Communication and Symbolic Behavior Scales Developmental Profile Infant/Toddler Checklist

Article · January 2001

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Communication and Symbolic Behavior Scales Developmental Profile

Infant/Toddler Checklist

Amy M. Wetherby & Barry M. Prizant

Why Is Early Identification Important?

There is mounting evidence that intervention beginning during infancy or preschool age has a greater impact on outcomes for children and families than providing services at school age (Barnett & Escobar, 1990). It is estimated that every dollar spent on early intervention can save $7.16 in later special education, crime, welfare and other costs (Florida Starting Points, 1997). In spite of federal mandates for early intervention, limitations of the identification process diminish access to services (Meisels & Wasik, 1990). According to the 22nd Annual Report to Congress (US DOE, 2000), 11% of school-age children receive special education services. In contrast, only 4.9% of preschool children receive special education and only 1.6% of infants and toddlers receive early intervention services. These statistics indicate a significant need to improve early identification of children who are likely to require special education at school age. *In spite of federal legislation for early intervention, we are not reaching most of the children and families who need help as early as we should.*

- **Brain Research.** Recent advances in brain research show how the environment sculpts the young child's brain, as neurons form connections and mature in response to stimulation. The environment has the greatest potential to influence the child's developing brain during a child's first few years of life. Early experiences affect brain structure because the brain operates on a "use it or lose it" principle (Carnegie Task Force on Meeting the Needs of Young Children, 1994; Ounce of Prevention Fund, 1996). If a child does not have adequate emotional, physical, cognitive, and language stimulation, neurons can be lost permanently.

- **School Readiness.** Language development is one of the most critical school readiness skills. A child's capacity to talk and the size of their vocabulary when they enter kindergarten is predictive of success in school. Children with language problems in preschool are likely to face poor educational achievement at school age and are at increased risk to develop emotional and behavioral disorders (Baker & Cantwell, 1987; Prizant, Audet., Burke, et al., 1990). Follow-up studies of preschoolers with speech and language problems consistently demonstrate persisting communication impairments in a substantial proportion of children, and a high incidence of learning disabilities (Howlin & Rutter, 1987). Early intervention may prevent or decrease the severity of language delays in preschoolers, enhance school readiness, and increase later academic success in school.

- **Cumulative Effects of Poverty and Environmental Risk.** Research on young children raised in poverty demonstrates the dramatic detrimental impact that impoverished environments can have on a child's capacity to learn to talk. Strong correlations exist among the amount that parents talk to their children, socioeconomic status, children's vocabulary, and children's IQ (Hart & Risley, 1992; Walker, Greenwood, Hart, & Carta, 1994). As documented by Hart and Risley (1992), children's capacity for learning language is solidified by age 3, and the cumulative effects of the environment are evident. By school age, children in poverty are more likely to have developmental disabilities and behavior problems, and to require special education services than other children (Brooks-Gunn & Duncan, 1997; US DOE, 2000). Educational programs beginning at 3 or 4 years of age could not hope to overcome such vast differences in cumulative experience. The challenge that we face is how to intervene very early in children's lives to effectively enhance child development and impact on school readiness.

How Can We Find Children Earlier?

A child's level of communication development may be the best indicator of a developmental delay. Delays or disorders in communication development are the most prevalent symptom in children with disabilities (Wetherby & Prizant, 1996). When serious health or physical impairments are not present, a delay in language development may be the first evident symptom that a child is not developing normally. A language delay may be the primary problem or reflect delays in other domains (i.e., socioemotional, cognitive, motor, or sensory).

Most children develop their first words between 12 and 15 months, and it is common practice to wait until a child is 18 to 24 months and still not talking to refer the child for an evaluation. The challenge for service providers determining whether to make a referral for a developmental evaluation is two-fold. First, many children who are late in talking catch up on their own and need to be distinguished from children who will have persisting language

problems. Second, children with delayed language skills need to be identified even earlier before language develops. Research over the past two decades has identified a collection of **language predictors** that are indicators of later language development and promise earlier and more accurate identification (McCathren, Warren, & Yoder, 1996; Wetherby & Prizant, 1993; 1996). The following 7 language predictors have been identified:

1) Emotion and Use of Eye Gaze,
2) Use of Communication,
3) Use of Gestures,
4) Use of Sounds,
5) Use of Words,
6) Understanding of Words, and
7) Use of Objects.

These studies have demonstrated that children delayed only in the use of words are very likely to catch up on their own while children who are delayed also in several or many of the other predictors are likely to have persisting problems. **Instead of waiting for children to start using words, evaluating these language predictors is a promising solution to improve early identification.**

Description of the Checklist

The *Communication and Symbolic Behavior Scales Developmental Profile* ***Infant/Toddler Checklist*** is designed to measure the following 7 language predictors have been identified:

1) Emotion and Use of Eye Gaze,
2) Use of Communication,
3) Use of Gestures,
4) Use of Sounds,
5) Use of Words,
6) Understanding of Words, and
7) Use of Objects.

