

late life

**Function and
Disability Instrument**

Late-Life FDI Manual

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**B O S T O N
U N I V E R S I T Y**

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The Late-Life Function & Disability Instrument (Late-Life FDI) is an evaluative outcome instrument for community-dwelling older adults. It is designed to assess and be responsive to meaningful change in two distinct outcomes: function and disability. Functional limitations pertain to limitations in a person's ability to do discrete actions or activities. Disability refers to a person's performance of socially defined life tasks expected of an individual within a typical sociocultural and physical environment.

There is widespread awareness of the explosive growth in the number of older persons with, or at-risk for, chronic physical disabilities. Difficulties with physical functioning represented by the inability to perform routine activities of daily life are a serious problem among older adults. Consequently, the assessment of physical functioning is a critical component in the evaluation of older persons in both the clinical and research settings. For many applications, self-report measures continue to be the most valid and cost-effective method of obtaining information about physical function. Self-report measures of physical functioning have been found to be a reliable and accurate methodology to obtain information at multiple levels of physical functioning. Although numerous self-report assessments and surveys of physical functioning are available in the literature, two major limitations are noted with current measures.

- First, almost all assessments of physical functioning have been designed without an explicit theoretical or conceptual framework, and
- Secondly, most self-report physical functioning measures have not been designed specifically to detect changes from interventions focused on improving physical function.

The Late-Life FDI was designed to overcome these two major limitations in the current set of self-report disability measures.

Many physical functioning measures are organized along the singular construct of activities of daily living. Other physical measures are comprised of combinations of activity, endurance, and daily tasks that have no apparent structure or underlying framework. The result is conceptual confusion in the literature with terms invented and operationalized in myriad ways, what some have referred to as 'bedlam vocabulary.'¹ These problems seriously limit the interpretation of results from studies evaluating the effects of physical interventions and research aimed at understanding the progression of late-life disablement.

We propose using Nagi's disablement framework²⁻³ as a conceptual scheme to direct and define item content for a new self-report instrument designed to assess the

stages of physical disablement. The disablement framework is a conceptual scheme that characterizes physical functioning within a socio-medical model of disability.¹ Conceptual clarity of physical disablement is fundamental to the development of theory, to understanding how important clinical facets relate to each other, and to testing predicted relationships. Conceptual clarity of physical disablement is equally important to the development of a sound outcome measure.

The measurement of physical functioning from the conceptual scheme of disablement has several advantages. First, it clearly classifies levels of physical functioning that are often confused in outcome measures. Second, it provides a means of understanding the multifaceted consequences of disease or pathology on the levels of physical functioning. These relationships can be explored and understood better only if a measurement system incorporates multiple levels of physical disablement.

The lack of sensitivity of existing outcome measures to detect important changes is the second limitation that limits the thorough evaluation of interventions directed toward minimizing physical disablement. Application of many current measures, not designed for evaluative purposes, often results in ceiling or floor effects. These effects occur if content lacks sufficient breadth or if increments of item ratings are too global.

For a measure to be effective in the assessment of change due to an intervention, the instrument should be designed specifically to detect meaningful change within a particular construct. This means that item content selection and item scaling should be focused on the ability to identify changes across test administrations. Content must be comprehensive so that persons of different ability levels have the opportunity to demonstrate change.

In addition to focused content development on factors that are likely to change during interventions, methodological scaling approaches can also help in the design of responsive scales.⁴ The one-parameter Rasch model has been shown to be a sound methodological approach for developing and validating instruments built to be responsive. In Rasch models, items are placed, or calibrated, along the continuum of the construct based on the probabilities of persons at various levels indicating ability on a particular item. The Rasch model builds a variable continuum based on the responses of persons in the sample to the items on the scale, such that persons with more ability have higher probabilities for reporting success on items than persons with lower ability. The hierarchical order and spacing between items can be inspected as to their theoretical and clinical usefulness for describing the construct of interest. Importantly, if adequate levels of unidimensionality and reproducibility of the item scale can be established, then a Rasch-based scoring procedure may not

Introduction

only provide a valid estimate of current status, but an accurate and responsive estimate of change along the item continuum.

The Late-Life FDI took the form of two major components: disability (socially-defined life tasks) and function (ability to perform discrete actions or activities as part of daily routines). The item pool was designed to include a comprehensive set of items that would be able to evaluate change.

This manual is divided into four sections. The first provides instructions for administering and scoring the Late-Life FDI as well as interpreting the results. Section two provides a detailed background of its development and methodology used to construct the scales. Section three describes the validity and reliability of the instrument. The final section includes the questionnaire and its visual aids.

Introduction to Administering the Late-Life FDI

The Late-Life FDI assesses both function and disability in community-dwelling older adults. It is possible to measure one without the other (i.e. using just the function component), however to capture a comprehensive representation of an older adult's capabilities and performance levels in everyday life, we suggest using both components.

This instrument was originally designed for an interview setting, where an interviewer administers the questionnaire to the participant and gives the participant visual aids (large print outs of the response options) to guide in selecting the appropriate response. Self-administration of the instrument is also possible but may be problematical for those who have poor vision or writing difficulties. For detailed instructions on administering the Late-Life FDI, review the actual questionnaire and its administrative guidelines at the back of the manual.

The Disability Component: Administering

Disability refers to a person's performance of socially defined life tasks expected of an individual within a typical sociocultural and physical environment. The disability component of the Late-Life FDI evaluates self-reported *frequency* of performing life tasks and *limitation* in capability of performing life tasks.

Frequency

Frequency describes the individual's regularity of participating in life tasks. Frequency questions are phrased, "How often do you *do a particular task?*" with response options of "very often," "often," "once in a while," "almost never," and "never."

Limitation

Limitation describes capability of performing life tasks. In order to address all factors that may influence limitation, the Late-Life FDI defines limitation to include both personal factors (health, physical or mental energy) and environmental factors (transportation, accessibility or socio-economic conditions). Limitation questions ask "To what extent do you feel limited in *doing a particular task?*" with response options of "not at all," "a little," "somewhat," "a lot," and "completely."

The Disability Component: Scoring

If the instrument and manual are purchased without the scoring software, we suggest developing a Microsoft Excel® spreadsheet or a SPSS® database file to input and score data.

Item Scales

Both frequency and limitation have rating scale categories from 5 to 1. We have used the scoring convention that the higher the scoring category, the more frequent the involvement in the activity and the less limited the person feels in completing activities. Therefore, the higher score, the less disabled.

Frequency – “How often do you *do a particular activity?*”

Very often	=	5
Often	=	4
Once in a while	=	3
Almost never	=	2
Never	=	1

Limitation – “To what extent do you feel limited in *doing a particular activity?*”

Not at all	=	5
A little	=	4
Somewhat	=	3
A lot	=	2
Completely	=	1

There are 16 items within the disability component. Each item is numbered according to its order on the questionnaire, and we begin with “D” (for disability) to differentiate it from the function (F) items. Each dimension should be marked by the appropriate letter: (a) for frequency and (b) for limitation.

For example: D1a. How often do you keep in touch with others?
D1b. To what extent do you feel limited in keeping in touch with others?

The Disability Component: Scoring

Raw Summary Scores

Frequency and limitation are two dimensions that make up the disability component. Within each of these dimensions are role domains. To calculate raw summary scores, add up item scores from each dimension and their role domains. The decision to use either or both the total dimension and the domain scores will be driven by the specific instrument application. Total dimension scores provide more precision and improved stability, whereas domain scores may be more responsive to a particular area of disability assessment.

Raw scores are transformed to scaled scores (0–100) in order to have all the dimension and domain scores on a similar metric. Because of the different number of items in each domain, raw scores are difficult to interpret. The transformed scores are based on a one-parameter Rasch model, which transforms the raw scores into a linear scale. Adjacent to each transformed score is an estimate of the standard error of the score. In Rasch scoring, these standard errors vary depending upon the placement on the scale and the number of items near that score, such that there is a unique estimate of precision for each score. In general, scores at the extreme are much less precise than scores near the mid-point of the scale.

Transforming Raw Summary Scores Into Scaled Summary Scores

To transform the raw summary scores into 0 to 100 scaled summary scores, refer to the score tables specific to each dimension and role domain. Find your raw summary score under the column entitled “raw score.” You will see its corresponding scaled summary score adjacent to it in the next the column, entitled “scaled score.”

Note: Use of the scaled scores requires a response on *all* items.

The Disability Component: Scoring

Frequency—Total Dimension Score

Frequency Dimension raw score (all 16 items) =
 D1a + D2a + D3a + D4a + D5a + D6a + D7a + D8a + D9a +
 D10a + D11a + D12a + D13a + D14a + D15a + D16a

Score Table: Total Frequency Dimension (16 items)

Raw Score	Scaled Score	Standard Error	Raw Score	Scaled Score	Standard Error
16	.00	16.83	49	45.69	2.47
17	9.79	8.78	50	46.31	2.48
18	15.14	6.20	51	46.93	2.48
19	18.35	5.16	52	47.56	2.50
20	20.72	4.57	53	48.19	2.51
21	22.64	4.17	54	48.83	2.53
22	24.27	3.88	55	49.48	2.55
23	25.70	3.65	56	50.15	2.58
24	26.98	3.47	57	50.82	2.60
25	28.13	3.32	58	51.52	2.64
26	29.20	3.19	59	52.23	2.67
27	30.20	3.09	60	52.96	2.71
28	31.13	3.00	61	53.71	2.76
29	32.02	2.93	62	54.49	2.81
30	32.87	2.87	63	55.30	2.86
31	33.68	2.81	64	56.15	2.93
32	34.47	2.76	65	57.04	3.00
33	35.23	2.72	66	57.97	3.08
34	35.96	2.69	67	58.95	3.17
35	36.68	2.65	68	59.99	3.27
36	37.39	2.63	69	61.11	3.39
37	38.08	2.60	70	62.32	3.53
38	38.75	2.58	71	63.63	3.69
39	39.42	2.56	72	65.07	3.88
40	40.07	2.54	73	66.68	4.11
41	40.72	2.52	74	68.50	4.40
42	41.36	2.51	75	70.61	4.76
43	41.99	2.49	76	73.14	5.26
44	42.61	2.48	77	76.31	6.00
45	43.23	2.48	78	80.65	7.23
46	43.85	2.47	79	87.85	10.07
47	44.46	2.47	80	100.00	18.17
48	45.08	2.47			

The Disability Component: Scoring

Within the frequency dimension there is a *social role domain* (including items that reflect the frequency of performing various social and community tasks) and a *personal role domain* (including items that reflect the frequency of performing various personal tasks).

Frequency Dimension—Social Role Domain

Social Role Domain raw score (9 items) =
 $D1a + D2a + D3a + D5a + D6a + D9a + D11a + D12a + D14a$

Item listing for social role domain:

- (D1a) Keep in touch with others
- (D2a) Visit friends and family in their homes
- (D3a) Provide care or assistance to others
- (D5a) Work at a volunteer job
- (D6a) Take part in active recreation
- (D9a) Travel out of town
- (D11a) Invite people into your home
- (D12a) Go out with others to public places
- (D14a) Take part in organized social activities

Score Table: Social Role Domain (9 items)

Raw Score	Scaled Score	Standard Error	Raw Score	Scaled Score	Standard Error
9	.00	17.83	28	46.25	3.75
10	10.51	9.61	29	47.58	3.79
11	16.74	7.08	30	48.95	3.84
12	20.72	6.02	31	50.36	3.90
13	23.75	5.36	32	51.83	3.98
14	26.21	4.89	33	53.34	4.06
15	28.30	4.54	34	54.93	4.16
16	30.12	4.28	35	56.61	4.28
17	31.76	4.08	36	58.39	4.43
18	33.27	3.93	37	60.31	4.60
19	34.68	3.83	38	62.39	4.82
20	36.03	3.75	39	64.69	5.09
21	37.34	3.70	40	67.29	5.44
22	38.61	3.67	41	70.32	5.93
23	39.87	3.65	42	74.02	6.66
24	41.13	3.65	43	78.94	7.92
25	42.39	3.66	44	86.86	10.89
26	43.65	3.68	45	100.00	19.52
27	44.94	3.71			

The Disability Component: Scoring

Frequency Dimension—Personal Role Domain

Personal Role Domain raw score (7 items) =
 D4a + D7a + D8a + D10a + D13a + D15a + D16a

Item listing for personal role domain:

- (D4a) Take care of inside of home
- (D7a) Take care of household business & finances
- (D8a) Take care of own health
- (D10a) Take part in regular fitness program
- (D13a) Take care of own personal care needs
- (D15a) Take care of local errands
- (D16a) Prepare meals for self

Score Table: Personal Role Domain (7 items)

Raw Score	Scaled Score	Standard Error	Raw Score	Scaled Score	Standard Error
7	.00	20.00	22	43.17	4.22
8	10.96	10.29	23	44.66	4.31
9	17.07	7.50	24	46.22	4.44
10	21.01	6.49	25	47.89	4.60
11	24.13	5.90	26	49.69	4.79
12	26.76	5.46	27	51.66	5.03
13	29.03	5.10	28	53.84	5.32
14	31.04	4.81	29	56.33	5.72
15	32.84	4.59	30	59.24	6.26
16	34.49	4.41	31	62.82	7.02
17	36.04	4.29	32	67.45	8.08
18	37.51	4.20	33	73.83	9.69
19	38.93	4.15	34	83.99	13.09
20	40.33	4.14	35	100.00	22.84
21	41.74	4.16			

The Disability Component: Scoring

Limitation—Total Dimension Score

Limitation Dimension raw score (all 16 items) =
 D1b + D2b + D3b + D4b + D5b + D6b + D7b + D8b + D9b +
 D10b + D11b + D12b + D13b + D14b + D15b + D16b

Score Table: Total Limitation Dimension (16 items)

Raw Score	Scaled Score	Standard Error	Raw Score	Scaled Score	Standard Error
16	.00	17.80	49	54.34	2.45
17	11.79	9.80	50	54.95	2.45
18	18.72	7.02	51	55.57	2.45
19	22.89	5.81	52	56.19	2.45
20	25.92	5.10	53	56.81	2.46
21	28.34	4.61	54	57.43	2.46
22	30.35	4.26	55	58.06	2.47
23	32.10	3.99	56	58.69	2.48
24	33.64	3.77	57	59.33	2.49
25	35.03	3.59	58	59.97	2.51
26	36.31	3.45	59	60.62	2.53
27	37.49	3.33	60	61.29	2.55
28	38.59	3.22	61	61.96	2.57
29	39.63	3.13	62	62.65	2.60
30	40.61	3.05	63	63.36	2.64
31	41.54	2.98	64	64.09	2.68
32	42.43	2.91	65	64.84	2.73
33	43.29	2.85	66	65.62	2.78
34	44.11	2.80	67	66.43	2.85
35	44.91	2.75	68	67.29	2.92
36	45.68	2.71	69	68.19	3.01
37	46.42	2.67	70	69.16	3.12
38	47.15	2.64	71	70.20	3.24
39	47.85	2.61	72	71.33	3.40
40	48.55	2.58	73	72.59	3.59
41	49.22	2.55	74	74.00	3.83
42	49.89	2.53	75	75.63	4.14
43	50.55	2.51	76	77.57	4.58
44	51.19	2.50	77	80.03	5.24
45	51.83	2.48	78	83.44	6.39
46	52.46	2.47	79	89.31	9.13
47	53.09	2.46	80	100.00	17.23
48	53.71	2.46			

The Disability Component: Scoring

Within the limitation dimension there is an *instrumental role domain* (including items that reflect limitation in activities at home and in the community) and a *management role domain* (including items that reflect limitation in organization or management of social tasks that involve minimal mobility or physical activity).

