



CONNERS CATA[®] ONLINE

Conners Continuous Auditory
Test of Attention[®]



PRECISION MEETS PROGRESS—ASSESSING AUDITORY ATTENTION

DEVELOPED BY



MHS

Beyond Assessments

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How the Conners Continuous Auditory Test of Attention® Online (Conners CATA® Online) Works

The Conners CATA® Online assesses auditory processing and attention-related problems in individuals aged 8 years and older. By indexing the respondent's performance in areas of Inattentiveness, Impulsivity, Sustained Attention, Auditory Laterality, and Auditory Mobility, the Conners CATA Online can be a useful adjunct to the process of diagnosing Attention-Deficit/Hyperactivity Disorder (ADHD) and other neurological conditions related to auditory attention. The updated version of the measure transforms it from standalone software versions to a web application that can be accessed on multiple computers, while maintaining the psychometric properties and paradigm. Now fully digital, Conners CATA Online helps you access the measure, administer, score, and generate a report from anywhere with an internet connection.

The Conners CATA Online measures a respondent's performance in areas of Inattentiveness, Impulsivity, and Sustained Attention, making it a useful tool in evaluating attention disorders and neurological functioning. During the 14-minute, 200-trial administration, respondents are presented with high-tone sounds that are either preceded by a low-tone warning sound (warned trials) or played alone (unwarned trials). Respondents are instructed to respond only to high-tone sounds on warned trials and to ignore those on unwarned trials. On most trials, the low-tone and the high-tone sounds are played in the same ear (non-switch trials). On switch trials, the low-tone warning sound and the high-tone target sound are played in different ears, requiring the respondent to shift auditory attention from one ear to the other.

Quick Reference

Age:
8+

Administration:
Individual-completed

Administration time:
14 minutes

Paradigm:
Click on warned high tone, ignore unwarned high tone

Areas of Attention Measured:
Inattentiveness, Impulsivity, Sustained Attention, Auditory Laterality, Auditory Mobility

Normative Sample:
N=1,080

Format:
Administer and Score Online

Device Type:
Desktop

Qualifications:
B-level

The Conners CATA Online provides objective information about an individual's performance in attention tasks, complementing information obtained from rating scales such as the Conners 4th Edition™ (Conners 4®). For a more in-depth assessment of attention, the Conners CATA Online can also be used in conjunction with the Conners Continuous Performance Test™ 3rd Edition Online (Conners CPT™ 3 Online), which is a task-oriented computerized assessment of attention-related problems in individuals aged eight years and older.

Key Features

Normative Data:

- Consists of 1,080 cases representative of the U.S. population
- Normed on a variety of computer models and operating systems

- Easy-to-understand clinical likelihood statements** based on *T*-scores and displayed as Very High, High, Moderate, or Minimal

Digital Access:

- Easy client set up, administration, and customizable reports on the MHS Online Assessment Center+
- Free digital manual
- Quick access to inventory management, account balance, and usage history

Scores and Dimensions of Attention Measured:

- Inattentiveness
- Impulsivity
- Sustained Attention
- Auditory Laterality
- Auditory Mobility

Comprehensive Dimensions of Attention

The scores and scoring algorithms help assessors pinpoint the exact nature of the respondent's attention problems. The Conners CATA Online uses both standardized and raw scores to determine not only the respondent's performance overall but also in five different aspects of attention: Inattentiveness, Impulsivity, Sustained Attention, Auditory Laterality, and Auditory Mobility.

Dimension	Score	Description
Inattentiveness	Detectability (d')	Ability to discriminate targets (warned high tone) from non-targets (unwarned high tone)
	Omissions	Missed targets
	Commissions	Incorrect responses to non-targets
	Hit Reaction Time (HRT)	Response speed
	HRT Standard Deviation (SD)	Response speed consistency
	Variability	Variability of response speed consistency
Impulsivity	HRT	Response speed
	Commissions	Incorrect responses to non-targets
	Perseverations	Incorrect responses before targets
Sustained Attention	HRT Block Change	Change in response speed across blocks of trials
	Omissions by Block	Missed targets by block
	Commissions by Block	Incorrect responses to non-targets by block
Audio Laterality	HRT & Hits% Left vs. Right Ear	Preference for left vs. right targets
Auditory Mobility	HRT & Hits% on Switch vs. Non-Switch Trials	Ability to switch attention from one ear to the other

Conners CATA Online Features Representative Normative Samples and Strong Psychometric Properties

The normative sample consists of 1,080 cases and is representative of the U.S. population in terms of key demographic variables such as gender, race/ethnicity, geographical region, and (parental) education level.

