The Interaction With Disabled Persons Scale: A New Australian Instrument to Measure Attitudes Towards People With Disabilities

Lindsay Gething and Barbara Wheeler
The University of Sydney

This article reports results of the construct validation of a new Australian measure of attitudes towards people with disabilities. Following a statement of the theoretical background for the instrument and a critique of existing instruments, an outline is given of procedures used in the development and psychometric evaluation of the Interaction with Disabled Persons (IDP) Scale. Results indicate that test-retest and internal reliability coefficients compare favourably with existing overseas instruments and that a stable factor structure has emerged over time across a variety of samples. Support was provided for all hypotheses based on the predicted nomological network of the IDP Scale. The article closes with a discussion of current and potential applications of the instrument.

The Interaction with Disabled Persons (IDP) Scale was devised to tap dimensions underlying nonaccepting or negative attitudes towards people with disabilities. This project was undertaken by the Community Disability and Ageing Program (CDAP) which has been operating since 1980, and has as its brief the measurement of attitudes and development of intervention strategies designed to promote realistic attitudes towards people with disabilities, and older people.

The IDP Scale measures attitudes on a different level from that tapped by overseas measures and is the first instrument designed and standardised within Australia. It was first used in 1981 as part of a pretest conducted in an evaluation of the International Year of Disabled Persons (IYDP) (Gething, 1986). Original items for the scale were derived from open-ended responses written by 633 respondents who took part in a pilot study conducted in 1980. Final development and standardisation of the scale occurred between 1988 and 1991. This article reports evaluations of psychometric properties of the scale. More details, including scoring procedures and norms, may be found in the manual and kit for the instrument (Gething, 1991a).

Fishbein (1967) argued that an attitude is a learned predisposition to respond to an object or concept in a consistent, predictable manner; whilst Shaver, Curtis, Jesunathadas, and Strong (1989) defined an attitude as "interrelated beliefs about and feelings toward an object which predispose the person to act in certain ways" (p. 35). These authors specify that attitudes have cognitive, affective, and behavioural components.

Most theorists regard prevalent community attitudes towards people with disabilities as negative and devaluing, with nonaccepting attitudes associated with a view of these people as separate or different, the usual implication being that the difference implies deficiency or inferiority. Goffman (1963) regarded people with disabilities as members of a minority group which is set apart, treated as different, and stigmatised by other members of society. Wright (1983) expanded this view to argue that anything which deviates from cultural norms stands out and is perceived negatively. Similarly, Simpson (1980) theorised that nonacceptance of people with disabilities reflects a response to those who are strange. This position follows Heider (1948) who argued that unfamiliar objects or people are the subject of negative attitudes which reflect uncertainty.

These perceptions influence expectations and behaviour. Wright (1983) developed the concept of *spread* which argues that nonaccepting people tend to use the feature of disability to form impressions about characteristics having no necessary relationship with the disability. Spread can be positive, but more commonly is negative, and infers deficiency. It has been demonstrated in research projects conducted by Comer and Piliavin (1975), Gething (1988), Harasymiw, Horne, and Lewis (1976), Jackson and Knowles (1981), and Vinson (1975).

Spread creates stereotypes which set people with disabilities apart and lead to different expectations and treatment. The most widely used pencil-and-paper measures of attitudes focus on perceptions of differences as an index of negativeness of attitudes. For example, the Attitudes Towards Disabled Persons Scale (ATDP) (Yuker, Block, & Campbell, 1960; Yuker, Block, & Young, 1970) asks respondents to indicate their level of agreement to a series of statements about the characteristics and appropriate treatment of people with disabilities. This scale has three versions (Forms A, B, and O), of which form O is the most widely used. It has two subscales: the Characteristics subscale contains statements about whether disabled and nondisabled people differ in nondisability-related characteristics such as self-pity, intelligence, and social adjustment; the Treatment subscale contains items about how people with disabilities should be treated in areas such as education and employment. Emphasis on perceived differences is also demonstrated in the Scale of Attitudes Towards Disabled Persons (SADP) (Antonak, 1980) and in the Disability Factor Scales (Siller, Chapman, Ferguson, & Vann, 1967), two other widely used overseas measures.

Researchers have identified problems with these instruments, with the ATDP receiving most attention. Antonak (1980) found that respondents favoured extreme scores and that some items showed little variation between people, whilst Livneh (1982) found that, contrary to the aim of the ATDP, neither the whole scale nor the subscales were homogeneous. Considerable controversy has existed between the developers of the ATDP and SADP in regard to homogeneity and the validity of their measures (e.g., Siller et al., 1967; Yuker & Block 1986), whilst in Australia investigators have encountered problems with respondents who omit too many items or express hostility verbally or physically, by tearing up questionnaires. Leonard (1986) notes

