



PROMIS ADULT PROFILE INSTRUMENTS

MEASURE DIFFERENCES

A brief guide to differences between the PROMIS® Profile instruments for adult respondents:

| |
|----------------------------------|
| PROMIS-29 Profile v1.0* |
| PROMIS-29 Profile v2.0* |
| PROMIS-29 Profile v2.1 |
| PROMIS-43 Profile v1.0* |
| PROMIS-43 Profile v2.0* |
| PROMIS-43 Profile v2.1 |
| PROMIS-57 Profile v1.0* |
| PROMIS-57 Profile v2.0* |
| PROMIS-57 Profile v2.1 |
| PROMIS 29+2 Profile v2.1 (PROPr) |
| PROMIS Profile CAT v1.0 - 29 |

* = retired measure

ABOUT PROMIS PROFILES

PROMIS Profiles for adults are a collection of short forms or computer adaptive tests containing a fixed number of items from seven PROMIS domains (Depression, Anxiety, Physical Function, Pain Interference, Fatigue, Sleep Disturbance, and Ability to Participate in Social Roles and Activities). There are three PROMIS Profile Lengths: PROMIS-29, PROMIS-43, and PROMIS-57. The PROMIS-29 assesses 7 domains with 4 questions each. The PROMIS-43 has 6 questions per domain, and the PROMIS-57 has 8 questions per domain. Each of the PROMIS Profiles includes an additional pain intensity 0-10 numeric rating scale (NRS). The PROMIS 29+2 Profile is comprised of the PROMIS-29 plus two Cognitive Function Abilities items.

As with other PROMIS instruments, the Profiles are universal rather than disease-specific. They assess all domains over the past seven days except for Physical Function and Ability to Participate in Social Roles and Activities which have no timeframe specified.

These PROMIS Profile instruments are intended for adults (ages 18+). Different profile measures exist for pediatric self-report or parent-proxy report.

In selecting between PROMIS Profile Instruments, the difference is instrument length. The reliability and precision of the short forms within a domain is highly similar. The PROMIS-29 Profile short forms are labeled “4a”. The PROMIS-43 Profile short forms are labeled “6a” (6b for Physical Function) and the PROMIS-57 Profile short forms are labeled “8a” (8b for Physical Function). Full short form names are provided below.

PROMIS PROFILE CAT v1.0 – 29

The PROMIS Profile CAT v1.0 – 29 includes the same domains and item length as the PROMIS-29 Profile. Unlike all other profiles, it is comprised of computer adaptive tests (CATs) rather than short forms. Because CATs are tailored to each respondent, the Profile CAT can cover a wider range of function or symptoms with greater precision than 4-item short forms used in the PROMIS-29. Each CAT is fixed to administer 4 items. This is shorter than the default stopping rule for other PROMIS CATs. This results in a total of 29 items (7 CATs of 4 items each plus one pain intensity item; see Figure 1).

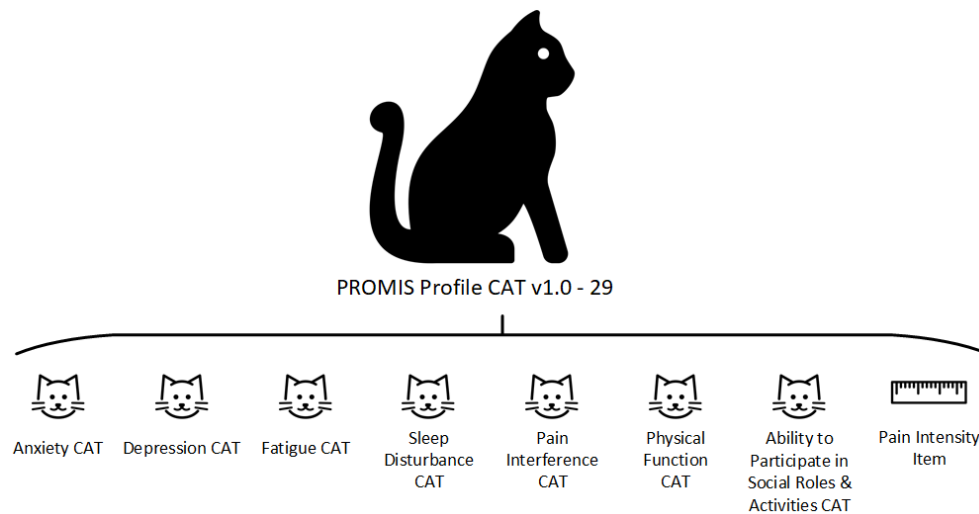


Figure 1. Icons from Noun Project: Bestdesignmarket, Georgiana Ionescu, Martin Lebreton

PROFILE ITEM SELECTION

The short forms that make up the PROMIS Profile Instruments include “high information” items. The selection of items was in part based on item rankings within each domain using two psychometric criteria: (1) maximum interval information, and 2) CAT simulations. Item rankings were similar for both criteria. For the maximum interval criterion, each item information function was integrated (without weighting) for the interval from the mean to 2 SDs worse than the mean. For the CAT simulations, responses to all items in each bank were generated using a random sample of 1,000 simulees drawn separately for each bank (centered on 1.0 SD worse than the general population mean). Items were rank ordered based on their average administration rank over the simulees. Content experts reviewed the items and rankings and made cuts of 8, 6, and 4 items. The items within each instrument are nested/overlap (e.g., the 8-item form is the 6-item form plus two additional items).

