

NEURODEVELOPMENT

CARE for Refugees





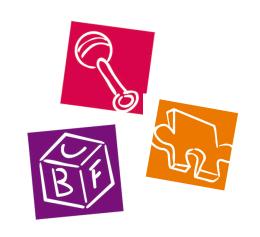


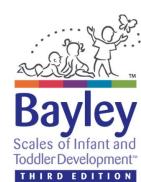
Carolina Mariño Narváez Mind, Brain and Behavior of University of Granada November 24th 2021

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Agenda

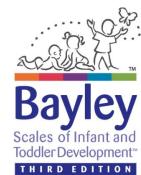
- Introduction to the Bayley Scales
- Structure and description
- Applications
- General administration guidelines
- General scoring guidelines
- Materials
- Assessment examples
- Caregiver report







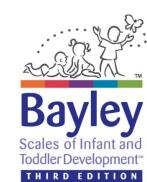
Introduction to the Bayley-III Scales



Introduction to the Bayley Scales

- Individually administered scale
- Ages: 1-42 months of age
- Most widely used instrument to assess infant and toddler development
- Identify children with developmental delay
- Provide information for intervention planning
- Promote understanding of child's strengths and weaknesses

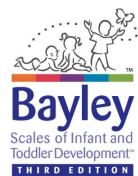




Introduction to the Bayley Scales

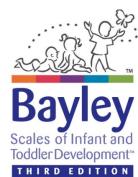


- First years of life: foundation for later development
- Early intervention

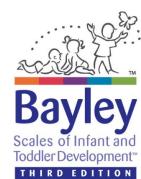


What are NOT the Bayley-III Scales

- Diagnosis instrument
 - Bad performance on fine motor subtest does not diagnose a child's motor delay
 - It indicates the child must be referred to occupational or physical assessment for more evaluation
- Does not predict intelligence
- Does not predict academic achievement







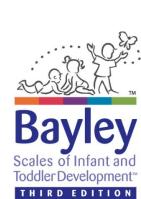




Child assessment by a professional



Questionnaire
Assessment completed by caregiver





Expresive comunication

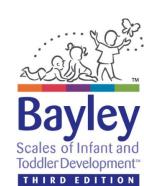
Receptive comunication

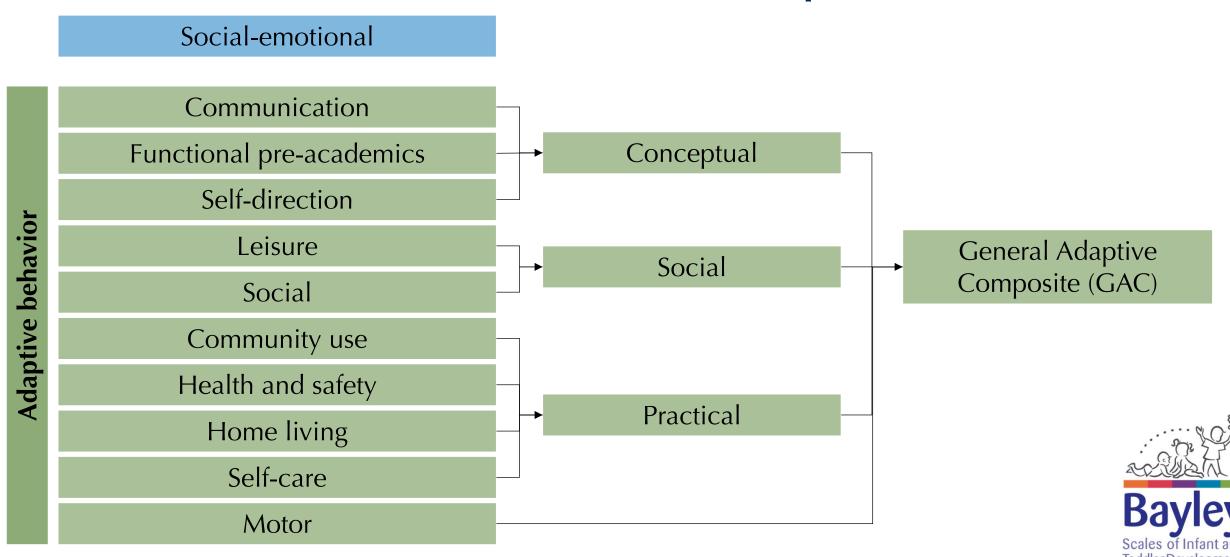
Fine motor skills

Gross motor skills

Language

Motor





THIRD EDITION



Cognitive scale (91 Items)