As in the frequency dimension, the decision to use either or both the total dimension and the domain scores will be driven by the specific instrument application. Total dimension scores provide more precision and improved stability, whereas domain scores may be more responsive to a particular area of disability assessment.

Limitation Dimension—Instrumental Role Domain

Instrumental Role Domain raw score (12 items) =
D2b + D3b + D4b + D5b + D6b + D9b +
D10b + D12b + D13b + D14b + D15b + D16b

Item listing for instrumental role domain:

- (D2b) Visit friends and family in their homes
- (D3b) Provide care or assistance to others
- (D4b) Take care of inside of home
- (D5b) Work at a volunteer job
- (D6b) Take part in active recreation
- (D9b) Travel out of town
- (D10b) Take part in regular fitness program
- (D12b) Go out with others to public places
- (D13b) Take care of own personal care needs
- (D14b) Take part in organized social activities
- (D15b) Take care of local errands
- (D16b) Prepare meals for self

Section I: Using the Late-Life FDI

The Disability Component: Scoring

Score Table: Instrumental Role Domain (12 items)

Raw Score	Scaled Score	Standard Error	Raw Score	Scaled Score	Standard Error
12	.00	18.26	37	54.02	3.00
13	12.19	10.11	38	54.92	2.99
14	19.41	7.28	39	55.81	3.00
15	23.79	6.05	40	56.72	3.00
16	27.02	5.34	41	57.62	3.01
17	29.62	4.86	42	58.54	3.02
18	31.82	4.52	43	59.46	3.04
19	33.74	4.25	44	60.40	3.07
20	35.46	4.03	45	61.35	3.10
21	37.02	3.86	46	62.33	3.14
22	38.46	3.71	47	63.34	3.20
23	39.80	3.59	48	64.38	3.26
24	41.06	3.49	49	65.47	3.34
25	42.25	3.40	50	66.62	3.44
26	43.38	3.33	51	67.85	3.56
27	44.47	3.26	52	69.17	3.71
28	45.52	3.21	53	70.62	3.90
29	46.53	3.16	54	72.24	4.14
30	47.52	3.12	55	74.08	4.46
31	48.49	3.09	56	76.27	4.90
32	49.44	3.06	57	78.98	5.55
33	50.37	3.04	58	82.69	6.71
34	51.29	3.02	59	88.91	9.47
35	52.21	3.01	60	100.00	17.71
36	53.11	3.00			

The Disability Component: Scoring

Limitation Dimension—Management Role Domain

Management Role Domain raw score (4 items) = D1b + D7b + D8b + D11b

Item listing for management role domain:

- (D1b) Keep in touch with others
- (D7b) Take care of household business and finances
- (D8b) Take care of own health
- (D11b) Invite people into your home

Score Table: Management Role Domain (4 items)

Raw Score	Scaled Score	Standard Error	Raw Score	Scaled Score	Standard Error
4	.00	18.67	13	63.86	5.94
5	14.83	11.68	14	67.46	5.80
6	26.05	9.38	15	70.95	5.76
7	34.24	8.40	16	74.48	5.89
8	41.05	7.73	17	78.32	6.26
9	46.82	7.11	18	82.89	7.05
10	51.71	6.60	19	89.51	9.24
11	56.04	6.29	20	100.00	16.67
12	60.05	6.11			

The Disability Component: Interpreting Results

Frequency

Scores approaching 100 signify high levels in frequency of participating in life tasks, scores approaching 0 signify low levels of frequency of participating in life tasks.

Social role domain

Scores approaching 100 signify high levels in frequency of participating in various social and community tasks, scores approaching 0 signify low levels in frequency of participating in various social and community tasks.

Personal role domain

Scores approaching 100 signify high levels in frequency of participating in various personal tasks, scores approaching 0 signify low levels in frequency of participating in various personal tasks.

Limitation

Scores approaching 100 signify high levels in capability of participating in life tasks, scores approaching 0 signify low levels in capability of participating in life tasks.

Instrumental role domain

Scores approaching 100 signify high levels in capability of participating in life tasks at home and in the community, scores approaching 0 signify low levels in capability of participating in life tasks at home and in the community.

Management role domain

Scores approaching 100 signify high levels in capability of participating in social tasks involving organization and management, scores approaching 0 signify low levels in capability of participating in social tasks involving organization and management.

At this time, no age-expected data are available for the Late-Life FDI. Scaled scores can best be used to identify pre-intervention levels of frequency and limitation, and then can be compared to those values with periods after intervention.

The Function Component: Administering

Functional limitation pertains to limitations in a person's ability to do discrete actions or activities without the help of others. The function component of the Late-Life FDI evaluates self-reported *difficulty* a person has in doing these discrete actions or activities.

Difficulty

Factors that may influence difficulty in task performance include pain, fatigue, fear, weakness, soreness, ailments, health conditions, and disabilities. Questions are phrased, "How much difficulty do you have *doing a particular activity* without the help of someone else and without the use of assistive devices?" with response options of "none," "a little," "some," "quite a lot," and "cannot do."

Note: Use of assistive devices

Those older adults who use assistive devices such as canes or walkers for mobility are asked additional questions which address performance with these devices. Questions are phrased, "When you use your cane, walker, or other walking device, how much difficulty do you have *doing a particular activity*?" with response options of "none," "a little," "some," "quite a lot," and "cannot do."

In the original beta test version of the Late-Life FDI, we included questions on wheelchair use. In our standardization sample, we had only four persons who used a wheelchair for mobility; thus, we did not have enough information on these items and did not include them in the final version of the instrument.

The Function Component: Scoring

If the instrument and manual are purchased without the scoring software, we suggest developing a Microsoft Excel® spreadsheet or a SPSS® database file to input and score data.

Item Scales

The function component has a rating scale from 5 to 1. We have used the scoring convention that the higher the scoring category, the less difficulty the person has in doing activities.

Difficulty – “How much difficulty do you have doing a particular activity?”

None	=	5
A little	=	4
Some	=	3
Quite a lot	=	2
Cannot do	=	1

There are 32 items within the function component. Each item should be numbered according to its order on the questionnaire, and begin with “F” (for Function) to differentiate it from the disability items. The 8 additional device items (for those who use canes and walkers) should begin with “FD” (for Function Device).

The Function Component: Scoring

Raw Summary Scores

The Function component of the Late-Life FDI is comprised of three domains: Upper Extremity functioning (items that reflect activities of the hands and arms), Basic Lower Extremity functioning (items that reflect activities primarily involving standing, stooping, and fundamental walking activities), and Advanced Lower Extremity functioning (items that reflect activities that involve a high level of physical ability and endurance). Scoring includes an overall function score and three separate domain scores.

Add the selected items to calculate raw summary scores for overall Function and its role domains. Using either or both the overall function score and the three domain scores will be driven by the specific instrument application. The overall function score provides more precision and improved stability, whereas each domain score may be more responsive to a particular area of functional assessment.

Raw scores are transformed to scaled scores (0–100) in order to have all the domain scores on a similar metric. Because of the different number of items in each domain, raw scores can be difficult to interpret. The transformed scores are based on a one-parameter Rasch model, which transform the raw scores into a linear scale. Adjacent to each transformed score is an estimate of the standard error of the score. In Rasch scoring, these standard errors vary depending upon the placement on the scale and the number of items near that score, such that there is a unique estimate of precision for each score. In general, scores at the extreme are much less precise than scores near the mid-point of the scale.

Transforming Raw Summary Scores Into Scaled Summary Scores

To transform the raw summary scores into 0 to 100 scaled summary scores, refer to the corresponding score tables. Find your raw summary score under the column entitled “raw score.” You will see its scaled summary score adjacent to it in the next column, entitled “scaled score.”

Note: Use of the scaled scores requires a response on all items.

Another Important Note: Function summary scores for users of assistive devices include additional items and are separately scored.

The Function Component: Scoring

Function—Total Score

Overall Function raw score (all 32 items) =
 $F1 + F2 + F3 + F4 + F5 + F6 + F7 + F8 + F9 + F10 + F11 + F12 + F13 + F14 + F15$
 $+ F16 + F17 + F18 + F19 + F20 + F21 + F22 + F23 + F24 + F25 + F26 +$
 $F27 + F28 + F29 + F30 + F31 + F32$

Score Table Overall Function (32 items)

Raw Score	Scaled Score	Standard Error	Raw Score	Scaled Score	Standard Error
32	.00	14.98	62	37.99	1.71
33	9.80	8.16	63	38.34	1.69
34	15.37	5.73	64	38.68	1.68
35	18.59	4.66	65	39.02	1.67
36	20.87	4.03	66	39.36	1.66
37	22.62	3.60	67	39.69	1.65
38	24.06	3.29	68	40.02	1.64
39	25.28	3.05	69	40.34	1.63
40	26.33	2.86	70	40.66	1.62
41	27.28	2.71	71	40.98	1.61
42	28.12	2.58	72	41.29	1.61
43	28.90	2.47	73	41.61	1.60
44	29.61	2.38	74	41.91	1.59
45	30.27	2.30	75	42.22	1.59
46	30.89	2.23	76	42.53	1.58
47	31.48	2.16	77	42.83	1.58
48	32.03	2.11	78	43.13	1.58
49	32.56	2.06	79	43.44	1.57
50	33.07	2.02	80	43.74	1.57
51	33.55	1.97	81	44.03	1.57
52	34.02	1.94	82	44.33	1.57
53	34.46	1.91	83	44.63	1.56
54	34.90	1.88	84	44.93	1.56
55	35.32	1.85	85	45.22	1.56
56	35.73	1.82	86	45.52	1.56
57	36.13	1.80	87	45.82	1.56
58	36.51	1.78	88	46.11	1.56
59	36.89	1.76	89	46.41	1.56
60	37.27	1.74	90	46.71	1.56
61	37.63	1.72	91	47.00	1.56

Table continued on next page

Section I: Using the Late-Life FDI

The Function Component: Scoring

Function—Total Score

Score Table Overall Function (32 items) *(Table continued from previous page)*

Raw Score	Scaled Score	Standard Error	Raw Score	Scaled Score	Standard Error
92	47.30	1.56	127	58.74	1.78
93	47.60	1.57	128	59.13	1.79
94	47.90	1.57	129	59.52	1.81
95	48.19	1.57	130	59.92	1.82
96	48.49	1.57	131	60.33	1.84
97	48.80	1.57	132	60.75	1.86
98	49.10	1.58	133	61.17	1.88
99	49.40	1.58	134	61.61	1.90
100	49.70	1.58	135	62.05	1.93
101	50.01	1.59	136	62.51	1.95
102	50.32	1.59	137	62.98	1.98
103	50.63	1.59	138	63.46	2.01
104	50.93	1.60	139	63.96	2.04
105	51.25	1.60	140	64.48	2.08
106	51.56	1.61	141	65.02	2.12
107	51.87	1.61	142	65.57	2.17
108	52.19	1.62	143	66.16	2.22
109	52.51	1.62	144	66.77	2.27
110	52.83	1.63	145	67.42	2.33
111	53.15	1.63	146	68.10	2.40
112	53.48	1.64	147	68.82	2.48
113	53.81	1.65	148	69.60	2.57
114	54.14	1.65	149	70.43	2.67
115	54.47	1.66	150	71.33	2.78
116	54.81	1.67	151	72.31	2.91
117	55.15	1.67	152	73.39	3.06
118	55.49	1.68	153	74.59	3.23
119	55.83	1.69	154	75.94	3.45
120	56.18	1.70	155	77.50	3.72
121	56.53	1.71	156	79.35	4.10
122	56.89	1.72	157	81.67	4.68
123	57.25	1.73	158	84.88	5.69
124	57.62	1.74	159	90.34	8.07
125	57.99	1.75	160	100.00	14.91
126	58.36	1.76			

The Function Component: Scoring

Function—Upper Extremity Functioning Domain

Upper Extremity raw score (7 items) = F 1+ F3 + F5 + F6 + F13 + F16 + F17

Item listing for upper extremity functioning:

- (F1) Unscrewing the lid off a previously unopened jar
- (F3) Putting on and taking off long pants
- (F5) Using common utensils for preparing meals
- (F6) Holding a full glass of water
- (F13) Reaching behind your back
- (F16) Ripping open package of snack food
- (F17) Pouring from a large pitcher

Score Table: Upper Extremity Functioning (7 items)

Raw Score	Scaled Score	Standard Error	Raw Score	Scaled Score	Standard Error
7	.00	18.00	22	56.09	3.86
8	12.80	10.44	23	57.64	3.86
9	21.21	7.93	24	59.21	3.90
10	26.84	6.87	25	60.81	3.96
11	31.28	6.23	26	62.49	4.07
12	35.01	5.75	27	64.29	4.23
13	38.21	5.35	28	66.25	4.45
14	41.00	5.01	29	68.44	4.74
15	43.46	4.72	30	70.97	5.12
16	45.66	4.49	31	73.94	5.57
17	47.67	4.30	32	77.50	6.15
18	49.53	4.15	33	82.00	7.08
19	51.27	4.03	34	88.00	9.51
20	52.93	3.95	35	100.00	17.28
21	54.53	3.89			

