



## Disability Perceptions and Experiences in the State of Florida

**Elena M. Andresen, PhD  
Erin DeFries Bouldin, MPH  
John Friary, MPH  
Michael Moorhouse, PhD  
College of Public Health and Health Professionals  
University of Florida**

On the 2000 U.S. Census, more than 3.2 million Floridians, or 22.2% of the state's population, reported having a disability<sup>1</sup>. As the population continues to age and older Americans move full-time or seasonally to our state, this number likely will rise. Public understanding and awareness of disability and disability issues is important to assure that persons with disability are not discriminated against and also that they are included in planning for programs and services. Currently, there are no requirements that individuals with disability are involved in these planning processes; however, there are programs that educate individuals and families on becoming advocates, and there are groups like the Governor's Commission

on Disability that work toward better awareness and integration of disability in Florida.

In order to serve the growing number of Floridians with disabilities, the Florida Office on Disability & Health, or FODH, was established at the University of Florida (UF) through a grant from the Centers for Disease Control and Prevention (CDC). The mission of FODH is to maximize the health, well-being, participation, and quality of life, throughout the lifespan, of all Floridians and their families living with disability. The FODH's activities are directed by a partnership and an advisory board, both of which are composed by individuals with disabilities, family members of individuals with disabilities, and agencies and organizations that provide services to individuals with disabilities in the state. A primary activity in support of the FODH's mission is to increase the epidemiologic capacity in

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<sup>1</sup> W. Jackson, E. L. DeFries, E. Jamoom, and E. M. Andresen, *Florida Chartbook on Disability and Health* (Gainesville, FL: University of Florida, 2007) <http://ebs.phhp.ufl.edu/FloridaChartbookdisabilityandHealth.pdf> (accessed July 21, 2010).

Florida; in other words, to increase the amount of information collected and analyzed on disability. During its strategic planning process, the FODH partnership recommended collecting data on disability perceptions and experiences in Florida to inform the development of a future public awareness campaign.

## Methodology

In response to the interest of its partners, the FODH identified existing questions about disability perceptions. A subset of these questions was included on the Bureau of Economic and Business Research (BEBR) monthly Florida Consumer Confidence Index (FCCI) survey in August, 2009. The FCCI is designed to measure the mood of consumers toward buying major household goods, their personal financial situation, and their expectations of national economic conditions in the short-term and over a five-year horizon. The goal of including these added disability-related questions on the FCCI was to collect pilot data to assess how well the questions were understood by respondents and to assess whether any of the questions could be used to form scales, or the combination of several measures into a single measure of overall disability perception.

## Measures

Eleven questions about disability awareness and experience were included on the FCCI (see Appendix for

full questions and response options). Questions were taken from two existing surveys: the Modified Issues in Disability Scale (MIDS-T)<sup>2</sup> and the Craig Hospital Inventory of Environmental Factors (CHIEF)<sup>3, 4</sup>. The MIDS-T was created to assess the attitudes of various groups toward people with disabilities and was designed with input from people with and without disabilities. The CHIEF was designed to quantify the impact of the environment (broadly defined; it includes physical and social environments) on participation (i.e., going to school, work, or social events) among people with different types of disabilities. The CHIEF has been used as a telephone survey previously<sup>4</sup>, though we used only a small selection of the full questionnaire. Subsets of CHIEF questions can be combined to represent a score on disability attitudes. We investigated whether items from the MIDS-T could be used to create a score also.

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<sup>2</sup> E. Makas, "In the Midst: Modified Issues in Disability Scale Testing," in *The Social Organization of Disability Experiences*, eds. G. Keiger and S. C. Hey, (Salem, OR: The Society for Disability Studies and Willamette University, 1991), 109-114.

<sup>3</sup> G. G. Whiteneck, C. L. Harrison-Felix, D. C. Mellick, C. A. Brooks, S. B. Charlifue, and K. A. Gerhart, "Quantifying environmental factors: A measure of physical, attitudinal, service, productivity, and policy barriers," *Arch Phys Med Rehabil* 85 (2004):1324-35.