Development of the IDP Scale was conducted with funds provided by the Research and Development Committee of the Department of Health, Housing and Community Services. Members of the CDAP team working on the project were: Brett McNamara, Felicity Reynolds, Kath Scott, Barbara Wheeler, and Darren Watzinger. Appreciation is conveyed to the people and organisations who assisted with data collection. Specific mention in this article is made to contributions by Dr Rex Newsome and Ms Katrina Carr of the University of Queensland, Professor Trevor Parmenter, editor of the Australian Disability Review, Ms Christine Johnston of University of Sydney, and Ms Fay Hickson of the Australian Catholic University.
Requests for reprints should be sent to Associate Professor Lindsay Gething, Department of Behavioural and Social Sciences, Faculty of Nursing, Building MO2, University of Sydney NSW 2006, Australia

that the questions about which people express most difficulty are those which require generalisations. It is possible that community attitudes are sufficiently different in Australia and have changed since these instruments were first published in the United States that respondents feel unwilling to make generalisations. Even though Yuker and Block (1986) report minor modifications of the ATDP Scale designed to overcome criticisms that the scale is outdated, its applicability to Australian conditions is still doubtful.

In addition, there has been controversy about the contribution of response bias to performance on the above measures, with particular focus placed on social desirability and the fakeability of instruments (e.g., Hagler, Vargo, & Semple, 1987; Speakman & Kung, 1980).

In sum, controversy has surrounded the validity, psychometric properties, and applicability of existing instruments to Australian conditions.

The Interaction with Disabled Persons Scale was designed to overcome these problems. It was also designed to tap attitudes on a deeper level by exploring the response to strangeness and unfamiliarity, proposed by authors such as Simpson (1980) and Wright (1983), to underlie the tendency to highlight differences between people with disabilities, and others. The IDP Scale was designed to measure discomfort in social interaction as a central factor underlying negative attitudes and is predicted to be closely related to familiarity or level of prior close contact with people with disabilities. The developers of the IDP Scale conducted extensive assessments in order to establish the validity, psychometric properties, and applicability of the instrument.

Theoretical Background to the IDP Scale

Discomfort in social interaction. Nonaccepting or negative attitudes in nondisabled people have been linked in the literature with a range of emotions and motivations. Gething (1984a) summarises these as follows: (a) *fear of the unknown* or anxiety associated with being unsure of how to behave or what to expect from the person with a disability; (b) *threat to security* or threat to the view of the world as fair when someone is perceived to "suffer" from an undeserved fate; (c) fear of becoming disabled or feelings of personal *vulnerability*; (d) *guilt* about one's own lack of disability; (e) a view of disability as tragic (*succumbing orientation*); and (f) a general *aversion* to weakness. These emotions and motivations tend to be unpleasant and lead to discomfort when interacting, or contemplating the possibility of interaction, with a person with a disability. Discomfort is compounded by self-consciousness resulting from curiosity and the urge to stare (Evans, 1976; Siller et al., 1967). This uneasiness creates tension, resulting in overcontrolled behaviour which is displayed in being careful about what one says, rigid and fixed behaviour patterns, or difficulty in concentrating on the conversation or in remembering what was said (Roeher, 1961).

Researchers have used social distance scales to explore effects of discomfort on behaviour. This methodology requires a series of decisions about how closely a person is willing to interact with someone with a disability. Thus, school children have been asked to rate items such as "would you like this girl/boy to be in your school/class/sit next to you/be your friend" (e.g., Dixon, 1977; Harasymiw & Horne, 1976; Westervelt & Turnbull, 1980).

Evidence suggests that discomfort in interaction and reluctance to associate are linked with level of prior contact with people with disabilities. People with low levels are more likely to experience discomfort (Evans, 1976) with reactions expressed in terms of physiological as well as psychological responses. Kleck (1968, 1969) demonstrated that nondisabled people with low levels of prior contact report greater emotional stress during interaction with a person with a disability, exhibit higher physiological arousal, show less motoric activity, and display less variability in their verbal behaviour than those who have had close contact.

The person with a disability senses this uneasiness and also becomes tense. Interaction between the two people is inhibited and characterised by uncertainty (Harasymiw & Horne, 1976; Siller et al., 1967). They search for an excuse to part, leave as soon as they can, and avoid such situations in the future. Thus, both parties are denied potential situations for obtaining accurate information and for testing negative attitudes.

Operational Definition of Attitudes as Measured by the IDP Scale

The IDP Scale measures attitudes in terms of level of discomfort reported by a person during interaction with people with disabilities. This discomfort is posited to be associated with feeling uninformed and uncertain of how to behave or what to expect from the person. It also reflects a succumbing framework, reactions associated with not having a disability, and awareness of one's own vulnerability. These reactions are posited to be linked with level of prior close contact with people with disabilities, with negative views more likely to be held by people who have had little prior contact. Such people have been called "outsiders" by Wright (1980, 1983).