The Checklist is a first step in routine developmental screening for children 6 to 24 months of age to decide if a communication evaluation is needed. It is designed for use in pediatricians' offices during well-child check-ups or routine visits or in childcare centers or other facilities serving infants and toddlers and their families. The Checklist is to be completed by a caregiver, who may be either a parent or other person who nurtures the child on a daily basis. The Checklist takes about 5 to 10 minutes to complete. For caregivers who cannot answer the questions by reading them or writing the responses, the questions may be presented in an interview format with adequate explanations to clarify what is being asked.

The Checklist is one component of the ***Communication and Symbolic Behavior Scales–Developmental Profile*** (CSBS-DP) developed by Wetherby and Prizant (2001). The purpose of the CSBS-DP is twofold: first, for early identification of children who have or are at-risk for developing a communication impairment; and second, to monitor changes in a child's communication, expressive speech, and symbolic behavior over time. Three components make up the CSBS-DP, each designed to measure the 7 language predictors described above:

- a one-page Checklist completed by a parent in a doctor's office or child care facility;
- a four-page follow-up Caregiver Questionnaire (CQ); and
- a Behavior Sample (BS), taken while the child interacts with a parent present.

The Checklist and CQ provide important information about the child's abilities based on caregiver report. The BS uses a standard but flexible format for sampling and evaluating behavior from young children. Preliminary national norms are available on children between the ages of 6 and 24 months (Wetherby & Prizant, 2001). The CSBS-DP is available from Paul H. Brookes Publishing Co. at www.brookespublishing.com.

The Checklist can be used independently or along with the other components of the CSBS-DP. The Checklist is copyrighted (Wetherby & Prizant, 2001) but remains free for use and can be downloaded from the Internet and freely photocopied or duplicated by other methods. Files that include the Checklist and the Child and Family Information Form are available on the FIRST WORDS Project website to download from http://firstwords.fsu.edu. The Checklist should be completed by families or other caregivers and scored by healthcare or childcare service providers.

Instructions for Scoring the Checklist

The Checklist consists of 24 questions that range from 2 to 4 points within each of 7 Clusters. Give credit of 0 points for items checked *Not Yet,* 1 point for items checked *Sometimes*, or 2 points for items checked *Often*. For items that describe a series of numbers or ranges, give credit of 0 points for items checked *None* and 1 to 4 points for items containing numbered choices. For example, for item 16, give credit of 0 points for *none*, 1 point for *1 or 2*, 2 points for *3 or 4*, 3 points for *5 to 8*, and 4 points for *more than 8*. The total possible points for each Cluster are listed below.

CLUSTERS	Total Possible Points	
Emotion and Use of Eye Gaze	**8**	four 0-to-2 point questions
Use of Communication	**8**	four 0-to-2 point questions
Use of Gestures	**10**	five 0-to-2 point questions
Use of Sounds	**8**	two 0-to-2 point question & one 0-to-4 point question
Use of Words	**6**	one 0-to-2 point question & one 0-to-4 point question
Understanding of Words	**6**	one 0-to-2 point question & one 0-to-4 point question
Use of Objects	**11**	two 0-to-2 point questions, one 0-to-3 point question, & one 0-to-4 point question

The number of points earned in each Cluster should be totaled to yield seven individual Cluster scores. The scores can be tallied on the right side of the box labeled for each Cluster on the Checklist and then transferred to the Checklist Screening Report Form. On the Checklist Screening Report Form, the seven Cluster scores should be summed to yield three Composite scores and the three Composite scores should be summed to yield a Total score as listed below.

COMMUNICATION COMPOSITE:	
Emotion and Use of Eye Gaze	8 possible points
Use of Communication	8 possible points
Use of Gestures	10 possible points
	26 possible points
EXPRESSIVE SPEECH COMPOSITE:	
Use of Sounds	8 possible points
Use of Words	6 possible points
	14 possible points
SYMBOLIC COMPOSITE:	
Understanding of Words	6 possible points
Use of Objects	11 possible points
	17 possible points
COMMUNICATION COMPOSITE:	26 possible points
EXPRESSIVE SPEECH COMPOSITE:	14 possible points
SYMBOLIC COMPOSITE:	17 possible points
TOTAL	**57 possible points**

Validation of the Checklist

The Checklist was normed on a sample of 2,000 children between 6 and 24 months of age with the following racial and ethnic composition.

