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Development of Self-Report Measures of Social Attitudes that Act as Environmental Barriers and Facilitators for People with Disabilities

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Abstract

Objective—To describe the development of new self-report measures of social attitudes that act as environmental facilitators or barriers to the participation of people with disabilities in society.

Design—A mixed methods approach included a literature review; item classification, selection and writing; cognitive interviews and field testing with participants with spinal cord injury (SCI), traumatic brain injury (TBI) or stroke; and rating scale analysis to evaluate initial psychometric properties.

Setting—General community.

Participants—Nine individuals with SCI, TBI or stroke participated in cognitive interviews; 305 community residents with those same conditions participated in field testing.

Interventions—None.

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Main Outcome Measure(s)—Self-report item pool of social attitudes that act as facilitators or barriers to people with disabilities participating in society.

Results—An interdisciplinary team of experts classified 710 existing social environment items into content areas and wrote 32 new items. Additional qualitative item review included item refinement and winnowing of the pool prior to cognitive interviews and field testing 82 items. Field test data indicated that the pool satisfies a one-parameter item response theory measurement model and would be appropriate for development into a calibrated item bank.

Conclusions—Our qualitative item review process supported a social environment conceptual framework that includes both social support and social attitudes. We developed a new social attitudes self-report item pool. Calibration testing of that pool is underway with a larger sample in order to develop a social attitudes item bank for persons with disabilities.

Keywords

questionnaires; patient-reported outcomes; disabilities; environment; social attitudes; qualitative research; Rasch measurement model

Transactional models, which combine biomedical and social perspectives, conceptualize disability and its relationship to adaptation as prodine biomedical and social perspectives, conceptualizeucts of person–environment interactions that restrict or support individuals' participation in society.¹⁻⁵ It is therefore imperative to define and measure accurately the aspects of the environment that impact participation. The World Health Organization's International Classification of Functioning, Disability and Health (ICF) ⁶ is the first widely accepted classification schema that includes contextual components, both personal and environmental factors (EFs), that are relevant to people with disabilities. The ICF includes EFs across five categories—products and technology; natural environment; services, systems and policies; support and relationships; and attitudes—that can range in influence from acting as complete barriers to complete facilitators. The latter two categories include individuals' social environments and their influences on participation across various life domains.

Improved assessment of social EFs is particularly important from the perspectives of disability rights and the social model of disability, which emphasizes the impact that social and attitudinal factors can have on people's participation choices and opportunities.^{3,7} Social attitudinal factors can range from barriers such as stigma and discrimination to facilitators such as social inclusion and integration.⁸⁻¹⁰ Research from diverse fields, including education, employment, and health care indicates that societal and individual attitudes about people with disabilities have a profound impact on their participation experiences.^{11,12} Indeed, while the public may verbalize positive attitudes about disability, many individuals hold deep seated negative feelings towards people with disabilities that may be manifested as prejudice and subsequent oppression.¹³ Therefore, it is important to measure how others' attitudes about disability are experienced by people with disabilities.

Unfortunately, many measures (1) include objective environmental descriptions rather than the lived social experiences and perspectives of people with disabilities, (2) do not address the full spectrum of the social environment, (3) are specific to one disability group, or (4)

are multidimensional measures of various EFs without providing a comprehensive assessment of the social environment.^{12,14,15} For example, the Craig Hospital Inventory of Environmental Factors (CHIEF) includes only 3 attitude items as part of a 25-item global assessment of environmental factors.¹⁶

To address these measurement gaps, we developed a Social Environment framework (consisting of social support and social attitudes components), evaluated social support measures for applicability to disability populations, and created a new social attitudes item pool that assesses self-reported experiences across disability populations. This work was accomplished as part of a larger study aimed at developing a comprehensive set of self-report EF measures, including item banks, for use with people with spinal cord injury (SCI), traumatic brain injury (TBI) or stroke.¹⁵ An item bank is a set of items that are representative of the spectrum of a common trait (e.g., social attitudes) and are calibrated on the same measurement scale using item response theory or Rasch model approaches, thus simplifying scoring and interpretation.¹⁷⁻²⁰ An advantage of item banking is that it allows for brief-but-comprehensive assessment. This report examines how well the social EF items fit the Rasch model, which is a necessary preliminary step to creating item banks.

Methods

The parent project¹⁵ developed an overarching EF conceptual framework that includes six domains: assistive technology; built and natural environment; social environment; services, systems, and policies; access to information and technology; and economic quality of life. The efforts of the Social Environment Workgroup, including a multi-step qualitative item review process and field test, are described below. We obtained Institutional Review Board approval for this project.

