

POSITIVE AFFECT MEASURE DIFFERENCES

A brief guide to differences between the PROMIS® Positive Affect instruments:

ADULT	PEDIATRIC	EARLY CHILDHOOD PARENT-REPORT	PARENT PROXY
PROMIS Item Bank v1.0 Positive Affect PROMIS Short Form v1.0 Positive Affect 15a	PROMIS Pediatric Item Bank v1.0 Positive Affect PROMIS Pediatric Short Form v1.0 Positive Affect 4a PROMIS Pediatric Short Form v1.0 Positive Affect 8a	PROMIS Early Childhood Parent- Report Bank v1.0 – Positive Affect PROMIS Early Childhood Parent- Report Short Form v1.0 – Positive Affect 4a PROMIS Early Childhood Parent- Report Short Form v1.0 – Positive Affect 8a	PROMIS Parent Proxy Item Bank v1.0 Positive Affect PROMIS Parent Proxy Short Form v1.0 Positive Affect 4a PROMIS Parent Proxy Short Form v1.0 Positive Affect 8a

ABOUT POSITIVE AFFECT

The PROMIS Positive Affect instruments assess momentary positive or rewarding affective experiences, such as feelings and mood associated with pleasure, joy, elation, contentment, pride, affection, happiness, engagement, and excitement. All instruments positive affect over the past 7 days.

The PROMIS Pediatric and Parent Proxy instruments assess a child's momentary positive or rewarding affective experiences, such as feelings and mood associated with pleasure, joy, elation, contentment, pride, affection, happiness, engagement, and excitement.

The PROMIS Early Childhood Parent-Report Positive Affect item bank assesses young children's moods and feelings associated with momentary positive affective experiences (contentment, calmness, pride, love, happiness, energy).

Positive Affect instruments are available for adults (ages 18+), pediatric self-report (ages 8-17) and for parents serving as proxy reporters for their child (youth ages 5-17) or very young child (ages 1-5).

INTRODUCTION TO ASSESSMENT OPTIONS

There are two administration options for assessing Positive Affect: short forms and a computer adaptive test (CAT). When administering a short form, instruct participants to answer all of the items (i.e., questions or statements) presented. With a CAT, participant responses guide the system's choice of subsequent items from the full item banks (34 items in total for adults). 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 Positive Affect short forms and CAT instruments.

CAT: A minimum number of items (4 for adult and early childhood parent-report and 5 for peds and parent proxy CATs) must be answered in order to receive a score for Positive Affect CAT. The response to the first item will guide the system's choice of the next item for the participant. The participant's response to the second 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 (on the T-score metric 3.0 for adult and 4.0 for peds, parent proxy, and early childhood parent-report CATs), or the participant has answered the maximum number of questions (8 for early childhood parent-report; 12 for all others), whichever occurs first.

CAT versus Short Form: Whether one uses a short form or a 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 Positive Affect 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 and Figure 2 illustrate the correlations (strength of relationship) of the pediatric and parent proxy full item banks, respectively, with CATs and with short forms of varying length. The correlations of CAT scores with the full bank scores are 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.

