and feelings were more negative, while those of disabled individuals were more negative when helping was involved and when encounters centered on the impairment. Thus, problematic encounters between people with and without disabilities may be due to the reactions of*

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*individuals with disabilities in situations which involve help, and to reactions of able-bodied persons in "everyday" contexts. The data also confirm the utility of SOM ratios as an alternative to valenced frequencies in cognitive assessment: SOM scores discriminated groups when situational demands were manipulated and scores were linearly related to criterion measures. However, SOM ratios differed dramatically, depending on the attentional focus of thoughts. The findings illustrate types of thoughts which occur during interaction between people with and without disabilities, demonstrate a simple technique for grouping thoughts into valenced categories on an empirical basis, and highlight the relative contribution of cognitive and affective elements to overall valenced scores. Implications for research on assessment of self-statements are discussed and recommendations are made concerning programming to facilitate the social integration of people with disabilities.*

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**KEY WORDS:** physical disability; cognitive assessment; states-of-mind model; altruism; self-statements.

Casual social interaction between individuals with and without physical disabilities, when they do not know each other well, can be problematic. Nondisabled people are often uncomfortable (Kent, Cartwright, & Ossorio, 1984; Kleck, Ono, & Hastorf, 1966; Marinelli & Kelz, 1973) and have relatively more negative and fewer positive thoughts when interacting with disabled rather than with able-bodied peers (Fichten, 1986). Affective factors, such as discomfort and lack of ease, and cognitive factors such as self-efficacy beliefs and negative self-statements, constitute important elements of interaction difficulties in a variety of areas (cf. Arnkoff & Glass, 1989), including interaction between people with and without disabilities (Amsel & Fichten, 1988; Fichten, Tagalakis, & Amsel, 1989). In such encounters, negative thoughts about the person with the disability (other-focused thoughts) have been shown particularly influential (Fichten, 1986; Fichten & Amsel, 1988).

Results of the few investigations on reactions of people with disabilities toward able-bodied peers are ambiguous. Some suggest that people with disabilities do experience discomfort and negative thinking (e.g., Comer & Piliavin, 1972), while others show that individuals with disabilities are as comfortable and as positive in their thinking as are nondisabled individuals (e.g., Comer & Piliavin, 1975; Fichten, Robillard, Judd, & Amsel, 1989).

People with and without disabilities interact in a variety of situations; many of these are indistinguishable from encounters between able-bodied people. Other interactions, however, are not characteristic of routine encounters because these are related to the disability. Moreover,

since many are able-bodied and few have disabilities, the types of encounters reported by able-bodied individuals (e.g., walking into a classroom which is empty except for a student with a disability) differ from those reported by people with disabilities (e.g., being patronized and pressured to socialize, presumably because it is "good for" one) (Fichten & Bourdon, 1986a, 1986b).

To better understand cognitive and affective impediments to problem-free interaction during casual social encounters between people with and without disabilities, experiences of both groups must be evaluated in a variety of situations. Therefore, in the present investigation we assessed the thoughts and feelings of college students with and without disabilities concerning interactions (a) reported by nondisabled students (majority situations) and (b) by students with disabilities (minority situations) when these concern either (c) assistance (help topics) or (d) "typical college interactions" (nonhelp topics).

For typical college interactions which do not involve help we expected to replicate previous findings which show that (1) nondisabled students are less comfortable and less positive in their thinking about interacting with disabled than with nondisabled peers, and (2) the thoughts and feelings of students with disabilities concerning interaction with able-bodied peers are not substantially different from those of nondisabled students in similar situations.

For situations which involve help, we expected very different results. Studies on altruism typically demonstrate that people feel quite positive, both about themselves and the person they have helped, especially if the need seems not due to the other's own negligence (Gruder, Romer, & Korth, 1978; Millar, Millar, & Tesser, 1988; Piliavin, Evans, & Callero, 1982; Weiner, 1980). Therefore, when an interaction focuses on short-term help needed by a student with a disability, the thoughts and feelings of able-bodied students are likely to be particularly positive. Information on the consequences of needing and requesting help suggests that receiving help from a peer, when this reflects one's inabilities and when it cannot be reciprocated, is likely to be associated with negative affect and negative thinking, both about oneself and the helper (Fisher, Nadler, & Whitcher-Alagna, 1982; Gross & McMullen, 1983; Nadler & Fischer, 1986). Moreover, data on people with disabilities suggest that seeking and accepting help are related to negative affect, feelings of social inferiority, and dependency (Ladieu, Hanfmann, & Dembo, 1947; Nadler, Sheinberg, & Jaffe, 1982).

Thus, we expected to find a mismatch — able-bodied students being ill at ease in everyday, "typical" interactions, which people with disabilities find reasonably stress-free, and students with disabilities

being ill at ease in help situations, where nondisabled individuals feel particularly positive.

### *Dichotomizing Thoughts into Valenced Categories*

To test these hypotheses requires that thoughts be dichotomized into valenced categories. In the past, we have examined positive and negative thoughts in three focus-of-attention subscale groupings: self/other/situation-focused. previous research (Fichten, 1986; Fichten, Amsel, & Robillard, 1988; Fichten, Tagalakis, & Amsel, 1989) shows that this division is important when thoughts concerning interactions with different types of individuals are evaluated. Self-focused thoughts (e.g., "I can do this"), other-focused thoughts (e.g., "He is probably shy and lonely"), and situation-focused thoughts (e.g., "This is a tough job") represent different contents and have different relative frequencies. Moreover, other-focused thoughts have been shown to be more reactive to situational demands and appear to be important contributors to anxiety and discomfort in nondisabled individuals when they interact with peers who have disabilities.

When combining thoughts into valenced categories, we have been grouping seven distinct types of thoughts into positive categories and eight types into negative categories (see Table I for a listing). Also, it has not been clear what to do with certain thoughts, most notably with those which reflect curiosity (e.g., "What's wrong with her?"). The complexity of this classification provoked us to ask, "How do we know that the types of thoughts which we have been grouping into valenced categories may be legitimately combined?" "How do we know whether different types of thoughts are indeed 'positive' or 'negative?'" "What do we do with 'curiosity?'"