Item Selection and Classification

The parent study yielded an extensive item library informed by a literature review of existing EF measures and thematic analysis of qualitative focus groups with 201 people with disabilities.^{15,21} An interdisciplinary expert panel then completed domain identification so that all candidate items were assigned to domains within the conceptual framework.¹⁵ The Social Environment Workgroup—consisting of psychologists, occupational therapists, and disability and health outcomes researchers—assigned items to conceptual groups informed by both theory and item content. The Workgroup then examined the items for redundancy, content coverage and representativeness; doing so allowed for both the writing of new items to fill content gaps and winnowing down the pool to a representative set of items. The Workgroup achieved consensus on all decisions and employed procedures that are in accordance with the qualitative item review protocols used in the parent study and established by the Patient-Reported Outcomes Measurement Information System (PROMIS) initiative.^{15,22}

Cognitive Interviews and Item Revision

After generating the item pool, we conducted cognitive interviews with participants with SCI, TBI or stroke to assess the items' comprehensibility and relevance. As described in

detail elsewhere, we used a process similar to the one developed in PROMIS but with disability accommodations provided as needed (e.g., items read aloud, repeated or explained).^{15,22} During the cognitive interviews, each participant completed a sub-set of 30-50 social items followed by an interview focused on understanding of key concepts (e.g., “society”) and selection of responses. Participants were asked to explain each question in their own words and describe how they arrived at their answer. A minimum of five participants responded to each item and interviewers recorded responses verbatim for analysis.

The Social Environment Workgroup then reviewed responses to determine which items were problematic (e.g., ambiguous, confusing) and proposed ways to revise them. The larger interdisciplinary research team reviewed the Workgroup's recommendations; refinements were proposed until consensus was reached. Revised items underwent a second round of cognitive interviewing using the same procedures and a subset of the same sample. Final item pool revisions were informed by a reading-level analysis (using the Flesch-Kincaid and Lexile Framework)^{23,24} to reduce literacy demands to a fifth-grade level and translatability review to identify any conceptual or linguistic difficulties (e.g., colloquialisms) that would pose barriers to translation and to cross-cultural applicability.¹⁵

Field Testing and Psychometric Analysis

Participants ($n = 305$) were recruited from a patient registry maintained by the Rehabilitation Institute of Chicago. Sociodemographic and clinical data were collected via self-report. Eligibility criteria included a diagnosis of SCI, TBI, or stroke, age 18 years or older, and ability to understand English. Participants were interviewed in person (70%) or by telephone (30%).

Given the small ratio of participants to number of items, instead of using conventional factor analytic approaches, we used WINSTEPS software²⁵ to evaluate whether the item pool satisfied the measurement model defined by Rasch analysis. In the Rasch rating scale—or one-parameter logistic item response theory—model, a person's “raw score” (sum of item responses) is sufficient for estimating the “measure” (the person's transformed level on the latent trait).^{26,27} Item difficulty is the one parameter that is estimated, and it represents the item's location on the latent trait. Rasch analysis thus provides a method of describing the difficulty of items and a person's position along an equal-interval continuum, and of evaluating the extent to which a person's responses fit a general pattern of item responses.^{27,28} We used the following psychometric criteria to describe the quality of the items: (1) person separation reliability, i.e., the ratio of person variation to measurement error (criterion: .80); (2) item separation reliability, i.e., the potential range covered by the measure (criterion: .80); and (3) “item misfit,” i.e., the extent to which the sample as a whole responds unexpectedly to specific items (criterion: mean square between 0.6 and 1.4). In addition, we examined for any potential secondary dimension among items via principal component analysis of residuals as implemented in WINSTEPS (criterion: less than 10% residual variance after an initial factor is extracted). This additional analysis allowed us to explore potential multidimensionality among items from a Rasch analysis perspective. We conducted a series of iterative analyses, starting with all 82 items and then focusing on

smaller identified item subsets. Some items were reverse scored prior to analysis, so that a high score always represented a more favorable response. The sample size provides greater than 99% confidence that item calibrations are estimated within ± 0.5 log-odd units.²⁹

