



SOCIAL RELATIONSHIPS MEASURE DIFFERENCES

A brief guide to differences between the NIH Toolbox® Social Relationships instruments:

ADULT	PEDIATRIC	PARENT REPORT
NIH Toolbox Emotional Support CAT Ages 18+ v3.0	NIH Toolbox Emotional Support CAT Ages 8-17 v3.0	NIH Toolbox Empathic Behaviors Parent Report CAT Ages 3-12 v3.0
NIH Toolbox Emotional Support FF Age 18+ v2.0	NIH Toolbox Emotional Support FF Ages 8-17 v2.0	NIH Toolbox Negative Parent Relationship Parent Report FF Ages 3-12 v2.0
NIH Toolbox Friendship CAT Ages 18+ v3.0	NIH Toolbox Friendship CAT Ages 8-17 v3.0	NIH Toolbox Peer Rejection Parent Report FF Ages 3-12 v3.0
NIH Toolbox Friendship FF Age 18+ v2.0	NIH Toolbox Friendship FF Ages 8-17 v2.0	NIH Toolbox Positive Parent Relationship Parent Report FF Ages 3-12 v2.0
NIH Toolbox Instrumental Support CAT Ages 18+ v3.0	NIH Toolbox Loneliness FF Ages 8-17 v3.0	NIH Toolbox Positive Peer Interaction Parent Report FF Ages 3-12 v3.0
NIH Toolbox Instrumental Support FF Age 18+ v2.0	NIH Toolbox Maternal Relationship FF Ages 8-17 v2.0	NIH Toolbox Sibling Rejection Parent Report FF Ages 3-12 v2.0
NIH Toolbox Loneliness FF Ages 18+ v3.0	NIH Toolbox Paternal Relationship FF Ages 8-17 v2.0	NIH Toolbox Social Withdrawal Parent Report FF Ages 3-12 v3.0
NIH Toolbox Perceived Hostility CAT Ages 18+ v3.0	NIH Toolbox Perceived Hostility FF Ages 8-17 v3.0	NIH Toolbox Empathic Behaviors Parent Report CAT Ages 3-12 v2.0*
NIH Toolbox Perceived Hostility FF Ages 18+ v2.0	NIH Toolbox Perceived Rejection FF Ages 8-17 v3.0	NIH Toolbox Peer Rejection Parent Report FF Ages 3-12 v2.0*
NIH Toolbox Perceived Rejection CAT Ages 18+ v3.0	NIH Toolbox Loneliness FF Ages 8-17 v2.0*	NIH Toolbox Positive Peer Interaction Parent Report FF Ages 3-12 v2.0*
NIH Toolbox Perceived Rejection FF Age 18+ v2.0	NIH Toolbox Perceived Hostility FF Ages 8-17 v2.0*	NIH Toolbox Social Withdrawal Parent Report FF Ages 3-12 v2.0*
NIH Toolbox Loneliness FF Ages 18+ v2.0*	NIH Toolbox Perceived Rejection FF Ages 8-17 v2.0*	

*Retired Measure

CAT = Computer Adaptive Test, FF = Fixed Form

ABOUT SOCIAL RELATIONSHIPS

Social Relationships is a subdomain of the Emotion Domain. There are several dimensions of Social Relationships, including their structure, extent, and quality. NIH Toolbox focuses on four aspects of Social Relationships: Perceived Social Support, Companionship, Social Distress, and Positive Social Development.

- Perceived Social Support is the extent to which an individual views his/her social relationships as available to provide aid in times of need or when problems arise.
 - Emotional Support, Instrumental Support



- Companionship is characterized by self-reported perceptions of the availability of friends or companions with whom to interact or affiliate.
 - Friendship, Loneliness, Social Withdrawal, Positive Peer Interaction
- Social Distress is the extent to which an individual perceives his/her daily social interactions as negative or distressing including aspects of perceived hostility or perceived insensitivity.
 - Perceived Rejection, Perceived Hostility, Peer Rejection, Sibling Rejection
- Positive Social Development is characterized by parents' evaluation of their children's empathic behaviors.
 - Empathic Behaviors

Social Relationship 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 Social Relationships: 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 Social Relationship 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 Social Relationships 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 Social Relationships, please see specific version differences outlined below.