The voluminous literature on assessment of self-statements shows contradictory findings about the relative importance of positive and negative thoughts (cf. Fichten et al., 1988; Ingram & Wisnicki, 1988; Kendall, Howard, & Hays, 1989; Kendall & Ingram, 1987). A possible reason for inconsistencies is ambiguity in conceptualizing and defining positive and negative thoughts.

Most investigators categorize thoughts of diverse form and content as positive or negative on the basis of a priori assumptions based on theoretical approach, common sense, consensus, "expert" opinion, self-ratings, and idiosyncratic formulations about the nature of thoughts that help or hamper people in feeling good or coping with particular tasks. Determination of which types of thoughts are positive or negative should

Table I. Mean Frequencies of Thought Types

Thoughts	Subjects			
	Nondisabled interact with:		Disabled interact with:	
	Able- bodied	Disabled	Able- bodied	Disabled
Positive total	12.72	11.76	14.48	14.29
Self-focused subscale	10.81	10.23	13.09	12.66
(S1) Want contact with other	0.32	0.28	0.30	0.18
(S2) Knowing what to say/do	7.50	7.72	8.43	8.91
(S3) Positive consequences for self	0.26	0.06	0.11	0.18
(S4) Positive affect	2.73	2.17	4.25	3.39
Other-focused subscale	1.44	1.21	0.98	1.18
(O1) Positive consequences for other	0.23	0.58	0.23	0.32
(O2) Other is "OK"	1.21	0.63	0.75	0.86
Situation-focused subscale	0.47	0.32	0.41	0.45
(N1) Situation will turn out favorably	0.47	0.32	0.41	0.45
Negative total	4.81	6.85	6.45	5.30
Self-focused subscale	3.81	4.05	5.09	3.26
(S1) Want to avoid contact with other	0.18	0.03	0.23	0.34
(S2) Uncertainty about what to say/do	0.98	1.26	0.61	0.73
(S3) Negative consequences for self	0.18	0.22	0.14	0.21
(S4) Negative affect	2.47	2.54	4.11	1.98
Other-focused subscale	0.91	2.64	1.11	1.51
(O1) Negative consequences for other	0.26	1.30	0.27	0.32
(O2) Other is not "OK"	0.64	1.08	0.84	1.14
(O3) Pity implied but not overt	0.01	0.26	0.00	0.05
Situation-focused subscale	0.09	0.16	0.25	0.55
(N1) Situation will turn out unfavorably	0.09	0.16	0.25	0.55
Curiosity	1.30	1.65	1.36	1.59

be made on less capricious grounds, that is, on the basis of empirical data. Therefore, before exploring the basic issues of this investigation, we conducted a methodological study to evaluate the validity of the assumptions we used when assigning valence.

#### *Adaptive and Maladaptive Thinking About Events: SOMs*

A related methodological issue concerns interpretation of the balance between positive and negative thoughts. In two seminal papers, Schwartz and Garamoni (1986, 1989) proposed that adaptive thinking is charac-

terized not by either positive or negative thoughts but by the *balance* between the two. They proposed five distinct states-of-mind (SOMs) on the basis of specified ranges of thought ratios [positive/(positive + negative)]. These SOM categories define different types of internal dialogues which, they contend, characterize differing degrees of adaptive and maladaptive thinking in a variety of situations.

The model proposes that, typically, 63% of all valenced thoughts are positive, a condition called "positive dialogue" and considered functionally optimal. As thinking becomes more maladaptive, this balance shifts toward 50% ("internal dialogue of conflict"), to instances where negative thoughts outnumber positive ("negative dialogue" and "negative monologue"), and to ratios where positive thoughts vastly outnumber negative ones ("positive monologue"). Re-analyses of a large number of studies by Schwartz and Garamoni (1986, 1989) as well as recent investigations by others (e.g., Dodge, Hope, Heimberg, & Becker, 1988; Heimberg, Bruch, Hope, & Dombeck, 1990; Kendall et al., 1989) suggest that ratios with lower values do, indeed, reflect less functional thinking about events than ratios which fall into the positive dialogue range. Evidence concerning the dysfunctional nature of the positive monologue range is not available.

Because it appears that it is the ratio of positive to negative thoughts, even more than their individual frequencies, which mediate and best characterize adaptive behavior (e.g., coping with a stressor, absence of anxiety or depression) and because of the complexity of the experimental design for the present investigation, we planned to use SOM ratios in data analyses. But the SOM model predicts that the relationship between adaptive thinking and SOM scores is not linear; both stronger positive thinking (positive monologue) as well as thinking that is more negative than that reflected by the "optimal" positive dialogue range are postulated to be maladaptive. Therefore, before using SOM ratios to interpret the data we also examined the relationship between the SOM model's five ranges and indices of adaptive and maladaptive thinking about interactions with peers who have disabilities.

## METHOD

### *Participants*

Participants were 127 nondisabled and 46 disabled college students (17 visually impaired, 10 hearing-impaired, 19 wheelchair-users), 62

males and 111 females. Nondisabled participants were enrolled in undergraduate psychology courses at Montreal colleges. Professors provided time at the end of classes to allow volunteers to complete the measures. Approximately 95% of students present on the day of testing volunteered. Students with disabilities were also enrolled in Montreal colleges and constituted a convenience sample. All were volunteers recruited through personal and organizational contacts.

Mean ages for the nondisabled, visually impaired, hearing-impaired, and wheelchair-user groups were 21, 22, 28, and 27, respectively (students with disabilities are usually older than nondisabled students). Participants in the visually impaired samples were all "legally blind"; mean duration of the visual impairment was 17 years (range = 2-27). Subjects with hearing impairments all used the oral method; they had their impairment for an average of 20 years (range = 3-40). Mean duration of wheelchair use was 12 years (range = 1-27).

### *Measures*

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

*Ease.* The general level of comfort with able-bodied students and with students who have different disabilities was assessed using a 6-point scale (1 = *very uncomfortable*, 6 = *very comfortable*). Ease scores have been found to be 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, and attitudes toward persons with disabilities (Amsel & Fichten, 1988; Fichten & Amsel, 1988; Fichten et al., 1988, 1989).