The Function Component: Scoring

Function—Basic Lower Extremity Functioning Domain

Basic Lower Extremity raw score (14 items) = F2 + F10 + F11 + F12 + F14 + F15 + F18 + F21 + F22 + F23 + F25 + F26 + F28 + F31

Item listing for basic lower extremity functioning:

- (F2) Going up and down a flight of stairs, using handrail
- (F10) Reaching overhead while standing
- (F11) Sitting down in and standing up from low soft couch
- (F12) Putting on and taking off a coat
- (F14) Stepping up and down from a curb
- (F15) Opening a heavy outside door
- (F18) Getting into and out of a car
- (F21) Picking up a kitchen chair
- (F22) Using a step stool
- (F23) Making a bed
- (F25) Bending over from a standing position
- (F26) Walking around one floor of home
- (F28) Washing dishes, pots, and utensils while standing
- (F31) Stepping on and off a bus

Section I: Using the Late-Life FDI

The Function Component: Scoring

Score Table: Basic Lower Extremity Functioning (14 items)

Raw Score	Scaled Score	Standard Error	Raw Score	Scaled Score	Standard Error
14	.00	18.29	43	51.28	2.63
15	12.00	9.99	44	51.97	2.63
16	18.90	7.07	45	52.66	2.63
17	22.96	5.80	46	53.35	2.64
18	25.87	5.06	47	54.05	2.65
19	28.17	4.57	48	54.75	2.66
20	30.09	4.21	49	55.46	2.68
21	31.74	3.94	50	56.19	2.71
22	33.21	3.73	51	56.92	2.73
23	34.53	3.57	52	57.68	2.76
24	35.75	3.43	53	58.45	2.80
25	36.88	3.31	54	59.24	2.85
26	37.93	3.21	55	60.07	2.90
27	38.93	3.12	56	60.92	2.96
28	39.88	3.05	57	61.82	3.03
29	40.79	2.99	58	62.76	3.12
30	41.66	2.93	59	63.75	3.21
31	42.50	2.88	60	64.82	3.33
32	43.32	2.84	61	65.97	3.47
33	44.11	2.80	62	67.24	3.65
34	44.88	2.76	63	68.64	3.86
35	45.63	2.73	64	70.23	4.14
36	46.37	2.71	65	72.08	4.50
37	47.09	2.69	66	74.31	5.00
38	47.81	2.67	67	77.17	5.75
39	48.52	2.65	68	81.17	7.04
40	49.21	2.64	69	88.02	9.97
41	49.91	2.63	70	100.00	18.28
42	50.60	2.63			

The Function Component: Scoring

Function – Advanced Lower Extremity Functioning Domain

Advanced Lower Extremity raw score (11 items) =
 $F4 + F7 + F8 + F9 + F19 + F20 + F24 + F27 + F29 + F30 + F32$

Item listing for advanced lower extremity functioning:

- (F4) Running 1/2 mile or more
- (F7) Walking 1 mile, taking rests as necessary
- (F8) Going up & down a flight of stairs, without a handrail
- (F9) Running a short distance, such as to catch a bus
- (F19) Hiking a couple of miles
- (F20) Going up & down 3 flights, with handrail
- (F24) Carrying something in both arms while climbing stairs
- (F27) Getting up from the floor
- (F29) Walking several blocks
- (F30) Taking a 1 mile brisk walk without stopping
- (F32) Walking on a slippery surface outdoors

Score Table: Advanced Lower Extremity Functioning (11 items)

Raw Score	Scaled Score	Standard Error	Raw Score	Scaled Score	Standard Error
11	.00	16.89	34	49.70	3.00
12	11.35	9.39	35	50.69	3.01
13	18.11	6.77	36	51.68	3.03
14	22.22	5.62	37	52.69	3.06
15	25.25	4.96	38	53.72	3.10
16	27.67	4.51	39	54.78	3.14
17	29.72	4.19	40	55.87	3.19
18	31.51	3.94	41	57.00	3.26
19	33.12	3.75	42	58.18	3.33
20	34.59	3.60	43	59.42	3.42
21	35.95	3.48	44	60.73	3.52
22	37.23	3.37	45	62.13	3.65
23	38.43	3.29	46	63.63	3.79
24	39.59	3.22	47	65.27	3.97
25	40.69	3.16	48	67.07	4.17
26	41.76	3.11	49	69.08	4.43
27	42.81	3.07	50	71.36	4.75
28	43.82	3.04	51	74.04	5.18
29	44.82	3.02	52	77.30	5.81
30	45.81	3.00	53	81.63	6.90
31	46.79	2.99	54	88.56	9.46
32	47.76	2.99	55	100.00	16.91
33	48.73	2.99			

The Function Component: Scoring for Users of Assistive Devices

There are 40 items total: 32 from the core function component and 8 additional device items. The eight additional device items should begin with “FD” (for Function Device) to differentiate them from the disability and core function items.

Function with Device Items

Overall Function + Device Items raw score (40 items) =

F1 + F2 + F3 + F4 + F5 + F6 + F7 + F8 + F9 + F10 + F11 + F12 + F13 + F14 +
F15 + F16 + F17 + F18 + F19 + F20 + F21 + F22 + F23 + F24 + F25 + F26 + F27 +
F28 + F29 + F30 + F31 + F32 + FD7 + FD8 + FD14 + FD15 + FD26 + FD29 +
FD30 + FD32

Section I: Using the Late-Life FDI

The Function Component: Scoring for Users of Assistive Devices

Score Table: Overall Function + Device Items (40 items)

Raw Score	Scaled Score	Standard Error	Raw Score	Scaled Score	Standard Error
40	.00	14.79	81	39.20	1.50
41	9.54	7.97	82	39.48	1.49
42	14.84	5.55	83	39.75	1.48
43	17.87	4.49	84	40.02	1.48
44	19.99	3.87	85	40.28	1.47
45	21.62	3.46	86	40.55	1.47
46	22.95	3.15	87	40.81	1.46
47	24.08	2.93	88	41.07	1.46
48	25.07	2.75	89	41.33	1.45
49	25.94	2.61	90	41.58	1.45
50	26.73	2.48	91	41.84	1.44
51	27.46	2.38	92	42.09	1.44
52	28.13	2.30	93	42.35	1.44
53	28.75	2.22	94	42.60	1.43
54	29.33	2.15	95	42.85	1.43
55	29.88	2.09	96	43.10	1.43
56	30.41	2.04	97	43.35	1.42
57	30.90	1.99	98	43.60	1.42
58	31.38	1.95	99	43.84	1.42
59	31.83	1.91	100	44.09	1.42
60	32.27	1.87	101	44.33	1.42
61	32.69	1.84	102	44.58	1.42
62	33.09	1.81	103	44.83	1.41
63	33.48	1.78	104	45.07	1.41
64	33.86	1.75	105	45.31	1.41
65	34.23	1.73	106	45.56	1.41
66	34.59	1.70	107	45.80	1.41
67	34.94	1.68	108	46.05	1.41
68	35.29	1.66	109	46.29	1.41
69	35.62	1.64	110	46.53	1.41
70	35.95	1.63	111	46.78	1.41
71	36.27	1.61	112	47.02	1.41
72	36.58	1.60	113	47.26	1.41
73	36.89	1.58	114	47.51	1.41
74	37.19	1.57	115	47.75	1.41
75	37.49	1.56	116	47.99	1.41
76	37.79	1.55	117	48.24	1.41
77	38.08	1.54	118	48.48	1.42
78	38.36	1.53	119	48.73	1.43
79	38.65	1.52	120	48.98	1.43
80	38.93	1.51	121	49.22	1.43

Table continued on next page

The Function Component: Scoring for Users of Assistive Devices

Score Table: Overall Function + Device Items (40 items) (Table continued from previous page)

Raw Score	Scaled Score	Standard Error	Raw Score	Scaled Score	Standard Error
122	49.47	1.43	162	60.47	1.62
123	49.72	1.43	163	60.79	1.63
124	49.97	1.43	164	61.12	1.64
125	50.21	1.43	165	61.45	1.65
126	50.46	1.43	166	61.79	1.66
127	50.71	1.43	167	62.13	1.68
128	50.97	1.44	168	62.48	1.69
129	51.22	1.44	169	62.83	1.70
130	51.47	1.44	170	63.19	1.72
131	51.73	1.44	171	63.55	1.73
132	51.98	1.45	172	63.93	1.75
133	52.24	1.45	173	64.30	1.77
134	52.50	1.45	174	64.69	1.79
135	52.76	1.46	175	65.09	1.81
136	53.02	1.46	176	65.49	1.83
137	53.28	1.46	177	65.91	1.86
138	53.54	1.47	178	66.34	1.88
139	53.81	1.47	179	66.78	1.91
140	54.07	1.48	180	67.23	1.95
141	54.34	1.48	181	67.71	1.98
142	54.61	1.49	182	68.20	2.02
143	54.88	1.49	183	68.71	2.07
144	55.15	1.50	184	69.24	2.12
145	55.43	1.50	185	69.80	2.17
146	55.71	1.51	186	70.40	2.23
147	55.99	1.51	187	71.03	2.30
148	56.27	1.52	188	71.70	2.38
149	56.55	1.52	189	72.41	2.47
150	56.84	1.53	190	73.19	2.57
151	57.12	1.54	191	74.03	2.69
152	57.41	1.54	192	74.96	2.83
153	57.71	1.55	193	76.00	3.00
154	58.00	1.56	194	77.18	3.22
155	58.30	1.56	195	78.55	3.50
156	58.60	1.57	196	80.21	3.89
157	58.90	1.58	197	82.34	4.48
158	59.21	1.59	198	85.34	5.51
159	59.52	1.60	199	90.57	7.91
160	59.83	1.60	200	100.00	14.74
161	60.15	1.61			

The Function Component: Scoring for Users of Assistive Devices

Function—Upper Extremity Functioning Domain (same as core)

Upper Extremity raw score (7 items) = F 1+ F3 + F5 + F6 + F13 + F16 + F17

Item listing for upper extremity functioning:

- (F1) Unscrewing the lid off a previously unopened jar
- (F3) Putting on and taking off long pants
- (F5) Using common utensils for preparing meals
- (F6) Holding a full glass of water
- (F13) Reaching behind your back
- (F16) Ripping open package of snack food
- (F17) Pouring from a large pitcher

Score Table: Upper Extremity Functioning (7 items) (same as core)

Raw Score	Scaled Score	Standard Error	Raw Score	Scaled Score	Standard Error
7	.00	18.00	22	56.09	3.86
8	12.80	10.44	23	57.64	3.86
9	21.21	7.93	24	59.21	3.90
10	26.84	6.87	25	60.81	3.96
11	31.28	6.23	26	62.49	4.07
12	35.01	5.75	27	64.29	4.23
13	38.21	5.35	28	66.25	4.45
14	41.00	5.01	29	68.44	4.74
15	43.46	4.72	30	70.97	5.12
16	45.66	4.49	31	73.94	5.57
17	47.67	4.30	32	77.50	6.15
18	49.53	4.15	33	82.00	7.08
19	51.27	4.03	34	88.00	9.51
20	52.93	3.95	35	100.00	17.28
21	54.53	3.89			

The Function Component: Scoring for Users of Assistive Devices

Function—Basic Lower Extremity Functioning Domain (with selected device items)

Basic Lower Extremity with Device raw score (17 items) = F2 + F10 + F11 + F12 + F14 + F15 + F18 + F21 + F22 + F23 + F25 + F26 + F28 + F31 + FD14 + FD15 + FD26

Item listing for basic lower extremity functioning with device:

- (F2) Going up and down a flight of stairs, using handrail
- (F10) Reaching overhead while standing
- (F11) Sitting down in and standing up from low soft couch
- (F12) Putting on and taking off a coat
- (F14) Stepping up and down from a curb
- (F15) Opening a heavy outside door
- (F18) Getting into and out of a car
- (F21) Picking up a kitchen chair
- (F22) Using a step stool
- (F23) Making a bed
- (F25) Bending over from a standing position
- (F26) Walking around one floor of home
- (F28) Washing dishes, pots, and utensils while standing
- (F31) Stepping on and off a bus
- (FD14) Stepping up and down from a curb with assistive device
- (FD15) Opening a heavy outside door with assistive device
- (FD26) Walking around one floor of home with assistive device

Section I: Using the Late-Life FDI

The Function Component: Scoring for Users of Assistive Devices

Score Table: Basic Lower Extremity + Selected Device Items (17 items)

Raw Score	Scaled Score	Standard Error	Raw Score	Scaled Score	Standard Error
17	.00	18.40	52	52.32	2.33
18	11.87	9.95	53	52.85	2.33
19	18.58	7.01	54	53.38	2.33
20	22.51	5.75	55	53.92	2.33
21	25.34	5.03	56	54.46	2.34
22	27.58	4.55	57	54.99	2.34
23	29.46	4.20	58	55.54	2.35
24	31.08	3.93	59	56.08	2.36
25	32.52	3.72	60	56.64	2.38
26	33.81	3.55	61	57.20	2.39
27	35.00	3.40	62	57.76	2.41
28	36.10	3.28	63	58.34	2.44
29	37.12	3.17	64	58.93	2.46
30	38.07	3.07	65	59.53	2.49
31	38.97	2.98	66	60.15	2.52
32	39.82	2.91	67	60.79	2.56
33	40.64	2.84	68	61.44	2.60
34	41.41	2.78	69	62.12	2.65
35	42.16	2.73	70	62.82	2.71
36	42.87	2.68	71	63.56	2.77
37	43.57	2.63	72	64.33	2.84
38	44.24	2.59	73	65.15	2.93
39	44.89	2.56	74	66.02	3.03
40	45.52	2.52	75	66.96	3.14
41	46.14	2.49	76	67.97	3.28
42	46.74	2.47	77	69.09	3.45
43	47.33	2.44	78	70.33	3.67
44	47.92	2.42	79	71.75	3.94
45	48.49	2.40	80	73.41	4.30
46	49.05	2.39	81	75.43	4.80
47	49.61	2.37	82	78.03	5.55
48	50.16	2.36	83	81.75	6.85
49	50.70	2.35	84	88.25	9.85
50	51.24	2.34	85	100.00	18.35
51	51.78	2.34			

The Function Component: Scoring for Users of Assistive Devices

Function—Advanced Lower Extremity Functioning Domain (with selected device items)

Advanced lower extremity with device raw score (16 items) = F4 + F7 + F8 + F9 + F19 + F20 + F24 + F27 + F29 + F30 + F32 + FD7 + FD8 + FD29 + FD30 + FD32