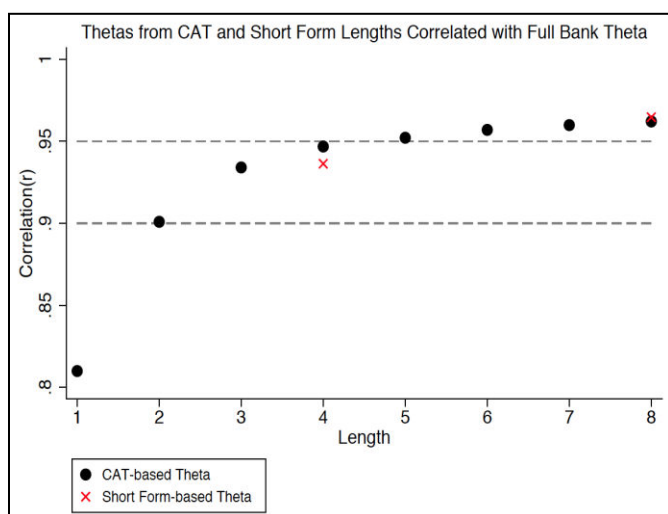


Figure 1

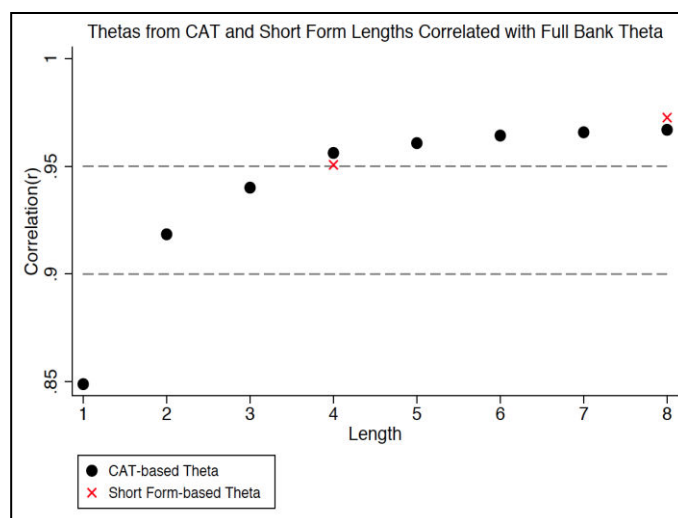


Figure 2

SHORT FORM DIFFERENCES

There is one adult, 2 pediatric and 2 parent proxy short forms. Items were selected based on content and psychometric characteristics.

SELECTING A PEDIATRIC OR PARENT PROXY INSTRUMENT

In selecting whether to use the pediatric or parent proxy instrument for this domain, it is important to consider both the population and the domain that you are studying. Pediatric self-report should be considered the standard for measuring patient-reported outcomes among children. However, circumstances exist when the child is too young, cognitively impaired, or too ill to complete a patient-reported outcome instrument. Since information derived from self-report and proxy-report is not equivalent, it is optimal to assess both the child and

the parent since their perspectives may be independently related to healthcare utilization, risk factors, and quality of care.

Early Childhood Parent-Report Forms

There are two PROMIS Early Childhood Parent-Report short forms. Items in the 4a and 8a short forms were selected based on content coverage of the key domain facets and psychometric characteristics. The 4-item and 8-item have been selected so that the items are nested/overlap (i.e., the 8-item is the 4-item form plus 4 additional items).

Recommended Early Childhood Parent-Report Short Form

The primary difference between the two Early Childhood Parent-Report positive affect short forms is instrument length. The reliability and precision of the short forms within a domain is highly similar. If you are working with a sample in which you want the most precise measure, select the 8-item form. The 8-item form is also superior for individual evaluation/comparing small groups. If you have little room for additional measures but still want to capture the domain, select the 4-item form. Either form is sufficient for large group comparison.

Parent Proxy Report Versus Early Childhood Parent Report Measures

The PROMIS Parent Proxy measures are for parents to report on their children ages 5-17. The PROMIS Early Childhood Parent Report measures are for parents to report on their children ages 1 to 5. In both cases, the parent provides his or her perspective about the child's positive affect. Scores from PROMIS Parent Proxy and PROMIS Early Childhood Parent Report measures are calibrated and normed with different, age-appropriate reference populations and therefore are on different metrics. Scores from one should not be compared to scores on the other. For parents of 5-year-old children, either the PROMIS Parent Proxy or the PROMIS Early Childhood Parent Report measure can be used. In general, for longitudinal research and/or on-going clinical follow-up, using the measure that aligns with the majority of the time frame with which the child will be studied is recommended. For example, if the measure is administered at child age 1 year through child age 5, using the PROMIS Early Childhood Parent Report is recommended. If the child will be studied across in both early childhood and beyond age 5, switching to the PROMIS Parent Proxy measure is necessary.

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 positively-worded concepts like Positive Affect, a T-score of 60 is one SD better than average. By comparison, a Positive Affect T-score of 40 is one SD worse than average.

STATISTICAL CHARACTERISTICS

There are four key features of the score for Positive Affect:

- **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 ($T\text{-score} \pm (1.96 * SE) = 52 \pm 3.9 = 48.1 \text{ to } 55.9$).

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

In Figure 3 (Pediatric 8-item short form) and Figure 4 (Parent Proxy 8-item short form), the two dotted horizontal lines in each graph each represent a degree of internal consistency reliability (i.e., .90 or .95) typically regarded as sufficient for an accurate individual score. The shaded blue regions mark the ranges of the scales where measurement precision is comparable to the reliability of .90 for the eight-item forms.

Figure 3 and Figure 4 also tell us where on the scales the forms are most informative based upon the T-score. These forms would typically be more informative than the 4-item Positive Affect short forms.

The three dotted horizontal lines in Figure 5 each represent a degree of internal consistency reliability (i.e., .70, .90, or 0.95) typically regarded as sufficient for an accurate individual score for the Early Childhood Parent-Report item bank. The shaded blue region marks the range of the scale where measurement precision is comparable to the reliability of .70 for the form.

Figure 6 (Pediatric 4- and 8-item short forms) and Figure 7 (Parent Proxy 4- and 8-item short forms) also tell us where on the scales the forms are most informative based upon the T-scores: the 8-item forms are more informative than the 4-item forms.