- Mental processing and thinking
- Sensoriomotor development
- Exploration and manipulation
- Object relatedness
- Concept formation
- Memory

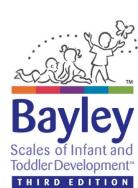




Language scales

Receptive communication (49 items): receiving and understanding what others say

- Preverbal behaviors
- Vocabulary development: identify objects and pictures
- Vocabulary related to morphological development: pronouns and prepositions
- Understanding morphological markers: plural, tense markings, possessive
- Children social referencing and verbal communication

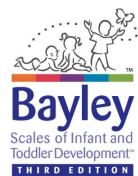




Language scales

Expressive communication (48 items): talking to others

- Preverbal communication: babbling, gesturing, joint referencing, turn taking
- Vocabulary development: naming objects, pictures and attributes
- Morpho-syntactic development: two-word phrases, plurals, verb tense

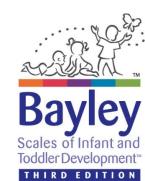




Motor scales

Fine motor (66 items): small muscle

- Prehension
- Perceptual-motor integration
- Motor planning
- Motor speed
- Skills: functional hand skills, visual tracking, reaching, object manipulation and grasping



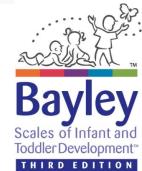


Motor scales

Gross motor (72 items): large muscles

- Movements of the limbs and torso
- Static positioning: sitting, standing, etc.
- Dynamic movement: locomotion and coordination
- Balance
- Motor planning

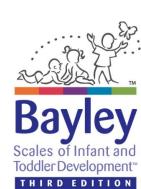




Social-emotional scale Greenspan social-emotional growth chart: screening questionnaire for infants and Young children

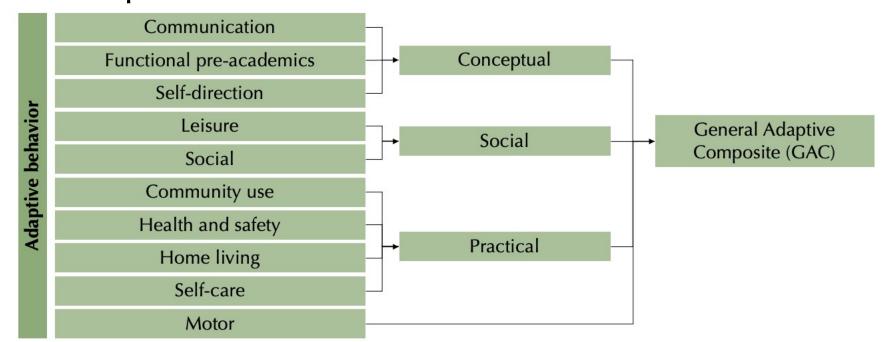
- Acquisition of social and emotional milestones
- Functional emotional skills
- Communication of needs
- Engaging with others and establishing relationships
- Using emotions in an interactive and purposeful manner
- Emotional signals or gestures to solve problems

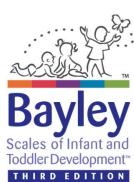


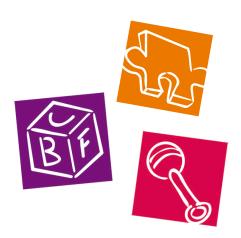


Adaptive behavior scale Adaptive Behavior Assessment System (ABAS)-II)

- Adaptive skills functioning and daily functioning skills
- Participation in their own self-care