Item listing for advanced lower extremity functioning with device:

- (F4) Running 1/2 mile or more
- (F7) Walking 1 mile, taking rests as necessary
- (F8) Going up & down a flight of stairs, without a handrail
- (F9) Running a short distance, such as to catch a bus
- (F19) Hiking a couple of miles
- (F20) Going up & down 3 flights, with handrail
- (F24) Carrying something in both arms while climbing stairs
- (F27) Getting up from the floor
- (F29) Walking several blocks
- (F30) Taking a 1 mile brisk walk with stopping
- (F32) Walking on a slippery surface outdoors
- (FD7) Walking 1 mile, taking rests as necessary w/ assistive device
- (FD8) Going up & down a flight of stairs, without a handrail w/ assistive device
- (FD29) Walking several blocks w/ assistive device
- (FD30) Taking a 1 mile brisk walk without .stopping w/ assistive device
- (FD32) Walking on a slippery surface outdoors w/ assistive device

Section I: Using the Late-Life FDI

The Function Component: Scoring for Users of Assistive Devices

Score Table: Advanced Lower Extremity + Selected Device Items (16 items)

Raw Score	Scaled Score	Standard Error	Raw Score	Scaled Score	Standard Error
16	.00	15.76	49	49.04	2.40
17	10.28	8.59	50	49.70	2.40
18	16.18	6.10	51	50.37	2.41
19	19.69	5.03	52	51.04	2.42
20	22.23	4.41	53	51.72	2.43
21	24.27	4.01	54	52.40	2.44
22	25.98	3.72	55	53.09	2.45
23	27.49	3.50	56	53.79	2.47
24	28.83	3.33	57	54.50	2.49
25	30.06	3.20	58	55.22	2.52
26	31.20	3.09	59	55.96	2.55
27	32.26	2.99	60	56.72	2.58
28	33.27	2.91	61	57.49	2.61
29	34.22	2.85	62	58.29	2.65
30	35.14	2.79	63	59.12	2.70
31	36.02	2.74	64	59.97	2.75
32	36.87	2.69	65	60.86	2.80
33	37.89	2.65	66	61.78	2.87
34	38.49	2.62	67	62.75	2.94
35	39.27	2.59	68	63.77	3.02
36	40.03	2.56	69	64.86	3.11
37	40.78	2.53	70	66.01	3.22
38	41.51	2.51	71	67.26	3.36
39	42.23	2.49	72	68.62	3.51
40	42.94	2.47	73	70.11	3.70
41	43.64	2.46	74	71.80	3.95
42	44.33	2.44	75	73.73	4.26
43	45.02	2.43	76	76.03	4.69
44	45.70	2.42	77	78.91	5.33
45	46.37	2.41	78	82.82	6.42
46	47.04	2.41	79	89.25	8.89
47	47.71	2.40	80	100.00	15.95
48	48.37	2.40			

The Function Component: Interpreting Results

Overall Function

Scores approaching 100 signify high levels in ability to perform discrete actions and activities (without assistance), scores approaching 0 signify low levels in ability to perform discrete actions and activities (without assistance).

Upper Extremity

Scores approaching 100 signify high levels in ability to perform activities of the hands and arms (without assistance), scores approaching 0 signify low levels in ability to perform activities of the hands and arms (without assistance).

Basic Lower Extremity

Scores approaching 100 signify high levels in ability to perform activities primarily involving standing, stooping, and fundamental walking (without assistance), scores approaching 0 signify low levels in ability to perform activities primarily involving standing, stooping, and fundamental walking (without assistance).

Advanced Lower Extremity

Scores approaching 100 signify high levels in ability to perform activities involving a significant degree of physical ability and endurance (without assistance), scores approaching 0 signify low levels in ability to perform activities involving a significant degree of physical ability and endurance (without assistance).

For those individuals who use devices, these items are added to provide more specific information on activity functioning, but interpretation of scoring is the same, but includes assistance.

At this time, no age-expected data are available for the Late-Life FDI. Scaled scores can best be used to identify pre-intervention levels of functioning, and then can be compared to those values with periods after intervention.

Section I: Using the Late-Life FDI

Score Form Sample: Late-Life Function & Disability Instrument

ID: 1 ID Description: *Pre-intervention* Date of Interview: 7/31/02

Disability Component	Raw Score	Scaled Score	Standard Error
Frequency Total	<i>55</i>	<i>49.48</i>	<i>2.55</i>
Social Role	<i>29</i>	<i>47.58</i>	<i>3.79</i>
Personal Role	<i>26</i>	<i>49.69</i>	<i>4.79</i>

Limitation Total	<i>44</i>	<i>51.19</i>	<i>2.50</i>
Instrumental Role	<i>34</i>	<i>51.29</i>	<i>3.02</i>
Management Role	<i>10</i>	<i>51.71</i>	<i>6.60</i>

Function Component	Raw Score	Scaled Score	Standard Error
Function Total	<i>97</i>	<i>48.80</i>	<i>1.57</i>
Upper Extremity	<i>24</i>	<i>59.21</i>	<i>3.90</i>
Basic Lower Extremity	<i>49</i>	<i>55.46</i>	<i>2.68</i>
Advanced Lower Extremity	<i>24</i>	<i>39.59</i>	<i>3.22</i>

<i>Applicable only for device users:</i>	Raw Score	Scaled Score	Standard Error
Function-Device Total	<i>123</i>	<i>49.72</i>	<i>1.43</i>
Upper Extremity (same as core)	<i>24</i>	<i>59.21</i>	<i>3.90</i>
Basic Lower Extremity + Device	<i>61</i>	<i>57.20</i>	<i>2.39</i>
Advanced Lower Extremity + Device	<i>38</i>	<i>44.24</i>	<i>2.47</i>

Section I: Using the Late-Life FDI

Score Form Sheet: Late-Life Function & Disability Instrument

ID:

ID Description:

Date of Interview:

Disability Component	Raw Score	Scaled Score	Standard Error
Frequency Total			
Social Role			
Personal Role			

Limitation Total			
Instrumental Role			
Management Role			

Function Component	Raw Score	Scaled Score	Standard Error
Function Total			
Upper Extremity			
Basic Lower Extremity			
Advanced Lower Extremity			

<i>Applicable only for device users:</i>	Raw Score	Scaled Score	Standard Error
Function-Device Total			
Upper Extremity (same as core)			
Basic Lower Extremity + Device			
Advanced Lower Extremity + Device			

The Disability Component: Instrument Development

Applying Nagi's disablement model²⁻³ and drawing from categories included in the International Classification of Functioning, Disability, and Health (ICF),⁵ we wrote questionnaire items that encompassed a wide variety of life tasks including: personal maintenance; mobility and travel; exchange of information; social, community, and civic activities; home life; paid or volunteer work; and involvement in economic activities. Item modifications were based on a review of existing disability instruments, a content examination by six experts in gerontology and rehabilitation, and suggestions by several focus groups of community-dwelling older adults. Following two field tests and subsequent analyses of the questionnaire, we retained sixteen of the original twenty-three items.

In contrast to many disability instruments, we chose to write items without attribution to specific health concerns. Instead, we framed the disability questions in a more general fashion because we were interested in understanding factors other than (but including) health conditions (e.g. social and physical environment) that might influence disability outcomes.

The Disability Component: Original Standardization Sample

To develop a disability measure that would be sensitive to variation and change across a wide range of life tasks, we recruited a convenience sample of 150 adults who were sixty years of age and older, from diverse ethnic and racial backgrounds, and with a range of functional limitation. Subjects were recruited from local community programs on aging, senior centers, senior housing units, assisted living facilities, and ethnic community organizations. See Table 1 for specific details on demographics of the standardization sample.

The sample was largely female, white and well educated. This sample was comparable in physical functioning and mental health to the older population in the United States as reflected by PF-10 and Mental Health-5 (MH-5) scores on the SF-36.⁶ The PF-10 sample mean was 61.50 (SD 31.48), as compared to the U.S. population mean of 61.22 (SD 28.12). The MH-5 sample mean was 75.07 (SD 18.30), as compared to the U.S. population mean of 75.29 (SD 19.20).

Section 2: Development of the Late-Life FDI

The Disability Component: Original Standardization Sample

Table 1. Original Sample Characteristics

Race/ Ethnicity	Sample Percent	Age	Sample Percent
White	84.0	60–69	27.3
Black	7.3	70–79	40.7
Hispanic	5.3	80–89	26.7
Asian/Pacific Islander	2.7	90+	5.3
American Indian/N. Alaskan	.7	Total	100.0
Total	100.0		
Gender		Highest Level of Education	
Male	22.7	High school or less	38.7
Female	77.3	Bachelor/certificate degree	44.7
Total	100.0	Graduate/professional degree	16.6
		Total	100.0
Marital Status		Living Arrangements	
Never married	9.3	Alone	45.3
Married	39.3	With spouse only	33.3
Separated	2.0	With family	18.0
Widowed	36.7	With non-family	3.3
Divorced	12.7	Total	100.0
Total	100.0		
Housing		Self-Reported Health Conditions	
Single family house	46.7	Arthritis/Osteoporosis	44.6
Apartment/Condo/Senior housing	45.3	Visual impairment	13.3
Congregate/Assisted living	6.7	Hearing impairment	12.6
Other (mobile home)	1.3	Heart condition	10.0
Total	100.0	Chronic Pulmonary condition	10.0
		Anxiety/Depression	6.0
Geographic Living Areas		Stroke	6.0
Urban/Suburban	80.7	Neuromuscular condition	4.6
Rural	19.3	Diabetes	3.3
Total	100.0	High blood pressure	3.3
		Hip fracture	2.6
Functional Limitations		Liver disease	2.6
No functional limitation	14.0	Cancer	1.3
Slight functional limitation	38.0	Total	100.0
Moderate functional limitation	30.0		
Heavy functional limitation	18.0		
Total	100.0		

The Disability Component: Methods of Analysis

We constructed and subsequently evaluated the structure of the disability component using two complementary psychometric approaches. First, we employed a factor analytic approach, which examines the covariation among a set of items. The structure of the disability component derived from the resulting factors was examined using item-total correlations and internal consistency estimates. Next, we used the item response theory (IRT), a probabilistic method that makes possible the examination of unidimensionality and ordering of items on a measurement continuum. The Rasch one-parameter model was employed to place items and persons on a common measurement scale.⁷ With Rasch analytic techniques, the hierarchical order and spacing between items on the disability component was determined and set to achieve adequate separation between disability items included in each scale, leading to a more responsive estimator of status and change along the disability continuum. Both factor analytic and Rasch techniques were used to test the hypothesis that two distinct evaluative criteria could be identified (frequency and limitation) and to eliminate redundant items where possible.

After an initial review of data based on sample feedback of item content, a preliminary factor analysis (to identify items with poor or ambiguous factor loadings), and a preliminary Rasch analysis (to examine item fit and content redundancy), seven disability items were eliminated from further analyses.

Factor Analysis

A series of factor analyses were used to identify the number and nature of latent factors that could be responsible for the covariation in the disability data. A one-factor and two-factor model were tested with comparisons of percentage of the variance explained by each factor in the two models.

For the frequency dimension, a maximum likelihood chi-square test showed that one-factor was not sufficient to adequately explain the data ($\chi^2=218.28$, $p<.0001$). The two-factor solution explained 39.6% of the variance (21.5% from the first factor, and 18.1% from the second factor). We labeled the first factor a *social role* domain since it reflected the frequency of performing social and community tasks such as communication, visiting others, and out-of-home activities. The second factor was labeled a *personal role* domain since it reflected the frequency of performing personal tasks such as taking care of health, financial, home-care, and self-care needs. The correlation between the social role and personal role domains based on factor analysis was $r = .432$ ($p < .01$), indicating there was only modest overlap between the factors. Table 2 depicts the factor loadings of both the one-factor and two-factor models for this dimension.

The Disability Component: Factor Analysis

Table 2. Factor loadings of one-factor model and two-factor model of the frequency dimension

Frequency Dimension Items	One-Factor	Two-Factor	
		Social Role	Personal Role
Visit friends	.60	.72	—
Travel out of town	.66	.67	—
Go out to public places	.68	.64	—
Work at a volunteer job	.59	.66	—
Keep in touch with others	.46	.59	—
Participate in social activities	.40	.56	—
Invite family and friends into home	.59	.53	—
Participate in active recreation	.58	.53	—
Provide assistance to others	.56	.48	—
Provide meals	.43	—	.67
Take care of personal care needs	.57	—	.65
Take care of local errands	.62	—	.63
Take care of health	.35	—	.60
Take care of household business	.39	—	.57
Take part in an exercise program	.36	—	.32
Take care of inside of home	.59	—	.71

For the limitation dimension, a maximum likelihood chi-square test showed that one factor was not sufficient to adequately explain the data ($\chi^2 = 201.39, p < .0001$). A two-factor model explained 53.9% of the variance (37.5% from the first factor, and 16.5% from the second factor). The composition of this dimension differed in comparison with the two-factor solution of the frequency dimension. Twelve items loaded on a factor we labeled instrumental role domain which encompasses activities at home and in the community that required mobility functioning. A second factor emerged that we labeled management role domain because it appears to identify items that involve organization or management of social tasks that involve minimal mobility or physical activity. The correlation between the instrumental role and management role domains based on factor analysis was $r = .567 (p < .01)$. Table 3 depicts the one-factor and two-factor model for the limitation dimension.

Section 2: Development of the Late-Life FDI

The Disability Component: Factor Analysis

Table 3. Factor loadings of one-factor model and two-factor model of the limitation dimension

Limitation Dimension Items	One-Factor	Two-Factor	
		Instrumental Role	Management Role
Visit friends	.79	.74	—
Travel out of town	.77	.79	—
Go out to public places	.80	.71	—
Work at a volunteer job	.79	.79	—
Keep in touch with others	.48	—	.59
Participate in social activities	.68	.73	—
Invite family and friends into home	.53	—	.47
Participate in active recreation	.67	.74	—
Provide assistance to others	.79	.71	—
Provide meals	.71	.57	—
Take care of personal care needs	.66	.57	—
Take care of local errands	.76	.65	—
Take care of health	.41	—	.78
Take care of household business	.46	—	.69
Take part in an exercise program	.65	.66	—
Take care of inside of home	.71	.62	—

The Disability Component: Rasch Analysis

A series of one-parameter Rasch rating scale analyses were performed to estimate item locations (calibrations) along a common underlying construct. These analyses were conducted by a Rasch-model computer program WINSTEPS⁸ which provides an estimated item calibration value along the scale. Separate solutions were derived for each of the two disability dimensions: frequency and limitation, as well as for their subsequent domains. For ease of interpretation, we transform this raw logit scale to a 0–100 scale. Item calibrations and person scores are aligned along the same 0–100 continuum. Person scores are based on conversion of raw score counts to each transformed 0–100 scale.⁹ By our convention, items that are not frequently performed, and items in which most people express limitations are associated with scores of increasing magnitude. Thus, the continuum of 0–100 reflects increasing capability and performance of life tasks, with scores approaching 0 to indicate poor capability and infrequent performance, and scores approaching 100 to characterize good capability and frequent performance. Rasch analysis can also be used to reduce items within a scale by identifying items with redundant content or items that misfit a construct.