*Cognitive Role-Taking Tasks.* This measure, developed by Fichten (1986), is used to collect thoughts and feelings. Brief descriptions of hypothetical interactions between able-bodied college students and between nondisabled and disabled students are provided. Subjects imagine they are involved in each encounter and list, in written form, the thoughts and feelings they experienced while imagining themselves in the situation. After listing thoughts about each interaction, subjects indicate, using a 6-point scale, how comfortable they would feel in the situation (Comfort Interacting Scale).

In the present investigation, 12 situations were used; half dealt with encounters reported by nondisabled students to occur reasonably frequently in relations between able-bodied and disabled students (majority situations) and half dealt with situations reported by students with dis-

abilities (minority situations) (Fichten & Bourdon, 1986a, 1986b). Some encounters dealt with help being required or offered (help topics) while others concerned typical college interactions (nonhelp topics).<sup>3</sup> Descriptions were adapted so that nondisabled subjects could complete the measure concerning encounters with able-bodied students as well as with students with different disabilities and so that students with disabilities could complete it with respect to interactions 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

<sup>3</sup>Examples of situations on the Cognitive Role-Taking Tasks:

*Majority situation: nonhelp topic*

*"Identical" situation.* You and some classmates are discussing plans to go out to a bar to celebrate the end of exams. Everyone is talking about which bar to go when a (wheelchair user) classmate arrives.

*Disabled "recipient's" vantage point.* A group of your classmates is discussing plans to go out to a bar to celebrate the end of exams. Everyone is talking about which bar to go to when you arrive.

*Majority situation: help topic*

*"Identical" situation.* A (wheelchair user) student has just asked you for help to sharpen a pencil because she cannot reach the pencil sharpener on the wall.

*Disabled "recipient's" vantage point.* You have just asked a student for help to sharpen a pencil because you cannot reach the pencil sharpener on the wall.

*Minority situation: nonhelp topic*

*"Identical" situation.* A classmate is organizing the students in the class to meet at a campus get-acquainted party. She has just asked you if you are going and you've said no. She keeps on talking about the party. You think but are not sure that she is trying to persuade you to go.

*Nondisabled "giver's" vantage point.* You are organizing the students in the class to meet at a campus get-acquainted party. You ask a (hearing-impaired) classmate if she intends to go. The classmate says no. You wonder whether she said no because of lack of interest or because she didn't understand the question.

*Minority situation: help topic*

*"Identical" situation.* A classmate insists on pouring your coffee for you even though you've said that you could manage on your own.

*Nondisabled "giver's" vantage point.* A (visually impaired) classmate is about to get a cup of coffee in the cafeteria. You offer help but are told that she can manage alone. It really isn't trouble to help so you pour her coffee anyway.

measure of ease, it should be noted that scores on this scale reflect comfort in *specific* interactions, rather than generalized comfort levels with different types of people.

### *Procedure*

All participants completed the General Information Form. They also completed the cognitive role-taking tasks twice: once with respect to interaction with a same-sex able-bodied student and once with respect to interaction with a same-sex disabled student (counterbalanced order). In the disabled stimulus person condition, subjects with disabilities completed the measure with respect to interaction with a college student who had the same disability as their own, while nondisabled subjects completed the measure with respect to interaction with a college student who was visually impaired, hearing-impaired, or a wheelchair user.

*Majority Situations (Encounters with Disabled Peers Reported by Able-Bodied Students).*<sup>4</sup> Nondisabled subjects listed their thoughts on the Cognitive Role-Taking Tasks concerning interactions with disabled as well as able-bodied students in identical majority situations (e.g., discussing where to party when a disabled or an able-bodied student arrives). Disabled subjects, when listing thoughts concerning interaction with a disabled student, had the identical task (e.g., discussing where to party when another disabled student arrives). When it came to interaction with able-bodied students, however, participants with disabilities completed majority situation items from the “recipient’s” vantage point (e.g., one arrives when a group of able-bodied students are discussing where to party); thus the comparison of nondisabled subjects’ responses about interacting with disabled peers to responses of disabled subjects concerning interacting with able-bodied peers reflects naturally occurring, “reciprocal” interactions in majority situations.

*Minority Situations (Encounters with Able-Bodied Peers Reported by Students with Disabilities).*<sup>5</sup> Disabled subjects listed their thoughts concerning interactions with able-bodied students as well as with disabled students in identical minority situations (e.g., getting unwanted help from an able-bodied student or from a disabled student). Nondisabled subjects, when listing thoughts concerning interaction with an able-bodied student, had the identical task (e.g., getting unwanted help from an able-bodied student). When it came to interactions with disabled peers, however, nondisabled participants completed minority situation items from the “giver’s” perspec-

<sup>4</sup>See footnote 3 for a description of these situations.

<sup>5</sup>See footnote 3 for a description of these situations.

tive (e.g., giving unwanted help to a student with a disability); thus, the comparison of disabled subjects' responses about interacting with able-bodied peers to responses of nondisabled subjects concerning interacting with disabled peers reflects naturally occurring, "reciprocal" interactions in minority situations.

*Coding of Thoughts.* Thoughts on the Cognitive Role-Taking Tasks were coded in accordance with a 17-code version of Fichten and Martos' (1986) cognition coding manual; these include curiosity, neutral thoughts, and the 15 types of thoughts which we have been combining in our previous work into six valenced categories: positive or negative self-focused (e.g., "I feel nervous/good"), other-focused (e.g., "She seems to be lively/lonely"), or situation-focused (e.g., "This will be a tough/easy job") thoughts. Table I lists the codes and footnote 6 provides examples. Thoughts were rated by two "blind" coders trained to a 71% thought-by-thought interrater agreement criterion (O'Leary & Kent, 1973). Interrater agreements on seven spot-checks of reliability on the 17 codes which included 1406 thoughts ranged from 75% to 85% (kappa coefficient = .72).

