



GENERAL SELF-EFFICACY AND SELF-EFFICACY FOR MANAGING CHRONIC CONDITIONS SCORING MANUAL

A brief guide to scoring the PROMIS® Self-Efficacy Instruments

ADULT
PROMIS Item Bank v1.0 – General Self-Efficacy PROMIS Short Form v1.0 – General Self-Efficacy 4a
PROMIS Item Bank v1.0 – Self-Efficacy for Managing Emotions PROMIS Short Form v1.0 – Self-Efficacy for Managing Emotions 4a PROMIS Short Form v1.0 – Self-Efficacy for Managing Emotions 8a
PROMIS Item Bank v1.0 – Self-Efficacy for Managing Symptoms PROMIS Short Form v1.0 – Self-Efficacy for Managing Symptoms 4a PROMIS Short Form v1.0 – Self-Efficacy for Managing Symptoms 8a
PROMIS Item Bank v1.0 – Self-Efficacy for Managing Daily Activities PROMIS Short Form v1.0 – Self-Efficacy for Managing Daily Activities 4a PROMIS Short Form v1.0 – Self-Efficacy for Managing Daily Activities 8a
PROMIS Item Bank v1.0 – Self-Efficacy for Managing Social Interactions PROMIS Short Form v1.0 – Self-Efficacy for Managing Social Interactions 4a PROMIS Short Form v1.0 – Self-Efficacy for Managing Social Interactions 8a
PROMIS Item Bank v1.0 – Self-Efficacy for Managing Medications and Treatments PROMIS Short Form v1.0 – Self-Efficacy for Managing Medications and Treatments 4a PROMIS Short Form v1.0 – Self-Efficacy for Managing Medications and Treatments 8a

COMPARING SCORES ACROSS VERSIONS

Some PROMIS domains have multiple versions of instruments (i.e., v1.0, v1.1, v2.0). Generally, **it is recommended that you use the most recent version available which can be identified as the instrument with the highest version number.** In most cases, an instrument that has a decimal increase (v1.0 to v1.1) retains the same item-level parameters as well as instrument reliability and validity. In cases where a version number increases by a whole number (e.g., v1.0 to v2.0), the changes to the instrument are more substantial.

There is only one version (v1.0) of the PROMIS Self-Efficacy and Self-Efficacy for Managing Chronic Conditions instruments.

The 10-item PROMIS General Self-Efficacy item bank includes all 10 items from the NIH Toolbox Self-Efficacy item bank in a modified form. The NIH Toolbox items focus on one’s *ability* with frequency response options (e.g., “I can manage to solve difficult problems if I try hard enough.” Responses: Never – Very Often). The PROMIS items focus on one’s *confidence* with response options indicating level of confidence (e.g., “It is easy for me to stick to my aims and accomplish my goals.” Responses: I am not at all confident – I am very confident). This approach was consistent with theory and qualitative input from patients and content experts. T-scores from the NIH Toolbox Self-Efficacy measures can be compared to T-scores from the PROMIS General Self-Efficacy measures.



SCORING THE INSTRUMENT

Short Forms: PROMIS instruments are scored using item-level calibrations. This means that the most accurate way to score a PROMIS instrument is to use the HealthMeasures Scoring Service (https://www.assessmentcenter.net/ac_scoring-service) or a data collection tool that automatically calculates scores (e.g., REDCap auto-score). This method of scoring uses responses to each item for each participant. We refer to this as “response pattern scoring.” Because response pattern scoring is more accurate than the use of raw score/scale score look up tables included in this manual, it is preferred. Response pattern scoring is especially useful when there is missing data (i.e., a respondent skipped an item), different groups of participants responded to different items, or you have created a new questionnaire using a subset of questions from a PROMIS item bank.

To use the scoring tables in this manual, calculate a summed score. Each question usually has five response options ranging in value from one to five. To find the total raw score for a short form with all questions answered, sum the values of the response to each question. For example, for a 4-item short form, the lowest possible raw score is 4; the highest possible raw score is 20 (see all short form scoring tables in the Appendix). **All questions must be answered in order to produce a valid score using the scoring tables.** If a participant has skipped a question, use the HealthMeasures Scoring Service (https://www.assessmentcenter.net/ac_scoring-service) to generate a final score.