Results

Item Selection and Classification

Of the 2273 items identified from existing measures in the parent study, the Social Environment Workgroup reviewed 710.¹⁵ Items were excluded from further consideration if they measured concepts outside of the Social Environment domain. For example, items assessing self-stigma were not selected because they do not represent an *environmental* factor. Content bins (e.g., social support, positive and negative attitudes) created by the Workgroup facilitated identification of content gaps and redundant items. Consistent with the ICF model,³⁰ the Workgroup identified two conceptually distinct domains, social support and social attitudes, deciding that each should be measured by a separate item pool. Based on the Workgroup's review of social support measures, we determined that this content was well-covered in the existing PROMIS social support item banks³¹ (www.nihpromis.org). Unlike the social attitudes items, the PROMIS social support items are intended for use by the general population as well as people with chronic illness or disabilities. We adopted them as legacy measures in the parent study to assess the availability of companionship, informational, instrumental (physical and material), and emotional support experienced by people with disabilities.

New item development and refinement focused on the development of a Social Attitudes item pool. This decision was reinforced by the focus group data reviewed in the parent study, which underscored the importance of social attitudes and perceptions on the everyday participation of people with disabilities.²¹ Throughout the qualitative item review process, the Workgroup refined the definition of Social Attitudes to include (1) both negative and positive social attitudes, including marginalization, stigmatization, oppression and discrimination as well as inclusion, acceptance, integration, respect and societal equity and (2) both the perceived attitudes of specific members of respondents' communities and social networks (e.g., health care providers) as well as the larger society. The Workgroup wrote 32 new items (primarily capturing facilitators in addition to barriers) and winnowed the pool to 90 items for cognitive interviewing. Candidate items were eliminated in the winnowing process if they were inconsistent with the domain definition, too narrow in scope (e.g., applicable only to a specific disability), or redundant with a more favorable item.

Cognitive Interviews and Item Revisions

Prior to cognitive interviews, the Social Environment Workgroup refined candidate Social Attitudes items to ensure they were relevant to the domain, increase their clarity, and standardize their wording and format. In modifying items, we worded all items as statements that respondents can endorse using a frequency response scale (1=Never, 2=Rarely, 3=Sometimes, 4=Usually, 5=Always). As a result of these revisions, none of the items in the pool are worded the same as the source measure from which their content was gathered.

We conducted cognitive interviews with nine people with SCI, TBI or stroke (three per diagnostic group) to evaluate the items. Five of the respondents were men and six were African-American. Generally, participants were favorable in their comments and indicated the items were clear and relevant. Based on participant responses, only 7 items were flagged as potentially problematic and revised by the working group. For example, participants found the term “health care provider” to be ambiguous and referenced insurance providers as well as doctors and nurses (as intended) when responding; therefore, we adopted the more precise term “health care professionals.” Revised items were vetted in cognitive interviews with a subset of six participants from the previous sample: two each with SCI, TBI or stroke; four were women; two African-American, two Hispanic/Latino and two non-Hispanic White. No items in the second round of interviews were identified as problematic. Data from the two rounds of cognitive interviews identified items that were perceived as overly similar by participants and subsequently among those deleted by the working group. Finally, five items were slightly modified following translatability review. For example, the item “Because of my disability, people exclude me from *things*” was changed to “... from *activities*” to reference a more specific concept that could be more clearly translated. As a result of the qualitative item review process, the Social Attitudes item pool was reduced to 82 the items that we field tested (presented in Table 1).

Field Testing

Table 2 presents the sociodemographic and disability characteristics of the field test sample ($n=305$). Participants were predominantly men with a mean age of 48 (range 18-87 years); most lived in their own homes. Across disability groups, the majority of participants were able to walk some or all of the time (76.4%); about half (49.5%) did not use a mobility aid; approximately one third (32.8%) used manual wheelchairs some or all of the time, and over one quarter (26.9%) used a power wheelchair some or all of the time. Among the participants with SCI, 50.5% had paraplegia and 45.7% had tetraplegia (4.8% unknown). Across all conditions, the sample demonstrated a range of chronicity of injury: 33% (0-3 years post); 29% (4-10 years post); 38% (over 10 years post). Among those with TBI, the majority (71%) were diagnosed as having a severe injury (i.e., having a Glasgow Coma Scale score of 8 or lower nearest the time of injury).³² Among the participants with stroke, the majority had hemiparesis on either the left (50%) or right (40%) side. Missing data occurred infrequently with fewer than 2.6% of the items left unanswered and 98% of the respondents having two or fewer missing responses.