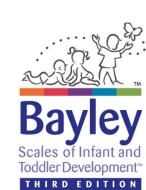
Applications



Application

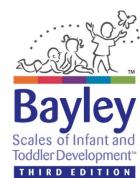
- Quantitative and qualitative information
- Multidisciplinary and arena assessment
- Applied separately
- Track chart of progress
- Detailed normative data for rapid development periods
- Caregiver involvement
- Physically and/or language impairment
- Special group studies
- Research







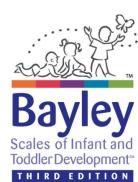
General Administration Guidelines



Administration time

- <12 mo -> 50 minutes
- >13 mo -> 90 minutes
- Breaks and snacks if needed
- Variation factors





Record form



THIRD EDITION

Record Form

Child's name: Sam Weisinger

Sex: GM | F | ID #: 123-45-6789

Examiner's name: Maggie Young

School/Child care program: Royal Daycare Center

Reason for referral: Chila is mostly non-verbal

30000	est Sur	mmary	Scores		
Subtest	Total Raw Score	Scaled Score	Composite Score	Percentil Rank	Conf. Interval (9.5%)
Cognitive (Cog)	63	6	80	9	74-90
			Use Table A.S		
Language (Ling) Receptive Communication (RC)	ne	-			
	26	7			
Expressive Communication (EC)	23	4			
	Sum	//	74 Use Table A.4	4	69-83
Motor (Mot)			Use Table A.4		
Fine Motor (FM)	38	5			
Gross Motor (GM)	59	8			
	Sum	13	79	8	73-88
		,0	Use Table A.4		1000
			200000000000000000000000000000000000000		
Social-Emotional (SE)	98	4	70	2	65-81
			Use Table A.5		
Adaptive Behavior					
semple benevior					
*Communication (Com)	28	4			
	28 14	4			
*Communication (Com)		_			
*Communication (Com) Community Use (CU)	14	6			
*Communication (Com) Community Use (CU) Functional Pre-Academics (FA)	14	6			
*Communication (Com) Community Use (CU) Functional Pre-Academics (FA) Home Living (HL)	14 6 38	6 4 7			
*Communication (Corn) Community Use (CU) Functional Pre-Academics (FA) Home Living (HL) *Health and Safety (ITS)	14 6 38 40 42	6 4 7 7 7			
*Communication (Cons) Community Use (CU) Functional Pre-Academics (FA) Home Living (HL) *Health and Safety (HS) *Leisure (LS)	14 6 38 40 42 51	6 4 7 7 7 5			
*Communication (Com) Community Use (CU) Functional Pre-Academics (FA) Home Living (HL) *Health and Safety (HS) *Lessure (LS) *Self-Care (SC)	14 6 38 40 42 51 35	6 4 7 7 7 5 4			
*Communication (Core) Community Use (CU) Functional Pre-Academics (FA) Home Living (HL) *Health and Safety (HS) *Leisune (LS) *Self-Care (SC) *Self-Direction (SD)	14 6 38 40 42 51	6 4 7 7 7 5	[GAC]		

	Years	Months	Days
Date Tested	2004	* 18 **	39
Date of Birth	2002	8	/7
Age	2	10	22
Age in Months and Days	Yrun × 12 24 10 + months	34	22
Adjustment for Prematurity	Adjust through 24 months		_
Adjusted Age		34	22
Start Point	Calculate s according to		OP
	Age		Start Point
days-1 month	15 days		A
month 16 days	В		
months 16 day	C		
months 16 day	D		
months 16 day	s-5 months 15	days	E
months 16 day	s-6 months 15	days	F
months 16 day	s-8 months 30	days	G
months 0 days	-10 months 30	days	н
months 0 day	s-13 months 15	days	1
months 16 da	ys-16 months 1	5 days	1
months 16 da	ys-19 months 1	5 days	K
months 16 da	ys-22 months 1	15 days	L
months 16 da	ys-25 months	15 days	м
months 16 da	ys-28 months	5 days	N
months 16 da	ys-32 months 3	80 days	0
		Adam	P
3 months 0 day	5-38 months 31	J Gays	