SCALE DEVELOPMENT

Original items were derived from open-ended responses written by 633 people in 1980. Respondents were asked to describe how they felt when meeting someone with a disability. If they had never met such a person, they were asked to describe how they thought they would feel. Responses were content-analysed according to variables cited in the literature as being linked with negative attitudes (Cohen, 1977; Evans, 1976; Kutner, 1971; Westbrook, 1984; Wright, 1980, 1983). Prior to use, the first version of the IDP Scale was given to a panel of 40 people who included people with quadriplegia, cerebral palsy, and severe visual impairment, nondisabled people, a psychologist, a vocational guidance counsellor, a social worker, and a rehabilitation counsellor. These people were asked to assess the scale in terms of its face and content validity, that is whether it covered common reactions which occur when a nondisabled person meets someone with a disability. They also were asked to identify sources of ambiguity and lack of clarity in statements. Comments were used to revise the scale which was then subjected to preliminary reliability assessments and factor analysis. Modified versions were developed and trialled. These involved minor changes to wording and increasing the length of the scale. Versions containing 22, 28, and 33 items were trialled but not found to enhance the validity or reliability of the scale. The final version consists of 20 items relating to reactions on meeting someone with a disability. Respondents indicate their level of agreement/disagreement with each item using a 6-point scale with no neutral point.

STANDARDISATION PROJECT

The process adopted for evaluating and reporting psychometric properties of the IDP Scale followed procedures outlined by Antonak and Livneh (1988) and Roush and Klockars (1988). These authors outlined strategies for developing new instruments and for evaluating existing instruments which measure attitudes towards people with disabilities.

Roush and Klockars (1988) argue that the most important feature is to establish construct validity of an attitude instrument using the following three methods: (a) establishing reliability as a necessary prerequisite for validity; (b) factor analysis to determine underlying dimensions; and (c) evaluation of the consistency of the scale with the nomological network that defines attitudes towards people with disabilities.

Construct validation was conducted over several years and used a variety of samples (see Table 1).

Reliability

Evidence was gathered through test-retest and item homogeneity assessments. For both forms of reliability, results compared favourably with those reported for overseas measures. Results

Table 1 Major Samples Used in Construct Validation*

Sample No	Occasion	Sample	Sample Size**
1	IYDP (1981)	General Community	820
2	IYDP (1982)	General Community	727
3	Nursing Students (1988) (Year 1)	University of Sydney	317
4	Nursing Students (1989) (Year 2)	University of Sydney	208
5	Nursing Students (1990) (Year 3)	University of Sydney	170
6	Second Year Nursing Students (1990)	University of Sydney	72
7	Second Year Education Students (1990)	University of Sydney	118
8	Standardisation study (1989–1990)	General community, health and education professionals	4180
9	Newsome & Carr (1990)***	Queensland general community	112
10	Australian Disability Review (1990)	General community, health and rehabilitation professionals, people with disabilities and their carers	351
11	Nomological study (1990)	General community, social workers, municipal council employees, students	78
12	Department of Education, Employment and Training	Disability Job Seeker Advisers	53

* Unless specified, all data collections were conducted by the Community Disability and Ageing Program at the University of Sydney
** Actual sample size reported in subsequent tables in a particular analysis may vary depending on missing data.
*** Collected by R. Newsome and K. Carr from the University of Queensland

Table 2 Test-Retest Reliability of the IDP Scale

Occasion	Time Period	Sample Size	Reliability Coefficient
Leonard (1986)*	3–5 weeks	60	+.81
Nursing students (1988) (yr 1)	1 week	284	+.80
Nursing students (1989) (yr 2)	1 year	109	+.51
Nursing students (1990) (yr 3)	6 months	67	+.71
Nursing students 2nd Year (1990)	10 weeks	72	+.72
Education students 2nd Year (1990)	10 weeks	118	+.64
Nomological study (1990)	2 weeks	78	+.82
Nomological study (1990)	4 weeks	46	+.72

* Collected by R. Leonard from Macquarie University

Table 3 Cronbach Coefficient Alpha Results for the IDP Scale

Occasion	Sample size*	Alpha Coefficient
IYDP Pretest (1981)	820	.79
IYDP Posttest (1982)	727	.77
Nursing Students (1988) (Yr 1a)**	284	.75
Nursing Students (1988) (Yr 1b)**	291	.77
Nursing Students (1989) (Yr 2)**	109	.75
Nursing Students (1990) (Yr 3)**	146	.79
Standardisation sample (1988–1990)	3569	.79
Nursing & Education Students (1990) (Yr 2)	188	.82
Specificity study (1990)	473	.77
Queensland (Newsome & Carr) (1990)	99	.86
Australian Disability Review (1990)	223	.80
Nomological study (1990)	76	.82

* Sample sizes are reduced in some cases as respondents who did not answer all twenty items on the IDP Scale were excluded from Cronbach's Coefficient Alpha test.
** Same group retested on several occasions

contained in Tables 2 and 3 show that in both cases reliability coefficients were high and provided strong support for the item homogeneity of the scale. The test-retest results in Table 2 indicate relatively good stability of the test over time and across sample types (e.g., nursing and education students, the general public). Antonak and Livneh (1988) quote test-retest reliability coefficients ranging between +.66 and +.89 for the ATDP Form O for periods of between 2 weeks and 18 months, whilst Siller et al. (1967) reported coefficients ranging between +.62 and +.92 for the Disability Factor Scales (DFS).

Item homogeneity was assessed using Cronbach's Coefficient Alpha and produced coefficients ranging between +.74 and +.86 (see Table 3). Antonak and Livneh (1988), in their review of psychometric properties of attitude measures, cite +.75 to +.85 as the range of item homogeneity coefficients reported for the ATDP Form O, +.47 to +.91 for the DFS and +.77 to +.87 for the SADP.