With the total raw summed score for a measure, locate the applicable score conversion table in the Appendix and use this table to translate the total raw summed score into a T-score for each participant. The T-score rescales the raw score into a standardized score with a mean of 50 and a standard deviation (SD) of 10. Therefore a person with a T-score of 40 is one SD below the mean. This person reports less self-efficacy.

For the PROMIS Self-Efficacy 8-item short form for Managing Emotions, a raw score of 10 converts to a T-score of 27.82 with a standard error (SE) of 2.65 (see scoring table for the 8-item short form for Managing Emotions in the Appendix). All scoring tables are presented in the Appendix.

CAT: A minimum number of items (4) must be answered in order to receive a score for a Self-Efficacy CAT. The first item is selected because it provides the most information about people with chronic conditions. The response to this item will guide the system’s choice of the next item for the participant. The participant’s response to this item will dictate the selection of the following question, and so on. As additional items are administered, the potential for error is reduced and confidence in the respondent’s score increases. CAT will continue until either the standard error drops below a specified level, or the participant has answered the maximum number of questions (12), whichever occurs first.

SCORES

For most PROMIS instruments, a score of 50 is the average for the United States general population with a standard deviation of 10 because calibration testing was performed on a large sample of the general population. However, for the Self-Efficacy for Managing Chronic Conditions instruments, 50 is the average for a clinical population (e.g., people with a chronic condition). You can read more about the calibration and centering samples on HealthMeasures.net (<http://www.healthmeasures.net/score-and-interpret/interpret-scores/promis>). The T-score is provided with an error term (Standard Error or SE). The Standard Error is a statistical measure of variance and represents the “margin of error” for the T-score.



Important: A higher PROMIS T-score represents more of the concept being measured. For example, a T-score of 55 on the PROMIS Self-Efficacy for Managing Emotions indicates that the respondent has greater self-efficacy for managing their emotions than the general chronic condition population (i.e., half a standard deviation higher).

Standard Error (SE): A PROMIS score includes a T-score and a standard error (SE). The standard error is a measure of the variability for a given T-score across hypothetical repeated measurements. The standard error can be used to construct confidence intervals around a T-score. A 95% confidence interval is common. A 95% confidence interval means there is a 95% probability that the true T-score is within this range. The formula for a 95% confidence interval is $(T\text{-score} \pm (1.96 * SE))$. For example, if $T=52$ and $SE=2$, the lower boundary of the confidence interval is $(52 - (1.96 * 2)) = 48$ and the upper boundary is $(52 + (1.96 * 2)) = 56$.

FREQUENTLY ASKED QUESTIONS (FAQs)

Q: I am interested in learning more. Where can I do that?

Review the HealthMeasures website at www.healthmeasures.net.

Q: How do I handle multiple responses when administering a short form on paper?

Guidelines on how to deal with multiple responses have been established. Resolution depends on the responses noted by the research participant.

- If two or more responses are marked by the respondent, and they are next to one another, then a data entry specialist will be responsible for randomly selecting one of them to be entered and will write down on the form which answer was selected. Note: To randomly select one of two responses, the data entry specialist will flip a coin (heads - higher number will be entered; tails – lower number will be entered). To randomly select one of three (or more) responses, a table of random numbers should be used with a statistician's assistance.
- If two or more responses are marked, and they are NOT all next to one another, the response will be considered missing.

Q: What is the minimum change on a PROMIS instrument that represents a clinically meaningful difference?

To learn more about research on the meaning of a change in scores, we suggest conducting a literature review to identify the most current information. The HealthMeasures website (<http://www.healthmeasures.net/score-and-interpret/interpret-scores/promis>) has additional information on interpreting scores.

APPENDIX -SCORING TABLES

PROMIS SHORT FORM V1.0 – GENERAL SELF-EFFICACY 4A

GENERAL SELF-EFFICACY 4-Item Short Form		
<i>Short Form Conversion Table</i>		
Raw Summed Score	T-score	SE*
4	18.6	3.8
5	22.2	3.7
6	25.3	3.6
7	28.1	3.6
8	30.6	3.5
9	32.9	3.5
10	35.3	3.5
11	37.5	3.5
12	39.7	3.5
13	42.0	3.5
14	44.4	3.5
15	46.9	3.6
16	49.5	3.6
17	52.2	3.6
18	55.3	3.7
19	58.9	4.1
20	64.7	5.5