Adult

- The NIH Toolbox Emotional Support FF Age 18+ v2.0 included 8 items. It was replaced by the NIH Toolbox Emotional Support CAT Ages 18+ v3.0, which uses the same 8 items, but administers them as a CAT. Consequently, respondents will answer a variable number of items. See CAT Stopping Rules below for details.
- The NIH Toolbox Friendship FF Age 18+ v2.0 included 8 items. It was replaced by the NIH Toolbox Friendship CAT Ages 18+ v3.0, which uses the same 8 items, but administers them as a CAT. Consequently, respondents will answer a variable number of items. See CAT Stopping Rules below for details.
- The NIH Toolbox Instrumental Support FF Age 18+ v2.0 included 8 items. It was replaced by the NIH Toolbox Instrumental Support CAT Ages 18+ v3.0, which uses the same 8 items, but administers them as a CAT. Consequently, respondents will answer a variable number of items. See CAT Stopping Rules below for details.
- The NIH Toolbox Loneliness FF Ages 18+ v3.0 and NIH Toolbox Loneliness FF Ages 18+ v2.0 measures contain the same items. Thus, scores from these v2.0 and v3.0 NIH Toolbox measures can be compared.
- The NIH Toolbox Perceived Hostility FF Ages 18+ v2.0 included 8 items. It was replaced by the NIH Toolbox Perceived Hostility CAT Ages 18+ v3.0, which uses the same 8 items, but administers them as a CAT. Consequently, respondents will answer a variable number of items. See CAT Stopping Rules below for details.
- The NIH Toolbox Perceived Rejection FF Age 18+ v2.0 included 8 items. It was replaced by the NIH Toolbox Perceived Rejection CAT Ages 18+ v3.0, which uses the same 8 items, but administers them as a CAT. Consequently, respondents will answer a variable number of items. See CAT Stopping Rules below for details.

NIH Toolbox v2.0 Measure	Corresponding NIH Toolbox v3.0 Measure	
	Name in NIH Toolbox v3.0 App	Name on Paper Form
NIH Toolbox Emotional Support FF Age 18+ v2.0	Emotional Support CAT Ages 18+	NIH Toolbox Emotional Support CAT Ages 18+ v3.0
NIH Toolbox Friendship FF Age 18+ v2.0	Friendship CAT Ages 18+	NIH Toolbox Friendship CAT Ages 18+ v3.0
NIH Toolbox Instrumental Support FF Age 18+ v2.0	Instrumental Support CAT Ages 18+	NIH Toolbox Instrumental Support CAT Ages 18+ v3.0



NIH Toolbox Loneliness FF Ages 18+ v2.0	Loneliness FF Ages 18+	NIH Toolbox Loneliness FF Ages 18+ v3.0
NIH Toolbox Perceived Hostility FF Ages 18+ v2.0	Perceived Hostility CAT Ages 18+	NIH Toolbox Perceived Hostility CAT Ages 18+ v3.0
NIH Toolbox Perceived Rejection FF Age 18+ v2.0	Perceived Rejection CAT Ages 18+	NIH Toolbox Perceived Rejection CAT Ages 18+ v3.0

