

Appendix: Table showing main properties of common mental health screening and assessment tools

Psycho-social Measure	Tools and Description	Number of Items and Format	Age Group	Administration and Scoring Time	Psychometric Properties	Cultural Consideration _a	Cost and Developer
Broad Spectrum Psychosocial Screening Tests	Pediatric Symptom Checklist – 17 items (PSC-17) <i>General psychosocial screening and functional assessment in the domains of attention, externalizing, and internalizing symptoms</i>	17 items Self-administered Parent or youth >11 y	4 to 16 y	<5 min Scoring: 2 min	Subscales have obtained reasonable agreement with validated and accepted parent-report instruments. Cronbach alpha was high for each subscale.	English, Spanish Chinese, Reading level: fifth to sixth grades	Freely accessible
	Pediatric Symptom Checklist – 35	35 min Self-administered Parent or youth >11 y	4 to 16y	<5 min Scoring: 1 to 2 min	General psychosocial screen	English, Spanish Chinese, Japanese	Freely accessible

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	<p>items (PSC-35)</p> <p><i>General psychosocial screening and functional assessment in the domains of attention, available externalizing, and internalizing symptoms</i></p>				<p>Sensitivity: 80% to 95%</p> <p>Specificity: 68% to 100%</p>	<p>Pictorial version</p>	
	<p>(Strengths and Difficulties Questionnaire (SDQ)</p> <p><i>General psychosocial screening for emotional</i></p>	<p>25 items</p> <p>Self-administered</p> <p>Parent, teacher, or youth 11 to 17y</p>	<p>3 to 17y</p>	<p>10 min</p>	<p>Reliable and valid in various populations and for a number of general mental health conditions</p> <p>Sensitivity: 63%</p>	<p>>40 languages</p>	<p>Freely accessible</p>

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	<p><i>symptoms, conduct problems, hyperactivity/inattention, peer relationship problems, and pro-social behavior (not included in score); a separate scale assesses impact of symptoms on global functioning.</i></p>				<p>to 94% Specificity: 88% to 98%</p>		
	<p>Early Childhood Screening Assessment (ECSA) <i>Assesses emotional and</i></p>	<p>40 items, 3-point Likert scale responses, and an additional option for parents to</p>	<p>18 to 60mo</p>	<p>10 to 15 min Scoring time: 1 to 2 min</p>	<p>Should be administered by health professional or mental health professional</p>	<p>English, Spanish, Romanian Reading level: fifth grade</p>	<p>Freely accessible</p>

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	<i>behavioral development in young children and maternal distress.</i>	identify whether they are concerned and would like help with an item			whose training and scope of practice include interpreting screening tests and interpreting positive or negative screens for parents. Sensitivity: 86% Specificity: 83%		
	Ages and Stages Questionnaire-Social Emotional (ASQ-SE) <i>Screens for social-emotional problems in young children.</i>	From 19 items (6 mo) to 33 items (30 mo) Parent report	6 to 60 mo	10 to 15 min Scoring: 1 to 5 min	(can be scored by paraprofessionals) Sensitivity: 71% to 85% Specificity: 90% to 98% To be used in	English, Spanish Reading level: sixth grade	Proprietary (\$194.95/kit)

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					<p>conjunction with ASQ or other tool designed to provide information on a child's communicative, motor, problem-solving, and adaptive behaviours</p>		
	<p>Child Behavior Checklist (CBCL) and Achenbach System of Empirically Based Assessments</p>	<p>Parent or caregiver/teacher for 1.5 to 5 y: 99 items Parent/teacher: 118 items Direct observation</p>	<p>1.5 to 5y 6 to 18y</p>	<p>15 to 20 min (both age groups)</p>	<p>Test-retest: 0.95 to 1.00 Inter-rater reliability: 0.93 to 0.96 Internal consistency: 0.78 to 0.97</p>	<p>Spanish can be ordered but tool has been translated in 74 languages Norms: African-American, Caucasian,</p>	<p>Proprietary (ASEBA) (\$310 to \$435/kit)</p>