Factor Analysis

The issue of whether attitude as measured in terms of perceived discomfort in social interaction (i.e., the object of measurement of the IDP Scale) is multidimensional or unidimensional needs to be explored. From the results of a factor analysis (maximum-likelihood extraction using oblique rotation), it appears that the scale has six stable and relatively related factors.

To arrive at this conclusion, several comparisons were made between samples in the IDP data bank. (These sets were collected by researchers in the Community Disability and Ageing Program at the University of Sydney and by Dr Rex Newsome and Ms Katrina Carr at the University of Queensland.) The total sample in the IDP data bank was established from a series of data collections conducted over a relatively similar time period between 1989 and 1991. (See sample numbers 3, 6, 7, 8, 9, 10, and 11 in Table 1.) To establish stability of the factors, results for the total data bank sample were compared with those collected from the general community in 1981 during the International Year of Disabled Persons (IYDP) (Sample 1 in Table 1). A third comparison group was established by forming a subsample from the total data bank. The subsample consists of two of the most recently collected data sets (Samples 10 and 11 in Table 1). Samples 10 and 11 were relatively small and were merged to create a substantial sample for factor analysis. This more recent data collection allows comparison of results from two groups collected almost a decade apart. This subsample also was used to demonstrate the replication of the factor structure obtained for the total data bank in its component parts (and, therefore, the stability of the IDP Scale). The comparative factor analyses, then, were conducted between three data groups: the total data bank (N = 5357), the IYDP 1981 group (N = 820) and the subsample group (N = 488).

To arrive at the factor solutions, three aspects of the factor analysis were taken into account. These were eigenvalues of each factor, Cattell's scree test (Cattell, 1966), and the ±.10 hyperplane count. Table 4 summarises findings from these three methods. While six- and seven-factor solutions were suggested by analysis of the scree plot, a peak hyperplane count of between 59%–61% was achieved by a six-factor solution on all three comparison groups. Table 5 displays low to moderate correlations between factors, indicating some degree of relationship between the factors.

The 20 items of the IDP Scale appear to divide into relatively consistent groups of six factors, but these factors did not appear in the same order of importance for all three comparison groups. Table 6 displays factor patterns, the percentage of variance explained by each factor, and the eigenvalue for each of the comparison groups. Table 7 lists items in the factor analysis of the total data bank. It groups items based on the total sample factor analysis and suggests names for each grouping.

Factors were determined through use of the SPSS PC+ program using a maximum-likelihood solution with oblique rotation based on eigenvalues of unrotated factors having values of 1.00 or greater. (The figure of 1.00 was selected as the value able to explain at least 5% of the variance for the 20 items on the IDP Scale.)

Table 4 The Number of Factors in the IDP Scale as Assessed by the Comparative Factor Analysis

	From Data Bank	Subsample From Data Bank	IYDP (1981)
Number of Eigenvalues > 1.0	6	6	6
Percentage of variance explained (before rotation)	58%	60%	57%
Cattell's (1966) Scree Test	7	6	6
Hyperplane Count (±.10)	67%	59%	61%

Table 5 Correlation of Factors for IDP

	Total Sample (1990–1991) Results					
	I	II	III	IV	V	VI
Factor I	1.00					
Factor II	.14	1.00				
Factor III	−.46	−.07	1.00			
Factor IV	.26	.33	−.20	1.00		
Factor V	.21	−.23	−.24	−.02	1.00	
Factor VI	.27	.47	−.09	.39	−.12	1.00

NOMOLOGICAL NETWORK

This is concerned with the extent to which the IDP Scale falls into a network of relationships which can be predicted from theory and knowledge about attitudes towards people with disabilities. The operational definition provided earlier formed the basis for Hypotheses 1, 2, and 3, whilst Hypothesis 4 is based on the argument that social desirability response bias is not a major influence on responding, and Hypothesis 5 predicts relationships with another attitude measure in this area (The Attitudes Towards Disabled Persons Scale, Form O).

Hypothesis 1. It was predicted that level of prior contact with people with disabilities would have a significant effect on scores on the IDP Scale.

Hypothesis 2. It was predicted that people who are more accurately informed about disability would display more positive attitudes on the IDP Scale.

Hypothesis 3. It was predicted that positiveness of attitude as expressed on the IDP Scale would be significantly and positively associated with lower levels of perceived severity of everyday problems for a disabled person. That is, people who indicated lower levels of discomfort on the IDP Scale would tend to take an insider's perspective.

Hypothesis 4. It was predicted that a nonsignificant relationship would emerge between responding on the IDP Scale and the Crowne-Marlowe Social Desirability Scale (1960).

Hypothesis 5. Significant associations were predicted to occur between scores on the IDP and ATDP Form O total scale and two subscales, which are designed to measure attitudes towards people with disabilities.

Evidence regarding the nomological network was gathered in a range of studies. Information about the effects of contact was gathered between 1981 and 1990, whilst exploration of other features of the nomological network occurred in 1990 and 1991.