ADMINISTRATION INSTRUCTIONS

The PROMIS Profile-29, -43, 57, and 29+2 Instruments are administered as short forms (not adaptive administration). Short forms are ideal when clinical researchers 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. The PROMIS Profile CAT v1.0 – 29 is comprised of computer adaptive tests (CATs) rather than short forms. Because CATs are tailored to each respondent, the Profile CAT can cover a wider range of function or symptoms with greater precision than 4-item short forms used in the PROMIS-29. Instruct participants to answer all of the items (i.e., questions or statements) presented.

INSTRUMENT VERSIONS

Some PROMIS domains have multiple versions of instruments (i.e., Item Banks/Computer Adaptive Tests (CATs) and Short Forms). Generally, it is recommended that you use the most recent version available which can be identified as the instruments with the highest version number. Instruments are changed for various reasons.



In most cases, an instrument that has a decimal increase (v1.0 to v1.1 or v1.2) 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.

All three PROMIS v2.0 profiles replaced the v1.0 Satisfaction with Participation in Social Roles short form with a v2.0 Ability to Participate in Social Roles and Activities short form. Because the social domain differs between v1.0 and v2.0, the social scores between these measures should not be compared to each other. In the PROMIS-43 and PROMIS-57, the Physical Function short form was also updated. However, the final Physical Function T-score from v1.0 and v2.0 can be directly compared to each other. The PROMIS v2.1 profiles have identical items to v2.0. The Physical Function item calibrations were updated to match those used in the PROMIS v2.0 Physical Function item bank. T-scores from the Physical Function short forms in v2.1 Profiles can be directly compared to T-scores from both Physical Function short forms in Profiles v2.0 and v1.0. Also, v2.1 profiles use the same pain intensity item as earlier versions.

Scores from the PROMIS Profile CAT v1.0 – 29 can be compared to scores from short-form based v2 Profiles (i.e., PROMIS-29 v2.0 and v2.1, PROMIS-43 v2.0 and v2.1, PROMIS-57 v2.0 and v2.1).

| PROMIS-29 v1.0 | PROMIS-29 v2.0 | PROMIS-29 v2.1 |
|---|---|---|
| PROMIS SF v1.0 – Physical Function 4a | PROMIS SF v1.0 – Physical Function 4a | PROMIS SF v2.0 – Physical Function 4a |
| PROMIS SF v1.0 – Anxiety 4a | PROMIS SF v1.0 – Anxiety 4a | PROMIS SF v1.0 – Anxiety 4a |
| PROMIS SF v1.0 – Depression 4a | PROMIS SF v1.0 – Depression 4a | PROMIS SF v1.0 – Depression 4a |
| PROMIS SF v1.0 – Fatigue 4a | PROMIS SF v1.0 – Fatigue 4a | PROMIS SF v1.0 – Fatigue 4a |
| PROMIS SF v1.0 – Sleep Disturbance 4a | PROMIS SF v1.0 – Sleep Disturbance 4a | PROMIS SF v1.0 – Sleep Disturbance 4a |
| PROMIS SF v1.0 – Satisfaction with Participation in Social Roles 4a | PROMIS SF v2.0 – Ability to Participate in Social Roles and Activities 4a | PROMIS SF v2.0 – Ability to Participate in Social Roles and Activities 4a |
| PROMIS SF v1.0 – Pain Interference 4a | PROMIS SF v1.0 – Pain Interference 4a | PROMIS SF v1.0 – Pain Interference 4a |
| PROMIS Pain Intensity item (Global07) | PROMIS Pain Intensity item (Global07) | PROMIS Pain Intensity item (Global07) |

