

## **Using Normative Data From Typically Developing Children on the ABLLS-R® to Guide Program Development for Children With Autism**

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### **Abstract**

Practitioners who work with children diagnosed with an Autism Spectrum Disorder (ASD) are often asked to compare the developmental levels of a child with ASD to those of typically developing children. Although there are many standardized tests that allow for such comparisons on a broad level of functioning, there are no data available that allow for an analysis of differences in the acquisition of specific skills. The Assessment of Basic Language and Learning Skills-Revised (ABLLS-R®) has been a very effective criterion-referenced assessment that has allowed parents and practitioners to track the development of many specific skills of children with developmental delays. The present research was conducted to quantify the nature of specific skill acquisition by typically developing children across 25 repertoires. These repertoires are from four categories of skills: Basic Language and Learning Skills, Academic, Self-Help, and Motor Skills. Parents and professionals who have been trained in the administration of the ABLLS-R® assessed typically developing children using WebABLLS®, the internet-based application of the ABLLS-R®. Data were updated at three-month intervals in order to track the specific changes in skills over the course of the children's development. The subjects included 53 children (30 females & 23 males) ranging in age from 6 months to 72 months. These children were assessed and found to be within the normal range of intelligence (IQ average was 110, with a range of 86-131). Data were collected on the average percent of the total possible scores for each of the 25 repertoires at each 3-month interval. Additionally, the 3-month interval at which all subjects reached every scoring level for each of the 544 skills was obtained. These data demonstrate that the ABLLS-R® is able to quantify significant and consistent changes in the development of the skills as children's chronological age increases and demonstrate that typically developing children acquire most of the basic language and learning skills measured by the ABLLS-R® by the time they are 3 to 4 years of age. These data make it possible to use the criterion-based measures of this tool to identify specific differences in the acquisition of basic skills between children with ASD and typically developing children at specific ages.

### **Subjects**

A total of 53 children who were determined to be developing normally, and whose parents provided demographic data, and had agreed to have them assessed using standardized intellectual assessment were included in the research. Children were from a variety of geographical locations (both nationally and internationally) and of differing ethnic, socio-economic and educational backgrounds. All subjects were found to be within the normal range of intelligence (IQ average was 110, with a range of 86-131).

### **Procedure**

Scores of the children from 6 months of age to 72 months of age are recorded on WebABLLS® at every 3-month stage of development (i.e., 6 months, 9 months, 12 months). Data were collected by parents or professionals who both know the children and have received training in the administration of the ABLLS-R®. To ensure accuracy of the data, all data that are included have been monitored to ensure that they have been recorded within 2 weeks of the child reaching the specified ages. The raw data provided by the informants are then summarized to determine the average percent of every repertoire attained by children at each three-month interval. This calculation is obtained by summing the scores of all the items then dividing this score from the total possible score in a repertoire for each participant, then averaging the percent of repertoire scores of all the participants at each three-month interval. Additionally, the 3-month interval at which all levels of each of the 544 skills was reached by all subjects was determined. This score was determined by

calculating the 3-month interval at which at least 95% of the sample obtained that specific score or higher. Each participant was evaluated on the Vineland found to be within the normal range of intelligence (IQ average was 110, with a range of 86-131).

## **Results**

Data regarding the average percent of the total possible scores for each of the 25 repertoires demonstrate that there is a consistent increase in the development of those repertoires at each 3-month interval (See Average Percent of Repertoires per 3 Month Interval graphs). Each of the repertoires within the Basic Language and Learning Skills section reached an average of 95% or higher by 51 months of age (Cooperation as early as 27 months), with the exception of the Visual Performance and Intraverbal Skills that reached that level by 54 months of age. All of the repertoires within the Motor Skills reached an average of 95% or higher by 57 months of age, and all of the Self-Help Skills reached that level by 63 months of age. None of the Academic Skills repertoires reached the 95% criterion by 72 months of age except Writing Skills which reached that level at 66 months of age.

The ABLLS-R® scoring grids are presented for the specific scores mastered by all subjects at ages 2,3, 4 and 5 years of age. Visual inspection of the data reveals that most of the skills in the cooperation, receptive language, motor and vocal imitation, and mand repertoires are mastered by all typically developing children by four years of age. There were increases in the percent of skills mastered by all the children between four to five years of age, with almost all of the skills mastered in the Basic Language and Learning Skills, Self-Help Skills and Motor Skills sections by the time the subjects were 5 years of age. By that same age, only a few of the Reading and Spelling skills were mastered and only over half of the Math and Writing Skills were mastered by all subjects.

## **Discussion**

The data clearly indicate that typically developing children demonstrate most of the basic language and learning skills measured by the ABLLS-R® by the time they are 3 to 4 years of age. However it is important to note that between 4 and 5 years of age there is still a significant amount of skill development demonstrated by many typically developing children in the visual performance and intraverbal repertoires.