Level of Prior Contact

This variable was defined in terms of frequency of close contact on a one-to-one basis. Respondents indicated whether they had such contact daily, weekly, at least once a month, every 3 months, or less often. Table 8 displays results of analyses of variance conducted to assess the effects of contact on IDP scores over a range of occasions and a variety of samples.

Results provide clear support for Hypothesis 1. The only nonsignificant result emerged for a sample which was fairly homogeneous on the contact variable (i.e., the sample was not representative in all contact categories). Scheffe tests of comparisons between categories revealed that significant effects occurred most frequently between the highest and lowest levels of contact. This indicates that daily or weekly close contact had the greatest effect on attitudes.

Information pertaining to the nomological network of the IDP Scale has emerged from two recent studies. In 1990, a study was conducted specifically to assess other aspects of the nomological network (Study 1). Partial repetition of part of this project was possible using data collected in a evaluation of disability awareness training conducted on behalf of the Department of Employment, Education and Training in 1992 (Study 2).

Table 6 Pattern Matrix Loadings for a Six-Factor Solution for the IDP Comparative Analysis (decimal points omitted)

Item	Total Data Bank (N = 5468)			IYDP (1981) (N = 820)			Data Bank SubSample (N = 438)		
	I	II	III	I	II	III	I	II	III
1. It is rewarding when I am able to help		42			49			62	
2. It hurts me when they want to do something and can't		74			66			53	
3. I feel frustrated because I don't know how to help		46	–45		63	–40		30	
4. Contact with a disabled person reminds me of my own vulnerability									
5. I wonder how I would feel if I had this disability									
6. I feel ignorant about disable people			–65			–64			67
7. I am grateful that I do not have such a burden									
8. I try to act normally and ignore the disability									
9. I feel uncomfortable and find it hard to relax	45		–40	51		–44	41		
10. I am aware of the problems that disabled people face			–50			–40			
11. I can't help staring at them	48			49			57		
12. I feel unsure because I don't know how to behave	41		–46	50			36	47	
13. I admire their ability to cope		30							
14. I don't pity them									
15. After frequent contact, I find I just notice the person not the disability									
16. I feel overwhelmed with discomfort about my lack of disability	51			40			55		
17. I am afraid to look at the person straight in the face	77			73			72		
18. I tend to make contacts only brief and finish them as quickly as possible	71			63			59		
19. I feel better with disabled people after I have discussed their disability with them									
20. I dread the thought that I could eventually end up like them									48
Eigenvalue	4.66	2.47	1.22	4.28	2.46	1.36	5.17	2.33	1.27
% Total variance	23.30	12.30	6.1	21.40	12.3	6.8	25.9	11.6	6.3

* Only those items with a loading on .3 or above are reported
** Items 8 & 19 did not load .3 or above on any of the factors

Item	Total Data Bank (N = 5468)			IYDP (1981) (N = 820)			Data Bank Sub-Sample (N = 438)		
	IV	V	VI	IV	V	VI	IV	V	VI
1. It is rewarding when I am able to help									
2. It hurts me when they want to do something and can't									–39
3. I feel frustrated because I don't know how to help							–45		–41
4. Contact with a disabled person reminds me of my own vulnerability			59	56					
5. I wonder how I would feel if I had this disability			66	74					
6. I feel ignorant about disabled people						–63			
7. I am grateful that I do not have such a burden	66				49				
8. I try to act normally and ignore the disability					33				
9. I feel uncomfortable and find it hard to relax							–49		
10. I am aware of the problems that disabled people face							–55		
11. I can't help staring at them									
12. I feel unsure because I don't know how to behave							–57		
13. I admire their ability to cope					37				
14. I don't pity them		45				48		53	
15. After frequent contact, I find I just notice the person not the disability		52				46		60	
16. I feel overwhelmed with discomfort about my lack of disability									
17. I am afraid to look at the person straight in the face									
18. I tend to make contacts only brief and finish them as quickly as possible									
19. I feel better with disabled people after I have discussed their disability with them									
20. I dread the thought that I could eventually end up like them	46			38					
Eigenvalue	1.19	1.04	1.00	1.16	1.14	1.00	1.20	1.09	1.03
% Total variance	6.00	5.20	5.00	5.8	5.7	5.0	6.0	5.4	5.1

* Note: Items 8 & 19 did not load with a value of .3 or above on any of the factors.

Table 7 Grouping of IDP Items on Total Data Bank Factor Analysis (N = 5468)

Item No	Item
Factor 1: Discomfort in Social Interaction	
9	I feel uncomfortable and find it hard to relax
11	I can't help staring at them
12	I feel unsure because I don't know how to behave
16	I feel overwhelmed with discomfort about my lack of disability
17	I am afraid to look at the person straight in the face
18	I tend to make contacts only brief and finish them as quickly as possible
Factor 2: Coping/Succumbing Framework	
1	It is rewarding when I am able to help
2	It hurts me when they want to do something and can't
3	I feel frustrated because I don't know how to help
13	I admire their ability to cope
Factor 3: Perceived level of information	
3	I feel frustrated because I don't know how to help
6	I feel ignorant about disabled people
9	I feel uncomfortable and find it hard to relax
10	I am aware of the problems disabled people face
12	I feel unsure because I don't know how to behave
Factor 4: Vulnerability	
7	I am grateful I do not have such a burden
20	I dread the thought I could eventually end up like them
Factor 5: Coping	
14	I don't pity them
15	After frequent contact, I notice the person, not the disability
Factor 6: Vulnerability	
4	Contact with a disabled person reminds me of my own vulnerability
5	I wonder how I would feel if I had this disability

• Note: Items 8 and 19 are omitted from the table as they did not load consistently with a value of .3 or above on any of the above factors.