Given the size of the item pool and the content areas it contained, we conducted a series of seven iterative analyses, with the first including all Social Attitudes items split into two groups: facilitator and barrier items. Based on the pattern of item fit, subsequent analyses calculated fit statistics for two item subsets: “individual” (perceived attitudes as experienced directly by respondents) and “group” (attitudes perceived by respondents to be directed at people with disabilities as a group), first together and then split into facilitators and barriers. The working group achieved consensus when classifying all items into these content categories.

Analysis 1 included all 82 Social Attitudes items, treating them as two groups (31 facilitator items & 51 barrier items), and 10 rating scale categories (5 for the facilitator & 5 for the barrier items, with facilitator items using 1=“Never” to 5=“Always” and barrier items using 1=“Always” to 5=“Never”). The person reliability (.96), item reliability (.99) and internal consistency reliability (Cronbach's alpha=.97) were excellent. One response category (2=“Rarely”) for the facilitator items was used infrequently. The rating scale for the barrier items demonstrated monotonicity, indicating the means of the response categories increased with the values (1 to 5) of the categories. Five items “misfit” with infit mean square values greater than 1.4 (see Table 1). The residual variance after extracting the primary (Rasch) measure, or factor, was 7.1%, less than the criterion of 10% which would indicate problematic dimensionality.

We expected individual and group barriers and facilitators to form meaningful subsets of items; thus, we conducted separate analyses of these items. In Analysis 2, we evaluated items assessing the “group” aspects of the social environment. We analyzed the 26 group items as a set with 8 rating scale categories; in this and subsequent analyses, we combined categories 1 (“Never”) and 2 (“Rarely”) due to the low observed count in Analysis 1. The person reliability was .93, the item reliability was .99 and Cronbach's alpha=.95. Only two items misfit, one of which also had a borderline low item-subset correlation of .44 (see Table 1). The residual variance after the variances explained by the primary factor was extracted was 9.2%. In Analysis 3, we analyzed the 12 group facilitator items and found person reliability of .90, item reliability of .99 and Cronbach's alpha of .93. No items had low correlations with the subset but two items misfit (see Table 1). The residual variance was 7.0%, again, less than the 10% criterion. In Analysis 4, the 14 group barrier items yielded a person reliability of .89, item reliability of .98 and Cronbach's alpha=.92. No items had low correlations with the subset but two items misfit (see Table 1). The residual variance was 6.1%.

Analysis 5 focused on the “individual” aspects of the social environment. We analyzed the 56 individual items, which demonstrated a person reliability of .95, item reliability of .98 and Cronbach's alpha of .97; five items misfit, two of which had item-subset correlations less than .40 (see Table 1). Residual variance was 6.4%, indicating that only one factor underlies the set of items. In Analysis 6, the 19 individual facilitator items demonstrated a person reliability of .88, item reliability of .98 and Cronbach's alpha of .92; no items misfit or had item-subset correlations less than 0.4 and residual variance after the primary factor was extracted was 9.2%. In Analysis 7, the 37 individual barrier items person reliability was .93, the item reliability was .98 and Cronbach's alpha was .97; four items misfit, one of which had an item-subset correlation less than 0.4 (see Table 1). The residual variance was 4.4%.

Discussion

As part of a larger project, we developed an item set assessing social attitudes that act as EFs for people with disabilities. We emphasized content validity by incorporating input from experts and people with disabilities throughout a rigorous multiphase process of item identification, development and refinement. Preliminary psychometric properties were

evaluated in a sample of people with SCI, TBI, or stroke. Our aim throughout this process was to create a set of conceptually concise social attitudes items for use across disability populations in both research and practice settings.

The Social Environment conceptual framework that we adopted follows the ICF taxonomy's separation of Social Support and Relationships from Social Attitudes. Based on our expert review of existing items and previous qualitative research, we determined that the social support content was adequately addressed in the existing PROMIS Social Support item banks; widespread testing in a disability sample is underway to evaluate this assertion. Therefore, we focused on developing and evaluating the preliminary psychometric properties of a new Social Attitudes item pool, which indicated that data from people with disabilities fit the Rasch measurement model. An iterative set of analyses supported that the Social Attitudes pool could be conceptualized as including Facilitators and Barriers, with each containing: (1) "individual" items, or attitudes that individuals with disabilities experience as being directed toward them personally and (2) "group" items, or attitudes that individuals with disabilities experience as being directed toward people with disabilities as a social group. We also identified items that may be problematic, based on the fit statistics values, which will be flagged for further evaluation with a larger sample.