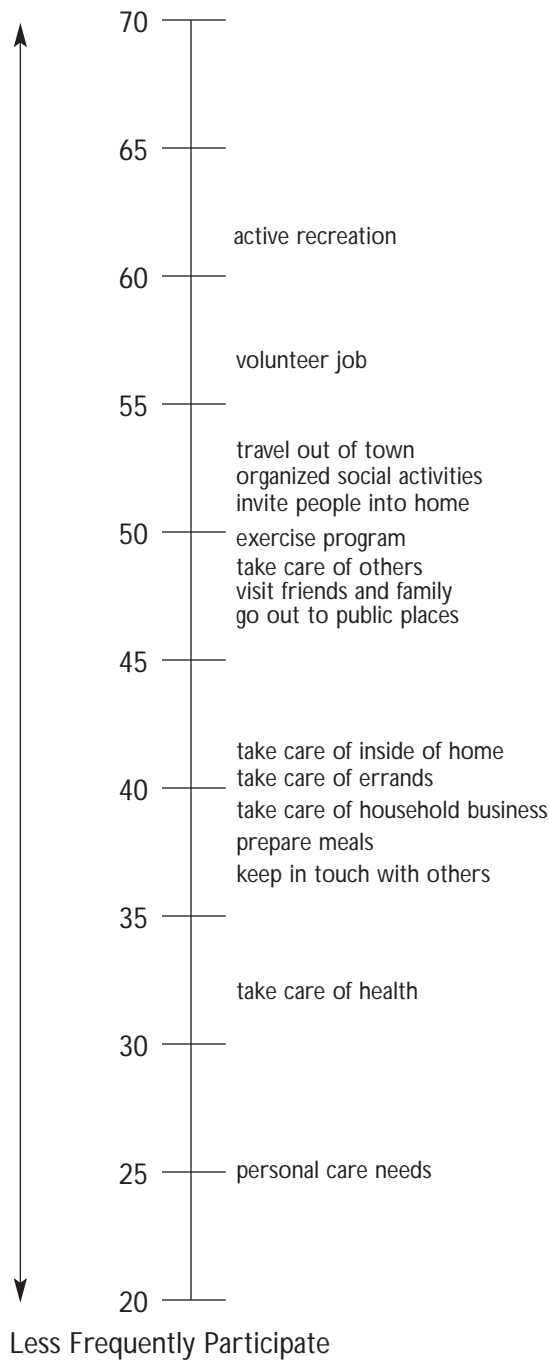
The hierarchical order of items on the frequency and limitation dimensions of the disability component are graphically depicted in the following figures. Items are arranged according to item calibrations indicating a continuum of frequency of participation (figures 1,2, and 3) and degree of limitation (figures 4, 5, and 6). For more details of the Rasch analyses of the Late-Life FDI, please refer to the companion articles on its development and evaluation.^{10–11}

The Disability Component: Rasch Analysis—Frequency Dimension

Figure 1. Rasch model for total frequency dimension (average item location)

Person Scale

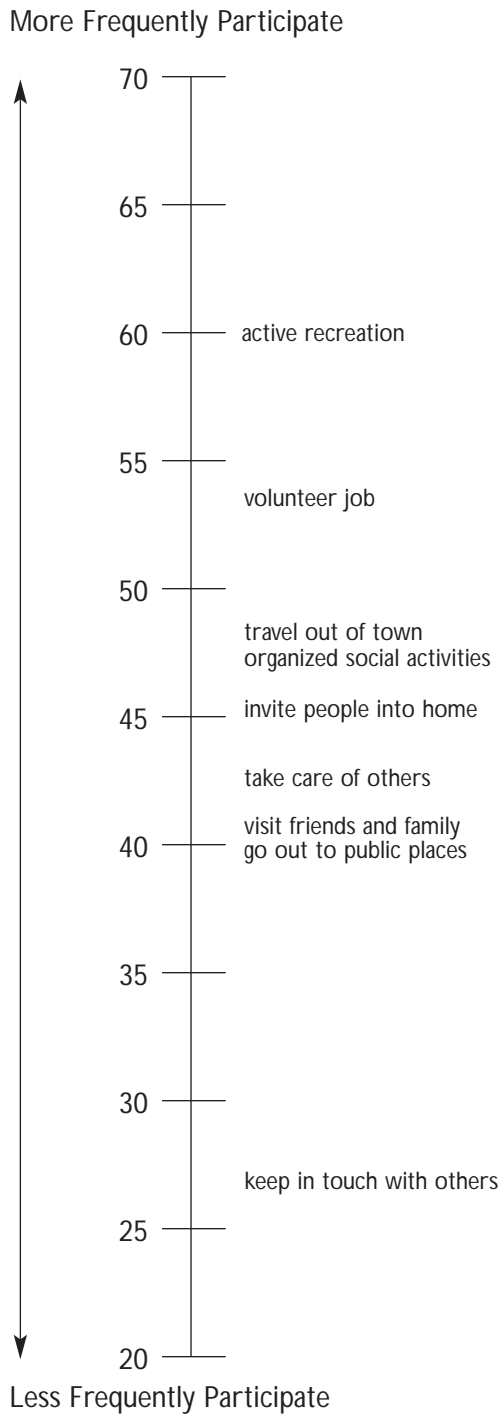
More Frequently Participate



The Disability Component: Rasch Analysis—Social Role Domain

Figure 2. Rasch model for social role domain of frequency dimension (average item location)

Person Scale

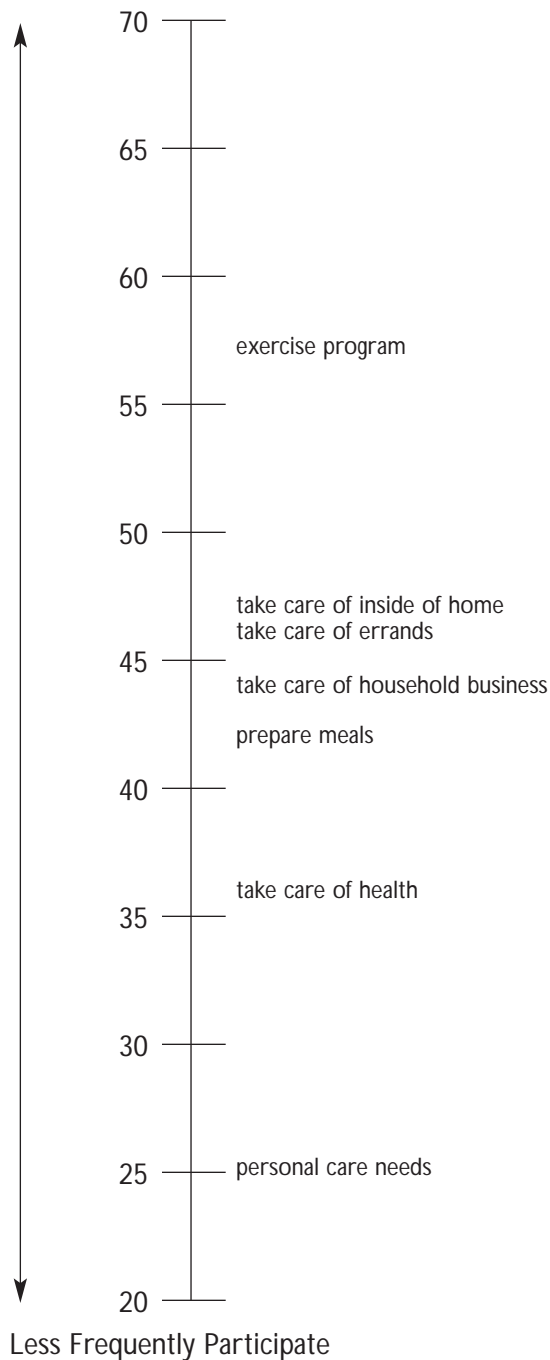


The Disability Component: Rasch Analysis—Personal Role Domain

Figure 3. Rasch model for personal role domain of frequency dimension (average item location)

Person Scale

More Frequently Participate



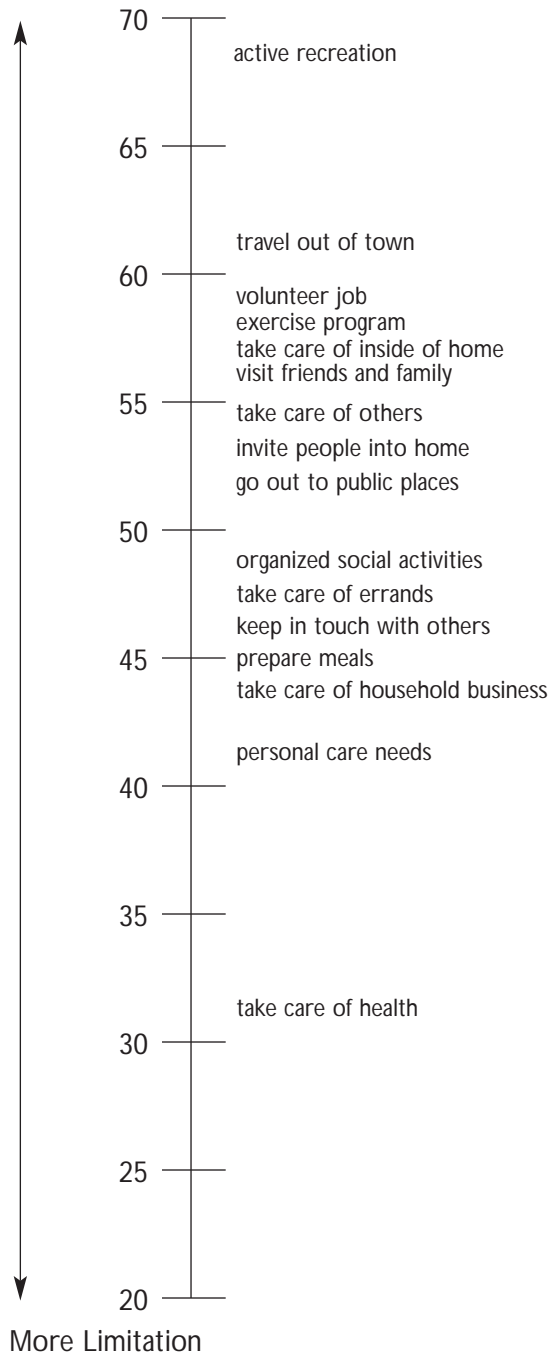
Less Frequently Participate

The Disability Component: Rasch Analysis—Limitation Dimension

Figure 4. Rasch model for total limitation dimension (average item location)

Person Scale

Less Limitation

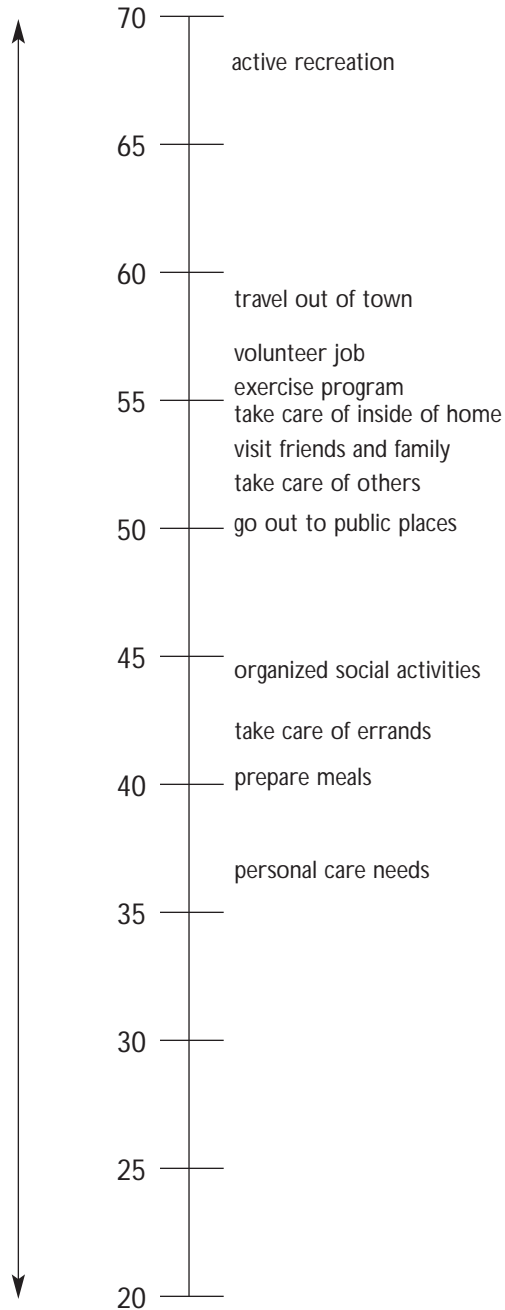


The Disability Component: Rasch Analysis—Instrumental Role Domain

Figure 5. Rasch model for instrumental role domain of limitation dimension (average item location)