Table 8 Analysis of Variance Conducted to Assess the Effects of Contact on IDP Scores

Occasion	Degrees of freedom	F	p	Scheffé test*
IYDP post-test (1982)	4	21.91	<.000	(5 vs 1, 2, 3) (4 vs 1, 2) (2 vs 3)
Nursing students (1988)	4	5.56	.000	(5 vs 3) (2 vs 3, 4, 5)
Standardisation sample (1988–89)	4	74.99	.000	(5 vs 3) (2 vs 3, 4, 5)
Education and nursing students (1990)	4	3.41	.01	(5 vs 1)
Queensland study (Newsome & Carr) (1990)	3+	2.34	.103	
Australian Disability Review (1990)	4	5.77	<.000	(1 vs 2, 4, 5)
Nomological study (1990)	3+	4.09	<.009	(5 vs 1, 2, 3)

• Scheffé-test indicates the categories of contact level between which significant differences occured
+ number of categories collapsed

Study 1

Method. This study involved administration of a battery of pencil and paper instruments, along with the IDP Scale, to a sample of social workers (N = 27), Fine Arts students (N = 12), Municipal employees (N = 17), employees of a computer company (N = 15), and members of the Coonamble Quota Club (N = 16). The sample consisted of 87 people, 37 men (43%) and 50 women (57%). Ages ranged between 18 and 63 years, with the mean age falling in the 30–39 age group, where 22% of the sample were located. Respondents were contacted on three occasions. On the first they completed the battery of instruments, on the two further occasions they completed only the IDP Scale (to provide test-retest reliability assessments included in Table 2). Instruments within the battery on the first occasion were counterbalanced between respondents to reduce the influence of practice effects. The complete battery took 20 minutes to complete.

Results. Results are presented in Table 9 which displays Pearsons product moment correlations between IDP scores and other measures included in the nomological study. The following discussion will focus on issues associated with hypothesis testing. Analysis of other relationships is the subject of a separate paper, currently under preparation.

Accuracy of information was assessed using the Facts About Disability (FAD) Questionnaire which was devised specifically for the study and contained a list of statements based on statistics and information about disabling conditions published by the Australian Bureau of Statistics (1988) and organisations representing people with disabilities. Respondents indicated whether each of a series of 12 statements was true or false. Table 9 shows that a significant negative relationship emerged, indicating that people with high scores on the FAD Questionnaire (higher levels of accurate information) expressed lower levels of discomfort in social interaction (as measured by the IDP Scale). Thus support is provided for Hypothesis 2, which predicted that people who were more accurately informed would display more positive attitudes on the Interaction with Disabled Persons Scale.

Insider's perspective was assessed using the Living with a Disability task (LWAD) which was a 20-item task taken from an instrument originally devised by Gething (1985) to measure the insider-outsider perspective. In this earlier project these items

Table 9 Correlations Between IDP Scale and Instruments Included in the Nomological Assessment (Study 1)

Instrument	Correlation Coefficient
Attitudes Toward Disabled Persons (Total Score) (Yuker et al. 1970)	−.37 ***
Attitudes Toward Disabled Persons (Characteristics subscore)	−.44 ***
Attitudes Toward Disabled Persons (Treatment subscore)	−.22 *
Facts about Disability Questionnaire (FAD)	−.27 **
Living with disability (LWAD)	.42 ***
Social desirability (Crowne-Marlow, 1960)	−.09

* $p < .05$ ** $p < .01$ *** $p < .001$

were found to differentiate between people according to level of contact (people with cerebral palsy, their close relatives, and people with little or no prior contact with people with cerebral palsy). The correlation coefficient in Table 9 shows that support was provided for Hypothesis 3, in that a significant positive relationship emerged between scores on the LWAD task and IDP Scale; that is, people who tended to take an "insider's" view to perceive disability as less tragic and succumbing indicated lower levels of discomfort on the IDP Scale.

Social desirability is a form of bias not intended to form part of IDP Scale measurement and the Crowne-Marlowe Social Desirability Inventory (1960) was included to assess its operation. Results in Table 9 show a nonsignificant relationship between IDP Scale and Crowne-Marlowe Inventory scores, indicating social desirability response bias did not have a significant effect on responding. In this finding, support is provided for Hypothesis 4.