*SE=Standard Error on T-score metric

PROMIS SHORT FORM V1.0 – SELF-EFFICACY FOR MANAGING EMOTIONS 8A &

4A

MANAGING EMOTIONS 8-Item Short Form <i>Short Form Conversion Table</i>		
Raw Summed Score	T-score	SE*
8	22.72	4.05
9	26.01	2.99
10	27.82	2.65
11	29.34	2.35
12	30.63	2.14
13	31.77	2.01
14	32.81	1.94
15	33.78	1.90
16	34.70	1.87
17	35.59	1.86
18	36.47	1.86
19	37.35	1.87
20	38.25	1.89
21	39.15	1.90
22	40.06	1.91
23	40.97	1.92
24	41.88	1.92
25	42.79	1.92
26	43.72	1.93
27	44.68	1.93
28	45.67	1.95
29	46.69	1.97
30	47.72	1.98
31	48.76	2.00
32	49.81	2.00
33	50.89	2.00
34	52.01	1.99
35	53.20	2.00
36	54.47	2.06
37	55.87	2.20
38	57.55	2.54
39	59.83	3.09
40	64.98	5.10

*SE=Standard Error on T-score metric

MANAGING EMOTIONS 4-Item Short Form <i>Short Form Conversion Table</i>		
Raw Summed Score	T-score	SE*
4	24.82	4.05
5	29.01	2.80
6	31.42	2.54
7	33.41	2.44
8	35.20	2.40
9	36.93	2.41
10	38.67	2.43
11	40.43	2.43
12	42.18	2.43
13	43.98	2.45
14	45.88	2.48
15	47.86	2.51
16	49.89	2.51
17	52.02	2.55
18	54.38	2.65
19	57.29	3.06
20	63.45	5.31

*SE=Standard Error on T-score metric



PROMIS SHORT FORM V1.0 – SELF-EFFICACY FOR MANAGING SYMPTOMS 8A &

4A

MANAGING SYMPTOMS 8-Item Short Form Short Form Conversion Table		
Raw Summed Score	T-score	SE*
8	22.67	4.14
9	26.08	3.09
10	27.85	2.82
11	29.30	2.57
12	30.55	2.40
13	31.65	2.27
14	32.65	2.18
15	33.58	2.12
16	34.46	2.08
17	35.31	2.06
18	36.14	2.06
19	36.96	2.05
20	37.77	2.06
21	38.58	2.07
22	39.39	2.07
23	40.20	2.08
24	41.02	2.09
25	41.85	2.10
26	42.69	2.11
27	43.56	2.13
28	44.44	2.14
29	45.35	2.14
30	46.27	2.15
31	47.21	2.16
32	48.18	2.17
33	49.19	2.19
34	50.26	2.23
35	51.42	2.30
36	52.71	2.43
37	54.16	2.60
38	55.95	2.91
39	58.35	3.41
40	63.85	5.39

*SE=Standard Error on T-score metric

MANAGING SYMPTOMS 4-Item Short Form <i>Short Form Conversion Table</i>		
Raw Summed Score	T-score	SE*
4	24.93	4.44
5	28.72	3.32
6	30.87	3.07
7	32.85	2.87
8	34.64	2.78
9	36.34	2.78
10	37.99	2.80
11	39.59	2.82
12	41.16	2.86
13	42.79	2.93
14	44.56	2.97
15	46.41	2.96
16	48.27	2.97
17	50.26	3.09
18	52.75	3.37
19	55.90	3.71
20	62.12	5.73

*SE=Standard Error on T-score metric

PROMIS SHORT FORM V1.0 – SELF-EFFICACY FOR MANAGING DAILY ACTIVITIES

8A & 4A

DAILY ACTIVITIES 8-Item Short Form <i>Short Form Conversion Table</i>		
Raw Summed Score	T-score	SE*
8	23.70	4.37
9	27.10	3.34
10	28.48	3.13
11	29.95	2.82
12	31.17	2.61
13	32.26	2.40
14	33.22	2.26
15	34.11	2.14
16	34.92	2.04
17	35.68	1.97
18	36.39	1.92
19	37.07	1.88
20	37.73	1.85
21	38.37	1.84
22	39.00	1.84
23	39.62	1.83
24	40.24	1.83
25	40.86	1.85
26	41.49	1.86
27	42.13	1.87
28	42.77	1.89
29	43.43	1.92
30	44.11	1.96
31	44.82	2.00
32	45.58	2.08
33	46.39	2.17
34	47.29	2.32
35	48.31	2.51
36	49.71	3.09
37	51.00	3.31
38	52.79	3.71
39	54.83	4.02
40	60.74	6.05