Person Scale

Less Limitation



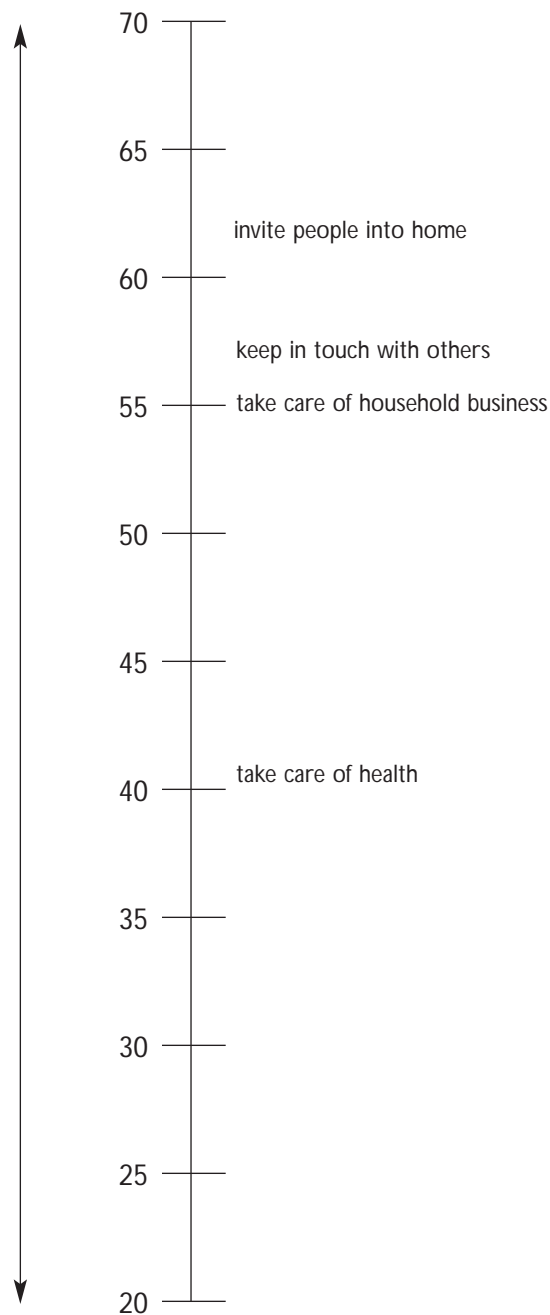
More Limitation

The Disability Component: Rasch Analysis—Management Role Domain

Figure 6. Rasch model for management role domain of limitation dimension (average item location)

Person Scale

Less Limitation



More Limitation

The Function Component: Instrument Development

Applying Nagi's disablement model²⁻³ and drawing from categories included in the activity section of the International Classification of Functioning, Disability, and Health (ICF),⁵ we developed items that encompass a wide variety of daily physical activities, including: changing and maintaining body positions; carrying, moving, and handling objects; walking, moving around, using transportation; and selected self-care and domestic activities that depend most on physical abilities. Item modification was based on a review of existing physical function instruments, consideration by six experts in gerontology and rehabilitation, and suggestions by several focus groups of community-dwelling older adults. Following two field tests and subsequent analyses of the questionnaire, we retained 32 of the original 54 items.

The Function Component: Original Standardization Sample

In order to construct a function scale that would be sensitive across a wide range of ability levels, we recruited a convenience sample of community-dwelling older adults (≥ 60 yrs) with a broad range of functional limitations. For details regarding demographics of the standardization sample, please refer to Table 1.

The Function Component: Methods of Analysis

As with the disability component, we constructed and subsequently evaluated the structure of the function component using two complementary psychometric approaches. First, we employed a factor analytic approach, which examines the covariation among a set of items. The structure of the function component derived from the resulting factors was examined using item-total correlations and internal consistency estimates. Next, we used the item response theory (IRT) to examine the unidimensionality and ordering of items on a measurement continuum. Both factor analytic and Rasch techniques were used to eliminate redundant or ambiguous items where possible.

After an initial review of data based on sample feedback of item content, a preliminary factor analysis (to identify items with poor or ambiguous factor loadings), and a preliminary Rasch analysis (to examine item fit and content redundancy), 16 of the original 48 items were eliminated from further analyses.

The Function Component: Factor Analysis

A series of factor analyses were used to identify the number and nature of latent factors that could be responsible for the covariation in the function data. A one-factor and three-factor model were tested.

A maximum likelihood chi-square test showed that one-factor was not sufficient to adequately explain the data ($\chi^2 = 1579.1, p < .0001$). A three-factor solution explained 69.1 percent of the variance (first factor 28.4%, second factor 27.7%, third factor 13.0%). We labeled the first factor *advanced lower extremity functioning* since it reflected physical activities that involve a high level of physical ability and endurance. A second factor was labeled *basic lower extremity functioning* since it is comprised of activities that primarily involve standing, stooping, and fundamental walking activities. A third factor reflected activities of the hands and arms and was labeled *upper extremity functioning*. The correlations between factors were as follows: advanced lower extremity factor and basic lower extremity factor [$r = .87 (p < .001)$], advanced lower extremity and upper extremity [$r = .64 (p < .001)$], and basic lower extremity and upper extremity [$r = .69 (p < .001)$]. Table 4 depicts the one-factor and three-factor model for the function component.

Section 2: Development of the Late-Life FDI

The Function Component: Factor Analysis

Table 4. Factor loadings of one-factor model and three-factor model of the function component

Function Items	One-Factor	Three-Factor		
		Advanced Lower Extremity Function	Basic Extremity Function	Upper Extremity Function
Hike a few miles including hills	.70	.86	—	—
Carry and climb stairs	.79	.85	—	—
Walk a brisk mile	.76	.84	—	—
Go up and down 1 flight, no rails	.82	.83	—	—
Walk one mile w/ rests	.83	.78	—	—
Run to catch bus	.78	.77	—	—
Walk on slippery surface	.76	.77	—	—
Go up and down 3 flights inside	.77	.75	—	—
Walk several blocks	.83	.73	—	—
Run one-half mile	.56	.72	—	—
Get up from floor	.85	.65	—	—
Walk around one floor of home	.74	—	.88	—
Pick up a kitchen chair	.78	—	.81	—
Get into and out of car	.79	—	.78	—
Reach overhead while standing	.79	—	.73	—
Wash dishes while standing	.61	—	.70	—
Up and down from a curb	.86	—	.68	—
Put on and take off coat	.71	—	.66	—
Open heavy outside door	.84	—	.66	—
On and off bus	.85	—	.66	—
Make bed	.75	—	.65	—
Bend over from standing position	.75	—	.64	—
Go up and down a flight of stairs	.83	—	.62	—
On and off a step stool	.83	—	.61	—
Stand up from a low soft couch	.79	—	.52	—
Remove wrapping w/ hands only	.58	—	—	.75
Unscrew lid w/o assistive device	.53	—	—	.71
Pour from a large pitcher	.62	—	—	.70
Hold full glass of water in 1 hand	.50	—	—	.67
Put on and take off pants	.66	—	—	.54
Use common utensils	.65	—	—	.50
Reach behind back	.64	—	—	.45

The Function Component: Rasch Analysis

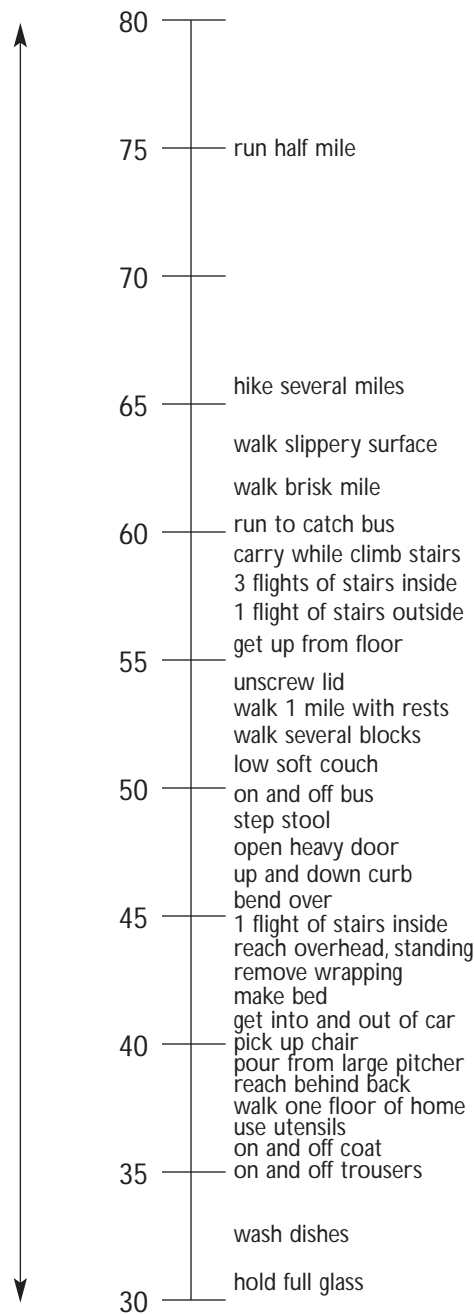
Using a series of one-parameter Rasch rating scale analyses, the hierarchical order of items on the function component of the Late-Life FDI are graphically depicted in the following figures (figures 7 and 8). Items are arranged according to item calibrations indicating a continuum of functioning. For more details on the Rasch analyses of the Late-Life FDI, please refer to the companion articles on its development and evaluation.¹⁰⁻¹¹

The Function Component: Rasch Analysis—Overall Function

Figure 7. Rasch model for one solution of functioning (average item location)

Person Scale

Less Difficulty

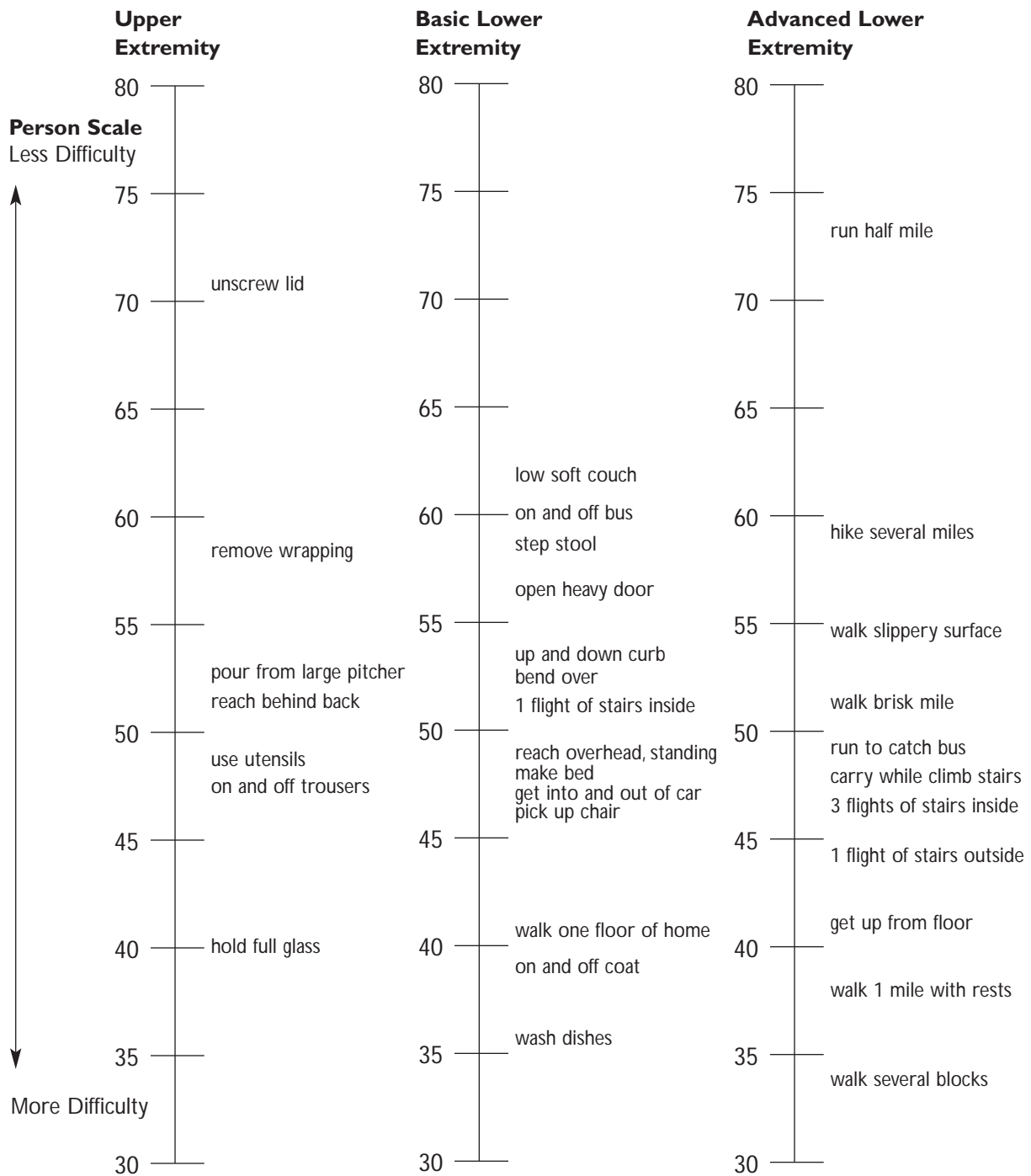


More Difficulty

Section 2: Development of the Late-Life FDI

The Function Component: Rasch Analysis—Upper Extremity, Basic Lower Extremity, Advanced Lower Extremity

Figure 8. Rasch model for three solutions of functioning (average item location)
(Note: separate solutions derived for each scale)



The Disability Component: Reliability

To determine the short-term stability of the disability component, a random subset of 15 subjects completed a second interview within 1–3 weeks after the initial interview. Test-retest reliability was assessed by intraclass correlation coefficients (ICCs) between initial and follow up scores.

Test-retest intraclass correlations for each overall dimension summary score were moderate to high (ICC .68 –.82). One obvious outlier was removed from the analyses which improved the overall frequency dimension score ICC from .45 to .68 as well as frequency's personal role domain from .469 to .633. The management role domain of the limitation dimension was also relatively low ($r = .435$) due primarily to the small item pool in its scale (4 items). Reproducibility was best for the overall limitation dimension score and limitation's instrumental role domain score (ICCs > .80).

The Disability Component: Validity

Known-groups validity was used to test the disability component's ability to discriminate among subgroups of different functional limitations as determined by an independent instrument. We hypothesized that severity of disability as determined by the disability component of the Late-Life FDI would be positively associated with severity of functional limitation based on subjects' scores on the SF-36 physical functioning scale. For each scale and dimension, multiple range tests (least significant difference (LSD) test were performed as well as post-hoc analyses using an adjusted alpha level based on the 3 pair-wise comparisons of interest (Bonferroni). The three contrasts were the adjacent categories of functional limitations. The three contrasts were the adjacent categories of functional limitation: 1) severe vs. moderate, 2) moderate vs. slight, 3) slight vs. no functional limitations. Using the adjusted alpha, differences in mean-estimates were tested for statistical significance.

The following tables depict the known-groups validity results of the disability component. The overall frequency and overall limitation dimensions were the best discriminators between all three adjacent categories of functional limitation. For the most part, the domains within these dimensions also discriminated among functional limitation strata.