<sup>4</sup> P. L. Ephraim, E. J. MacKenzie, S. T. Wegener, T. R. Dillingham, and L. E. Pezzin, "Environmental barriers experienced by amputees: The Craig Hospital Inventory of Environmental Factors—Short Form," *Arch Phys Med Rehabil* 87 (2006):328-33.

Disability was defined on the FCCI as an affirmative response to either of two questions:

- (1) Because of a health condition that has lasted for 6 or more months, do you have any difficulty going outside the home alone, for example, to shop or visit a doctor's office?
- (2) Because of a health condition that has lasted for 6 or more months, do you have any difficulty taking care of personal needs such as bathing, dressing, or getting around inside the home?

Disability in this context does not relate to other classifications of disability such as those used for employment or social security purposes.

A number of demographic questions are routinely part of the FCCI, including age, gender, race, ethnicity, educational attainment, and household income. The full text of these questions appears in the Appendix. Responses to the disability-related questions are self-reported perceptions; discrimination in this report does not necessarily relate to any specific legal definition of that term, but instead reflects the respondent's perception that he or she was treated unfairly because of a personal characteristic.

A total of 514 Florida adults were surveyed for the FCCI in August 2009. The participants were selected by random-digit dialing, and were required to be Florida residents age 18 years or older with a home telephone and able to complete the survey in either English or Spanish. All but two of the selected demographic and disability perceptions

questions were answered by over 90% of the respondents. The income question (Q8) was only answered by 84% of respondents and the automobile accident question (Q 12) was answered by 86% of the respondents.

### Analysis

The FODH team was most interested in differences in perceptions and experience by disability status. Therefore, all data are presented for people with a disability and for people without a disability. Table 1 provides descriptive information about the survey respondents. For many of these variables, response categories were collapsed. For example, most items from the MIDS-T had six response options ranging from strongly disagree to strongly agree. We dichotomized this to *strongly agree - agree - somewhat agree* and *somewhat disagree - disagree - strongly disagree*. Likewise, questions from the CHIEF include *daily, weekly, monthly, less than monthly*, and *never* as response options. The CHIEF responses were dichotomized into *ever (daily - weekly - monthly - less than monthly)* and *never*. SAS version 9.2 was used for all descriptive statistical analysis. Significance (set at  $p < 0.05$ ) for group differences was tested using the Rao-Scott chi square test. Ninety-five percent confidence intervals for proportions were calculated and appear in Table 1. Mean age and standard deviation were calculated and group differences were compared using a two-sample t-test.

To investigate the potential of combining questions into summary

**Table 1:** Demographic descriptors and percentage of respondents who answered affirmatively to questions on disability perceptions and experiences stratified by disability status. Ninety-five percent confidence intervals for proportions are included.

