



Scoring Short Forms

Static short forms administered online can be scored using the same numerical scoring algorithm implemented in the Assessment Center software. The item response theory (IRT) model adopted in PROMIS (i.e., the graded response model) uses the pattern of item responses for scoring, not just the sum of individual item responses. Under paper administration of static short forms, however, it is inevitable to streamline the process and use some form of lookup tables based on summed scores, because the number of different response patterns will become unmanageably large to present in a lookup table as the test length increases beyond two or three items. Therefore, for a given collection of IRT calibrated items, we estimate the conditional distribution of each summed score as a function of the trait continuum. Taking into account the score distribution in the population of examinees from which our standardization sample was drawn, we then determine the optimal trait level for each summed score and populate a scoring table. A scoring table can be prepared in advance to map all possible summed scores to trait scores in one-to-one correspondence. Upon administering a static short form, the test administrator can add up the individual item responses reported by the examinee and map the summed score to a trait score using the scoring table provided for the form. All PROMIS Pediatric short form items are designed to be scored from 0 to 4 (with the exception noted below for the Upper Extremity short form). For instance, the PROMIS Pediatric Mobility short form is composed of 8 items and each item has five response options (i.e., With no trouble, With a little trouble, With some trouble, With a lot of trouble, Not able to do). Thus, the minimum possible raw summed score for the form is 0 (8 times 0) and the maximum 32 (8 times 4). The scoring table for the form lists all possible raw summed scores ranging from 0 to 32 and the corresponding trait scores and standard errors. Because a scoring table is prepared for a fixed set of items, it can only be used when an examinee responds to all of the items in the set. *One or more missing responses will render such scoring tables unusable.*

Raw Score to T Score Conversion Tables

The following conversion tables allow a user to convert simple summed raw scores from PROMIS pediatric short forms into T-score values on an individual respondent or group of respondents. In all cases, these conversions only work accurately when all questions on the short form have been answered. T-Score distributions are standardized such that a 50 represents the average (mean) for the US general population, and the standard deviation around that mean is 10 points. *A high score always represents more of the concept being measured.* Thus, for example, a person who has a T-score of 60 is one standard deviation higher than the general population for the concept being measured. For symptoms and other negatively-worded concepts like pain, fatigue, anxiety, and sleep disturbance, a 60 is one standard deviation worse than average; for functional scores and other positively-worded concepts like physical or peer relationships, a 60 is one standard deviation better than average, etc.

Collapsed Scores for Upper Extremity 8-item Short Form

The Upper Extremity 8-item short form contains two items that utilize collapsed response categories. For items 3880R2 (I could button my shirt or pants) and 3881R1 (I could pull a shirt on over my head by myself) the response options are scored 3=With no trouble, 2=With a little



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trouble, 1=With some trouble, 0=With a lot of trouble, 0=Not able to do. This scoring should be implemented prior to summing up all responses and utilizing the conversion table below.

Instrument Name Revisions

Previous versions of Pain Interference were named Pain Impact. Item and Instrument content are unchanged.



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Anger 6-item		
<i>Short Form Conversion Table</i>		
Raw.Score	T.Score	SE*
0	31	6
1	36	5
2	39	5
3	42	5
4	44	5
5	46	5
6	49	4
7	51	4
8	52	4
9	54	4
10	56	4
11	58	4
12	60	4
13	61	4
14	63	4
15	65	4
16	66	4
17	68	4
18	70	4
19	72	4
20	73	4
21	75	4
22	78	5
23	80	5
24	83	5

*SE = Standard Error

Anxiety 8-item		
<i>Short Form Conversion Table</i>		
Raw.Score	T.Score	SE*
0	32	6
1	37	5
2	39	5
3	41	4
4	43	4
5	45	4
6	47	4
7	48	4
8	50	4
9	51	4
10	52	4
11	54	4
12	55	4
13	56	4
14	57	4
15	59	4
16	60	4
17	61	4
18	62	4
19	63	4
20	65	4
21	66	4
22	67	4
23	68	4
24	70	4
25	71	4
26	72	4
27	74	4
28	75	4
29	77	4
30	79	4
31	81	4
32	84	5

*SE = Standard Error

Conversion Table applies only when ALL questions on the short form have been answered