Racial Composition of Preliminary National Sample Screened with the Checklist

	American Indian or Alaskan	Asian or Pacific Islander	Black, not of Hispanic origin	Hispanic	White, not of Hispanic origin	Other or Unknown	Total
	9 (0.4%)	51 (2.6%)	543 (27.2%)	99 (5.0%)	1,236 (61.8%)	62 (3.1%)	2,000 (100%)

We studied the validity of the referral Checklist, the CSBS-DP BS, and a 24-month parent report measure of vocabulary production with standardized testing at 25 months of age. The Mullen Scales of Early Learning was used for the standardized testing, which measures gross motor, fine motor, visual recognition, receptive language, and expressive language. The sensitivity (true positives), specificity (true negatives), overreferral, and underreferral rates

for each measure were calculated with the standardized testing outcome as the gold standard as follows:

Measure	N	Mean Age	Sensitivity	Specificity	Overreferral	Underreferral
			True positives	*True negatives*		
Voc Prod	99	24 months	68%	78%	16%	8%
Checklist	142	14 months	78%	84%	17%	4%
CSBS-DP BS	88	21 months	89%	85%	10%	2%

These findings suggest that both our evaluation measures and vocabulary production are more accurate with young children in early identification than commonly used tests, such as the Denver Developmental Screening Test. Furthermore, both the Checklist and BS, which were collected under 24 months of age and up to a year before the standardized testing, had more precision than the vocabulary production measure, which was collected within a month of the standardized testing. These findings strongly support the validity of our evaluation measures and the importance of using a collection of prelinguistic measures, rather than the use of words alone, to improve early identification efforts.

Cut-offs for the Checklist

Cut-offs for the Composite and Total Scores have been derived from the CSBS-DP preliminary national norms based on performance of at least 1.25 standard deviation below the mean, which is the bottom 10th percentile (Wetherby & Prizant, 2001). These cutoff scores indicate that there are 4 scores that may fall in a range of concern or no concern—the 3 Composite scores and the Total score. A child should be referred for an evaluation if the Communication Composite, Symbolic Composite, or the Total Score are in the concern range. A child should be monitored carefully if the Expressive Speech Composite is in the concern range and should be referred for an evaluation if in the concern range on a second Checklist completed 3 months later.

The following pages are included below for use with the Checklist:

- the Checklist Screening Report form to go in the child's healthcare record;
- two sample reports to be given to parents, one for children who show no concerns and one for children with concerns; and
- a table that delineates the cut-offs for the three Composite scores and the Total score based on the preliminary national norms.

It is recommended that the Checklist be used to monitor development every 3 months between 6 and 24 months. Because it is based on parent report, it is possible for the caregiver to overestimate or underestimate the child's abilities. Therefore, this tool should be used along with a brief observation of the child by a healthcare or childcare service provider. Children who have scores in the concern range on any Composite or the Total score may have specific language impairments, hearing impairments, more general developmental delays, autism spectrum disorders, or with further development may only have speech impairments or may catch up. The Checklist should only be used to decide that further information or an evaluation is needed. Caution should be taken not to alarm parents. We find that many parents already have concerns about their child, especially as their child is approaching about 18 months of age and is behind in language development. The early intervention literature emphasizes the notion of multiple risk factors, and therefore a child's scores on this Checklist need to be considered in relation to other known biological or environmental risk factors. Clinical judgment should be used in making decisions about the need for further evaluation with these cutoffs as guidelines. Remember that the Checklist is not meant for differential diagnosis.

Computer Scoring of the Checklist

A computer software program for use with the Checklist is under development and will be available from Paul H. Brookes Publishing Co. at 800-638-3775 in the Summer, 2001. Users input the child's name, date of birth, date the Checklist was filled out, and select the responses to the 24 questions of the Checklist from a menu. The program calculates the raw scores, standard scores and percentiles for the Cluster scores, Composite scores and the Total Score. The program also provides a Checklist Screening report for the child's health record that includes a table with the raw scores, standard scores and percentiles and a Checklist Screening report for the family summarizing the screening results.

Communication and Symbolic Behavior Scales Developmental Profile

Infant/Toddler Checklist

Communication Screening Report for Health Record

Child's Name: _____

Date of Birth: _____

Date of Completion: _____

Chronological Age: _____

	Raw Scores		Concern*
Emotion & Use of Eye Gaze			
Use of Communication			
Use of Gestures			
COMMUNICATION COMPOSITE			
Use of Sounds			
Use of Words			
EXPRESSIVE SPEECH COMPOSITE			
Understanding of Words			
Use of Objects			
SYMBOLIC COMPOSITE			
TOTAL SCORE			

* Criterion levels for concern are set at more than 1.25 SD below the mean. If the Communication Composite, Symbolic Composite, OR Total Score are below criterion levels, this child should be referred for an evaluation. If the Expressive Speech Composite is below criterion level, this child should be monitored carefully and if it is still below criterion level on a second Checklist completed in 3 months, this child should be referred for an evaluation.

Based on the information provided on the *Infant/Toddler Checklist*, check the box that applies to this screening:

☐ This child currently communicates as expected for his or her age.