		Disability Status*		Overall	
		Yes (n=48)	No (n=466)	(n=514)	Missing data <sup>+</sup>
<b>Demographics</b>					
Gender % women		64.6 (51.0, 78.2)	53.4 (48.9, 58.0)	54.5 (50.2, 58.8)	--
Age <sup>§</sup> (mean ± standard deviation)		63.0 (16.3)	55.9 (17.4)	56.6 (17.4)	17 (3.3)
Race ethnicity - % non-Hispanic white		56.2 (42.2, 70.3)	72.7 (68.7, 76.8)	71.2 (67.3, 75.1)	3 (0.6%)
Education status – years of education	% less than high school graduation (0-11 years)	16.7 (6.1, 27.2)	4.1 (2.3, 5.9)	5.3 (3.3, 7.2)	1 (0.2%)
	% high school graduate (12 years)	25.0 (12.7, 37.3)	21.5 (17.7, 25.2)	21.8 (18.2, 25.4)	
	% college (13 + years)	58.3 (44.3, 72.3)	74.2 (70.3, 78.2)	72.8 (68.9, 76.6)	
Household income	% under \$20,000	31.2 (18.1, 44.4)	11.8 (8.9, 14.7)	13.6 (10.6, 16.6)	85 (16.5%)
	% \$20,000 - \$49,999	33.3 (20.0, 46.7)	28.1 (24.0, 32.2)	28.6 (24.7, 32.5)	
	% \$50,000-\$99,999	10.4 (1.7, 19.1)	26.8 (22.8, 30.9)	25.3 (21.5, 29.1)	
	% \$100,000 or more	8.3 (0.5, 16.2)	16.7 (13.3, 20.1)	16.0 (12.8, 19.1)	
<b>Respondents who strongly agree, agree, or somewhat agree.</b>					
Q9. OK to use words "see"/"look" with a blind person <sup>§</sup>		41.7 (27.7, 55.7)	70.2 (66.0, 74.3)	67.5 (63.4, 71.6)	14 (2.7%)
Q10. Easier for a blind person to take your arm while walking		66.7 (53.3, 80.0)	77.0 (73.2, 80.9)	76.1 (72.4, 79.8)	41 (8.0%)
Q11. Avoid asking people about their disabilities		35.4 (21.8, 49.0)	38.6 (34.2, 43.1)	38.3 (34.1, 42.5)	20 (3.9%)
Q12. Drivers with disabilities have more accidents		16.7 (6.1, 27.2)	21.9 (18.1, 25.7)	21.4 (17.8, 25.0)	73 (14.2%)
<b>Respondents who have had some, quite a bit, or a great deal of contact with people with disability.</b>					
Q13. Contact with people who have disabilities		77.1 (65.2, 89.0)	76.4 (72.5, 80.3)	76.5 (72.8, 80.1)	1 (0.2%)
<b>Respondents for whom attitudes of others have been a problem in the past year.</b>					
Q14. People's attitudes toward you a problem at home		41.7 (27.7, 55.7)	27.9 (23.8, 32.0)	29.2 (25.2, 33.1)	7 (1.4%)
If yes, % who say it was a “big problem”		25.0 (5.8, 44.2)	20.8 (13.7, 27.8)	21.3 (14.7, 28.0)	4 (2.7%)
Q15. People's attitudes to you a problem at school/work		33.3 (16.4, 50.3)	27.3 (22.8, 31.9)	27.8 (23.4, 32.2)	7 (1.7%)
If yes, % who say it was a “big problem”		50.0 (18.5, 81.5)	13.7 (6.9, 20.5)	17.0 (9.9, 24.0)	1 (0.9%)
Q16. Experience prejudice or discrimination <sup>§</sup>		39.6 (25.7, 53.5)	23.8 (19.9, 27.7)	25.3 (21.5, 29.1)	8 (1.6%)
If yes, % who say it was a “big problem”		42.1 (19.6, 64.6)	10.8 (5.0, 16.7)	15.4 (9.1, 21.7)	1 (0.8%)

\* Disability is classified based on answering yes to one or both of the following:

Because of a health condition that has lasted for 6 or more months, do you have any difficulty going outside the home alone, for example, to shop or visit a doctor's office?

Because of a health condition that has lasted for 6 or more months, do you have any difficulty taking care of personal needs such as bathing, dressing, or getting around inside the home?

+ Questions refused or not answered (not skipped due to skip patterns) raw count and % missing

§ p < 0.05.