<sup>6</sup>Examples of thoughts:

Positive codes

Self-focused subscale—positive codes

- (S1) Want contact with other: "I'd like to get to know her."
- (S2) Knowing what to say/do: "I'll ask about that later."
- (S3) Positive consequences for self: "I'm sure I'll have a good time."
- (S4) Positive affect: "I feel good about my ability to get along with people."

Other-focused subscale — positive codes

- (O1) Positive consequences for other: "She'll appreciate my making the first move."
- (O2) Other is "OK": "She seems like a nice person."

Situation-focused subscale—positive codes

- (N1) Situation will turn out favorably: "This sounds like fun."

Negative codes

Self-focused subscale—negative codes

- (S1) Want to avoid contact with other: "I'll pretend I didn't see her."
- (S2) Uncertainty about what to say/do: "Should I ask her or not?"
- (S3) Negative consequences for self: "Others will avoid me if I get too friendly with her."
- (S4) Negative affect: "I feel really uncomfortable."

Other-focused subscale—negative codes

- (O1) Negative consequences for other: "She might get offended."
- (O2) Other is not "OK": "She can't do anything."
- (O3) Pity implied but not overt: "I'd kill myself if I become handicapped."

Situation-focused subscale—negative codes

- (N1) Situation will turn out unfavorably: "Things won't go well."

## RESULTS

The data showed no significant sex differences on ease, comfort interacting, or thought listing results. Therefore, data from males and females were combined for all analyses. Moreover, as reported elsewhere (Fichten, Robillard, Tagalakis, & Amsel, 1991), there were few differences between students with different disabilities and no significant differences between nondisabled students' thoughts or feelings concerning interactions with students with different impairments. Therefore, participants were grouped as disabled or nondisabled for data analyses.

### *Dichotomizing Thoughts into Valenced Categories*

To ascertain whether the different types of thoughts identified in our past work could legitimately be grouped into positive and negative categories and into valenced self-, other-, and situation-focused subscales, we first calculated the frequency of each thought type in each experimental condition. Means in Table I indicate that self-focused thoughts were considerably more common than other-focused thoughts, and situation-focused thoughts were relatively rare.

We next conducted correlational analyses to check on internal consistency of the various subscales as well as on concurrent validity. Pearson product-moment correlation coefficients indicate that (1) frequencies of positive and negative thoughts were generally unrelated, (2) valenced subscale scores were significantly related to valenced total scores, and (3) frequencies of each of the 15 types of thoughts which we believed to be valenced were consistently, and at least marginally significantly, related to valenced subscale scores (positive and negative self-, other-, and situation-focused thoughts) and valenced total scores (positive and negative). As can be seen in Table II, this was also the case for at least one of the two criterion variables: comfort during interaction and general level of ease with peers.

These results suggest that the 15 types of valenced thoughts listed in Table I may be considered truly positive or negative. Correlations on frequencies of "curious" thoughts show that, in three of the four experimental conditions, curiosity seems to belong in the negative category ( $r$  values range from .24,  $p < 0.05$  to .41,  $p < 0.001$ ). However, in the fourth experimental condition (disabled subjects relating to able-bodied peers), curiosity seems to be related to positive thinking [ $r(44) = .29$ ,  $p < 0.05$ ]. This suggests that curiosity may function differently in different contexts and that it cannot be easily grouped with valenced thoughts, at least when

**Table II.** Correlations With Criterion Variables: Maximum and Minimum Correlation Coefficients of the Four Experimental Conditions<sup>a</sup>

Thoughts	Criterion variables			
	Comfort		Ease	
	Max. <i>r</i>	Min. <i>r</i>	Max. <i>r</i>	Min. <i>r</i>
Positive total	.28 <sup>c</sup>	.08	.24 <sup>b</sup>	.12
Self-focused subscale	.25 <sup>d</sup>	.09	.21 <sup>b</sup>	.11
(S1) Want contact with other	.21 <sup>c</sup>	-.04	.24 <sup>d</sup>	-.06
(S2) Knowing what to say/do	.23 <sup>d</sup>	.13 <sup>b</sup>	.20 <sup>b</sup>	.04
(S3) Positive consequences for self	.02	-.07	.13 <sup>b</sup>	-.09
(S4) Positive affect	.19 <sup>c</sup>	-.03	.13 <sup>b</sup>	.05
Other-focused subscale	.17	-.06	.28 <sup>c</sup>	-.12
(01) Positive consequences for other	.11	-.06	.21 <sup>c</sup>	.00
(02) Other is "OK"	.17	-.06	.23 <sup>b</sup>	-.01
Situation-focused subscale	.23 <sup>b</sup>	-.05	.28 <sup>c</sup>	.03
(N1) Situation will turn out favorably	.23 <sup>b</sup>	-.05	.28 <sup>c</sup>	.03
Negative total	-.55 <sup>e</sup>	-.38 <sup>e</sup>	-.38 <sup>d</sup>	.01
Self-focused subscale	-.56 <sup>e</sup>	-.30 <sup>e</sup>	-.30 <sup>e</sup>	-.01
(S1) Want to avoid contact with other	-.32 <sup>c</sup>	-.01	-.18	-.09
(S2) Uncertainty about what to say/do	-.31 <sup>c</sup>	-.21 <sup>c</sup>	-.14	.11
(S3) Negative consequences for self	-.29 <sup>c</sup>	-.19 <sup>c</sup>	-.20 <sup>d</sup>	.04
(S4) Negative affect	-.52 <sup>e</sup>	-.22 <sup>d</sup>	-.29 <sup>c</sup>	-.05
Other-focused subscale	-.45 <sup>d</sup>	-.16 <sup>c</sup>	-.41 <sup>d</sup>	.07
(01) Negative consequences for other	-.33 <sup>d</sup>	-.03	-.31 <sup>b</sup>	.07
(02) Other is not "OK"	-.45 <sup>e</sup>	-.16	-.47 <sup>e</sup>	.02
(03) Pity implied but not overt	-.13 <sup>b</sup>	.00	-.16 <sup>c</sup>	.00
Situation-focused subscale	-.26 <sup>d</sup>	.10	-.19 <sup>c</sup>	.19
(N1) Situation will turn out unfavorably	-.26 <sup>d</sup>	.10	-.19 <sup>c</sup>	.19
Curiosity	-.27 <sup>c</sup>	.18	-.12	.09

<sup>a</sup>Note: Sample size for nondisabled subjects = 127, for disabled subjects *n* = 46; this affects the significance of the coefficients.