The Disability Component

Table 5. Average frequency summary scores and mean differences between adjacent functional limitation groups

Means	Frequency Total	Social Role	Personal Role
Severe Functional Limitations (N = 27)	44.3	37.7	49.6
Moderate Functional Limitations (N = 45)	49.5	44.3	56.7
Slight Functional Limitations (N = 57)	53.6	49.5	64.0
No Functional Limitations (N = 21)	58.1	55.0	68.9
Mean Differences			
Severe to Moderate	5.2*	6.6**	7.2
Moderate to Slight	4.1*	5.2**	7.3**
Slight to None	4.5**	5.4**	4.8

Table 6. Average limitation summary scores and mean differences between adjacent functional limitation groups

Means	Limitation Total	Instrumental Role	Management Role
Severe Functional Limitations (N=27)	55.4	50.3	80.2
Moderate Functional Limitations (N=45)	63.5	61.3	84.6
Slight Functional Limitations (N=57)	73.8	73.9	87.8
No Functional Limitations (N=21)	82.5	83.1	93.7
Mean Differences			
Severe to Moderate	8.1**	11.0*	4.4
Moderate to Slight	10.3*	12.7*	3.2
Slight to None	8.8**	9.1**	6.0

The difference between the means were tested using the LSD *t*-test which controls the Type I comparisonwise error rate. The alpha level for statistical significance was adjusted for the 3 pairwise comparisons of interest.

* = *p* < .0167 (alpha = 0.05/3 comparisons)

** = *p* < .003 (alpha = 0.01/3 comparisons)

The Function Component: Reliability

To determine the short-term stability of the function component, a random subset of 15 subjects completed a second interview within 1–3 weeks after the initial interview. Test-retest reliability was assessed by intraclass correlation coefficients (ICCs) between initial and follow up scores. Test-retest intraclass correlations for all summary scores were very high (ICC .91 – .98).

The Function Component: Validity

Known-groups validity was used to test the function component's ability to discriminate among subgroups of different functional limitations as determined by an independent instrument. Please refer to the validity section of the disability component for detailed explanation of this methodology.

The following table depicts the known-groups validity results of the function component. Scores were significantly different on all comparisons between functional limitation categories, except for basic lower extremity and upper extremity on which the slight and non-functional limitation groups did not show much distinction between each other.

Section 3: Reliability and Validity

Table 7. Average function summary scores and mean differences between adjacent functional limitation groups

Means	Functioning Total	Advanced Lower Extremity	Basic Lower Extremity	Upper Extremity
Severe Functional Limitations (N = 27)	41.7	9.7	45.6	64.4
Moderate Functional Limitations (N = 45)	53.2	35.1	65.6	73.2
Slight Functional Limitations (N = 57)	65.6	57.7	81.5	84.6
No Functional Limitations (N = 21)	75.6	72.1	89.3	88.4
Mean Differences				
Severe to Moderate	11.5*	25.5*	20.0*	8.7**
Moderate to Slight	12.4*	22.6*	15.9*	11.5*
Slight to None	10.0*	14.4*	7.8	3.8

The difference between the means were tested using the LSD t -test which controls the Type 1 comparisonwise error rate. The alpha level for statistical significance was adjusted for the 3 pairwise comparisons of interest.

* = $p < .0167$ (alpha = 0.05/3 comparisons)

** = $p < .05$ (alpha = 0.01/3 comparisons)



Late-Life FDI: Disability Component

Co-Authors

Alan Jette, Ph.D., MPH, PT

Stephen Haley, Ph.D., PT

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Late-Life FDI: Disability Component

Instructions for Disability Questions

In this set of questions, I will ask you about everyday things you do at this time in your life. There are *two* parts to each question.

First, I will ask you *how often* you do a certain activity.

Next, I will ask you *to what extent do you feel limited* in doing this activity.

Explain each question and subsequent answer options:

For the first question (*How often do you do the activity?*), please choose from these answers:

Very often

Often

Once in a while

Almost never

Never

[Show visual aid to interviewee]

For the second question (*To what extent do you feel limited in doing the activity?*), please choose from these answers:

Not at all

A little

Somewhat

A lot

Completely

[Show the visual aid to interviewee]

For example, you might feel limited because of your health, or because it takes a lot of mental and physical energy. Please keep in mind that you can also feel limited by factors outside of yourself. Your environment could restrict you from doing the things; for instance, transportation issues, accessibility, and social or economic circumstances could limit you from doing things you would like to do. Think of all these factors when you answer this section.

For each question, please select the one answer that comes closest to the way you have been feeling. Let's begin...



Late-Life FDI: Disability Component

Disability Questions	How often do you...?					To what extent do you feel limited in...?				
	Very Often	Often	Once in a While	Almost Never	Never	Not at All	A Little	Somewhat	A Lot	Completely
D1. Keep (Keeping) in touch with others through letters, phone, or email.	5	4	3	2	1	5	4	3	2	1
D2. Visit (Visiting) friends and family in their homes.	5	4	3	2	1	5	4	3	2	1
D3. Provide (Providing) care or assistance to others. <i>This may include providing personal care, transportation, and running errands for family members or friends.</i>	5	4	3	2	1	5	4	3	2	1
D4. Take (Taking) care of the inside of your home. <i>This includes managing and taking responsibility for homemaking, laundry, housecleaning and minor household repairs.</i>	5	4	3	2	1	5	4	3	2	1
D5. Work (Working) at a volunteer job outside your home.	5	4	3	2	1	5	4	3	2	1
D6. Take (Taking) part in active recreation. <i>This may include bowling, golf, tennis, hiking, jogging, or swimming.</i>	5	4	3	2	1	5	4	3	2	1
D7. Take (Taking) care of household business and finances. <i>This may include managing and taking responsibility for your money, paying bills, dealing with a landlord or tenants, dealing with utility companies or governmental agencies.</i>	5	4	3	2	1	5	4	3	2	1
D8. Take (Taking) care of your own health. <i>This may include managing daily medications, following a special diet, scheduling doctor's appointments.</i>	5	4	3	2	1	5	4	3	2	1

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Section 4: Late-Life Questions and Visual Aids



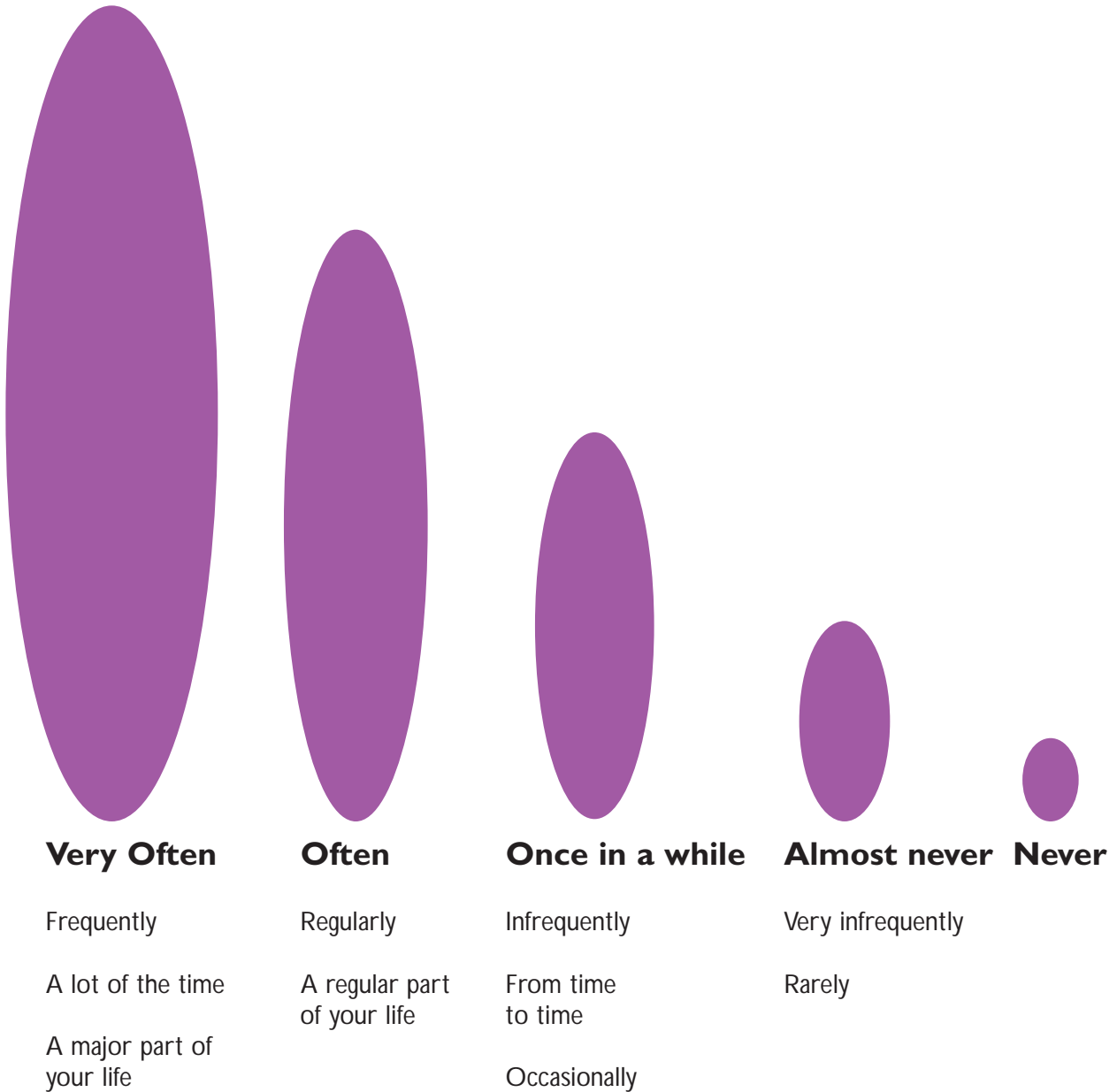
Late-Life FDI: Disability Component

Disability Questions	How often do you...?					To what extent do you feel limited in...?				
	Very Often	Often	Once in a While	Almost Never	Never	Not at All	A Little	Somewhat	A Lot	Completely
D9. Travel (Traveling) out of town for at least an overnight stay.	5	4	3	2	1	5	4	3	2	1
D10. Take (Taking) part in a regular fitness program. This may include walking for exercise, stationary biking, weight lifting, or exercise classes.	5	4	3	2	1	5	4	3	2	1
D11. (Inviting) people into your home for a meal or entertainment.	5	4	3	2	1	5	4	3	2	1
D12. Go (Going) out with others to public places such as restaurants or movies.	5	4	3	2	1	5	4	3	2	1
D13. Take (Taking) care of your own personal care needs. <i>This includes bathing, dressing, and toileting.</i>	5	4	3	2	1	5	4	3	2	1
D14. Take (Taking) part in organized social activities. <i>This may include, clubs, card playing, senior center events, community or religious groups.</i>	5	4	3	2	1	5	4	3	2	1
D15. Take (Taking) care of local errands. <i>This may include managing and taking responsibility for shopping for food and personal items, and going to the bank, library, or dry cleaner.</i>	5	4	3	2	1	5	4	3	2	1
D16. Prepare (Preparing) meals for yourself. <i>This includes planning, cooking, serving, and cleaning up.</i>	5	4	3	2	1	5	4	3	2	1

Late-Life FDI: Disability Component

Disability Visual Aid #1

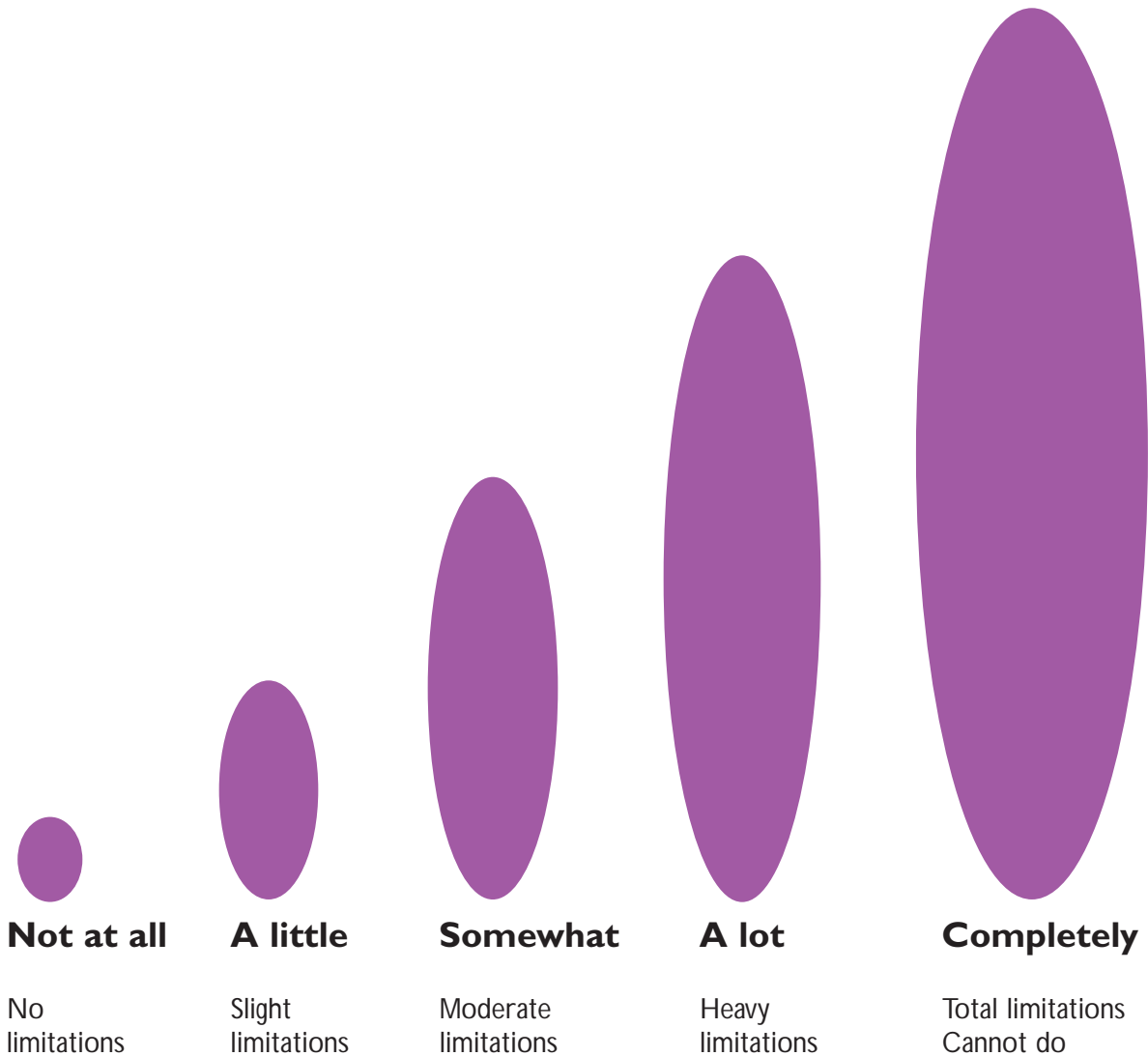
How often do you...?