ISBN 015402723-5

45 Squate William O. C.	a Hal manys fe	
51. Balances on Right Stopwatch	Score: Child balances on right foot while you hold one of his or her hands.	
Foot Selles:	Elapsed time with support:	
69 With Support	Elapsed time without support:	1 0
52. Balances on Left Stopwatch	Score: Child balances on left foot while you hold one of his or her hands.	
Foot Series:	Elapsed time with support:	
70 With Support	Elapsed time without support:	1 0
•		
53. Walks Sideways None	Score: Child takes at least two	
AND DESCRIPTION OF THE PARTY OF		



*For children younger than one year, the CAC is calculated using only those skill areas indicated by an asterial.

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Calculate age and start point

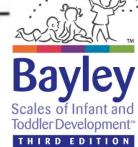
Calcula	ate Age an	d Start P	oint
	Years	Months	Days
Date Tested	2004 2005	12	40 10
Date of Birth	2003	9	20
Age	1	3	20
Age in Months and Days	Years × 12 12 + months	15	20
Adjustment for Prematurity	Adjust through 24 months	3	14
Adjusted Age		12	6
Start Point	Calculate st according to		OI

Table 2.1 Bayley-III Start Points Determined by Age in Months and Days

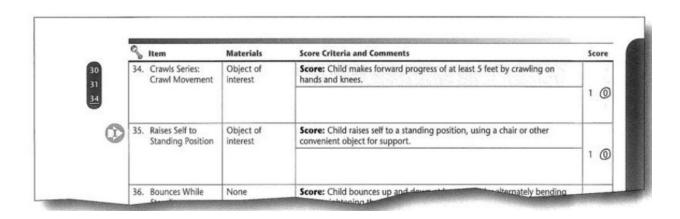
Age	Start Point	
16 days–1 month 15 days	A	
1 month 16 days-2 months 15 days	В	
2 months 16 days-3 month 15 days	С	
3 months 16 days-4 months 15 days	D	
4 months 16 days-5 months 15 days	E	
5 months 16 days-6 months 15 days	F	
6 months 16 days-8 months 30 days	G	
9 months 0 days-10 months 30 days	н	
11 months 0 days-13 months 15 days	1	
13 months 16 days-16 months 15 days	J	
16 months 16 days-19 months 15 days	K	
19 months 16 days-22 months 15 days	L	
22 months 16 days-25 months 15 days	M	
25 months 16 days-28 months 15 days	N	
28 months 16 days-32 months 30 days	0	
33 months 0 days-38 months 30 days	P	
39 months 0 days-42 months 15 days	Q	

Adjusting for prematurity

- Calculate months and days born prematurily, and register (expected date of birth-actual date of birth)
- 2. Subtract the adjustment for prematurity from the child's age

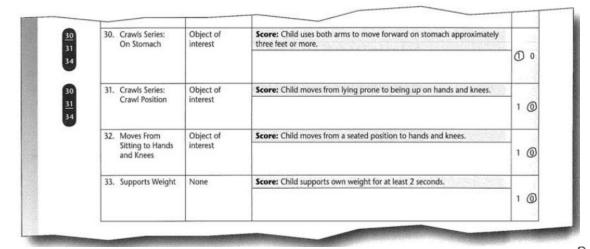


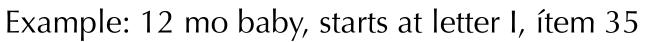
Reversal and discontinue rules

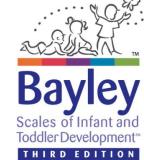


	8	Item	Materials	Score Criteria and Comments	Score
H	22.	Sits Without	Stopwatch	Score: Child sits alone without support for at least 5 seconds.	
-		Support Series: 5 Seconds	5 seconds	Elapsed time: 40	
		3 Seconds			0
	23.	Pulls Up to Sit	None	Score: Child holds onto your thumbs to pull up to sit.	
					0
	24.	Grasps Foot With Hands	Facial tissue	Score: Child brings one or both feet up to hands (above the hips) and grasps a foot.	
					00

