



SELF-EFFICACY MEASURE DIFFERENCES

A brief guide to differences between the NIH Toolbox® Self-Efficacy instruments:

ADULT	PEDIATRIC	PARENT REPORT
NIH Toolbox Self-Efficacy CAT Ages 18+ v3.0	NIH Toolbox Self-Efficacy CAT Ages 13-17 v3.0	NIH Toolbox Self-Efficacy Parent Report CAT Ages 8-12 v3.0
NIH Toolbox Self-Efficacy CAT Ages 18+ v2.0	NIH Toolbox Self-Efficacy CAT Ages 8-12 v3.0	NIH Toolbox Emotion Control Parent Report FF Ages 8-12 v2.0
	NIH Toolbox Emotion Control FF Ages 8-17 v2.0	NIH Toolbox Self-Efficacy Parent Report CAT Ages 8-12 v2.0*
	NIH Toolbox Self-Efficacy CAT Ages 13-17 v2.0*	
	NIH Toolbox Self-Efficacy CAT Ages 8-12 v2.0*	

*Retired Measure

CAT = Computer Adaptive Test, FF = Fixed Form

ABOUT SELF-EFFICACY

Stress and Self-Efficacy focus on individual perceptions about the nature of events and their relationship to the perceived coping resources of an individual. In general, psychological stress is said to occur when an individual perceives that environmental or internal demands that are personally meaningful exceed his/her adaptive capacity. NIH Toolbox assesses three areas related to stress and adaptive capacity: Perceived Stress, Self-Efficacy, and Emotion Control. Self-Efficacy can be described as a person's belief in his/her capacity to manage functioning and have control over meaningful events.

Self-Efficacy measures are available for adults (ages 18+), pediatric self-report (ages 8-17) and for parents serving as proxy reporters for their child (youth ages 3-12).

Measures are appropriate for the general population and individuals with chronic health conditions. The measures are universal rather than disease-specific.

INTRODUCTION TO ASSESSMENT OPTIONS

There are two administration options for assessing Self-Efficacy: fixed forms and computer adaptive tests (CATs).

Fixed Form

In a fixed form, respondents answer all of the items (i.e., questions or statements) presented.

CAT

In a CAT, items are tailored to the respondent. A minimum number of items (e.g., 4) must be answered in order to receive a score for the Self-Efficacy CAT. The response to the first item will guide the system's choice of the next item for the respondent. The response to the second item will dictate the selection of the following item, and so on. As additional items are administered, the potential for error is reduced and confidence in the respondent's score increases. The CAT will continue until either the standard error drops below a specified level (e.g., on the T-score metric 3.0), or the participant has answered the maximum number of questions (e.g., 12), whichever occurs first. Although items differ across respondents completing a CAT, scores are comparable across respondents.



Fixed Form versus CAT

For both fixed forms and CATs, scores are based in Item Response Theory (IRT), a family of statistical models that link individual items to a presumed underlying trait or concept of Self-Efficacy represented by all items in the item bank. Some administrators may prefer to ask the same questions 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 fixed form would be more desirable than a CAT. In cases where brevity and measurement precision are priorities, CATs are likely a better fit.

VERSION DIFFERENCES BETWEEN V2.0 AND V3.0

Some NIH Toolbox domains have multiple versions of measures (e.g., v2.0, v3.0). Generally, **it is recommended that you use the most recent version available which can be identified as the measure with the highest version number.** The following information describes differences between versions of measures.

In 2023, NIH Toolbox v3.0 replaced NIH Toolbox v2.0. In most (but not all) cases, NIH Toolbox v2.0 and v3.0 measures include the same items. However, there are three main differences between v2.0 and v3.0. These are:

1. Different item administration engines. V3.0 includes new features to allow more flexibility in CAT stopping rules and uses streamlined code. Measure scoring is the same.
2. Different CAT stopping rules (see CAT Stopping Rules below).
3. V2.0 measures previously administered as fixed forms are now administered as CATs in v3.0.