Late-Life FDI: Disability Component

Disability Visual Aid #2

To what extent do you feel limited in...?



Examples of limiting factors that may restrict you:

- Mental or physical energy
- Too much effort
- Social and economic circumstances
- Transportation problems
- Accessibility issues
- Health



Late-Life FDI: Function Component

Co-Authors

Alan Jette, Ph.D., MPH, PT

Stephen Haley, Ph.D., PT

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67	Instructions to read to interviewee
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71	Visual aid for core questions
72	Visual aid for additional device questions



Late-Life FDI: Function Component

Instructions for Function Questions

In this following section, I will ask you about your ability to do specific activities as part of your daily routines. I am interested in your *sense of your ability* to do it on a typical day. It is not important that you actually do the activity on a daily basis. In fact, I may mention some activities that you don't do at all. You can still answer these questions by assessing how difficult you *think* they would be for you to do on an average day.

Factors that influence the level of difficulty you have may include: pain, fatigue, fear, weakness, soreness, ailments, health conditions, or disabilities.

I want to know how difficult the activity would be for you to do *without* the help of someone else, and *without* the use of a cane, walker or any other assistive walking device (or wheelchair or scooter).

Interviewer personal note:

For the Function items, using fixed support is acceptable (e.g. holding onto furniture, walls), unless otherwise specified in the item.

[Show visual aid to interviewee]

Please choose from these answers:

None

A little

Some

Quite a lot

Cannot do

Let's begin...

Late-Life FDI: Function Component

Function Questions

How much difficulty do you have...?

(Remember, this is without the help of someone else and without the use of any assistive walking device.)

	None	A Little	Some	Quite A Lot	Cannot do
F1. Unscrewing the lid off a previously unopened jar without using any devices	5	4	3	2	1
F2. Going up and down a flight of stairs inside, using a handrail	5	4	3	2	1
F3. Putting on and taking off long pants (including managing fasteners)	5	4	3	2	1
F4. Running 1/2 mile or more	5	4	3	2	1
F5. Using common utensils for preparing meals (e.g., can opener, potato peeler, or sharp knife)	5	4	3	2	1
F6. Holding a full glass of water in one hand	5	4	3	2	1
F7. Walking a mile, taking rests as necessary	5	4	3	2	1
F8. Going up & down a flight of stairs outside, without using a handrail	5	4	3	2	1
F9. Running a short distance, such as to catch a bus	5	4	3	2	1
F10. Reaching overhead while standing, as if to pull a light cord	5	4	3	2	1
F11. Sitting down in and standing up from a low, soft couch	5	4	3	2	1
F12. Putting on and taking off a coat or jacket	5	4	3	2	1
F13. Reaching behind your back as if to put a belt through a belt loop	5	4	3	2	1
F14. Stepping up and down from a curb	5	4	3	2	1
F15. Opening a heavy, outside door	5	4	3	2	1
F16. Rip open a package of snack food (e.g. cellophane wrapping on crackers) using only your hands	5	4	3	2	1
F17. Pouring from a large pitcher	5	4	3	2	1
F18. Getting into and out of a car/taxi (sedan)	5	4	3	2	1

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Late-Life FDI: Function Component

Function Questions

How much difficulty do you have...?

(Remember, this is without the help of someone else and without the use of any assistive walking device.)

	None	A Little	Some	Quite a Lot	Cannot do
F18. Getting into and out of a car/taxi (sedan)	5	4	3	2	1
F19. Hiking a couple of miles on uneven surfaces, including hills	5	4	3	2	1
F20. Going up and down 3 flights of stairs inside, using a handrail	5	4	3	2	1
F21. Picking up a kitchen chair and moving it, in order to clean	5	4	3	2	1
F22. Using a step stool to reach into a high cabinet	5	4	3	2	1
F23. Making a bed, including spreading and tucking in bed sheets	5	4	3	2	1
F24. Carrying something in both arms while climbing a flight of stairs (e.g. laundry basket)	5	4	3	2	1
F25. Bending over from a standing position to pick up a piece of clothing from the floor	5	4	3	2	1
F26. Walking around one floor of your home, taking into consideration thresholds, doors, furniture, and a variety of floor coverings	5	4	3	2	1
F27. Getting up from the floor (as if you were laying on the ground)	5	4	3	2	1
F28. Washing dishes, pots, and utensils by hand while standing at sink	5	4	3	2	1
F29. Walking several blocks	5	4	3	2	1
F30. Taking a 1 mile, brisk walk without stopping to rest	5	4	3	2	1
F31. Stepping on and off a bus	5	4	3	2	1
F32. Walking on a slippery surface outdoors	5	4	3	2	1



Late-Life FDI: Function Component

Function Questions

(For those who use walking devices)

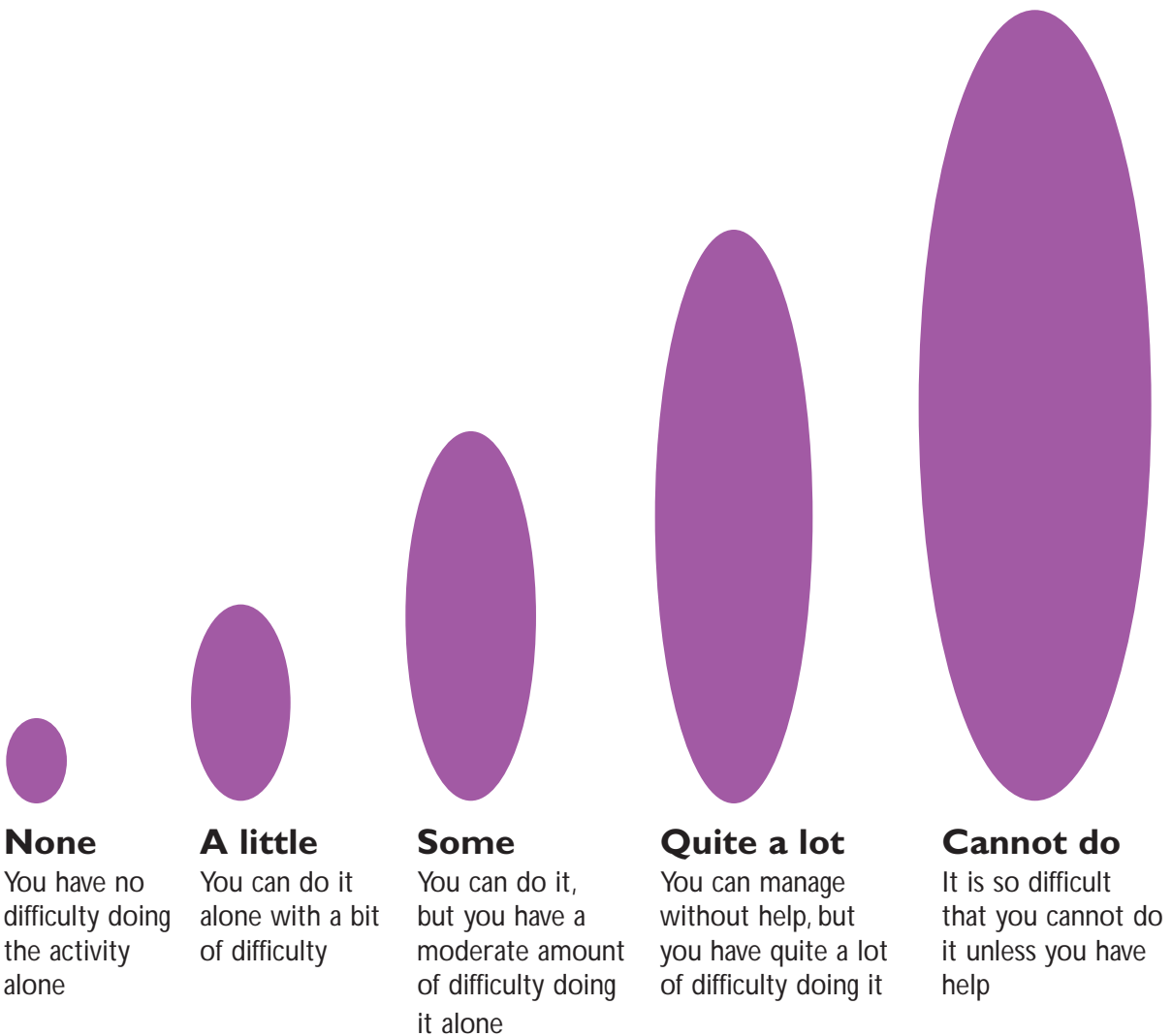
When you use your cane, walker, or other walking device, how much difficulty do you have...?

	None	A Little	Some	Quite a Lot	Cannot do
FD7. Walking a mile, taking rests as necessary	5	4	3	2	1
FD8. Going up & down a flight of stairs outside, without using a handrail	5	4	3	2	1
FD14. Stepping up and down from a curb	5	4	3	2	1
FD15. Opening a heavy, outside door	5	4	3	2	1
FD26. Walking around one floor of your home, taking into consideration thresholds, doors, furniture, and a variety of floor coverings	5	4	3	2	1
FD29. Walking several blocks	5	4	3	2	1
FD30. Taking a 1 mile, brisk walk without stopping to rest	5	4	3	2	1
FD32. Walking on a slippery surface outdoors	5	4	3	2	1

Late-Life FDI: Function Component

Function Visual Aid #1

Currently, how much difficulty do you have in doing the activity without the help of someone else and without the use of a cane, walker, or any other assistive walking device?



Factors that may influence your level of difficulty:

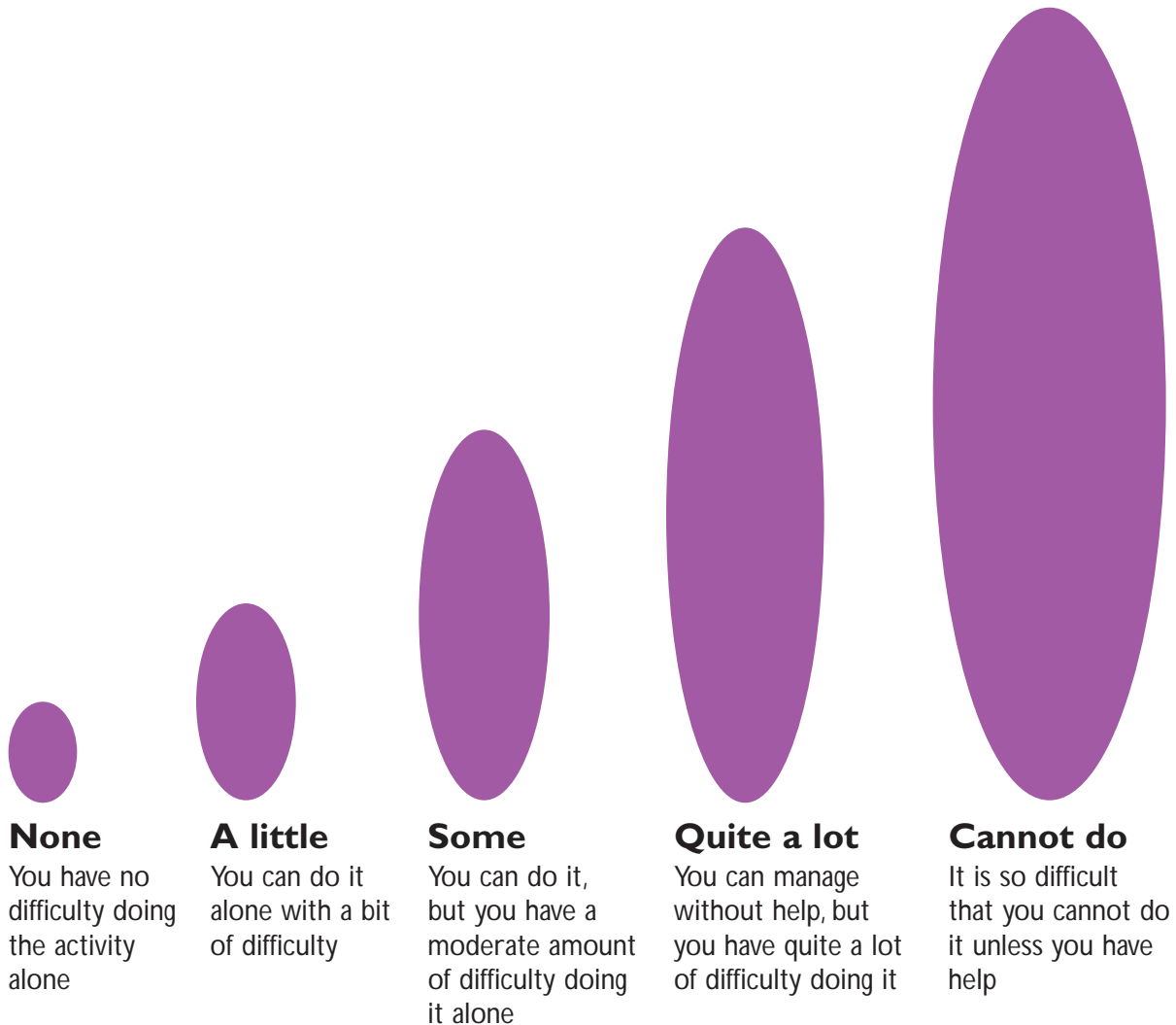
- Pain
- Fatigue
- Fear
- Soreness
- Ailments
- Disabilities

Late-Life FDI: Function Component

Function Visual Aid #2

(For users of canes or walkers only)

Currently, how much difficulty do you have in doing the activity when you use your cane, walker, or any other assistive walking device?



Factors that may influence your level of difficulty:

- Pain
- Fatigue
- Fear
- Soreness
- Ailments
- Disabilities

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