

SOCIAL ISOLATION MEASURE DIFFERENCES

A brief guide to differences between the PROMIS® Social Isolation instruments:

ADULT
PROMIS Item Bank v2.0 – Social Isolation
PROMIS Short Form v2.0 – Social Isolation 4a
PROMIS Short Form v2.0 – Social Isolation 6a
PROMIS Short Form v2.0 – Social Isolation 8a
PROMIS Short Form v2.0 – Social Isolation-OA-Knee 2a

OA=osteoarthritis

ABOUT SOCIAL ISOLATION

Quality of social support refers to functional aspects of supportive relationships, i.e., interpersonal relationships that serve particular functions. This includes the interactive process by which emotional, instrumental or informational support is obtained from one's social network. It also includes companionship, feeling cared for and valued as a person, communication with others, and feelings of belonging and trust. Measures of social support generally seek information about a person's perception of the availability or adequacy of resources provided by others.

The PROMIS Social Isolation item bank assesses perceptions of being avoided, excluded, detached, disconnected from, or unknown by, others. The item bank does not use a time frame (e.g., over the past seven days) when assessing social isolation.

Social Isolation instruments are available for adults (ages 18+).

(For complete definition see <http://nihpromis.org/measures/domainframework3>)

INTRODUCTION TO ASSESSMENT OPTIONS

There are two administration options for assessing Social Isolation: short forms and computer adaptive test (CAT). When administering a short form, instruct participants to answer all of the items (i.e., questions or statements) presented. With CAT, participant responses guide the system's choice of subsequent items from the full item bank (14 items in total). Although items differ across respondents taking CAT, scores are comparable across participants.

Some administrators may prefer to ask the same question of all respondents or of the same respondent over time, to enable a more direct comparability across people or time. In these cases, or when paper administration is preferred, a short form would be more desirable than CAT. This guide provides information on all Social Isolation short form and CAT instruments.

CAT: A minimum number of items must be answered in order to receive a score for Social Isolation CAT. The first item is selected because it provides the most information about the U.S. general population. 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.

CAT versus Short Form: Whether one uses a short form or CAT, the score metric is Item Response Theory (IRT), a family of statistical models that link individual questions to a presumed underlying trait or concept of social isolation represented by all items in the item bank. When choosing between CAT and a short form, it is useful to consider the demands of computer-based assessment, and the psychological, physical, and cognitive burden placed on respondents as a result of the number of questions asked.

Figure 1 illustrates the correlations (strength of relationship) of the full bank with CAT and with short forms of varying length. The correlation of CAT scores with the full bank score is greater than a short form of any length. A longer CAT or longer short form offers greater correlation, as well as greater precision. When evaluating precision, not all questions are equally informative. The flexibility of CAT to choose more informative questions offers more precision.

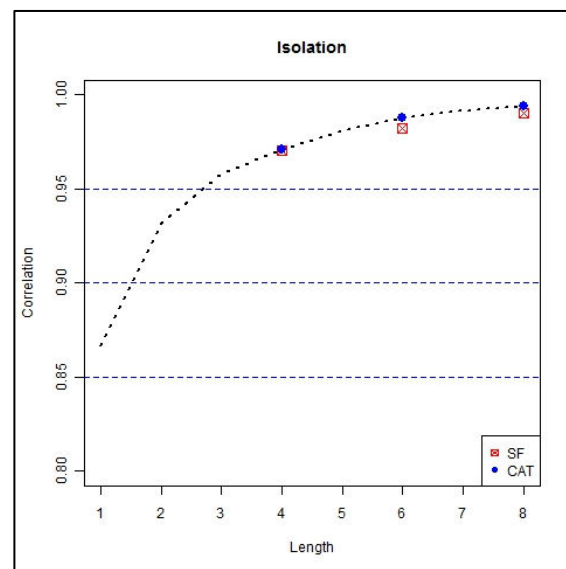


Figure 1

VERSION DIFFERENCES

There is no version of Social Isolation that existed before v2.0. The initial Social Isolation item bank was named v2.0 in order to be consistent with the Ability to Participate in Social Roles and Activities v2.0 and Satisfaction with Social Role and Activities v2.0 instruments.

SHORT FORM DIFFERENCES

The short forms (4a, 6a, 8a) were constructed by the domain team with a focus on representing the range of the trait and also representing the content of the item bank. Domain experts reviewed short forms to give input on the relevance of each item. Each domain group worked independently and the original short forms are 6-10 items long depending on the domain. Psychometric properties and clinical input were both used and likely varied in importance across domains.