Pediatric and Parent Report

- The NIH Toolbox Emotional Support FF Ages 8-17 v2.0 included 7 items. It was replaced by the NIH Toolbox Emotional Support CAT Ages 8-17 v3.0, which uses the same 7 items, but administers them as a CAT. Consequently, respondents will answer a variable number of items. See CAT Stopping Rules below for details.
- The NIH Toolbox Friendship FF Ages 8-17 v2.0 included 5 items. It was replaced by the NIH Toolbox Friendship CAT Ages 8-17 v3.0, which uses the same 5 items, but administers them as a CAT. Consequently, respondents will answer a variable number of items. See CAT Stopping Rules below for details.
- Aside from the Pediatric Emotional Support and Friendship FFs mentioned above, the remaining Pediatric and Parent Report 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 Emotional Support FF Ages 8-17 v2.0	Emotional Support CAT Ages 8-17	NIH Toolbox Emotional Support CAT Ages 8-17 v3.0
NIH Toolbox Friendship FF Ages 8-17 v2.0	Friendship CAT Ages 8-17	NIH Toolbox Friendship CAT Ages 8-17 v3.0
NIH Toolbox Loneliness FF Ages 8-17 v2.0	Loneliness FF Ages 8-17	NIH Toolbox Loneliness FF Ages 8-17 v3.0
NIH Toolbox Perceived Hostility FF Ages 8-17 v2.0	Perceived Hostility FF Ages 8-17	NIH Toolbox Perceived Hostility FF Ages 8-17 v3.0
NIH Toolbox Perceived Rejection FF Ages 8-17 v2.0	Perceived Rejection Ages 8-17	NIH Toolbox Perceived Rejection FF Ages 8-17 v3.0
NIH Toolbox Empathic Behaviors Parent Report CAT Ages 3-12 v2.0	Empathic Behaviors Parent Report CAT Ages 3-12	NIH Toolbox Empathic Behaviors Parent Report CAT Ages 3-12 v3.0
NIH Toolbox Peer Rejection Parent Report FF Ages 3-12 v2.0	Peer Rejection Parent Report FF Ages 3-12	NIH Toolbox Peer Rejection Parent Report FF Ages 3-12 v3.0
NIH Toolbox Positive Peer Interaction Parent Report FF Ages 3-12 v2.0	Pos. Peer Interact. Parent Report FF Ages 3-12	NIH Toolbox Positive Peer Interaction Parent Report FF Ages 3-12 v3.0
NIH Toolbox Social Withdrawal Parent Report FF Ages 3-12 v2.0	Social Withdrawal Parent Report FF Ages 3-12	NIH Toolbox Social Withdrawal Parent Report FF Ages 3-12 v3.0



- The following Pediatric and Parent Report measures 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 Maternal Relationship FF Ages 8-17 v2.0	N/A (v3.0 unavailable)	N/A (v3.0 unavailable)
NIH Toolbox Paternal Relationship FF Ages 8-17 v2.0	N/A (v3.0 unavailable)	N/A (v3.0 unavailable)
NIH Toolbox Negative Parent Relationship Parent Report FF Ages 3-12 v2.0	N/A (v3.0 unavailable)	N/A (v3.0 unavailable)
NIH Toolbox Positive Parent Relationship Parent Report FF Ages 3-12 v2.0	N/A (v3.0 unavailable)	N/A (v3.0 unavailable)
NIH Toolbox Sibling Rejection Parent Report FF Ages 3-12 v2.0	N/A (v3.0 unavailable)	N/A (v3.0 unavailable)

CAT Stopping Rules

Measure	Stopping Rules
NIH Toolbox Emotional Support CAT Ages 18+ v3.0 NIH Toolbox Friendship CAT Ages 18+ v3.0 NIH Toolbox Instrumental Support CAT Ages 18+ v3.0 NIH Toolbox Perceived Hostility CAT Ages 18+ v3.0 NIH Toolbox Perceived Rejection 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 Emotional Support CAT Ages 8-17 v3.0	- Minimum = 4 items - Stop when one of these occurs: 7 items are administered OR - The standard error is below 0.3 (theta metric)
NIH Toolbox Friendship CAT Ages 8-17 v3.0	- Minimum = 4 items - Stop when one of these occurs: 5 items are administered OR - The standard error is below 0.3 (theta metric)



NIH Toolbox Empathic Behaviors Parent Report CAT Ages 3-12 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 Empathic Behaviors Parent Report CAT Ages 3-12 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)