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	<p>(ASEBA) <i>DSM-oriented scales assess for</i>(1.5 to 5 y) Pervasive developmental problems (6 to 18 y) Somatic problems Conduct problems (Both groups) Affective problems Anxiety problems Oppositional-defiant problems Attention-deficit/hyperactivity</p>				<p>Criterion validity was assessed and found to be acceptable.</p>	<p>Hispanic/Latino, other</p>	

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	problems						
	<p>BASC-2 (Behavior Assessment System for Children-2nd edition)82-84 and Behavioral and Emotional Screening System for Children-second edition (BESS)</p> <p><i>Assesses adaptive and problem behaviors.</i></p>	<p>Parent version: 134 to 160 items</p> <p>Teacher version: 100 to 139 items</p> <p>Youth version BESS: 25-30</p>	2 to 21y	<p>Parent /Teacher versions: 10 to 20 min</p> <p>Youth version: 30 min</p> <p>BESS: 5-10 min</p>	<p>Electronic scoring available</p> <p>Must be administered by qualified personnel</p> <p>Acceptable to strong reliability and validity</p>	English, Spanish	Proprietary (\$132.20 to \$1,655/kit)
	Brief Infant Toddler Social Emotional	42 items Parent report Child care	12 to 36 mo	7 to 10 min	Nationally standardized on 100 children.	English, Spanish	Proprietary (\$108.60/kit)

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	Assessment (BITSEA) <i>Screens for social-emotional problems in young children.</i>	report			Excellent test-retest reliability. Detected 85% to 90% CBCL.		
ADHD Screening	Vanderbilt Diagnostic Rating Scales <i>Elicits symptoms in domains of inattention, disruptive behavior, anxiety, and depression; separate scale assesses functioning in the area of school</i>	Parent: 55 items Teacher: 43 items Parent/teacher follow-up: 26 items plus items on medication side effects	6 to 12y	10 min	Internal consistency and factor structure are acceptable and consistent with DSM-IV for ADHD. Rates inattention, impulsivity/hyperactivity, ODD, CD, depression/	English, Spanish	Freely accessible

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	<i>performance.</i>				<p>anxiety, and performance.</p> <p>The performance section of the teacher version has high correlation with the performances questions of the SDQ (0.97). The performance section of the parent version does not have data about its concurrent validity at the current time,</p>		

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					but can provide information about performance to be clarified in the interview with the family.		
	Conners Rating Scales- Revised <i>Elicits symptoms in domains of oppositionality, cognitive problems/inattention, hyperactivity, anxiety-shyness, perfectionism, social problems, psychosomatic problems.</i>	Parent: 80 items Teacher: 59 items Self: 87 items	3 to 17y for parent/teacher 12 to 17y for self	20 min	6 distinct scales Age and gender norms based on more than 11,000 ratings.	English, Spanish	Proprietary(\$273/kit)

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	Revised Swanson, Nolan, and Pelham (SNAP-IV-C) Rating Scale Questionnaire (Swanson et al, 1983); derived from the Conners index. <i>Elicits symptoms of ADHD and other DSM-IV disorders that may overlap with or masquerade as ADHD.</i>	90 items Parent Teacher	6 to 18 y	10 min	Coefficient alpha for overall parent ratings is 0.94. Internal consistency, item selection, and factor structure were found acceptable and consistent with the constructs in DSM-IV.	A number of languages: English Chinese,	Freely accessible
	ADHD Rating Scale-IV85,86	Parent, teacher 18 items	5 to 17 y	10 to 20 min	Internal consistency	English, Spanish	Proprietary (\$46)

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	<i>Rates symptoms in domains of attention, impulsivity/hyperactivity.</i>				(coefficient alphas) for inattention and hyperactivity-impulsivity factors greater than 0.90, test-retest reliability greater than 0.80 for both factors, and significant correlations with concurrent direct observations and with other behavior rating scales		

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Emotional and Behavioural Screening	Conduct Disorder Scale90 <i>Rates symptoms in domain disruptive behavior.</i>	40 items Parent Teachers Siblings	5 to 22 y	5 to 10 min	The test was standardized on1,040 persons representing the following diagnostic groups: of normal, gifted and talented, mentally retarded, ADHD, emotionally disturbed, learning disabled, physically handicapped, and persons with conduct	Not described	Proprietary(\$102/kit)