Attitudinal barriers affect people's participation in education, employment, health care, and the public realm.^{11,12} Thus, it is important to have targeted, person-centered measures that enable researchers, providers and policy makers to accurately assess social EFs. While some EF measures^{16,33} contain items about attitudes, we are developing an in-depth assessment of social attitudes at both individual and broader, societal levels. This is important because the participation of people with disabilities is affected by social attitudes they experience directly as well as by those they perceive to be held about disability in general.

Study Limitations

This study included several limitations that should be addressed in future research, including the relatively small sample size for the number of items evaluated, the limited disability groups included, and the potentially narrow community (metropolitan Chicago) sample. These limitations require additional evaluation of the psychometric properties of the Social Attitudes item pool. The infrequently used rating scale options require further analysis in a more diverse sample. Calibration testing of the social attitudes items is underway with a sample of 600 people with SCI, TBI or stroke across three Midwest cities in order to create calibrated self-report item banks for broad use across disability populations.

Conclusions

Both social models of disability and the Social Determinants of Health model³⁴ highlight the impact of EFs, including social factors, on people's health and participation.^{3,35} However, the lack of psychometrically sound, self-report measures that assess social attitudes limits empirical studies of the impact of EFs on people with disabilities. The Social Attitudes item pool we developed will be calibrated to create an item bank intended to fill this gap in disability and public health assessments and research and ultimately to highlight

aspects of the environment that can be improved in order to facilitate the participation and quality of life of people with disabilities.

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We certify that no party having a direct interest in the results of the research supporting this article has or will confer a benefit on us or on any organization with which we are associated AND, if applicable, certify that all financial and material support for this research and work are clearly identified in the title page of the manuscript.

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Abbreviations

ICF	International Classification of Functioning, Disability and Health
EFs	environmental factors
SCI	spinal cord injury
TBI	traumatic brain injury
PROMIS	Patient-Reported Outcomes Measurement Information System

Table 1
Social Attitudes Items and Rasch Analysis Results ($n= 305$)

Category	Items	Analysis Results	
		Misfit (mean square infit > 1.4)	Item-subset $r < .4$
Individual Facilitators			
	1. The people in my life accept me for who I am.		
	2. The people in my life are sensitive to my disability needs.		
	3. The public is sensitive to my disability needs.		
	4. People are able to see past my disability.		
	5. The public respects my needs for disability accommodations.		
	6. People understand my needs for disability accommodations.		
	7. The people in my life are willing to accommodate my disability.		
	8. The people in my life are happy to accommodate my disability.		
	9. People treat me like a valuable member of society.		
	10. People in my life treat me like I can make my own decisions.		
	11. The people in my life treat me with respect.		
	12. The people in my life let me speak for myself.		
	13. The people in my life understand the challenges I face because of my disability.		
	14. The people in my life ask if I need help before doing something for me.	A1	A1
	15. People are patient when I need extra time to do things because of my disability.		
	16. The people in my life respect that I know best how to take care of myself.		
Group Facilitators			
	17. Society is accepting of people with disabilities.		
	18. Society is sensitive to the needs of people with disabilities.		
	19. Health care professionals understand the needs of people with disabilities.	A3	
	20. Health care professionals are responsive to the needs of people with disabilities.		
	21. Society treats people with disabilities with respect.		
	22. Society respects the need for disability accommodations.		
	23. Society understands the need for disability accommodations.		
	24. People with disabilities are encouraged to participate in my community.	A1, A5	
	25. People with disabilities are included in events in my community.		
	26. People with disabilities are treated like valued members of my community.		
	27. Society treats people with disabilities fairly.		
	28. People with disabilities are treated fairly at work.	A3	
	29. Society values the opinions of people with disabilities.		
	30. Society is responsive to the challenges faced by people with disabilities.		
	31. Society values people with disabilities as much as people without disabilities.		
Individual Barriers			

