ALCOHOL USE
MEASURE DIFFERENCES

A brief guide to differences between the PROMIS® Alcohol Use instruments:

ADULT
PROMIS Item Bank v1.0 – Alcohol Use
PROMIS Short Form v1.0 – Alcohol Use 7a

ABOUT ALCOHOL USE

The PROMIS adult Alcohol Use item bank assesses drinking patterns (e.g., quantity and frequency of consumption, time spent drinking, episodes of heavy drinking), cue-based drinking (internal states and external contexts), cravings to drink (e.g., urgency, compulsivity), and efforts to control drinking (e.g., difficulty in limiting drinking) that indicate problematic drinking, particularly at the high end of the severity continuum. This bank, however, also provides good precision at moderate and low severity drinking levels (unlike many traditional measures of alcohol use and abuse). Although negative consequences are often associated with problem drinking, these consequences are assessed by a separate bank.

Alcohol Use instruments are available for adults (ages 18+).

INTRODUCTION TO ASSESSMENT OPTIONS

There are two administration options for assessing Alcohol Use: short form 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 (37 items in total). For both short form and CAT, participants are first asked to answer a screener question which inquires whether they have consumed any type of alcoholic beverage in the past 30 days. If a participant responds in the affirmative the remainder of the instrument is administered. If the participant responds in the negative the system bypasses the remainder of the short form or CAT and moves on to the next instrument in the assessment. 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 Alcohol Use short form and CAT instruments.

CAT: A minimum number of items (4 for adult CATs) must be answered in order to receive a score for the Alcohol Use 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 CATs), 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 alcohol use 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.
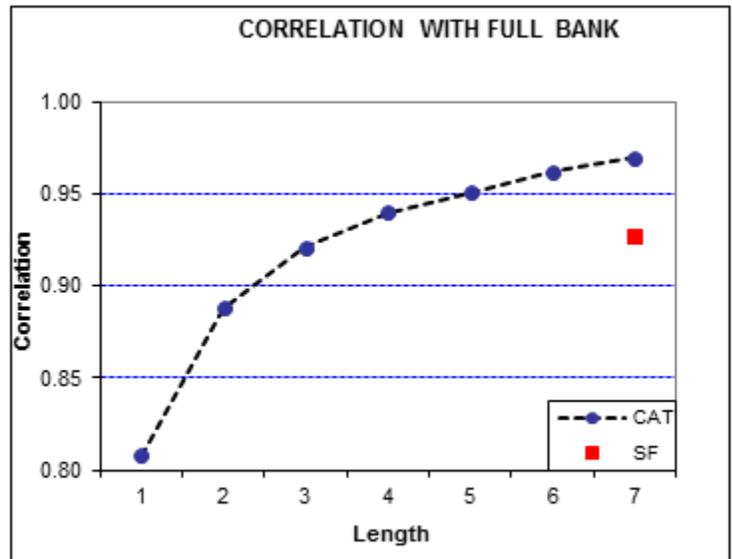

<div align="right">Figure 1</div>

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 Alcohol Use, a T-score of 60 is one SD higher than average. These individuals have more alcohol consumption, cravings, or difficulty controlling their drinking.   By comparison, an Alcohol Use T-score of 40 is one SD below average. These individuals have less alcohol use, cravings or difficulty controlling their drinking.

STATISTICAL CHARACTERISTICS

There are four key features of the score for Alcohol Use:

- **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.

In Figure 2 (Adult 7a short form), the two dotted horizontal lines 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 region marks the range of the scale where measurement precision is comparable to the reliability of .90 for the seven-item form. Figure 2 also tells us where on the scale the form is most informative based upon the T-score.

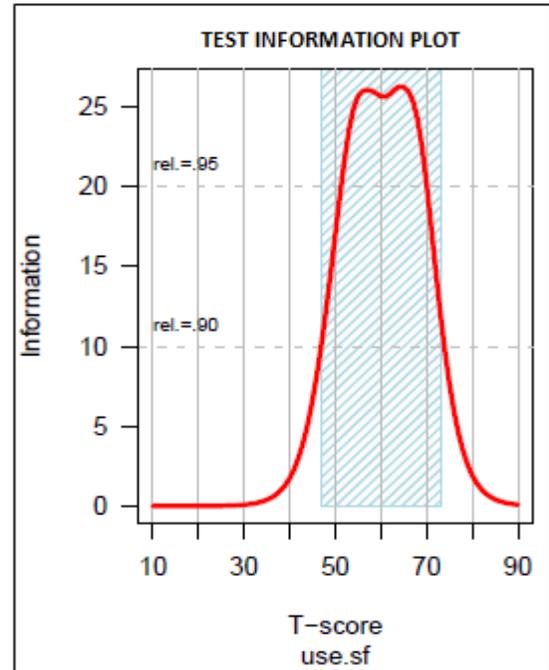More information is available online at HealthMeasures.net.

Figure 1

PREVIEW OF SAMPLE ITEM

Figure 3 is an excerpt from the paper version of the adult seven-item short form. This is the paper version format used for all Alcohol Use instruments. It is important to note, CAT is not available for paper administration.

	In the past 30 days...	Never	Rarely	Sometimes	Often	Almost always
CONS01	I spent too much time drinking	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
CONS07	I drank heavily at a single sitting	☐ 1	☐ 2	☐ 3	☐ 4	☐ 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 (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_scoringservice).