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					disorder. Norms were developed based on 644 representative individuals with a conduct disorder.		
	CDI (Child Depression Inventory)102 <i>Screens for depression.</i>	Parent: 17 items Teacher: 12 items Youth: 27 items (Y Short-Form: 10 items)	7 to 17 y	5 to 10 min (27-item)	Internal consistency coefficients range from 0.71 to 0.89 and the test-retest coefficients range from 0.74 to 0.83.	English, Spanish Reading level: first grade	Proprietary (\$250/kit)
	Spence Children's Anxiety Scale (SCAS)	Parent: 35 to 45 Student: 34 to 45	Parent: 2.5 to 6.5 y Student: 8 to 12 y	5 to 10 min	Coefficient alpha: 0.9 to 0.92 Test-retest: 0.60 to 0.63	Available in a variety of languages	Freely accessible

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	<i>Assesses for anxiety. Subscales include panic/agoraphobia, social anxiety, separation anxiety, generalized anxiety, obsessions/compulsions, and fear of physical injury.</i>				Normative data: Available for males/females 8 to 19 y from various countries (no US data available)		
	Self-Report for Childhood Anxiety Related Emotional Disorder (SCARED) <i>Assesses for</i>	41 items Parent Youth	8+ y	5 min Scoring: 1 to 2 min	Coefficient alpha: 0.9	English	Freely accessible

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	<i>anxiety – but not specifically OCD or PTSD.</i>						
	Center for Epidemiological Studies–Depression Scale (CES-D) – modified version for children and adolescents <i>Screens for depression and emotional turmoil.</i>	20 items	6 to 17 y	5 to 10 min	Used in adult populations. Scores above 15 can be indicative of significant levels of depressive symptoms. Modified version for children and adolescents may not discriminate well between depressed and nondepressed	Mexican adolescents French English, Spanish Reading level: sixth grade	Freely accessible

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					adolescents. Sensitivity: 71%; Specificity: 57%		
Autism and Social Communication Screening	Modified Checklist for Autism in Toddlers (M-CHAT) Screens for children at risk of autism.	Parent-completed 23 items	16-48 mo	5-10 min	Standardization sample included 1293 children screened, validated using ADI-R, ADOS-G, CARS, DSM-IV; sensitivity: 0.85-0.87 (moderate); specificity: 0.93-0.99 (high)	English, Spanish, Turkish, Chinese, and Japanese versions available	Freely accessible
	Social Communication Questionnaire (SCQ) (formerly	Parent-completed 40 items available in 2	4 y and above	5-10 min	Validated using the ADI-R and DSM-IV on 200 subjects	English and Spanish versions available	Proprietary \$105 + forms @\$1.60 each

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	Autism Screening Questionnaire-ASQ) Screens for children at risk of autism.	forms: lifetime and current;			sensitivity: 0.85 (moderate); specificity: 0.75 (moderate)		
	Autism Spectrum Screening Questionnaire (ASSQ) Screens for children at risk of AS and other high-functioning disorders on the autism spectrum.	Parents, Teachers 27 items that are rated on a 3-point scale	7 - 16 years	5 - 10 min	Cut-off score for parent >18 and teacher > 21 with sensitivity of 0.91 and specificity of 0.62 to 0.7.	English, Norwegian, Finnish	Freely accessible http://gillbergcentre.gu.se/digitalAssets/1587/1587455_assq-english-2016-final.pdf
	The Childhood	Parents,	5- to 11-year	10 - 15 min	Cut-off score of	Over 16	Freely accessible

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	Autism Spectrum Test (CAST), formerly known as the Childhood Asperger Screening Test Screens for children at risk of autism	Teachers 37 items that are rated on a 3-point scale			15 or greater indicates the need for further evaluation. Specificity 0.98.	languages	https://www.autismresearchcentre.com/arc_tests

Source: Adapted from APA 2012 [101]