**Table 2a.** Factor among 8 items measuring disability attitudes and perceptions (n=316)

	Factor 1	Factor 2	Factor 3	Factor 4
Blind – use see/look (Q9)	-0.010	-0.066	0.912	0.136
Blind - take arm (Q10)	0.077	0.102	0.136	0.859
Avoid questions about disabilities (Q11)	0.119	0.372	0.498	-0.503
People with disabilities have more auto accidents (Q12)	0.020	0.703	0.046	-0.101
How much contact with people with disabilities (Q13)	-0.104	0.759	-0.057	0.170
Attitudes problem at home (Q14)	0.765	-0.079	0.156	0.109
Attitudes problem at school/work (Q15)	0.833	0.097	-0.046	0.119
Prejudice/discrimination (Q16)	0.689	-0.087	-0.054	-0.183

scales, we conducted an exploratory factor analysis on eight items relating to attitudes and disability using SPSS version 17.0. Due to indistinguishable responses (i.e., “don’t know,” “refused,” or “not applicable” answers), 198 of the original 514 response sets were excluded leaving 316 (62.5%) cases for analysis. Prior to analysis, two questions from the MIDS-T (Q11 and Q12 in the Appendix) were reverse scored to maintain a similar hierarchal structure and all data were standardized to maintain scale consistency. The final response set was analyzed using a principal components factor analysis with a varimax (orthogonal) rotation. Internal consistency of a potential scale was tested using Cronbach’s alpha.

**Results**

Descriptive results of the overall group and a comparison between those with and without disability are shown in the Table 1. The mean age of the respondents with a disability (63.0

years) was significantly higher ( $p < 0.0001$ ) than the mean age of respondents without a disability (53.4 years). In general, there were some differences in both perceptions and experiences comparing people with and without disability. Only 41.7% of respondents with a disability believed that using the words “see” or “look” were acceptable when talking with a blind person, compared with 70.2% of people without disabilities ( $p < 0.0001$ ). Persons with disability were also more likely to report they had problems with attitudes or discrimination. People with disabilities were significantly more likely than people without a disability to feel that they have been the victim of prejudice or discrimination (39.6% versus 23.8%;  $p=0.01$ ). Because only 48 respondents were classified as having a disability, some marked differences did not reach statistical significance. A larger sample size with more respondents with disabilities would increase the power of these comparisons.

**Table 2b.** Distribution of CHIEF items

<b>Distribution: Attitudes problem at home (Q14)</b>		
	Frequency	Percent
Daily	11	3.5
Weekly	22	7.0
Monthly	21	6.6
Less than monthly	42	13.3
Never	220	69.6
<b>Distribution: Attitudes problem at school/work (Q15)</b>		
	Frequency	Percent
Daily	14	4.4
Weekly	12	3.8
Monthly	32	10.1
Less than monthly	41	13.0
Never	217	68.7
<b>Distribution: Prejudice/discrimination (Q16)</b>		
	Frequency	Percent
Daily	8	2.5
Weekly	12	3.8
Monthly	23	7.3
Less than monthly	45	14.2
Never	228	72.2

Among the eight primary questions, four factors emerged with eigenvalues greater than 1.00 and accounted for approximately 66% of the variance (Table 2a). The selection and omission rules for item determination to a particular factor required an item to load 0.6 or higher on the selected factor and less than 0.4 on non-selected factors. Using this criteria, one item (Q 11, asking questions about a person’s disability), did not sufficiently load on any one factor.

Three items, (questions Q14, Q15, and Q16) loaded on the first factor, which was labeled “Experienced Prejudice/Discrimination.” Specifically, these items assessed one’s experience

with prejudice and discrimination at home (Q14), school or work (Q15), and overall experience (Q16). Table 2b provides more detail about these three items. Further analysis of this subscale revealed an acceptable level of Cronbach’s alpha (0.652, Table 3). The remaining 3 factors loaded 2 or less items and therefore were not considered viable factors. Consequently, no further data analysis was performed on the remaining 3 factors.