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Depressive Symptoms 8-item <i>Short Form Conversion Table</i>		
Raw.Score	T.Score	SE*
0	35	6
1	40	5
2	43	4
3	46	4
4	47	4
5	49	3
6	51	3
7	52	3
8	53	3
9	54	3
10	56	3
11	57	3
12	58	3
13	59	3
14	60	3
15	61	3
16	62	3
17	63	3
18	64	3
19	65	3
20	66	3
21	67	3
22	68	3
23	69	3
24	70	3
25	71	3
26	72	3
27	73	3
28	75	3
29	76	3
30	78	3
31	79	4
32	82	4

*SE = Standard Error

Conversion Table applies only when ALL questions on the short form have been answered

Fatigue 10-item <i>Short Form Conversion Table</i>		
Raw.Score	T.Score	SE*
0	30	6
1	34	5
2	37	4
3	39	4
4	41	4
5	43	4
6	44	4
7	45	4
8	47	4
9	48	4
10	49	3
11	50	3
12	51	3
13	52	3
14	54	3
15	55	3
16	56	3
17	57	3
18	58	3
19	59	3
20	60	3
21	61	3
22	62	3
23	63	3
24	64	3
25	65	3
26	66	3
27	67	3
28	68	3
29	69	3
30	70	3
31	71	3
32	72	3
33	73	3
34	74	3
35	76	4
36	77	4
37	79	4
38	80	4
39	82	4
40	85	5

*SE = Standard Error



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Mobility 8-item <i>Short Form Conversion Table</i>		
Raw.Score	T.Score	SE*
0	14	4
1	17	3
2	19	3
3	20	3
4	21	3
5	22	3
6	23	3
7	24	3
8	25	3
9	26	3
10	27	3
11	28	3
12	28	3
13	29	3
14	30	3
15	31	3
16	32	3
17	33	3
18	33	3
19	34	3
20	35	3
21	36	3
22	37	3
23	38	3
24	39	3
25	40	3
26	41	3
27	43	4
28	45	4
29	46	4
30	48	4
31	52	5
32	59	7

*SE = Standard Error

Upper Extremity 8-item <i>Short Form Conversion Table</i>		
Raw.Score	T.Score	SE*
0	10	4
1	12	4
2	14	3
3	15	3
4	17	3
5	18	3
6	19	3
7	20	3
8	21	3
9	22	3
10	23	3
11	24	3
12	24	3
13	25	3
14	26	3
15	27	3
16	28	3
17	29	3
18	30	3
19	31	3
20	32	3
21	33	3
22	34	3
23	35	4
24	37	4
25	39	4
26	40	4
27	42	5
28	45	5
29	49	5
30	57	7

*SE = Standard Error

Conversion Table applies only when ALL questions on the short form have been answered



Scoring PROMIS Pediatric Short Forms

Pain Interference 8-item <i>Short Form Conversion Table</i>		
Raw.Score	T.Score	SE*
0	34	6
1	39	4
2	41	4
3	43	4
4	44	4
5	46	3
6	47	3
7	48	3
8	50	3
9	51	3
10	52	3
11	53	3
12	54	3
13	55	3
14	56	3
15	57	3
16	58	3
17	59	3
18	60	3
19	60	3
20	61	3
21	62	3
22	63	3
23	64	3
24	65	3
25	67	3
26	68	3
27	69	3
28	70	3
29	72	3
30	73	4
31	75	4
32	78	5

*SE = Standard Error

Peer Relationships 8-item <i>Short Form Conversion Table</i>		
Raw.Score	T.Score	SE*
0	17	5
1	20	4
2	21	4
3	23	4
4	24	4
5	26	4
6	27	4
7	28	3
8	29	3
9	30	3
10	31	3
11	33	3
12	34	3
13	35	3
14	36	3
15	37	3
16	38	3
17	39	3
18	40	3
19	41	3
20	42	3
21	43	3
22	44	3
23	46	3
24	47	4
25	48	4
26	49	4
27	51	4
28	53	4
29	55	4
30	57	5
31	60	5
32	65	6

*SE = Standard Error

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Asthma		
<i>Short Form Conversion Table</i>		
Raw.Score	T.Score	SE*
0	31	5
1	36	4
2	38	4
3	40	4
4	41	3
5	43	3
6	44	3
7	45	3
8	46	3
9	47	3
10	48	3
11	49	3
12	51	3
13	52	3
14	53	3
15	54	3
16	55	3
17	56	3
18	57	3
19	58	3
20	59	3
21	60	3
22	61	3
23	62	3
24	63	3
25	64	3
26	65	3
27	66	3
28	68	3
29	69	3
30	71	4
31	73	4
32	76	5

*SE = Standard Error