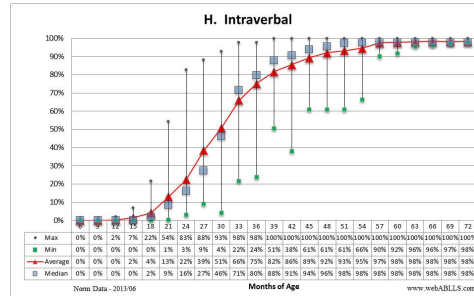
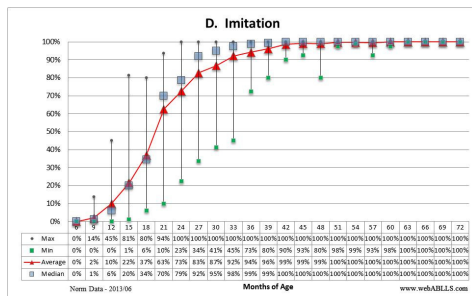
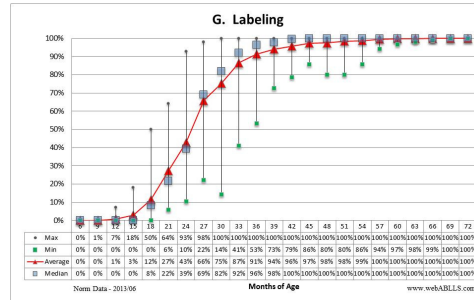
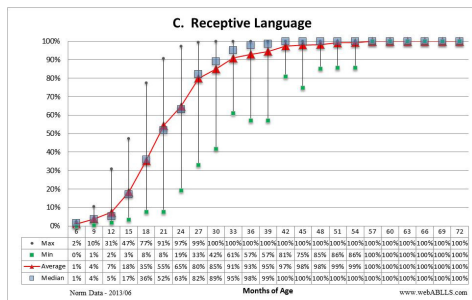
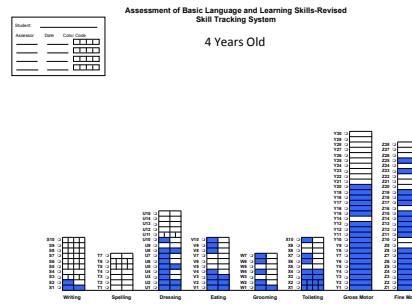
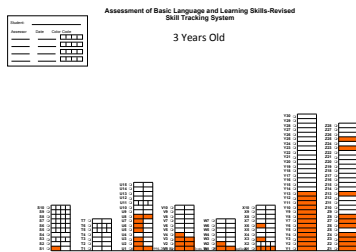
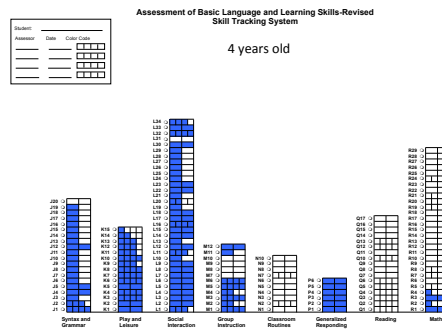
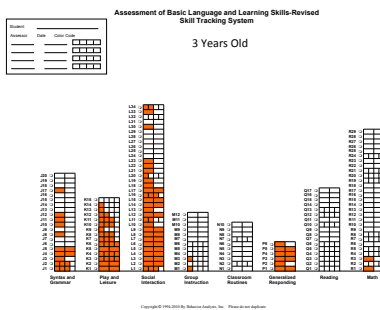
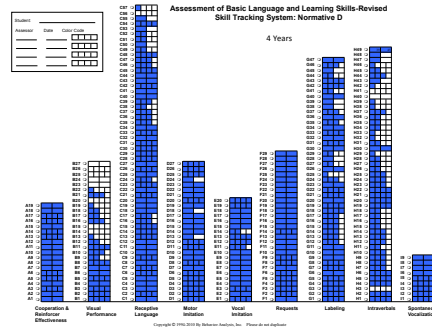
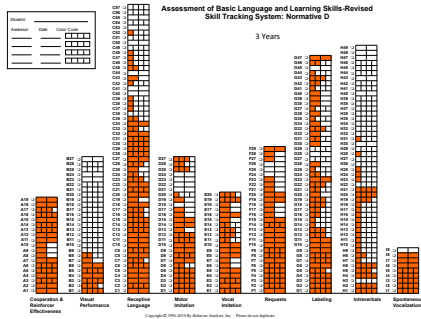
These data identify the 3-month interval at which all children demonstrate mastery of each score level of the individual skills within each repertoire, and to identify at which age each skill is mastered at the highest criterion level. These normative data can be used by parents and educators to identify developmentally appropriate learning objectives based upon a child's current level of skills.

Although the data reported by the observers are quite consistent for most of the children at a particular age, there is still a considerable amount of individual variation in the skills at any age. The variation in skills can be attributed to both actual differences in skills and also to individual differences in the scoring of specific skills by different observers. Further analysis of the sequence for children to acquire specific skills across each repertoire remains to be completed, but should prove invaluable for individuals who develop IEPs for children with autism.

**Data regarding the 3-month interval in which every score of each skill is mastered and representative samples of the data presented in this poster will be posted on WebABLLS.com**

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For further information visit [PartingtonBehaviorAnalysts.com](http://PartingtonBehaviorAnalysts.com)**

# Normative data regarding typically developing children on the WebABLLS Partington & Bailey (2014)



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