

Appendix E. Rasch Summary Psychometrics

Table E1. Rasch Analysis of Self-Care Items—Iterations of Statistical Steps

Analysis	No. of Items	No. of Rating Scale Steps	Person Logits		RMSE	Adj. SD	SI	PSR	No. of Misfitting Items	PCA Eigenvalue	
			Mean	SD						1 st Contrast	%
1. All items and rating scales	8	6	0.54	0.36	0.42	0.9	2.1	.82	0	2.36	9.8
2. All items and rating scales—removed 1 misfitting person in a medical facility at the time of assessment	8	6	0.54	0.36	0.42	0.9	2.1	.82	0	2.36	9.8
3. Recoded steps 4, 5 (123446) and removed 1 misfitting person in a medical facility at the time of assessment	8	5	0.45	0.34	0.39	0.87	2.2	.83	0	2.46	11

Abbreviations: PCA, principal components analysis; PSR, person separation reliability; RMSE, root mean square error; SI, separation index.

Notes: Total sample size n=1,167. The number of individuals receiving a maximum score n=371; minimum score n=57.

Table E2. Rasch Analysis of Functional Mobility Items—Iterations of Statistical Steps

Analysis	No. of Items	No. of Rating Scale Steps	Person Logits		RMSE	Adj. SD	SI	PSR	No. of Misfitting Items	PCA Eigenvalue	
			Mean	SD						1 st Contrast	%
1. All items and rating scales	7	6	0.47	0.42	0.52	1.1	2.2	.82	3	1.79	8.0
2. Recoded steps 4, 5 (123446)	7	5	0.46	0.42	0.52	1.1	2.2	.83	3	1.80	8.1
3. Recoded steps 4, 5 (123446), Removed Item 17	6	5	0.49	0.46	0.58	1.23	2.1	.82	2	1.76	9.0

Abbreviations: PCA, principal components analysis; PSR, person separation reliability; RMSE, root mean square error; SI, separation index.

Notes: Total sample size n=561. The number of individuals receiving a maximum extreme score n=534; minimum score n=72.

Table E3. Rasch Analysis of Ambulation Items—Iterations of Statistical Steps

Analysis	No. of Items	No. of Rating Scale Steps	Person Logits		RMSE	Adj. SD	SI	PSR	No. of Misfitting Items	PCA Eigenvalue	
			Mean	SD						1 st Contrast	%
1. All items and rating scales	12	6	0.36	0.32	0.37	0.81	2.2	.83	6	2.12	6.6
2. All items and rating scales—removed 3 persons living in a medical facility	12	6	0.36	0.32	0.37	0.82	2.2	.83	6	2.12	6.5
3. All items—removed 3 persons living in a medical facility and recoded steps 3, 4 (123356)	12	5	0.24	0.29	0.33	0.77	2.3	.84	6	2.17	7.1
4. All items—removed 3 persons living in a medical facility and recoded steps 3, 4, 5 (123366)	12	4	0.22	0.29	0.33	0.76	2.3	.84	5	2.18	7.2
5. Removed 3 persons living in a medical facility, recoded steps 3, 4, 5 (123366), and removed item 39	11	4	0.24	0.31	0.35	0.79	2.3	.84	4	2.21	7.8
6. Removed 3 persons living in a medical facility, recoded steps 3, 4, 5 (123366), and removed items 39 & 40	10	4	0.25	0.33	0.38	0.86	2.3	.84	3	2.24	8.2

Abbreviations: PCA, principal components analysis; PSR, person separation reliability; RMSE, root mean square error; SI, separation index.

Notes: Total sample size n=583. The number of individuals receiving a maximum extreme score n=310; minimum score n=4. There were 270 lacking responses.

Table E4. Rasch Analysis of Manual Wheelchair Mobility Items—Summary of Psychometrics for Iterations of Statistical Steps

Analysis	No. of Items	No. of Rating Scale Steps	Person Logits		RMSE	Adj. SD	SI	PSR	No. of Misfitting Items	PCA Eigenvalue	
			Mean	SD						1 st Contrast	%
1. All items and rating scales	4	6	-0.74	0.61	0.67	1.0	1.5	.69	0	1.64	8.9
2. Recoded steps 5, 6 (123466)	4	5	-0.75	0.62	0.67	1.0	1.5	.69	0	1.59	8.5
3. Recoded steps 3, 4 (123366)	4	4	-0.82	0.63	0.69	1.0	1.5	.69	1	1.5	8.1
4. Recoded steps 3, 4 (123366) and removed misfitting item 58	3	4	-0.61	0.70	0.77	1.1	1.4	.66	1	1.3	8.4

Abbreviations: PCA, principal components analysis; PSR, person separation reliability; RMSE, root mean square error; SI, separation index.

Notes: Total sample size n=112. The number of individuals receiving a maximum extreme score n=61; minimum score n=162. There were 832 lacking responses.

Table E5. Rasch Analysis of Motorized Wheelchair/Scooter Items—Iterations of Statistical Steps

Analysis	No. of Items	No. of Rating Scale Steps	Person Logits		RMSE	Adj. SD	SI	PSR	No. of Misfitting Items	PCA Eigenvalue	
			Mean	SD						1 st Contrast	%
1. All items and rating scales	4	6	0.74	0.66	0.74	1.4	1.9	.79	3	1.78	10.9
2. Recoded step 5 (123466)	4	5	0.68	0.64	0.74	1.31	1.8	.76	3	1.67	10.4
3. Recoded steps 4, 5 (123366)	4	4	0.46	0.64	0.76	1.19	1.6	.71	3	1.6	8.8

Abbreviations: PCA, principal components analysis; PSR, person separation reliability; RMSE, root mean square error; SI, separation index.

Notes: Total sample size n=38. The number of individuals receiving a maximum extreme score n=152; minimum score n=15. There were 962 lacking responses.

Table E6. Rasch Analysis of Instrumental Activities of Daily Living Items—Iterations of Statistical Steps

Analysis	No. of Items	No. of Rating Scale Steps	Person Logits		RMSE	Adj. SD	SI	PSR	No. of Misfitting Items	PCA Eigenvalue	
			Mean	SD						1 st Contrast	%
1. All items and rating scales	12	6	0.16	0.26	0.31	0.59	1.94	.79	1	2.6	9.0
2. Recoded steps 3, 4 (123356)	12	5	0.14	0.26	0.31	0.60	1.97	.80	1	2.63	9.1
3. Recoded steps 2,3,4 (133356)	12	4	0.18	0.25	0.29	0.59	2.02	.80	1	2.67	9.3
4. Recoded (133356), removed items 78, 80 as they were the same difficulty as surrounding items	10	4	0.22	0.27	0.30	0.60	1.98	.80	1	2.53	10.0

Abbreviations: PCA, principal components analysis; PSR, person separation reliability; RMSE, root mean square error; SI, separation index.

Notes: Total sample size n= 1,019. The number of individuals receiving a maximum extreme score n=37; minimum score n=110. There was 1 lacking responses.