Relationships with existing attitude measures were explored by including in the study the Attitudes Towards Disabled Persons Scale (Form O) published by Yuker et al. (1960, 1970). Table 9 shows that significant relationships occurred with IDP scores for both subscales and the total scale score of the ATDP Form O. Relationships were negative because the direction of the ATDP scoring method is reversed to that for the IDP Scale. Thus, support is provided for Hypothesis 5, and evidence of convergent validity for the IDP Scale is provided in that it has been demonstrated to have a significant association with another measure of attitudes towards people with disabilities. However, although significant, relationships were moderate in size, indicating that the IDP scale has discriminant validity and taps dimensions not assessed by another instrument (cf. Campbell & Fiske, 1958).

Study 2

This project involved administration of a battery of attitudinal measures to 53 employees of the Department of Employment, Education and Training immediately prior and following participation in a 1½-day disability awareness workshop. The sample was comprised of 25 women and 28 men. Ages ranged between 23 and 58 years with the mean age falling in the 30–39 age group, where 64% of cases were located.

The following results are reported for the pretest administration. Data were collected for workshops conducted in Sydney, Brisbane, and Perth. The battery of instruments comprised the Interaction with Disabled Persons Scale, Facts about Disabilities Questionnaire, and the Living with a Disability Questionnaire. Table 10 confirms findings reported for Study 1 in that significant relationships emerged between IDP scores and responding on the two other instruments (Gething, 1991b). Thus, additional support has been demonstrated for Hypotheses 2 and 3, which predicted that positiveness of attitude as expressed on the IDP Scale would be significantly and positively related to possession of higher levels of accurate information and lower perceived severity of everyday problems associated with disability.

DISCUSSION

In sum, strong and consistent support was provided for the construct validity of the IDP Scale in terms of test-retest reliability and internal consistency, results of factor analyses and empirical investigation of its proposed nomological network. Results cited in this paper indicate that scores on the IDP Scale are related to level of prior contact, accuracy of information, the "insider" framework and another measure of attitudes towards people with disabilities. In addition, evidence reported elsewhere (Gething, 1991c) indicates that the instrument measures attitudes which generalise across disabling conditions; that is, the IDP Scale measures aspects of attitudes which are not disability-specific, but measures aspects of discomfort and uncertainty which generalise. These findings suggest that the scale has a variety of useful applications. It has already been used successfully to assess attitude change occurring as a result of an intervention program (Gething, 1984a) and to assess changes occurring during the International Year of Disabled Persons (Gething, 1984b). In 1991, the IDP Scale has formed a central part of evaluations of awareness training packages being developed by the Community Disability and Ageing Program for the Office of Disability (NSW Premiers Department), the Training Services Section of the Department of Education, Employment and Training, and the Home and Community Care program in the NSW Department of Community Services (Gething, Poynter, & Reynolds, 1991). Other potential applications include identification of factors to be addressed in the training of health, welfare, education, and other professionals; identification of community attitudes which may hinder integration and the provision of services to people with disabilities; provision of objective data for formulation of government policy at local, state, and federal levels; provision of information for lobby groups of people with disabilities; and identification of barriers to equal access to education, the judicial system, rehabilitation programs, and employment.

A resource bank has been established for the scale. It is envisaged that its information will be used to establish a network of users, disseminate findings, and act as a means of further evaluation of the instrument. Further information on the availability of the IDP Scale may be obtained from the authors.

Table 10 Correlations Between IDP Scale and Instruments Included in the Nomological Assessment (Study 2)

Instrument	Correlation Coefficient
Facts about Disability Questionnaire (FAD)	.25*
Living with a disability (LWAD)	.27*

* $p < .05$

REFERENCES

Antonak, R.F. (1980). Psychometric analysis of Attitudes Towards Disabled Persons Scale. *Rehabilitation Counselling Bulletin, 3,* 169–176.

Antonak, R.F., & Livneh, H. (1988). *The measurement of attitudes toward people with disabilities: Methods, psychometrics and scales.* Springfield, IL: Charles C. Thomas.

Australian Bureau of Statistics. (1988). *Disabled and aged persons.* Canberra: Australian Government Publishing Service.

Campbell, D.T., & Fiske, D.W. (1958). Convergent and discriminant valida-

tion by the multitrait-multimethod matrix. *Psychological Bulletin, 56,* 81–105.

Cattell, R.B. (1966). The Scree test for the number of factors. *Multivariate Behavioural Research, 1,* 245–276.

Cohen, S. (1977). Fostering positive attitudes toward the handicapped: A new curriculum. *Children Today, Nov–Dec,* 7–12.

Comer, R.C. & Piliavin, J.A. (1975). As others see us: Attitudes of physically handicapped and normals towards own and other groups. *Rehabilitation Literature, 36*(7), 206–211.

Crowne, D.P. & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology, 24,* 349–354.

Dixon, J. (1977). Coping with prejudice: Attitudes of handicapped persons toward the handicapped. *Journal of Chronic Disability, 30,* 307–322.

Evans, J.H. (1976). Changing attitudes towards disabled persons. *Rehabilitation Counselling Bulletin, 19,* 572–579.

Fishbein, M. (1967). *Readings in attitude theory and measurement.* New York: Wiley.

Gething, L. (1984a). Cumberland's strategy for changing attitudes toward disabled people. *Australian Disability Review, 6,* 44–52.

Gething, L. (1984b) Media and the disabled. *Media Information Australia, 34,* 41–50.