Figure 8 and Figure 9 are samples of the statistical information for pediatric and parent proxy, respectively, that is available for a CAT.

More information is available at [HealthMeasures.net](https://www.healthmeasures.net).

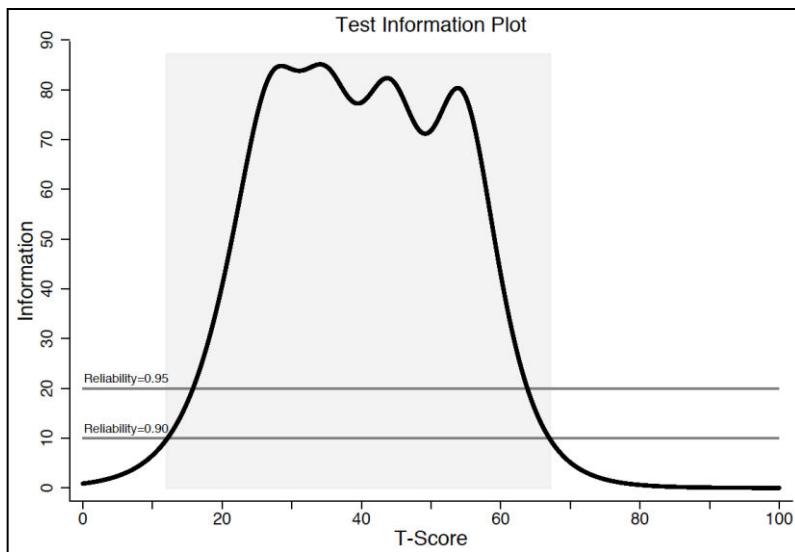


Figure 3

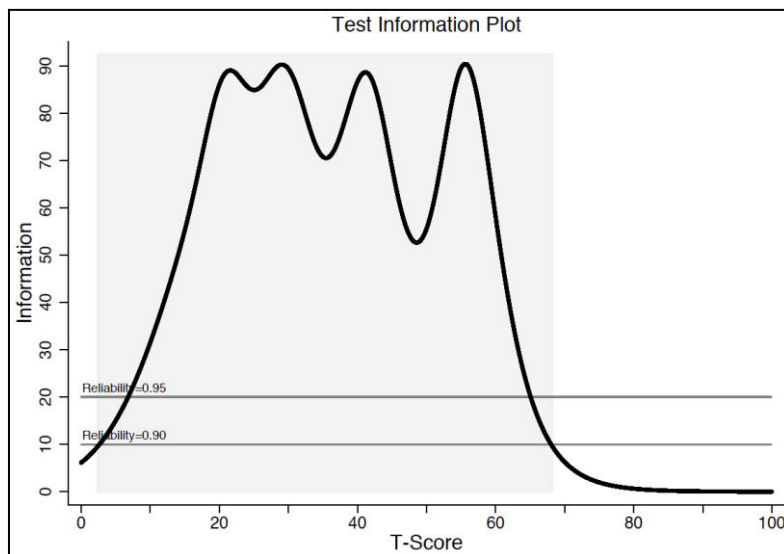


Figure 4

Early Childhood Parent-Report Item Bank Test Information Plot

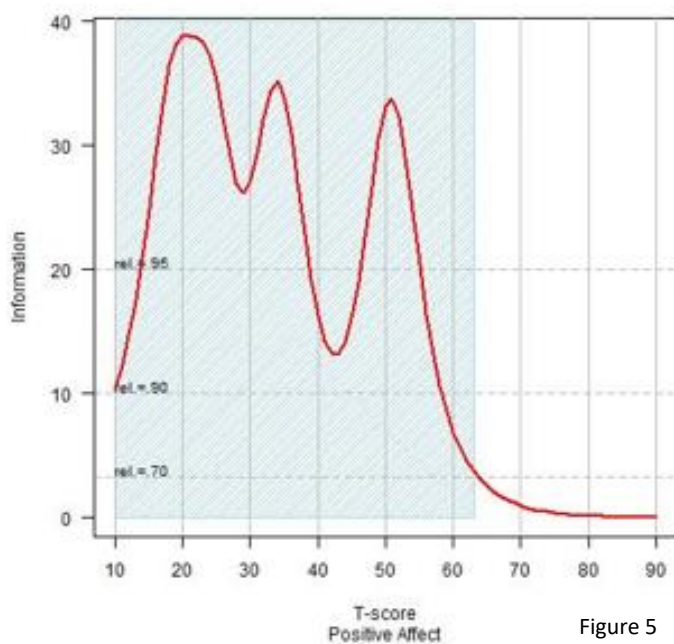


Figure 5

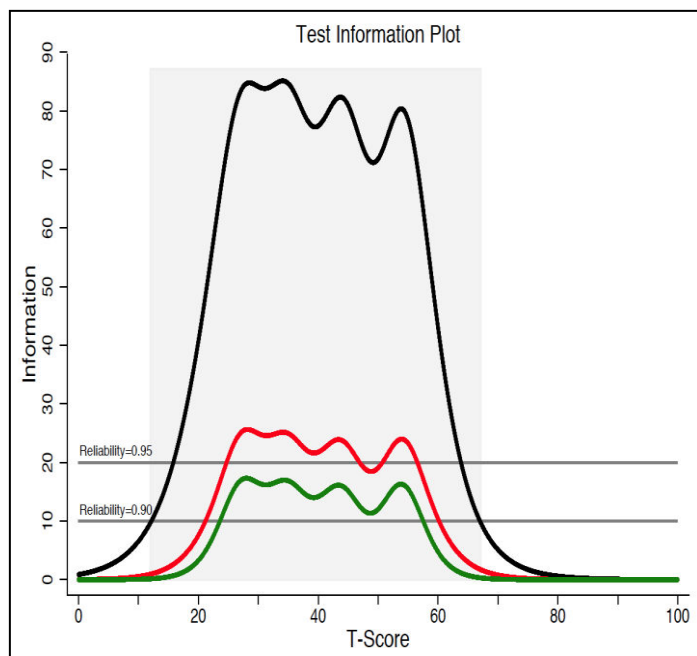


Figure 6

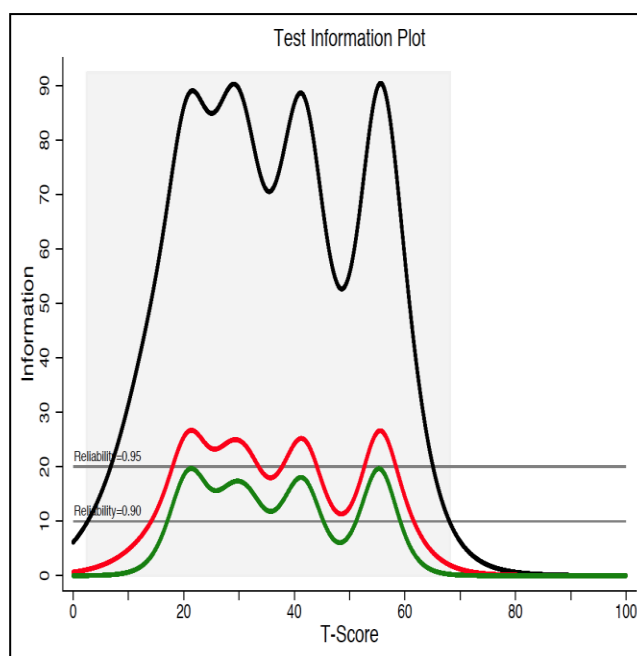


Figure 7

Scaling Model Used For Calibration	Graded Response Model (GRM)
Total Number of Items	28

Sample	N	Alpha Reliability
PROMIS Wave 1 Full Bank	782	0.98

Score Distributions									
	Mean	SD	P5	P10	P25	P50	P75	P90	P95
Raw	49.16	22.58	28.00	29.00	31.00	41.00	60.00	83.00	96.95
Scale	49.31	9.63	33.49	37.66	42.42	48.62	55.25	62.01	66.00

	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	0.0	0.0
SE	13.90	4.00	1.10	.30	.10	.10	.10	.20	.50		
Reliability	.00	.00	.00	.92	.98	.99	.99	.97	.75		

Figure 8

Scaling Model Used For Calibration	Graded Response Model (GRM)
Total Number of Items	28

Sample	N	Alpha Reliability
PROMIS Wave 1 Full Bank	782	0.98

Score Distributions									
	Mean	SD	P5	P10	P25	P50	P75	P90	P95
Raw	49.16	22.58	28.00	29.00	31.00	41.00	60.00	83.00	96.95
Scale	49.31	9.63	33.49	37.66	42.42	48.62	55.25	62.01	66.00

	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	0.0	0.0
SE	13.90	4.00	1.10	.30	.10	.10	.10	.20	.50		
Reliability	.00	.00	.00	.92	.98	.99	.99	.97	.75		

Figure 9

PREVIEW OF SAMPLE ITEM

Figure 10 is an excerpt from the paper version of the adult eight-item short form. This the paper version format used for all Positive Affect instruments. It is important to note, CAT is not available for paper administration.

In the past 7 days...		Not at all	A little bit	Somewhat	Quite a bit	Very much
PA001	I felt cheerful	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
PA002	I felt attentive.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

Figure 10

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 (<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 an item bank. This can be scored using the Scoring Service (https://www.assessmentcenter.net/ac_scoringervice).