*SE=Standard Error on T-score metric

DAILY ACTIVITIES 4-Item Short Form <i>Short Form Conversion Table</i>		
Raw Summed Score	T-score	SE*
4	26.02	4.44
5	29.83	3.31
6	31.73	3.10
7	33.32	2.95
8	34.78	2.82
9	36.16	2.69
10	37.45	2.64
11	38.70	2.62
12	39.95	2.63
13	41.24	2.67
14	42.60	2.74
15	44.07	2.88
16	46.03	3.59
17	47.94	3.91
18	50.32	4.32
19	52.79	4.55
20	59.26	6.48

*SE=Standard Error on T-score metric

PROMIS SHORT FORM V1.0 – SELF-EFFICACY FOR MANAGING SOCIAL INTERACTIONS 8A & 4A

SOCIAL INTERACTIONS 8-Item Short Form <i>Short Form Conversion Table</i>		
Raw Summed Score	T-score	SE*
8	20.01	4.26
9	22.94	3.42
10	24.64	3.13
11	26.11	2.86
12	27.37	2.65
13	28.48	2.48
14	29.47	2.35
15	30.38	2.26
16	31.22	2.19
17	32.01	2.14
18	32.77	2.11
19	33.50	2.08
20	34.21	2.07
21	34.91	2.06
22	35.61	2.06
23	36.31	2.06
24	37.01	2.07
25	37.71	2.08
26	38.43	2.09
27	39.16	2.10
28	39.90	2.12
29	40.67	2.13
30	41.46	2.15
31	42.29	2.17
32	43.15	2.20
33	44.06	2.24
34	45.05	2.31
35	46.14	2.42
36	47.40	2.63
37	48.82	2.83
38	50.66	3.20
39	53.24	3.78
40	59.82	6.13

*SE=Standard Error on T-score metric

SOCIAL INTERACTIONS 4-Item Short Form <i>Short Form Conversion Table</i>		
Raw Summed Score	T-score	SE*
4	23.08	4.36
5	26.52	3.46
6	28.30	3.30
7	30.07	3.11
8	31.68	2.96
9	33.14	2.87
10	34.53	2.83
11	35.89	2.81
12	37.26	2.81
13	38.65	2.83
14	40.10	2.84
15	41.64	2.87
16	43.33	2.99
17	45.12	3.05
18	47.37	3.32
19	50.47	3.82
20	58.19	6.45

*SE=Standard Error on T-score metric



PROMIS SHORT FORM V1.0 – SELF-EFFICACY FOR MANAGING MEDICATIONS AND TREATMENTS 8A & 4A

MEDICATIONS AND TREATMENTS		
8-Item Short Form		
<i>Short Form Conversion Table</i>		
Raw Summed Score	T-score	SE*
8	19.05	3.86
9	21.98	3.01
10	23.53	2.79
11	24.86	2.59
12	26.00	2.44
13	27.01	2.32
14	27.94	2.25
15	28.81	2.21
16	29.64	2.18
17	30.44	2.17
18	31.22	2.16
19	31.99	2.17
20	32.76	2.17
21	33.52	2.19
22	34.28	2.21
23	35.06	2.23
24	35.85	2.25
25	36.65	2.28
26	37.47	2.30
27	38.30	2.32
28	39.15	2.35
29	40.03	2.37
30	40.93	2.41
31	41.88	2.46
32	42.89	2.53
33	43.99	2.64
34	45.20	2.80
35	46.56	3.03
36	48.20	3.48
37	49.91	3.73
38	52.15	4.20
39	54.95	4.66
40	60.74	6.31

*SE=Standard Error on T-score metric

MEDICATIONS AND TREATMENTS 4-Item Short Form <i>Short Form Conversion Table</i>		
Raw Summed Score	T-score	SE*
4	22.01	4.00
5	25.50	3.12
6	27.34	3.01
7	29.10	2.81
8	30.68	2.76
9	32.14	2.73
10	33.55	2.75
11	34.97	2.81
12	36.45	2.91
13	37.98	3.00
14	39.53	3.07
15	41.17	3.22
16	43.16	3.77
17	45.16	3.88
18	47.90	4.29
19	50.91	4.59
20	58.08	6.74

*SE=Standard Error on T-score metric