**Discussion**

The results of the FCCI reveal some differences between perceptions about disability and experiences between

**Table 3.** CHIEF Experienced Prejudice/Discrimination three-item scale

Mean (standard deviation)		13.26 ( $\pm$ 2.43)
Minimum – maximum		3.00-15.00
Score distribution	Frequency	Percent
3	2	0.6
4	2	0.6
5	1	0.3
6	2	0.6
7	7	2.2
8	5	1.6
9	7	2.2
10	15	4.7
11	15	4.7
12	31	9.8
13	36	11.4
14	43	13.6
15	150	47.5
Total	316	100.0

Cronbach's Alpha for 3 Item Scale = 0.652 (Acceptable)

Floridians with and without disability. These tended to be in the direction of more “informed” answers among persons with disability. For example, it is not preferable to take the arm of a person who is blind, and persons with disability are not more likely to experience an automobile accident. The factor analysis revealed that items measuring disability perceptions may be used as individual indicators, but not as a summary measure. CHIEF questions can be combined as an arithmetic score with acceptable results, although the independent items may still be used for more specific information about disability attitudes and discrimination.

This report is based on a very small group of individuals with disability and not all relationships or differences could be fully assessed. Nonetheless, we did

find some significant differences by disability status in perceptions of disability. These results were used to decide which of the pilot-tested questions the FODH would propose to have included on a statewide survey. During calendar year 2010, the FODH is supporting the inclusion of several of these questions (Q 9-11, Q 13-16 in Appendix) on the Florida Behavioral Risk Factor Surveillance System (BRFSS). The BRFSS is a random-digit dialed telephone survey of Floridians that is supported partly by the CDC. It collects information about a variety of health and health behavior topics from roughly 12,000 adults age 18 and older each year in Florida. To our knowledge, these questions have not been used on the BRFSS before in the methods we are applying to the Florida 2010 BRFSS. By

including these questions on the BRFSS, we will have a larger sample and will be able to more fully explore the differences in perception and experience among people with and without disability in the state. The results of the BRFSS fielding of these questions will be used to develop a public awareness campaign to be implemented statewide. The purpose of such a campaign will be to increase understanding of disability and help to better align the perceptions of disability and disability-sensitive behavior among all state residents. The campaign also would seek to limit

discrimination based on disability status. The campaign development process will begin in late spring, 2011, after the 2010 BRFSS data become available. The FODH will work with its partners to identify specific areas on which to focus the awareness messages, media through which to deliver the campaign, and the target populations for the campaign (for example, specific counties or age groups). For more information about the FODH or to join its e-mail list for updates on this and other projects, visit <http://fodh.php.ufl.edu>.

**Appendix:**  
**Florida Consumer Confidence Index (FCCI)**  
**Survey Questions Related to this Report August 2009**

Survey questions not addressed in this analysis are not shown, but the order of questions was maintained. The appendix numbering does not reflect the questionnaire number in the FCCI for August.

**Demographic Questions**

Q1. Gender

- 1 Male
- 2 Female

Q2. What is your age?

\_\_\_ years (18-110)

Q3. Are you of Spanish or Hispanic origin?

- 1 Yes
- 2 No

Q4. What race do you consider yourself?

- 1 White (Caucasian)
- 2 Black (African-American)
- 3 Asian or Pacific Islander
- 4 American Indian or Alaska native
- 5 Other
- 6 Multi-racial or mixed race

Q5. What is the highest grade of school or year in college you yourself completed?

- 0 None
- 1 Elementary
- 2 Elementary
- 3 Elementary
- 4 Elementary
- 5 Elementary
- 6 Elementary
- 7 Elementary
- 8 Elementary
- 9 High School
- 10 High School
- 11 High School
- 12 High School
- 13 College
- 14 College
- 15 College
- 16 College
- 17 Some Graduate School
- 18 Graduate/Prof. Degree

Q6. Because of a health condition that has lasted for 6 or more months, do you have any difficulty going outside the home alone, for example, to shop or visit a doctor's office?

- 1 Yes
- 2 No

Q7. Because of a health condition that has lasted for 6 or more months, do you have any difficulty taking care of personal needs such as bathing, dressing, or getting around inside the home?