Similar selection criteria guided the choice of items to include for each short form version. The longer version of the short form will provide a more precise score with less error than the shorter short form. However, this does increase the respondent burden.

In selecting between short forms, the difference is instrument length. The reliability and precision of the short forms within a domain is highly similar. If you are working with an adult sample in which you wanted the most precise measure, select the 8a short form. If you are working in an adult sample in which you expected huge variability in a domain area and wanted different subdomains covered, you should select the 8a short form. If you had little room for additional measures but really wanted to capture something as a secondary outcome, you should use one of the shorter instruments (4a, 6a).

The **PROMIS Short Form v2.0 - Social Isolation-OA-Knee 2a** measure consists of 2 items from the PROMIS Social Isolation v2.0 Item Bank. The Social Isolation-OA (osteoarthritis)-Knee 2a is designed to measure self-reported social distance from other individuals. Items assess condition-specific issues, but do not specifically reference knee arthritis. In this way, the measure uses generic/universal items that could be used in other patient populations, but the measure's content is tailored to people with knee arthritis. Like other Social Isolation measures, this short form assesses current perceptions rather than perceptions over a specified time period.

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. 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 negatively-worded concepts like Social Isolation, a T-score of 60 is one SD worse than average. By comparison, a Social Isolation T-score of 40 is one SD better than average.

STATISTICAL CHARACTERISTICS

There are four key features of the score for Social Isolation:

- **Reliability:** The degree to which a measure is free of error. It can be estimated by the internal consistency of the responses to the measure, or by correlating total scores on the measure from two time points when there has been no true change in what is being measured (for z-scores, reliability = $1 - SE^2$).
- **Precision:** The consistency of the estimated score (reciprocal of error variance).
- **Information:** The precision of an item or multiple items at different levels of the underlying continuum (for z-scores, information = $1/SE^2$).
- **Standard Error (SE):** The possible range of the actual final score based upon the scaled T-score. For example, with a T-score of 52 and a SE of 2, the 95% confidence interval around the actual final score ranges from 48.1 to 55.9 (T-score $\pm (1.96 * SE) = 52 \pm 3.9 = 48.1$ to 55.9).

The final score is represented by the T-score, a standardized score with a mean of 50 and a standard deviation (SD) of 10.

Figure 2 is a sample of the statistical information available for the Social Isolation CAT. More information is available online (assessmentcenter.net).

Scaling Model Used For Calibration		Graded Response Model							
Total Number of Items		14							

Sample	N	Alpha Reliability							
PROMIS Supplement Full-Bank	801	0.96							

Score Distributions									
	Mean	SD	P5	P10	P25	P50	P75	P90	P95
Raw	28.09	11.85	14.00	14.00	18.00	26.00	36.00	44.00	51.00
Scale	47.87	9.53	31.71	31.71	41.23	48.07	54.24	59.59	63.98

	10.0	20.0	30.0	40.0	50.0	60.0	70.0	80.0	90.0	Min	Max
Scale Score	10.0	20.0	30.0	40.0	50.0	60.0	70.0	80.0	90.0	31.7	80.2
SE	8.26	2.68	.78	.22	.16	.16	.16	.43	1.31		
Reliability	.00	.00	.39	.95	.98	.97	.97	.81	.00		

Figure 2

PREVIEW OF SAMPLE ITEM

Figure 3 shows a Social Isolation item from the full item bank as it would appear to a study participant during data collection. Several formats for presenting the items are available for computer-based administration (see FAQ section).

I feel isolated from others

- ☐ Never
- ☐ Rarely
- ☐ Sometimes
- ☐ Usually
- ☐ Always

Figure 3

Figure 4 is an excerpt from the paper version of the eight-item short form. This is the paper version format used for all Social Isolation instruments. It is important to note, CAT is not available for paper administration.

		Never	Rarely	Sometimes	Usually	Always
UCLA11x2	I feel left out.....	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
UCLA13x3	I feel that people barely know me.....	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

Figure 4

FREQUENTLY ASKED QUESTIONS (FAQ)

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

Review the HealthMeasures website at www.healthmeasures.net.

Q: Are these instruments available in other languages?

Yes! Look at the HealthMeasures website (<http://www.healthmeasures.net/explore-measurement-systems/promis/intro-to-promis/available-translations>) for current information on PROMIS translations.

Q: Can I make my own short form?

Yes, custom short forms can be made by selecting any items from the item bank. This can be scored using the Scoring Service (https://www.assessmentcenter.net/ac_scoring-service).