Scores from NIH Toolbox v2.0 measures are comparable to scores from the equivalent v3.0 measure when v2.0 and v3.0 use the same items or item banks (as they do in most cases). In the case of Self-Efficacy please see specific version differences outlined below.

Adult

- The NIH Toolbox Self-Efficacy CAT Ages 18+ v3.0 is the same as the PROMIS Item Bank v1.0 - General Self-Efficacy; the items and scoring are identical. Thus, scores from the NIH Toolbox Self-Efficacy CAT Ages 18+ v2.0 cannot be compared to scores from the NIH Toolbox Self-Efficacy CAT Ages 18+ v3.0.

NIH Toolbox v2.0 Measure	Corresponding NIH Toolbox v3.0 Measure	
	Name in NIH Toolbox v3.0 App	Name on Paper Form
NIH Toolbox Self-Efficacy CAT Ages 18+ v2.0	Self-Efficacy CAT Ages 18+	NIH Toolbox Self-Efficacy CAT Ages 18+ v3.0

Pediatric and Parent Report

- The following Pediatric and Parent Report Self-Efficacy measures contain the same items or item banks between NIH Toolbox 2.0 and NIH Toolbox v3.0, although the scoring engine and stopping rules have been updated between versions (for the CATs). These are the names as they appear in the respective app:

NIH Toolbox v2.0 Measure	Corresponding NIH Toolbox v3.0 Measure	
	Name in NIH Toolbox v3.0 App	Name on Paper Form
NIH Toolbox Self-Efficacy CAT Ages 13-17 v2.0	Self-Efficacy CAT Ages 13-17	NIH Toolbox Self-Efficacy CAT Ages 13-17 v3.0
NIH Toolbox Self-Efficacy CAT Ages 8-12 v2.0	Self-Efficacy CAT Ages 8-12	NIH Toolbox Self-Efficacy CAT Ages 8-12 v3.0
NIH Toolbox Self-Efficacy Parent Report CAT Ages 8-12 v2.0	Self-Efficacy Parent Report CAT Ages 8-12	NIH Toolbox Self-Efficacy Parent Report CAT Ages 8-12 v3.0



- The NIH Toolbox Emotion Control FF Ages 8-17 v2.0 and NIH Toolbox Emotion Control Parent Report FF Ages 8-12 v2.0 were removed from NIH Toolbox v3.0:

NIH Toolbox v2.0 Measure	Corresponding NIH Toolbox v3.0 Measure	
	Name in NIH Toolbox v3.0 App	Name on Paper Form
NIH Toolbox Emotion Control FF Ages 8-17 v2.0	N/A (v3.0 unavailable)	N/A (v3.0 unavailable)
NIH Toolbox Emotion Control Parent Report FF Ages 8-12 v2.0	N/A (v3.0 unavailable)	N/A (v3.0 unavailable)

CAT Stopping Rules

Measure	Stopping Rules
NIH Toolbox Self-Efficacy CAT Ages 18+ v3.0	• Minimum = 4 items • Stop when one of these occurs: ○ 8 items are administered OR ○ The standard error is below 0.224 (theta metric)
NIH Toolbox Self-Efficacy CAT Ages 13-17 v3.0 NIH Toolbox Self-Efficacy CAT Ages 8-12 v3.0 NIH Toolbox Self-Efficacy Parent Report CAT Ages 8-12 v3.0	• Minimum = 4 items • Stop when one of these occurs: ○ 8 items are administered OR ○ The standard error is below 0.3 (theta metric)
NIH Toolbox Self-Efficacy CAT Ages 18+ v2.0 NIH Toolbox Self-Efficacy CAT Ages 13-17 v2.0 NIH Toolbox Self-Efficacy CAT Ages 8-12 v2.0 NIH Toolbox Self-Efficacy Parent Report CAT Ages 8-12 v2.0	• Minimum = 4 items • Stop when one of these occurs: ○ 10 items are administered OR ○ The standard error is below 0.3 (theta metric)