- <sup>b</sup>*p* < .10.
- <sup>c</sup>*p* < .05.
- <sup>d</sup>*p* < .01.
- <sup>e</sup>*p* < .001.

thoughts about interactions between nondisabled and disabled peers are evaluated.

As a check on the validity of using correlations to group thoughts into valenced categories, we performed principal-components analyses based on the correlation matrix, for disabled and able-bodied stimulus persons separately, on the pooled standardized scores of disabled and nondisabled subjects. These show that the 15 thoughts loaded consistently (i.e.,

groupings consisting of thoughts of exclusively one valence or thoughts of the other valence loading negatively) on 5 of 6 factors when interactions with nondisabled peers were evaluated and on 4 of 6 factors when interactions with disabled peers were evaluated. These data suggest that the simple correlational procedure was a reasonably valid means of grouping thoughts into valenced categories.

### *Adaptive and Maladaptive Thinking About Events: SOMs*

Before using SOM ratios in data analyses, we examined characteristics of subjects whose scores fell into each of the five ranges of the SOM model. Previous data show that although the frequency of situation-focused thoughts is generally very low, such thoughts contribute to the discriminating power of valenced thoughts (Amsel & Fichten, 1990; Fichten, 1986). Therefore, analyses on situation-focused SOM ratios were not made, although the frequencies of these thoughts were included in total SOM scores. As suggested elsewhere (Amsel & Fichten, 1990), a correction factor of 1 was used whenever the frequency of either positive or negative thoughts was 0.

As part of the exploration of the SOM model's five ranges, we evaluated the effects of interactions with disabled and with able-bodied peers on nondisabled participants' thoughts. Results show that nondisabled participants' total,  $t(122) = 5.47, p < 0.001$ , and other-focused,  $t(106) = 7.40, p < 0.001$ , SOM ratios in the two experimental conditions differ significantly, with higher SOM scores in the able-bodied stimulus person condition than in the disabled condition. On self-focused SOMs the comparison approached significance,  $t(122) = 1.77, p < 0.08$ . Thus, results using SOM ratios are consistent with previous findings on valenced thought frequencies. The data also show that SOM scores for different focus-of-attention groupings differ dramatically [disabled stimulus person, self-focused SOM  $M = 0.70$  (positive monologue); other-focused SOM  $M = 0.39$  (negative dialogue); able-bodied stimulus person, self-focused SOM  $M = 0.73$  (positive monologue); other-focused SOM  $M = 0.54$  (internal dialogue of conflict)].

To evaluate whether subjects who fell into different SOM categories differed in degree of comfort, we placed nondisabled subjects in both experimental conditions into the SOM model's five internal dialogue categories. We then examined the effects of category membership and performed one-way ANOVA comparisons on comfort scores in each experimental condition. Results for these analyses, presented in Table III, show the following: (1) Few subjects had internal dialogues in the negative

**Table III.** Mean Comfort Levels as a Function of States-of-Mind Categories: Nondisabled Subjects' Scores in Nonhelp Majority Situations<sup>a</sup>

States-of-mind <sup>b</sup>	Comfort levels			
	Interactions with disabled peers		Interactions with able-bodied peers	
	<i>n</i>	<i>M</i>	<i>n</i>	<i>M</i>
Total thoughts	$F(4, 112) = 5.89, p < .01$		$F(4, 112) = 3.91, p < .01$	
Negative monologue	6	3.04	2	4.00
Negative dialogue	9	4.00	6	4.01
Internal dialogue of conflict	23	3.89	13	3.88
Positive dialogue	30	4.02	19	4.08
Positive monologue	49	4.60	77	4.62
Self-focused thoughts	$F(4, 112) = 2.91, p < .05$		$F(4, 112) = 3.58, p < .05$	
Negative monologue	5	3.43	1	2.92
Negative dialogue	4	3.90	8	4.11
Internal dialogue of conflict	15	3.68	10	3.90
Positive dialogue	25	4.04	24	4.17
Positive monologue	68	4.40	74	4.59
Other-focused thoughts	$F(4, 105) = 4.14, p < .01$		$F(4, 103) = .83, p > .10$	
Negative monologue	38	3.73	7	4.13
Negative dialogue	21	4.39	12	4.35
Internal dialogue of conflict	36	4.34	48	4.23
Positive dialogue	8	3.81	26	4.50
Positive monologue	7	4.87	15	4.55

<sup>a</sup>Note: Ratings were made on a 6-point scale, with higher scores indicating greater comfort. *p* values are based on one-way ANOVA comparisons.

<sup>b</sup>Ranges of the five states-of-mind (SOMs) are as follows: PM (positive monologue) = SOM ratio equal or greater than .69; PD (positive dialogue) = SOM ratios .56 to .68; IDC (internal dialogue of conflict) = SOM ratios .45 to .55; ND (negative dialogue) = SOM ratios .32 to .44; NM (negative monologue) = SOM ratios less than or equal to .31.

SOM ranges when interactions with able-bodied peers were evaluated. As expected, more subjects had scores in the negative ranges when interactions with disabled peers were assessed. (2) Negative states-of-mind were most common when thoughts about peers (other-focused thoughts) were evaluated; this was especially pronounced in the disabled stimulus person condition. (3) Generally, there appears to be a linear relationship between ratings of comfort and SOM scores, with more negative states-of-mind being associated with less comfort and more positive states-of-mind being associated with greater levels of comfort. Although the internal dialogue of conflict (IDC) category seems to show lower mean comfort than other categories, low cell sizes preclude a definitive statement.