- Score 1 on the 3 items according to age, if not, go back to the start point of previous age
- Ceiling-> 5 consecutive 0 points scores





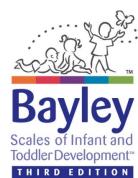


Timing

- Some ítems require timing
- Let children finish to avoid frustration



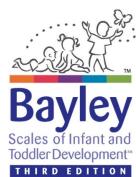
in Bottle Bottle at a time.	-
(60 Seconds) without lid Stopwatch 60 seconds	1 @



Multiple responses

- Some items require multiple responses from the child
- Check all correct answers
- Make sure to review the responses criteria

23	26. Identifies Act		Score: Child o	orrectly identifies at	least three pictures.	
<u>26</u> 29	Picture Series 3 Correct	(pp. 6–9)	☐ Waving ☐ Riding	☐ Sleeping ☐ Eating	☐ Drinking ☐ Reading	☐ Washing



Left and right administration

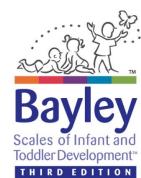
- Some items require left and right side administration
- Check criteria for scoring 1 according to development





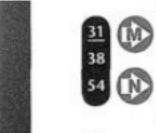
Training items

- Some items provide a training exercise in order to familiarize the child to the task
- Provide feedback after the child's response
- Do not punish incorrect answer on training item
- Other items model the expected response (eg. Puzzles)

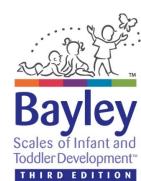


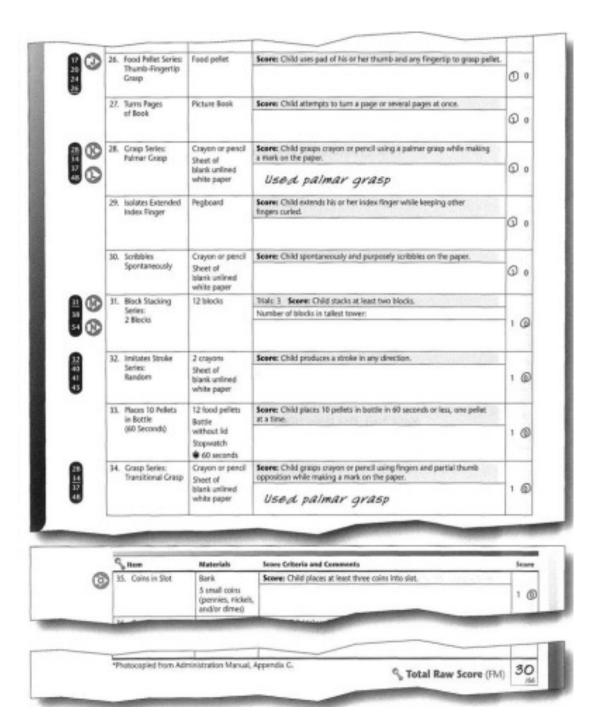
Trials

- Some items can be assessed in more than one trial
- Provides opportunity to practice unfamiliar tasks



		writte paper		
1	31. Block Stacking	12 blocks	Trials: 3 Score: Child stacks at least two blocks.	BERTHE -
	Series:		Number of blocks in tallest tower:	
	2 Blocks			1 @
1				





Series items

- Several items have the same instructions but vary on the level of performance to meet scoring criteria
- Items in a series can be evaluated consecutively, even if they don't follow the record form order
- Do not score series items previous to the age start point
- If one series item is scored 0, the following will receive the same scoring