Category	Items	Analysis Results	
		Misfit (mean square infit > 1.4)	Item-subset $r < .4$
	32. Because of my disability, criminals see me as an easy target.	A1, A5, A7	A1, A5
	33. Because of my disability, people pity me.		
	34. People resent that I get “special treatment” because of my disability	A1, A5, A7	
	35. Because of my disability, people tell me how to live my life.		
	36. My friends act like my disability is a burden to them.		
	37. Because of my disability, people avoid me.		
	38. Because of my disability, people exclude me from activities.		
	39. Because of my disability, people avoid looking at me.		
	40. Because of my disability, people seem uncomfortable with me.		
	41. Because of my disability, people are unkind to me.		
	42. People make fun of my disability.		
	43. People act as though it is my fault I have this disability.		
	44. Because of my disability, people ignore my good qualities.		
	45. Because of my disability, people treat me unfairly.		
	46. Because of my disability, people stare at me.		
	47. Because of my disability, my friends spend less time with me.		
	48. Because of my disability, people treat me like I'm stupid.		
	49. Because of my disability, people treat me like a child.		
	50. Because of my disability, people take advantage of me.		
	51. Because of my disability, people make decisions for me.		
	52. Because of my disability, people speak for me instead of letting me speak for myself.		
	53. Because of my disability, people treat me like less of a person.		
	54. Because of my disability, people talk down to me.		
	55. Because of my disability, people ignore me.		
	56. Because of my disability, people are rude to me.		
	57. Because of my disability, my family complains that I am too needy.		
	58. My family is frustrated with the need to help me because of my disability.		
	59. My friends are frustrated with the need to accommodate my disability.		
	60. My family acts like my disability is a burden to them.		
	61. Society limits my opportunities because of my disability.		
	62. People underestimate the challenges I experience because of my disability.		
	63. People offer unhelpful advice about how to cope with my disability.	A5, A7	
	64. The public helps me without asking if I need or want help.	A1, A5, A7	A1, A5, A7
	65. People are impatient when I take extra time to do things because of my disability.		
	66. Because of my disability, people interrupt me when I am talking.		
	67. Because of my disability, people treat me like I am invisible.		
	68. People bully me because of my disability.		

Category	Items	Analysis Results	
		Misfit (mean square infit > 1.4)	Item-subset $r < .4$
Group Barriers			
	69. People with disabilities are taken advantage of.		
	70. Criminals see people with disabilities as easy targets.	A2, A4	A1, A2
	71. Society pities people with disability.		
	72. Society treats people with disabilities like they are a burden.		
	73. People with disabilities are discriminated against at work.		
	74. Society treats people with disabilities like they are stupid.		
	75. Society is unkind to people with disabilities.		
	76. Society limits the opportunities of people with disabilities.		
	77. Society limits the freedom of people with disabilities.		
	78. Society underestimates the challenges people with disabilities experience.	A2	
	79. Health care professionals are insensitive to the needs of people with disabilities.	A4	
	80. Society treats people with disabilities like second-class citizens.		
	81. Society treats people with disabilities unfairly.		
	82. Society disrespects people with disabilities.		

Note:

A1 = Analysis 1, all 82 items split into (31) facilitator and (51) barrier subsets;

A2 = Analysis 2, all 26 group items (facilitators & barriers);

A3 = Analysis 3, 12 group facilitator items;

A4 = Analysis 4, 14 group barrier items;

A5 = Analysis 5, all 56 individual items (facilitators & barriers);

A6 = Analysis 6, 19 individual facilitator items;

A7 = Analysis 7, 37 individual barrier items.

All items used the same response scale (Never, Rarely, Sometimes, Usually, Always); responses for the barriers items were reversed for analysis so that a high score represents fewer barriers.

Table 2
Sociodemographic and Clinical Characteristics of the Field Test Sample ($n = 305$)

	<i>n</i>	%
Health condition		
Spinal Cord Injury	105	34.4
Traumatic brain injury	100	32.8
Stroke	100	32.8
Men	196	64.3
Race ($n = 2$ missing)		
White	132	43.3
African-American	129	42.3
Other	42	13.7
Hispanic ethnicity	35	11.5
Marital status		
Single	134	43.9
Married	92	30.2
Divorced / Separated	61	20.0
Widowed	15	4.9
Living with partner	3	1.0
Occupational status		
Working	51	16.7
Retired with disability	92	30.2
Retired, no disability	24	7.9
Unemployed & not looking	59	19.4
Unemployed & looking	55	18.1
Student	17	5.6
Homemaker	4	1.3
Decline to respond	3	1.0
Education		
Some high school	32	10.5
Completed high school	64	21.0
Some college	108	35.4
Bachelor's degree	51	16.7
Some graduate school	12	3.9
Graduate or professional degree	38	12.5
Household income ($n = 1$ missing)		
< \$20,000	136	44.6
\$20,000-\$49,000	62	20.3
\$50,000-\$99,000	41	13.4

	<i>n</i>	%
\$100,000	28	9.2
Decline to respond	37	12.1
Living situation		
Home	291	95.4
Other (e.g., inpatient rehabilitation, long term care facility, group home, etc...)	14	4.6