Data in Table IV compare the use of SOM ratios and valenced frequency scores; correlations show that SOM ratios are logically related to the comfort and ease criterion variables and that results based on SOM

Table IV. Correlations with Criterion Variables: Nondisabled Subjects' Scores<sup>a</sup>

Thoughts	Interactions with disabled peers		Interactions with able-bodied peers	
	Comfort	Ease	Comfort	Ease
SOM ratios <sup>b</sup>				
Total thoughts	.44 <sup>f</sup>	.29 <sup>f</sup>	.42 <sup>f</sup>	.04
Self-focused thoughts	.36 <sup>f</sup>	.22 <sup>e</sup>	.43 <sup>f</sup>	.04
Other-focused thoughts	.28 <sup>e</sup>	.25 <sup>e</sup>	.15 <sup>e</sup>	-.05
Valenced thought frequencies				
Positive total	.23 <sup>e</sup>	.13 <sup>c</sup>	.08	.14 <sup>c</sup>
Positive self-focused	.25 <sup>e</sup>	.11	.10	.13 <sup>c</sup>
Positive other-focused	-.03	.11	-.06	.07
Negative total	-.39 <sup>f</sup>	-.25 <sup>e</sup>	-.42 <sup>f</sup>	.02
Negative self-focused	-.30 <sup>f</sup>	-.20 <sup>d</sup>	-.42 <sup>f</sup>	-.01
Negative other-focused	-.35 <sup>f</sup>	-.23 <sup>e</sup>	-.20 <sup>d</sup>	.05

<sup>a</sup>Note: Comfort and ease ratings were made on 6-point scales. Low correlations on ease in the able-bodied condition probably reflect ceiling effects on this variable.

<sup>b</sup>SOM = state-of-mind.

<sup>c</sup> $p < .10$ .

<sup>d</sup> $p < .05$ .

<sup>e</sup> $p < .01$ .

<sup>f</sup> $p < .001$ .

ratios are, generally, at least as meaningful as are results based on valenced frequencies.

### *Thoughts and Feelings in Different Situations*

To evaluate disabled and nondisabled subjects' thoughts and feelings in different situations, four-way ANOVA comparisons were made on comfort interacting scores and on total SOM scores [2 Groups (disabled/nondisabled)  $\times$  2 Situation (majority/minority)  $\times$  2 Context (help/no help)  $\times$  2 Stimulus Person (able-bodied/disabled)]. Means for these analyses are presented in Table V. Analyses were not made on self- or other-focused SOM scores because of low thought frequencies in some cells; this was especially true of other-focused thoughts. Because the four types of interaction situations (majority and minority situations which involve help or no help) differ in various ways, including level of difficulty, and because of the complexity of the experimental design, the results of interest are the planned comparisons (Tukey hsd tests) on the significant interactions.

The ANOVA test on Comfort Interacting Scale scores indicates a significant four-way interaction,  $F(1, 153) = 4.48, p < 0.05$ . On total SOM scores, while the four-way interaction was not significant, two three-way interactions were: Stimulus Person  $\times$  Situation  $\times$  Context,  $F(1, 130) = 10.15$ ,

Table V. Thoughts and Feelings Concerning Help and Nonhelp Topics in Majority and Minority Situations<sup>a</sup>

Situations and subjects	SOM thought ratios											
	Comfort interacting with a stimulus person who is:						Total <sup>b</sup>					
	Dis-abled	Able-bodied	Dis-abled	Able-bodied	Self-focused <sup>c</sup>	Other-focused <sup>c</sup>	Dis-abled	Able-bodied	Dis-abled	Able-bodied	Self-focused <sup>c</sup>	Other-focused <sup>c</sup>
<b>Majority situations</b>												
<b>Nonhelp topics</b>												
Nondisabled subjects	$d$	n.s.	4.45	$d$	.63	.73	$d$	.73	.67	.73	.34	.50
Disabled subjects	4.32	(4.05)	.71	(.77)	[.71	(.77)	(.77)	(.77)	.78	(.75)	.50	(.44)
<b>Help topics</b>												
Nondisabled subjects	n.s.		5.16		.82	.88		.88	.95	.88	.18	.50
Disabled subjects	4.80	(4.39)	.73	(.62)	[.73	(.62)	(.62)	(.62)	.91	(.62)	.27	(.54)
<b>Minority situations</b>												
<b>Nonhelp topics</b>												
Nondisabled subjects	$d$		4.02		.68	.70	n.s.	.70	.78	.71	(.35)	.30
Disabled subjects	3.89		3.78		[.74	(.66)	(.66)	(.66)	.78	.69	.44	.18
<b>Help topics</b>												
Nondisabled subjects	$d$		4.38		.59	.77	$d$	.77	.81	.75	(.26)	.74
Disabled subjects	3.88		3.68		[.75	(.71)	(.71)	(.71)	.81	.73	.44	.52

<sup>a</sup>Note: Cell values in parentheses designate recipient status in majority situations and giver status in minority situations. Cell values without parentheses refer to identical situations. Diagonal lines indicate reciprocal interactions between disabled and nondisabled peers. SOM = State-of-mind. n.s. = not significant.

<sup>b</sup>Total SOM values are means of ratios; *n*'s are somewhat lower than the full samples due to missing data in some cells and the repeated-measures design (nondisabled subjects *n* = 99, disabled subjects *n* = 33).

<sup>c</sup>Self- and other-focused SOM values are ratios of means and are provided for illustrative purposes only; while the values reflect scores for the whole sample (nondisabled subjects *n* = 127, disabled subjects *n* = 46), caution should be exercised in interpreting these values because of low thought frequencies in some cells.

<sup>d</sup>*p* < .01.

<sup>e</sup>*p* < .05.

$p < 0.01$ ; Group  $\times$  Situation  $\times$  Context,  $F(1, 130) = 19.53$ ,  $p < 0.001$ . Results on planned comparisons are as follows.

*Interactions with Disabled and Able-Bodied Students in Identical Situations.* Nondisabled subjects were found to be significantly ( $p < 0.05$  or better) less positive in their thinking and less comfortable with disabled than with able-bodied peers when nonhelp topics were considered. On help topics, the difference was significant only on SOM ratios. Disabled subjects were not found to differ on SOM scores or on comfort with disabled and with able-bodied peers either in help or in nonhelp contexts.