Toddler Development

Positioning

Level supine

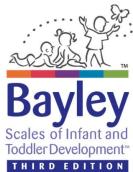












Positioning

Supported sitting



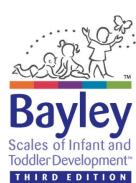
Seated



Floor sitting

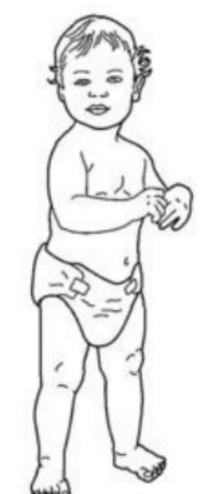






Positioning

Standing

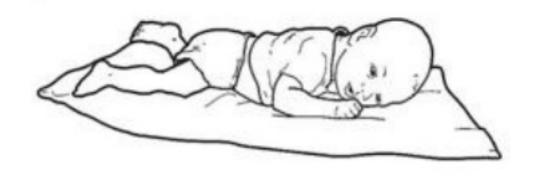




Scales of Infant and Toddler Development™



Prone



Questionnaires

Social-emotional scale

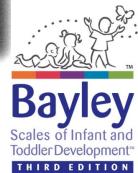
 Begin on item 1 and end on age-appropriate stop point



Social-Emotional Scale Stanley I. Greenspan, M.D.

This scale is designed to measure how well your child has met certain social-emotional milestones for his or her age. Please note that this section has specific stop points, based on your child's age. For each question, circle the number in the column that best describes how often you observe the behavior in your child. Circle **only one** number for each question. Respond to all items until you reach the stop point for your child's age. If your child has not displayed the behavior, please circle 0 for **Can't tell**.

		1000	Bel	havior	Freque	ency	
		Can't tell	None of the time	Some of the time	Half of the time	Most of the time	All of the time
1,	Takes a calm and enjoyable interest in most sounds.	0	1	0	3	4	5
2.	You can easily get your child's attention without having to be very dramatic.	0	1	2	3	4	3
3.	Takes a calm and enjoyable interest in most sights, including colorful or bright things.	0	1	2	3	a	5
4.	You can easily get your child to look at things without them being very bright or colorful.	0	1	2	3	4	5
5.	Calmly enjoys touching or being touched by different things.	0	1	2	3	4	3
6.	You can easily get your child to respond to your touch without having to touch your child firmly to get his or her attention.	0	1	2	3	4	5
7.	Likes to be swung around, danced with while in your arms, or quickly lifted up in the air.	0	1	2	3	4	3
8.	You can easily get your child's attention by approaching him or her, or moving him or her around slowly.	0	1	2	3	4	3
V Ipi	For Sensory Processing Score calculations, total the scores for Items 1–8.					33	/40
9.	You can help your child to calm down.	0	1	2	3	4	5
10.	Looks at interesting sights, such as your face or a toy.	0	1	2	3	4	5
11.	Looks at or turns toward interesting sounds.	0	1	2	3	4	3
115	Stop here if your child is 0-3 months old.			Sta	ge 1		

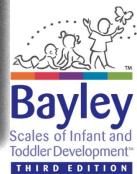


Questionnaires

Adaptive behavior scale

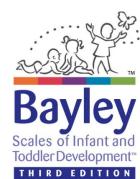
- It has to be completed in it's entirety, except for the Functional preacademic, Home living and Community use for newborns to 11 months old
- No more than 3 guessing factors

unctional Pre-Academics	Ве	Never	Frequer	Sometimes Always		
to not complete the Functional Pre-Academics skill area if the child being rated is younger than one year.	Is not able	when needed	when needed	when needed	f you guess	
 Points to pictures in books when asked (e.g., points to a horse or cow). 	0	1	2	3		
2. Holds crayon or pencil with point down when using paper.	0	1	2	3		
3. States his or her age in years when asked.	0	1	2	3		
4. Counts three or more objects.	0	1	2	3		
5. Attempts to imitate simple drawings (e.g., copying a line or circle).	0	1	2	3		
6. Sings the alphabet song.	0	1	2	3		
7. Names six or more colors including red, blue, and yellow.	0	0.1	2	3		
8. Recites nursery rhymes from memory.	0	1	2	3		
9. Identifies at least two numbers from a group of numbers.	0	1	2	3		
10. Names four or more shapes (e.g., circle, square, rectangle, and triangle).	0	1	2	3	C	
11. Reads own name when printed.	0	1	2	3	V	
12. Counts 10 or more objects without using fingers.	0	0	2	3		
13. Draws a recognizable face including two eyes, a nose, mouth, and hair.	0	1	2	3		
14. Names at least two letters when shown own name.	0	1	0	3		
15. Names most letters when shown the alphabet.	0	1.	2	3		
16. Counts from 1 to 20.	0	1	2	3		
17. Prints at least two letters in own name.	0	1	2	3		
18. Reads and obeys common signs (e.g., Do Not Enter, Exit, or Stop).	0	1	2	3		
19. States the days of the week in order.	0	1	2	3		
20. Writes numbers 1 to 10.	0	1	2	3		
21. Tells what day comes before another (e.g., "Wednesday comes before Thursday.").	0	1	2	3		
22. Writes his or her first and last names.	0	1	2	3		
23. States time and day of favorite television shows.	0	1	2	3	V	





