

**CDE Notice of Copyright
Bayley Scales of Infant Development (Bayley III, BSID)**

Availability	<p>Please visit this website for more information about the instrument: Bayley Scales_of Infant and Toddler Development®, Third Edition (Bayley-III®)</p> <p>Please click here for permission requests.</p>
Classification	Supplemental – Sickle Cell Disease (SCD)
Short Description of Instrument	<p>Construct measured: Cognitive, Language, Motor, Social-Emotional, Adaptive Behavior</p> <p>Generic vs. disease specific: Generic</p> <p>Means of administration: Examiner and/or Parent administered.</p> <p>Intended respondent: Administrator.</p> <p>Background: The Bayley Scales of Infant Development (BSID) (Bayley III) is designed to assess the global development of infants ages 1 to 42 months. The Bayley is used to describe the current developmental functioning of infants and toddlers and to assist in diagnosis and treatment planning for infants with developmental delays or disabilities. It is frequently used in research to describe the developmental status of children with medical conditions and developmental disabilities.</p> <p>Overview: The Bayley Scales were first published by Nancy Bayley in <i>The Bayley Scales of Infant Development</i> (Bayley, 1969), with a second edition in 1993 (Bayley, 1993) and the current edition published in 2005 (Bayley 2005). The scales have been used extensively worldwide to assess the development of infants and toddlers. It is the most commonly used measure of development in this age range in both clinical and research settings. It is administered by examiners who are experienced clinicians specifically trained in Bayley test procedures. The examiner presents a series of test materials to the child and observes the child's responses and behaviors. The test contains items designed to identify young children at risk for developmental delay.</p> <p>There are five scales. Cognitive, Language and Motor Scales are administered by a clinician and the Social-Emotional and Adaptive Behavior Scale are completed by a parent or caregiver. The Cognitive Scale assesses: play skills; information processing (attention to novelty, habituation, memory, and problem-solving); counting and number skills. The Language Scale contains both expressive and receptive language subtests, assessing communication skills (language, pre-language skills, and gestures). The Motor Scale has two subtests, the Gross Motor and Fine Motor. The Social- Emotional Scale, based on The Greenspan Social-Emotional Growth Chart: A Screening Questionnaire for Infants and Young Children, assesses</p>

	<p>emotional and social functioning as well as sensory processing. The Adaptive Behavior Scale, based on the Adaptive Behavior Assessment System-Second Edition, assesses the attainment of practical skills necessary for a child to function independently and meet environmental demands. The Bayley-III contains "growth Scores" to monitor a child's developmental progress over time.</p>
<p>Comments/Special Instructions</p>	<p>An advanced degree or licensure/certification in a field related to this test or certification by or full active membership in a professional organization relevant to this test is required to be qualified to purchase the Bayley Scale of Infant Development.</p> <p>Note: This is less relevant in children any older than 42 months of age. It is an infant development scale. If the study involved children with pre-study disabilities, it is not likely to be relevant or useful.</p> <p>Administration Requirements: MA (psychologist, OT, speech pathologist, social work, special education) or BA Occupational therapies with certification.</p>
<p>Scoring and Psychometric Properties</p>	<p>Scoring: There are normed reference scores. Composite scores, percentile ranks and confidence intervals can be calculated for all scales. Raw scores of successfully completed items are converted to subtest scaled scores and to composite standard scores. These scores are used to determine the child's performance compared with normative group of typically developing children of their age (in months).</p> <p>Administration time: The test is given on an individual basis and takes 30-90 minutes to complete depending on age of child, skill of child, and scales being performed.</p> <p>Psychometric properties: The Bayley Scales are known to have high reliability and validity. According to reporting in the Technical and Administration manual, shows high reliability for subscales and composites scores, ranging from 0.86 to 0.93. Test- retest reliability in cognitive, language and motor scales ranged from 0.67 to 0.94 with adaptive behavior scale ranging from 0.71 to 0.92. However, reliability was reported as correlations only, thus does not account for systematic differences between assessors. Correlation of Bayley-III with Wechsler Preschool and Primary Scale of Intelligence, 3rd edition (WPPSI-III), a test measuring intellectual functioning, were 0.52 and 0.83. Correlations with the Preschool Language Scale, 4th edition (PLS-4), a measure of receptive and expressive language, were between 0.50 and 0.71. With the lowest correlations between</p>

	<p>the Peabody Developmental Motor Scales, 2nd edition (PDMS-2), a test examining motor skills, being between 0.55 and 0.59. Lower correlations between the Peabody Developmental Motor Scales and Bayley-II have also been reported.</p> <p>Psychometric Properties: Standardization Sample: Ages 16 days to 42 months 15 days Standardization Sample n = 1,700 Social-Emotional Scale n = 456 Adaptive Behavior Scale n = 1,350</p>
<p>Rationale/Justification</p>	<p>Strengths/Weaknesses: This is not a tool to diagnose a condition, but rather to identify areas in need of supportive services. It is validated in population of 1700 US children, though has had additional validation performed in other countries and other languages. It is flexible in administration such that one to all scales can be performed. It requires specialized toolkit and training.</p> <p>Stratification: Normed per United States sample collected from January to October 2004, with stratification by: age, sex, race/ethnicity, parent education level, geographic region. Norms were established using samples that did not include disabled, premature, and other at-risk children. Corrected scores are sometimes used to evaluate these groups, but their use remains controversial. The Bayley has relatively poor predictive value to later IQ scores, unless the scores are very low. It is considered a good screening device for identifying children in need of early intervention. Scores do not represent IQs.</p> <p>Validity Studies: Validity studies with clinical groups; Comparison studies with major tests</p> <p>Average Reliability: GAC 0.97 Social-Emotional 0 .90 Motor 0.92 Language 0.93 Cognitive 0.91</p>
<p>References</p>	<p>Bayley N. Manual for the Bayley Scales of Infant Development. San Antonio, TX: Psychological Corp; 1969.</p> <p>Bayley N. Bayley scales of infant development-Second edition. San Antonio, TX: The Psychological Corporation; 1993.</p> <p>Bayley N. Bayley scales of infant and toddler development - Third edition. San Antonio, TX: Harcourt Assessment, Inc; 2005.</p>

Connolly BH, Dalton L, Smith JB, Lamberth NG, McCay B, Murphy W. Concurrent validity of the Bayley Scales of Infant Development II (BSID-II) Motor Scale and the Peabody Developmental Motor Scale II (PDMS-2) in 12-month-old infants. *Pediatr Phys Ther.* 2006;18(3):190-196.

DeWitt MB, Schreck KA, Mulick JA. Use of Bayley Scales in Individuals with Profound Mental Retardation: Comparison of the First and Second Editions. *J Develop Phys Disabil.* 1998;10(3):307.

Provost B, Heimerl S, McClain C, Kim NH, Lopez BR, Kodituwakku P. Concurrent validity of the Bayley Scales of Infant Development II Motor Scale and the Peabody Developmental Motor Scales-2 in children with developmental delays. *Pediatr Phys Ther.* 2004;16(3):149-156.

Spittle AJ, Doyle LW, Boyd RN. A systematic review of the clinimetric properties of neuromotor assessments for preterm infants during the first year of life. *Develop Med Child Neurol.* 2008;50(4):254-266.

Yu YT, Hsieh WS, Hsu CH, Chen LC, Lee WT, Chiu NC, Wu YC, Jeng SF. A psychometric study of the Bayley Scales of Infant and Toddler Development - 3rd Edition for term and preterm Taiwanese infants. *Res Develop Disabil.* 2013;34(11):3875-3883.