*Interaction with Disabled Students in Identical Majority Situations.* Nondisabled subjects were significantly less comfortable and had significantly lower SOM scores on nonhelp topics than disabled subjects, while the reverse was true for help topics.

*Interactions with Able-Bodied Students in Identical Minority Situations.* Nondisabled subjects were significantly more comfortable than disabled subjects on both help and nonhelp situations. While the pattern of means is similar, comparison on SOM scores did not reach significance.

*Reciprocal Interactions between Disabled and Nondisabled Peers.* In majority nonhelp situations, nondisabled subjects' thinking was significantly less positive than disabled subjects'; while the means were in the same direction on comfort interacting scores, this comparison did not reach significance. On majority help topics, on the other hand, nondisabled subjects were both significantly more comfortable and had higher SOM scores than disabled subjects.

In both help and nonhelp minority situations, nondisabled subjects were more comfortable than disabled subjects. Paradoxically, nondisabled subjects had lower SOM scores on help topics than did disabled subjects; the comparison on nonhelp topic SOM scores was not significant.

*Self- and Other-focused Thoughts in Help Situations.* It was expected that nondisabled helpers' thinking would be more positive, both about themselves and about the recipients, than disabled recipients' thinking. Means in Table V suggest that this does, indeed, appear to be the case for self-focused thoughts in majority help situations; in minority situations, the means are similar and favor disabled recipients. In the case of other-focused thoughts, however, the opposite appears to be true; here, nondisabled helpers' thinking seems to be less positive than that of disabled recipients in both majority and minority situations. Indeed, nondisabled subjects' other-focused SOM scores are the lowest in situations where they are helping disabled recipients. Moreover, other-focused SOM scores of disabled subjects in help situations are certainly not lower than their scores in nonhelp contexts.

## DISCUSSION

### *Dichotomizing Thoughts into Valenced Categories*

Before the basic issues of the present investigation could be explored, we felt it necessary to validate the assignment of different types of thoughts into positive and negative categories. The sequence of steps followed to accomplish this illustrates a *simple* technique for determining, empirically, whether different types of thoughts are truly positive or negative: correlate the frequency of each thought type (1) with relevant criterion variables, (2) with proposed valenced subscales, as well as (3) with overall valenced scores. As an anonymous reviewer noted, it would be best to use scores which do not include the thought type in question. Of course, more complex procedures such as principal-components or factor analysis could also be carried out.

Researchers may also wish to obtain means for each thought type to permit examination of the relative contribution of different types of thoughts to overall valenced scores. For example, in the present investigation the means show that thoughts about knowing what to say or do were the most frequent in the positive category. In the negative category, however, thoughts concerned with negative (anxious) affect were most frequent. Thus, positively valenced totals were comprised, primarily, of cognitive elements while negatively valenced totals were comprised primarily of the affective component of self-talk. Although not conclusive, such findings suggest that discrepancies in the literature concerning the relative importance of positive and negative thoughts may be partly due to differences in the relative frequencies of different *types* of thoughts investigators group into valenced categories.

To fully understand the role of self-statements in mediating adaptive and maladaptive behaviors and affect, distinctions among different types of thoughts will have to be made. Available evidence, including findings from the present study, suggests that positive and negative thoughts do not constitute a bipolar dimension. As seems to be the case for affect (e.g., Diener & Emmons, 1985; Warr, Barter, & Brownbridge, 1983; Watson, 1988), positive and negative thoughts may reflect independent factors related to different disorders, mood states, and aspects of well-being. Moreover, different types of cognitive elements (e.g., self-instruction, irrational beliefs, self-efficacy and outcome efficacy expectations) and affective elements (e.g., anxious vs. depressed self-statements) may be particularly influential in different contexts (cf. Kendall & Ingram, 1989). Thus, it may well be that ambiguous and confusing findings concerning the relative im-

portance of valenced thoughts denote fundamental differences in the cognitive and affective mediation of different response classes in differing situational contexts.

Specific definitions and typologies may have to be developed for different situations; thoughts that make one more comfortable and those which facilitate adequate performance may vary as a function of the nature of the situation (e.g., test performance, public speaking, social interaction with specific groups of people). Indeed, our findings on curious thoughts suggest that even a particular thought type may function either as a positive or as a negative element, depending on the context.

Until accepted typologies of cognition codes are developed, investigators are encouraged to validate their own assignments of thoughts into valenced categories, and to report data on the types of thoughts they grouped into positive and negative categories. This should help resolve some of the difficulties and confusions about what investigators are talking about when they report findings on positive and negative thoughts and shed further light on the content and role of self-talk in different contexts.

#### *Evaluation of Thoughts: SOM Ratios*

Before using SOM ratios to analyze the data, we evaluated properties of SOM scores in the context of interactions between students with and without disabilities. SOM values were found to differ when situational demands were manipulated experimentally and scores were shown to be logically related to relevant criterion variables in a *linear* fashion.

The SOM model's predictions stated that only the positive dialogue (PD) category characterizes functional thinking. SOM categories with lower ratios were postulated to be indicative of increasing levels of maladaptive thinking. Results on total and on self-focused SOM ratios support this aspect of the model.

The model also proposed that positive monologue (PM) category SOMs are also maladaptive because they represent unrealistically optimistic thinking. Our results do not support this hypothesis; SOM ratios in the PM range were found to characterize most individuals' thoughts about casual encounters with similar peers — an “easy” task — and positive monologue SOMs were associated with the most favorable scores on the comfort and ease criterion variables. Indeed, investigators in other areas (e.g., test anxiety, agoraphobia) also have found that SOM scores in the PM range characterize adaptive functioning (Belliveau, Arnkoff, & Glass, 1989; Schwartz & Michelson, 1987) Moreover, analogue samples of

“hypomanic” individuals have been found not to differ from normals (Kendall et al., 1989).

Thus, the relationship between SOM scores and adaptive affect and behavior seems more linear than the model predicts. As in other areas where lack of realism and overly positive evaluations characterize good functioning [e.g., depression (cf. Alloy & Ahrens, 1987; Taylor & Brown, 1988)], it also appears that in the balance between positive and negative thoughts, one just can't have too much of a good thing. While it is possible that extremely positive SOMs (e.g., .95 or greater) may be maladaptive, available evidence suggest that moderately positive ratios in the PM range characterize adaptive thinking about events.