General Scoring Guidelines



Scoring guidelines

Multiple responses

- Consider self-corrected answers
- For timed items, consider answers given within the time limit
- If multiple answers are given and it is not clear the intended one, ask the child

Incidental observations

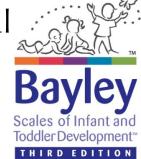
- Verbal and social behaviors towards caregivers can provide incidental observations of an item
- Only consider if actually observed
- Also, an item can be observed whilst performing another item (pointing)

Types of scores

- Raw scores: sum of items scored 1 and previous items before them.
- Scaled scores: derived from raw items. Range 1-19, M=10, SD=3. Table A1.

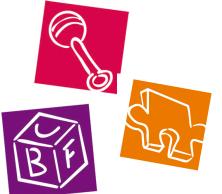
Scale or Subtest	Scaled Score	Composite Score	Percentile Rank	Confidence Interval	Developmental Age Equivalent	Growth Score
Cognitive Scale		•	•		•	0
Language Scale		•				
Receptive Communication subtest					•	•
Expressive Communication subtest						•
Motor Scale		•				
Fine Motor subtest	•				•	•
Gross Motor subtest						
Social-Emotional Scale	•	0	0	•		
Adaptive Behavior Scale (GAC)		•				
Communication						
Community Use						
Functional Pre-Academics						
Home Living						
Health and Safety						
Leisure						
Self-Care						
Self-Direction						
Social						
Motor						

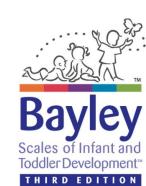
- Composite scores: sum of subtest scaled scores (language, motor and adaptive behavior) equivalent composite scores are available for cognitive and social-emotional. Range 40-160, M=100, SD=15
- Percentile: standing of child relative to others in the standardization sample. Range 1-99, M=50
- Developmental age equivalent: average age in months at which given total score is typical
- Growth scores: plot the child's growth over time for each subtest. Range 200-800, M=500, SD=100



Materials







Materials



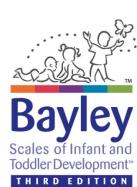












Assessment examples





2:25

Cognitive: ítem 68, Matches 3 colors
Expressive communication: ítem 41, names 4 colors

<u>Cognitive</u>:

Item 23-> plays with string.