Gething, L. (1985) Perceptions of disability of persons with cerebral palsy, their close relatives and able bodied people. *Social Science in Medicine, 20*(6), 561–565.

Gething, L. (1986). International Year of Disabled Persons in Australia: Attitudes and integration. *Rehabilitation Literature, 47*(3–4), 67–70.

Gething, L. (1988, August). *The effects of visible physical disability on perceptions of health.* Paper presented at the XXIVth International Congress of Psychology, Sydney.

Gething, L. (1991a). *Interaction with Disabled Persons Scale: Manual and kit.* Sydney: University of Sydney.

Gething, L. (1991b). *Report of the evaluation of training provided for Disability Job Seeker Advisers for the Department of Employment Education and Training.* (Unpublished report).

Gething, L. (1991c). Generality versus specificity of attitudes towards people with disabilities. *British Journal of Medical Psychology, 64,* 55–64.

Gething, L., Poynter, T., & Reynolds, F. (1991). *Disability awareness package.* Sydney: University of Sydney.

Goffman, E. (1963). *Stigma: Notes on the management of a spoiled identity.* Harmondsworth: Penguin.

Hagler, P., Vargo, J., & Semple, L. (1987). The potential for faking on the Attitudes Toward Disabled Persons Scale. *Rehabilitation Counselling Bulletin, 31*(1), 72–76.

Harasymiw, S.J., & Horne, M.D. (1976). Teaching attitudes towards handicapped children and regular classroom integration. *Journal of Special Education, 10,* 393–400.

Harasymiw, S.J., Horne, M.D., & Lewis, S.C. (1976). A longitudinal study of disability group acceptance. *Rehabilitation Literature, 44*(3), 31–33.

Heider, F. (1948). *The psychology of interpersonal relations.* New York: Wiley.

Jackson, M., & Knowles, B. (1981). Children's impressions of mental retardation. *Australian Disability Review, 5*(3), 33–43.

Kleck, R.S. (1968). Physical stigma and non verbal cues emitted in face-to-face interaction. *Human Relations, 21,* 19–28.

Kleck, R.S. (1969). Physical stigma and task oriented interactions. *Human Relations, 22,* 53–60.

Kutner, B. (1971). The social psychology of disability. In W.S. Neff (Ed.), *Rehabilitation psychology* (pp. 273–286). Washington, DC: American Psychological Association.

Leonard, R. (1986). I love humanity, its just people I can't stand: A two level approach to the measurement of attitudes to people with disabilities. Unpublished doctoral dissertation, Macquarie University, Sydney.

Livneh, H. (1982). Factor analysis of the Attitudes Towards Disabled Persons Scale. *Rehabilitation Psychology, 27*(4), 235–243.

Roeher, G.A. (1961). Significance of public attitudes in the rehabilitation of the disabled. *Rehabilitation Literature, 22*(3), 66–72.

Roush, S.E., & Klockars, A. (1988). Construct validation of two scales measuring attitudes toward persons with disabilities. *Journal of Rehabilitation, July/Aug/Sept,* 25–30.

Shaver, J.P., Curtis, C.K., Jesunathadas, J., & Strong, C.J. (1989). The modification of attitudes toward persons with disabilities: Is there a best way? *International Journal of Special Education, 4*(1), 33–57.

Siller, J., Chipman, A., Ferguson, L.T., & Vann, D.H. (1967). Attitudes of the non disabled toward the physically disabled. In *Studies in reactions to disability, XI.* New York: New York School of Education, New York University.

Simpson, R.L. (1980). Modifying the attitudes of regular class students towards the handicapped. *Focus on Exceptional Children, Nov,* 1–11.

Speakman, H.G.B., & Kung, J.S. (1980). The relationship between social desirability and attitudes towards disabled persons in physiotherapy students. *Journal of the Pakistan Physiotherapy Society, 7,* 6–1.

Vinson, T. (1975). Towards demythologising epilepsy. *Medical Journal of Australia, 2,* 663–666.

Westbrook, M. (1984). Being Disabled. In J.S. Sheppard (Ed.), *Rehabilitation counselling* (pp. 37–52). Sydney: Cumberland College of Health Sciences.

Westervelt, V.D., & Turnbull, A.P. (1980). Children's attitudes toward physically handicapped peers and intervention approaches for attitude change. *Physical Therapy, 60*(7), 896–901.

Wright, B.A. (1980). Developing constructive views of life with a disability. *Rehabilitation Literature, 4*(11–12), 274–279.

Wright, B.A. (1983). *Physical disability: A social-psychological approach.* New York: Harper.

Yuker, H.E., & Block, J.R. (1986). *Research with the Attitudes Towards Disabled Persons Scale (ATDP) 1960–75.* New York: Hofstra University.

Yuker, H.E., Block, J.R., & Campbell, W.J. (1960). *A scale to measure attitudes towards disabled persons: Human Resources Study No. 5.* Albertson, NY: Human Resources.

Yuker, H.E., Block, J.R., & Younng, J.H. (1970). *The measurement of attitudes towards disabled persons.* Albertson, NY: Ina Mend Institute.