The results also show that the attentional focus of thoughts had a strong impact on SOM ratios, with SOMs based on self-focused thoughts having much higher values than SOMs based on other-focused thoughts. Moreover, other-focused scores were more reactive to situational demands. Unlike other areas (e.g., depression, anxiety), where dysfunctional thinking is most apparent on self-focused thoughts (Ingram & Smith, 1984; Johnson & Glass, 1989), when thoughts concerning interactions with a negatively valued group are assessed, problematic thinking seems most apparent on other-focused thoughts.

### *Thoughts and Feelings in Different Situations*

The results show that the nature of the encounter had a strong impact and suggest that problematic interactions between peers with and without disabilities may be related to thoughts and feelings of both groups, depending on the nature of the encounter.

*Typical College Interactions.* In everyday encounters which do not involve helping, it seems likely that problematic interactions are related to nondisabled individuals' thoughts and feelings. For example, the data show that in such situations nondisabled individuals (1) were less comfortable and less positive in their thinking when the person with whom they were interacting was disabled than when he or she was able-bodied, (2) had more negative thoughts and feelings when contemplating interacting with disabled peers than did disabled participants, and, perhaps most important, (3) were more negative in their thinking than disabled participants when the tasks involved interactions with each other.

However, when helping was involved, the findings show dramatic differences. Here, nondisabled subjects were more comfortable and more positive in their thinking when they were asked for help by someone with a disability than were disabled recipients of assistance. In fact, when it came

to assisting a student with a disability, nondisabled participants were more comfortable and more positive in their thinking than were subjects with disabilities who were helping another disabled student.

The literature suggested that help givers would feel quite positive, both about themselves and the help recipient. While nondisabled helpers did, indeed, feel more comfortable and think more positively than did disabled help recipients, means on self- and other-focused thoughts suggest an important distinction. Nondisabled helpers' thinking was more positive than that of disabled recipients *only* when self-focused thoughts were considered. When it came to other-focused thoughts, nondisabled students' thoughts about a disabled peer who needed help were highly negative.

This and other conclusions based on other-focused thoughts must be considered tentative, however, because statistical analyses could not be carried out due to low other-focused thought frequencies. A recognition technique, such as an inventory, rather than a production measure such as the thought listings used in the present study, may resolve this problem (cf. Fichten et al., 1988). The means of other-focused thoughts in the present investigation do suggest, however, that in the college context (1) helping someone who has a disability results in a negative view of the recipient, and (2) disabled recipients of help do not have a particularly negative image of the help giver. Future research must examine this issue with greater precision.

*Encounters Reported by Students with Disabilities.* Situations which students with disabilities report as reasonably common differ from typical college interactions in a variety of ways. For example, people with disabilities report that they encounter situations where they perceive that the disability plays a key component. These can involve sudden conversational lulls when a presumably sensitive topic such as dating and sex are involved as well as situations which focus on needing and receiving help which is either unwanted or substantial in nature.

The data show that such situations elicit results which differ from typical college interactions; here, students with disabilities were less comfortable than nondisabled students, in both reciprocal as well as in identical situations, regardless of whether help was involved or not. Therefore, in such situations, it appears that it is the thoughts and feelings of students with disabilities which are likely to hamper interaction.

#### *Implications for Research and Practice*

It must be noted that the present investigation was exploratory and, as such, has methodological limitations which require comment. For ex-

ample, it was expected that there would be sufficient thought listing data for each situation to permit statistical analyses. Given the low frequency of other-focused and situation-focused thoughts, this could not be done. Perhaps more important, all interactions in the present study were hypothetical. Although data show that hypothetical and actual interactions result in similar thoughts and ratings (Zweig & Brown, 1985), the analogue nature of the investigation presents a threat to ecological validity. Thus, the present findings must be considered preliminary and future investigations should examine the issues in a more naturalistic environment.

Nevertheless, the results do suggest that different situations, even in a context as limited as interactions among students in a college environment, are associated with different types of thoughts and feelings. When designing change programs to make casual interactions between peers with and without disabilities less problematic, it should be noted that able-bodied students are more likely to be comfortable interacting with a peer who has a disability in "predictable" contexts (e.g., assisting a person who has a disability). However, such encounters put emphasis on the disability rather than on other qualities of the person and serve to make the impairment salient. Also, help contexts appear to be associated with negative thoughts about the person with the disability (e.g., "Oh, how awful it must be for him") and reinforce the stereotyped beliefs which are likely contributors to nondisabled individuals' discomfort in typical interactions in the first place. Moreover, help situations and encounters where the focus seems to be on the impairment may be associated with discomfort and negative thinking on the part of people with disabilities.

Clearly, what must happen for successful integrations is for nondisabled individuals to become more comfortable with peers with disabilities in everyday social encounters — where the two groups relate on an equal status basis. The present results suggest that in such situations, people with disabilities, who are already reasonably comfortable with able-bodied peers in this context, should take the initiative. Suggestions as to how this may be accomplished are provided by the literature (e.g., Belgrave & Mills, 1981; Blood & Blood, 1982; Evans, 1976; Mills, Belgrave, & Boyer, 1984).

Also, educational programming for both groups may have to explore the differences between disabled and nondisabled individuals' perceptions about what are positive attitudes and behaviors toward people with impairments. Comments which reflect a "give the disabled person a break" attitude (e.g., "People who are disabled shouldn't have to pay income tax") and those which reflect "disabled saint" viewpoints (e.g., "Disabled people should be considered courageous for having overcome their disabilities") may be offered by well-meaning able-bodied individuals who are attempting to express positive thoughts and feelings; people with disabilities, however,

are likely to perceive such behaviors as reflective of discriminatory and negative attitudes (Makas, 1988). In order to facilitate interactions, further exploration of such discrepancies is needed; this can help sensitize those who have no disability to disabled individuals' expectations and help make people with disabilities aware of the positive intentions behind such behaviors.

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