Item 29-> Pulls ring

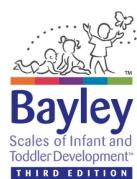
adaptively

Item 43-> Clear box: front

Item 44-> squeezes duck

Fine motor: item 19 transfers

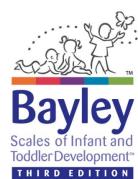
ring



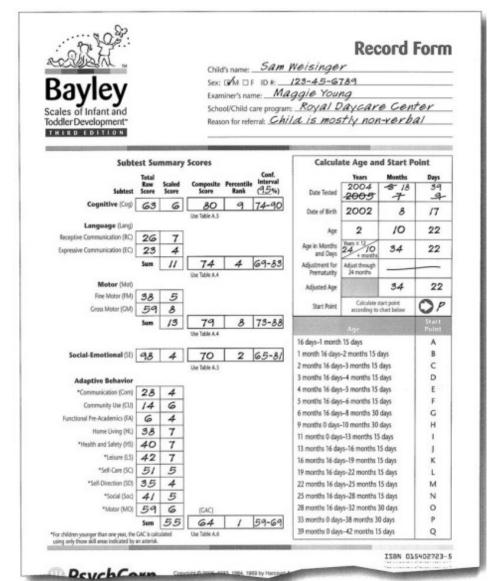
Assessment examples

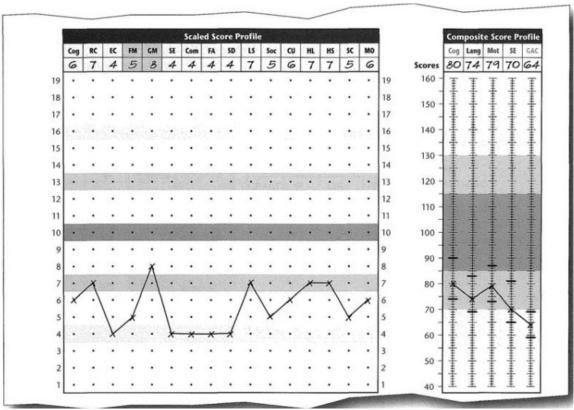






Assessment examples

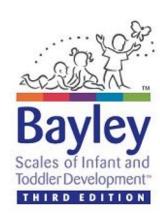






Caregiver report

- Personal information
- Description of the scale
- Normative data
- Results
- Interpretation
 - Below average
 - Average
 - Above average



Caregiver Report

About the Bayley-III

Your child was just tested using the Bayley Scales of Infant and Toddler Development, Third Edition (Bayley–III). He or she was asked to do a number of activities to see if your child's thinking, language, and moving (sitting, walking) skills are similar to children his or her own age. Some of the activities your child was asked to perform may have seemed very easy while some of the activities may have seemed very hard. No child is expected to do well on every activity.

You may also have been asked questions about your child's social skills (such as expressing emotions or talking with others) and behaviors (such as playing with others or dressing). These questions help us find out your child's range of skills. No child is expected to successfully show every skill.

What does the Bayley-III measure?

The Bayley-III has three major parts that are tested with the child: Cognitive, Language, and Motor. The Questionnaire that you completed looks at your child's Social-Emotional and Adaptive Behavior development.



Cognitive (Cog)

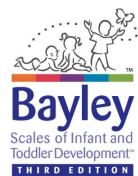
The Cognitive Scale (Cog) looks at how your child thinks, reacts, and learns about the world around him or her.

- Infants are given tasks that measure their interest in new things, their attention to familiar and unfamiliar objects, and how they play with different kinds of toys.
- Toddlers are given items that examine how they explore new toys and experiences, how they solve problems, and their ability to complete puzzles.

Caregiver report

Composite or Composite Score Equivalent	Classification		
130 and above	Very Superior		
120-129	Superior		
110-119	High Average		
90-109	Average		
80-89	Low Average		
70-79	Borderline		
69 and below	Extremely Low		

- -Scaled scores
- -Developmental age equivalents



Caregiver report: Parent-child activities Cognitive Skills development

Early cognitive skills





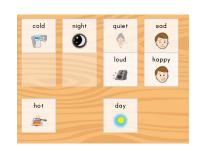




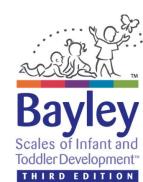
Knowing concepts





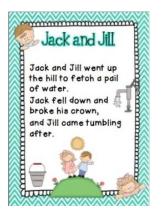






Caregiver report: Parent-child activities Cognitive Skills development

Building memory skills









Developing critical thinking skills







Caregiver report: Parent-child activities Language skill development

Birth to two years



Accentuate
Imitate
Use gestures
Animal sounds
Point and name

Two to four years

-Play naming objects

-Repeat and expand child's phrases

-Give them choices

-Songs and rhymes

-Read books and makeup stories



Caregiver report: Parent-child activities

Motor skill development

Fine motor skills











Gross motor skills