☐ This child should be referred for a developmental evaluation.

No Concern Sample Report

Child's Name: _____

Date of Birth: _____

Date of Completion: _____

Chronological Age: _____

Communication Screening Report for Parents

Thank you for taking the time to complete the CSBS-DP *Infant/Toddler Checklist* (Wetherby & Prizant, 2001). The *Checklist* was used to evaluate your child's ability to communicate for various purposes, such as requesting, protesting and sharing. It also considered ways your child communicates using gestures, eye gaze, sounds or words and plays with toys.

Based on the information you provided, **your child currently communicates as expected for his or her age.** Because new communication skills are emerging each month, it is important to monitor your child's communication development with another *Checklist* in 3 months.

****

Concern Sample Report

Child's Name: _____

Date of Birth: _____

Date of Completion: _____

Chronological Age: _____

Communication Screening Report for Parents

Thank you for taking the time to complete the CSBD-DP *Infant/Toddler Checklist*(Wetherby & Prizant, 2001). The *Checklist* was used to evaluate your child's ability to communicate for various purposes, such as requesting, protesting and sharing. It also considered ways your child communicates using gestures, eye gaze, sounds or words and plays with toys.

Based on the information you provided, **it is recommended that your child be referred for a developmental evaluation**. Early communication development is the foundation for learning to talk. Children who have early communication problems may develop behavior problems and have difficulty learning to read and write. It is important to catch communication problems in young children as early as possible.

Cutoff Scores for the *CSBS-DP*

Infant/Toddler Checklist

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		COMPOSITES			TOTAL
		Communication	**Expressive Speech**	**Symbolic**	
6 months	***No Concern***	8 to 26	2 to 14	3 to 17	13 to 57
	Concern	0 to 7	0 to 1	0 to 2	0 to 12
7 months	***No Concern***	8 to 26	2 to 14	3 to 17	14 to 57
	Concern	0 to 7	0 to 1	0 to 2	0 to 13
8 months	***No Concern***	8 to 26	4 to 14	4 to 17	16 to 57
	Concern	0 to 7	0 to 3	0 to 3	0 to 15
9 months	***No Concern***	9 to 26	4 to 14	4 to 17	18 to 57
	Concern	0 to 8	0 to 3	0 to 3	0 to 17
10 months	***No Concern***	12 to 26	5 to 14	5 to 17	23 to 57
	Concern	0 to 11	0 to 4	0 to 4	0 to 22
11 months	***No Concern***	13 to 26	5 to 14	6 to 17	25 to 57
	Concern	0 to 12	0 to 4	0 to 5	0 to 24
12 months	***No Concern***	14 to 26	6 to 14	7 to 17	28 to 57
	Concern	0 to 13	0 to 5	0 to 6	0 to 27
13 months	***No Concern***	15 to 26	6 to 14	8 to 17	29 to 57
	Concern	0 to 14	0 to 5	0 to 7	0 to 28
14 months	***No Concern***	16 to 26	7 to 14	9 to 17	33 to 57
	Concern	0 to 15	0 to 6	0 to 8	0 to 32
15 months	***No Concern***	18 to 26	7 to 14	10 to 17	35 to 57
	Concern	0 to 17	0 to 6	0 to 9	0 to 34
16 months	***No Concern***	18 to 26	7 to 14	11 to 17	36 to 57
	Concern	0 to 17	0 to 6	0 to 10	0 to 35
17 months	***No Concern***	18 to 26	7 to 14	11 to 17	37 to 57
	Concern	0 to 17	0 to 6	0 to 10	0 to 36
18 months	***No Concern***	18 to 26	8 to 14	11 to 17	38 to 57
	Concern	0 to 17	0 to 7	0 to 10	0 to 37
19 months	***No Concern***	18 to 26	8 to 14	11 to 17	38 to 57
	Concern	0 to 17	0 to 7	0 to 10	0 to 37
20 months	***No Concern***	19 to 26	8 to 14	12 to 17	39 to 57
	Concern	0 to 18	0 to 7	0 to 11	0 to 38
21 months	***No Concern***	19 to 26	9 to 14	12 to 17	40 to 57
	Concern	0 to 18	0 to 8	0 to 11	0 to 39
22 months	***No Concern***	19 to 26	9 to 14	12 to 17	40 to 57
	Concern	0 to 18	0 to 8	0 to 11	0 to 39
23 months	***No Concern***	19 to 26	9 to 14	13 to 17	42 to 57
	Concern	0 to 18	0 to 8	0 to 12	0 to 41
24 months	***No Concern***	19 to 26	9 to 14	13 to 17	42 to 57
	Concern	0 to 18	0 to 8	0 to 12	0 to 41
		Communication	**Expressive Speech**	**Symbolic**	**TOTAL**

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