

## Online Autism Screening & Skill Assessment Tool As Accurate As In-Person Screening & Assessment

An online screening and skills assessment tool called Skills Assessment developed by the Center for Autism and Related Disorders (CARD) for the evaluation of children with autism was as accurate as in-person screening and assessment. A comparison of the online skills assessment for over 3,000 skills across multiple domains of child development found that the indirect assessment of children's skills reported by parents or guardians had a high degree of agreement with direct observations by clinical professionals during in-person assessments.

Launched in 2011, the Skills Assessment is a web-based component of the Skills program, a larger tool developed by the Center for Autism and Related Disorders that gives parents, teachers, and professionals the ability to assess an individual's strengths and weaknesses, design individualized and comprehensive treatment teaching and intervention plans, and track progress. The program is based on the principles of applied behavior analysis, and provides the user with almost 4,000 lessons including worksheets, visual aids, tracking forms, and video lessons. The Skills Assessment helps clinical professionals develop individualized treatment plans for children with autism, based on parent or guardian answers to online assessment questions about a child's skills across developmental areas including language, social, play, adaptive, executive functions, cognition, motor skills, and academics.

These findings were reported in "Evaluation of the concurrent validity of a skills assessment for autism treatment" by Jonathan Tarbox, Ph.D., BCBA-D, and researchers at Center for Autism and Related Disorders. The study compared the assessment question answers of parents or guardians to direct tests of the skills of the 33 boys and six girls who participated. The children were all between the ages of three and ten years old, and lived in the Southern California, Central California, or Central Arizona regions. Thirty-six of the children had a diagnosis of autism spectrum disorder (ASD), based on the DSM-IV diagnostic criteria, and the remaining three children were diagnosed with multiple other developmental disorders including cerebral palsy, developmental delay, speech/language delay, and others. Each participant participated in a series of direct observation sessions at home or at a center specializing in early intensive behavioral intervention for children with ASD, and occurred over a period of 13 months. The maximum total duration of direct observation sessions for any individual was 30 hours, with a mean of 17.3 hours.

Curriculum domain scores were calculated by taking the total number of known skills and dividing that number by the total number of skills evaluated. The total number of skills tested per domain varied depending on the participant's age, and the feasibility of evaluating each skill in the individual participant's environment. Across all participants, there were a total of 36,467 individual skill tests. A Pearson product-moment correlation coefficient was then calculated for each curriculum domain score (as shown in the table below), to evaluate the degree to which results of the Skills Assessment items agreed with results from the direct skill tests. For this study, a correlation in the 0.6 range was defined as "moderate" concurrent validity while anything between 0.7 and 0.95 was defined as "high" concurrent validity.

Number of Participants Evaluated and Correlation Coefficients For Each Curriculum Domain		
Curriculum	# of Participants Evaluated	Correlation
Academic	37	0.949
Adaptive	31	0.646
Cognition	35	0.851
Executive Function	34	0.665
Language	34	0.954
Motor	34	0.747
Play	33	0.924
Social	35	0.738

The authors concluded that the moderate to high concurrent validity of the indirect Skills Assessment with direct assessments provides benefits because indirect assessment is less time consuming than an in-person direct assessment. Additionally, indirect assessments could help to expand access to research-based information on ASD treatment to remote or underserved regions. The authors did not suggest complete reliance on indirect assessments; rather, they recommended supplementing a comprehensive indirect assessment with brief direct tests for specific skills to confirm the indirect assessment results before teaching the skills.

The Center for Autism and Related Disorders (CARD) is a for-profit organization founded in 1990 that provides treatment at 26 centers worldwide for individuals of all ages who are diagnosed with autism spectrum disorder. Treatments are based on the principles of applied behavior analysis. CARD offers Skills as an online autism solution. The full Skills program subscription is available to parents at \$850 a year for one child, and to a professional serving ten children a year at \$4,850. The Skills Assessment is used in over 14 countries, in several school districts, and by autism treatment provider organizations and insurance companies nationwide.

The full text of "Evaluation of the concurrent validity of a skills assessment for autism treatment" was published December 10, 2013 by *Research in Autism Spectrum Disorders*. A free abstract is available online at http://www.sciencedirect.com/science/article/pii/S175094671300250X (accessed February 4, 2014).

OPEN MINDS reported on the Skills commercial launch in "The Center for Autism & Related Disorders Launches Web-Based Training for Parents & Professionals." The article is available at www.openminds.com/market-intelligence/premium/omol/2011/012411idd1.htm.

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