Demographic		Male	Female	Total	
		<i>N</i>	<i>N</i>	<i>N</i>	%
Ages 8-17	8-9	60	60	120	20.0
	10-11	60	60	120	20.0
	12-13	60	60	120	20.0
	14-15	60	60	120	20.0
	16-17	60	60	120	20.0
	Total	300	300	600	100.0
Ages 18+	18-34	80	80	160	33.3
	35-59	105	105	210	43.8
	60+	55	55	110	22.9
	Total	240	240	480	100.0

Demographic		Ages 8-17			Ages 18+		
		CATA		U.S. Population	CATA		U.S. Population
		<i>N</i>	%	%	<i>N</i>	%	%
Race/Ethnicity	White	330	55	55.1	321	66.9	67.0
	Hispanic	131	21.8	21.8	69	14.4	14.2
	Black	87	14.5	14.3	55	11.4	11.6
	Other	52	8.7	8.8	35	7.3	7.2
(Parental) Education Level	High School or Less	268	44.7	44.5	214	44.6	44.5
	Some College	179	29.8	30.0	146	30.4	30.0
	College or Higher	153	25.5	25.5	120	25	25.5
Region	Northeast	102	17	17.0	89	18.5	18.3
	Midwest	132	22	21.8	104	21.7	21.7
	South	222	37	37.2	176	36.7	37.0
	West	144	24	24	111	23.1	23.0
Total		600	100.0	100.0	480	100.0	100.0

Note. (Parental) Education Level reflects highest level of parents' education for youth (Ages 8-17), and highest level of respondent's education for adults (Ages 18+).

Reliability

Users can be confident that the Conners CATA Online will yield consistent and stable scores across administrations.

Internal Consistency

One measure of a test's internal consistency is split-half reliability, which has been previously used to establish the reliability of other continuous performance tests. Split-half reliability estimates of the Conners CATA Online scales were calculated for the normative and clinical samples. Results were very strong—across all scores, the median split-half reliability estimate was .95 for the normative and clinical samples (all correlations were significant, $p < .001$). These results indicate that the Conners CATA Online demonstrates excellent internal consistency for both the normative and the clinical groups.

Test-Retest Reliability

Test-retest reliability refers to the consistency of scores obtained from the same respondent on separate occasions over a specified period of time. To estimate the test-retest reliability of the Conners CATA Online, a sample of 69 respondents from the general population completed the Conners CATA Online twice with a 1- to 4-week interval between administrations. The median test-retest correlation was .64. These results suggest a good level of test-retest reliability.

Validity

Users can be assured that the Conners CATA Online will help detect attention deficits and differentiate clinical from non-clinical cases.

Discriminative Validity

Discriminative validity pertains to an instrument's ability to distinguish between relevant participant groups (i.e., the test's ability to differentiate between clinical and non-clinical groups). In order to conduct discriminative validity analyses, Conners CATA Online data were collected during the standardization process from 193 children and adults who had an existing ADHD diagnosis. Conners CATA Online scores from this ADHD sample were compared to a matched sample from the general population. Results indicated that differences were found between the ADHD sample and the matched general population sample on most measures with small to moderate effect sizes ($d = 0.10$ to 0.63). As expected, the ADHD sample demonstrated poorer performance (i.e., they had higher scores on the Conners CATA Online). In particular, the ADHD sample exhibited higher d' scores, suggesting they experienced more difficulty in distinguishing between target and non-target stimuli. Similarly, the ADHD sample made a greater number of errors (i.e., they had higher percentages of Commissions and Perseverative Commissions than did the general population sample) and showed more variability in their responses (i.e., higher HRT SD scores, when compared to the matched general population sample).



Incremental Validity

Another approach in establishing the Conners CATA Online's validity is to show how it works together with other measures of similar constructs in the assessment of attention problems. To provide evidence for this type of validity, samples were collected in which cases were scored on the Conners CATA Online and other measures of attention. Specifically, in a sample of 112 youth, parent-reports on the Conners 3rd Edition™ Online (Conners 3-P) were collected in addition to their scores on the Conners CATA Online and the Conners CPT 3 Online. Logistic regressions were conducted to determine how well scales from the Conners CATA Online improve the diagnostic efficacy of the Conners 3-P and Conners CPT 3 Online in predicting group membership into ADHD or general population groups. Results are presented in the table below. When the Conners 3-P, Conners CPT 3 Online, and Conners CATA Online scores were considered together, there was an overall correct classification rate (i.e., the ability to accurately predict group membership) of 93.8%, sensitivity (i.e., the ability to correctly detect ADHD cases) of 94.7%, and specificity (i.e., the ability to correctly detect general population cases) of 92.7%. These values were 9.9%, 8.7%, and 10.9%, respectively, higher than when the rating scale was used on its own. Furthermore, the Conners CATA Online added increased classification accuracy over and above the Conners 3-P and Conners CPT 3 Online.

Classification Statistic	Conners 3-P	Conners 3-P & Conners CATA	Conners 3-P & Conners CPT 3	Conners 3-P, Conners CPT 3 & Conners CATA
Overall Correct Classification (%)	83.9	88.4	88.4	93.8
Sensitivity (%)	86.0	91.2	89.5	94.7
Specificity (%)	81.8	85.5	87.3	92.7



Easy-to-Interpret Reports

The computer-generated scoring reports have been designed to guide assessors through each step of the recommended interpretation process.

There are two report types available for the Conners CATA Online:




The **Assessment Report**, which provides detailed results from a single administration. An individual's scores are compared to those in the normative sample, and elevations at the scale and subscale level are indicated.


The **Progress Report**, which provides an overview of change over time by combining and comparing results between two to four administrations. These reports are ideal to use when monitoring treatment and intervention effectiveness.



For more information and pricing,
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