| PROMIS-43 v1.0 | PROMIS-43 v2.0 | PROMIS-43 v2.1 |
|---|---|---|
| PROMIS SF v1.0 – Physical Function 6a | PROMIS SF v1.2 – Physical Function 6b | PROMIS SF v2.0 – Physical Function 6b |
| PROMIS SF v1.0 – Anxiety 6a | PROMIS SF v1.0 – Anxiety 6a | PROMIS SF v1.0 – Anxiety 6a |
| PROMIS SF v1.0 – Depression 6a | PROMIS SF v1.0 – Depression 6a | PROMIS SF v1.0 – Depression 6a |
| PROMIS SF v1.0 – Fatigue 6a | PROMIS SF v1.0 – Fatigue 6a | PROMIS SF v1.0 – Fatigue 6a |
| PROMIS SF v1.0 – Sleep Disturbance 6a | PROMIS SF v1.0 – Sleep Disturbance 6a | PROMIS SF v1.0 – Sleep Disturbance 6a |
| PROMIS SF v1.0 – Satisfaction with Participation in Social Roles 6a | PROMIS SF v2.0 – Ability to Participate in Social Roles and Activities 6a | PROMIS SF v2.0 – Ability to Participate in Social Roles and Activities 6a |
| PROMIS SF v1.0 – Pain Interference 6a | PROMIS SF v1.0 – Pain Interference 6a | PROMIS SF v1.0 – Pain Interference 6a |
| PROMIS Pain Intensity item (Global07) | PROMIS Pain Intensity item (Global07) | PROMIS Pain Intensity item (Global07) |



| PROMIS-57 v1.0 | PROMIS-57 v2.0 | PROMIS-57 v2.1 |
|---|---|---|
| PROMIS SF v1.0 – Physical Function 8a | PROMIS SF v1.2 – Physical Function 8b | PROMIS SF v2.0 – Physical Function 8b |
| PROMIS SF v1.0 – Anxiety 8a | PROMIS SF v1.0 – Anxiety 8a | PROMIS SF v1.0 – Anxiety 8a |
| PROMIS SF v1.0 – Depression 8a | PROMIS SF v1.0 – Depression 8a | PROMIS SF v1.0 – Depression 8a |
| PROMIS SF v1.0 – Fatigue 8a | PROMIS SF v1.0 – Fatigue 8a | PROMIS SF v1.0 – Fatigue 8a |
| PROMIS SF v1.0 – Sleep Disturbance 8a | PROMIS SF v1.0 – Sleep Disturbance 8a | PROMIS SF v1.0 – Sleep Disturbance 8a |
| PROMIS SF v1.0 – Satisfaction with Participation in Social Roles 8a | PROMIS SF v2.0 – Ability to Participate in Social Roles and Activities 8a | PROMIS SF v2.0 – Ability to Participate in Social Roles and Activities 8a |
| PROMIS SF v1.0 – Pain Interference 8a | PROMIS SF v1.0 – Pain Interference 8a | PROMIS SF v1.0 – Pain Interference 8a |
| PROMIS Pain Intensity item (Global07) | PROMIS Pain Intensity item (Global07) | PROMIS Pain Intensity item (Global07) |

PROMIS-29+2 Profile v2.1 (PROPr)

The PROMIS-29+2 Profile v2.1 (PROPr) is used to calculate a preference score (PROMIS Preference, PROPr). Preference-based scores provide an overall summary of health-related quality of life on a common metric. Preference-based scores summarize multiple domains on a metric ranging from 0 (as bad as dead) to 1 (perfect or ideal health). Scores can be used in comparisons across groups and for cost-utility analyses. The profile includes all items in the PROMIS-29 Profile v2.1 plus two Cognitive Function Abilities items. T-scores from each short form within the Profile can be used to calculate a preference-based score. The short form T-scores can also be utilized on their own.

PROMIS Profile CAT v1.0 – 29

The PROMIS Profile CAT v1.0 – 29 is comprised of 7 computer adaptive tests and one pain intensity item.

| PROMIS Profile CAT v1.0 – 29 |
|--|
| PROMIS Bank/CAT v2.0 – Physical Function |
| PROMIS Bank/CAT v1.0 – Anxiety |
| PROMIS Bank/CAT v1.0 – Depression |
| PROMIS Bank/CAT v1.0 – Fatigue |
| PROMIS Bank/CAT v1.0 – Sleep Disturbance |
| PROMIS Bank/CAT v2.0 – Ability to Participate in Social Roles and Activities |
| PROMIS Bank/CAT v1.1 – Pain Interference |
| PROMIS Pain Intensity item (Global07) |

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 Anxiety, a T-score of 60 is one SD worse than average. By comparison, an Anxiety T-score of 40 is one SD better than average. However, for positively-worded concepts like Physical Function, Ability to Participate in Social Roles and Activities, and Cognitive Function Abilities, a T-score of 60 is one SD better than average while a T-score of 40 is one SD worse than average.

STATISTICAL CHARACTERISTICS

There are four key features of the score for PROMIS Profile instruments:

- **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.

PREVIEW OF SAMPLE ITEM

Figure 2 is an excerpt from the paper version of the PROMIS-29 v1.2 Profile instrument. This is the paper version format used for all Profile instruments.

| | | Never | Rarely | Sometimes | Often | Always |
|---------|--|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| | Anxiety In the past 7 days... | | | | | |
| EDANX01 | I felt fearful..... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| EDANX40 | I found it hard to focus on anything other than my anxiety | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

Figure 2

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: Are these instruments available in other languages?

Yes! Look at the HealthMeasures website (www.healthmeasures.net) for current information on PROMIS translations.