- 1 Yes
- 2 No

Q8. Family's household income from all sources. (Before Taxes)

- 1 Less than \$10,000
- 2 \$10,000 to \$19,999
- 3 \$20,000 to \$29,999
- 4 \$30,000 to \$39,999
- 5 \$40,000 to \$49,999
- 6 \$50,000 to \$59,999
- 7 \$60,000 to \$79,999
- 8 \$80,000 to \$99,999
- 9 \$100,000 to \$150,000
- 10 Over \$150,000

**Disability Perceptions Questions** (from the Modified Issues in Disability Scale [MIDS-T])

The purpose of these questions is to gather information from a wide range of people on disability-related issues. Some people will have had a great deal of contact with these issues, others will have had virtually no contact. Please indicate, using the scale provided, your opinion on each of the questions that follow. Although some of these items may appear to be factual, there are really no "right" or "wrong" answers. We are simply looking for your opinion (i.e., whether you personally agree or disagree with each statement).

Q9. If you are talking to a blind person, it is all right to use words such as "see" or "look" in a conversation.

- 1 Strongly disagree
- 2 Disagree
- 3 Somewhat disagree
- 4 Somewhat agree
- 5 Agree
- 6 Strongly agree

Q10. If you are walking with a blind person, it is easier for her/him to take your arm than for you to take her/his arm.

- 1 Strongly disagree
- 2 Disagree
- 3 Somewhat disagree
- 4 Somewhat agree
- 5 Agree
- 6 Strongly agree

Q11. You should avoid asking people who have disabilities questions about their disabilities.

- 1 Strongly disagree
- 2 Disagree
- 3 Somewhat disagree
- 4 Somewhat agree
- 5 Agree
- 6 Strongly agree

Q12. Drivers with physical disabilities have more automobile accidents than drivers without disabilities.

- 1 Strongly disagree
- 2 Disagree
- 3 Somewhat disagree
- 4 Somewhat agree
- 5 Agree
- 6 Strongly agree

Q13. Overall, how much contact would you say you have had with people who have disabilities?

- 1 No contact
- 2 Very little contact
- 3 Some contact
- 4 Quite a bit of contact
- 5 A great deal of contact

**Disability Experiences Questions** (from the Craig Hospital Inventory of Environmental Factors [CHIEF])

Being an active, productive member of society includes participating in such things as working, going to school, taking care of your home, and being involved with family and friends in social, recreational and civic activities in the community. Many factors

can help or improve a person's participation in these activities while other factors can act as barriers and limit participation. First, please tell me how often each of the following has been a barrier to your own participation in the activities that matter to you. Think about the past year, and tell me whether each item on the list I will read has been a problem **daily, weekly, monthly, less than monthly, or never**. If the item occurs, then answer the question as to how big a problem the item is with regard to your participation in the activities that matter to you. (Note: if a question asks specifically about **school or work** and you neither work nor attend school, **answer that it is not applicable**.)

Q14. In the past 12 months, how often have other people's attitudes toward you been a problem at home?

- 1 Daily
- 2 Weekly
- 3 Monthly
- 4 Less than Monthly
- 5 Never

14.b. *Ask only if Q14 is not answered as "never"* When this problem occurs has it been a big problem or a little problem?

- 1 Big problem
- 2 Little problem

Q15. In the past 12 months, how often have other people's attitudes toward you been a problem at school or work?

- 1 Daily
- 2 Weekly
- 3 Monthly
- 4 Less than Monthly
- 5 Never
- 6 Not applicable

15.b. *Ask only if Q15 is not answered as "never"* When this problem occurs has it been a big problem or a little problem?

- 1 Big problem
- 2 Little problem

Q16. In the past 12 months, how often did you experience prejudice or discrimination?

- 1 Daily
- 2 Weekly
- 3 Monthly
- 4 Less than Monthly
- 5 Never

16.b. *Ask only if Q15 is not answered as "never"* When this problem occurs has it been a big problem or a little problem?

- 1 Big problem
- 2 Little problem

Questions about this *Florida Focus*? Contact Erin Bouldin at [edefries@php.ufl.edu](mailto:edefries@php.ufl.edu)