ABSTRACT
        A unique psychometric device, The "Lock Box," has
been developed to measure the ability of preschool children to
structure a novel problematic situation. The primary purpose of the
box is to identify those preschoolers with mental ages ranging from 2
1/2 to 6 years who have difficulty imposing an orderly plan on their
explorations and whose movements are random, repetitive, and without
apparent goal direction. The box can also be used to identify
children with perceptual-motor dysfunctions. Differing from most
traditional tests which focus on the product of learning, this device
emphasizes the process of learning, is language-free, and utilizes
three-dimensional, highly appealing, and lifelike materials. As its
name suggests, the box is a large container. Each of 10 compartments
within the box contains a different toy and can be closed with a
different lock. In administering the measure, the examiner codes the
spontaneous moves of the child for 6 1/2 minutes. Five major scores
are derived from the performance: total adaptive moves, total
non-adaptive moves, number of latches unlocked, organization of
moves, and aimless actions. (Rules for administering, coding, and
scoring the measure and for constructing age-referenced profiles are
indicated). (RH)

THE LOCK BOX: EVALUATING MENTAL ORGANIZATION IN PRESCHOOLERS

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Abstract

The Lock Box -- a large container consisting of ten compartments each
housing a different toy and closed with a different lock -- was developed to
evaluate how children structure a complex free choice situation. Its clinical
purpose is to identify those preschoolers with mental ages of 2½ to 6, who have
difficulty imposing an orderly plan on their explorations, whose movements are
random, repetitive and without apparent goal direction. Secondarily, the Box
can be used to identify children with perceptual-motor dysfunctions. The Lock
Box differs from most traditional tests by emphasizing the process rather than
the product of learning. It therefore serves as a useful supplement in a screen-
ing or full evaluation battery (administration time 6½ minutes). Although low
scores on the Lock Box may indicate mental retardation, the Lock Box is not
an intelligence test and a poor Box performance is consistent with average or
superior intelligence. Regardless of the diagnosis, poor performance on the Box
may alert the diagnostician to specific difficulties interfering with a child's
learning and/or adjustment.

Novel Aspects of the Lock Box

1. The emphasis in this test is on spontaneous rather than elicited
   behavior. For 6½ minutes the examiner codes the spontaneous moves
   of the child without interfering in any way. It is non-authoritarian
   and non-invasive.

2. The Lock Box is a highly motivating test; there are rarely refusals.
   It encourages children to generate their own solutions without
   predetermined right/wrong responses.

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3. The test is language-free. The child's speech is not recorded and no verbal instructions are necessary.

4. The Lock Box measures mental organization, how a child structures a novel problematic situation; This fundamental attribute -- the ability to impose order -- is not measured by other psychometric instruments.

5. The Lock Box measures psychomotor competence with three dimensional, highly appealing and life-like materials, i.e.,locks.

Administration

The Lock Box is recommended for children with chronological or mental ages of 2½ to 5½, suspected of developmental delay, specific learning disabilities, or behavioral problems. The examiner codes all the child's spontaneous moves with both locks and toys over 6½ minutes. This information is then tallied onto a summation sheet. Five major scores are derived from the performance.

Coding

The coding system is as follows:

TOY ACTIVITY		CODING KEY	
		LOCK ACTIVITY	
Ar	Attempts to remove toy	I	Inhibition
r	Removes Toy	\	Unsuccessful attempt to unlock
AR	Attempts to return toy	X	Unlocks
R	Returns toy	O	Opens without unlatching
T	Tactile/Visual exploration	C	Closes without attempting to relock
A	Adaptive play	I	Unsuccessful attempt to relock
M	Combination play	✓	Relocks
P	Primitive play	L	Leaves
W	Shares toy	S	Scans
		P	Primitive Lock approach

3

The code sheet is divided into 13 sections separated by bold lines. Each section represents a 30 second interval. On the first row in each section the examiner records the lock (1 through 10) a child engages; on the second row the lock manipulations and on the third row play behavior. For example in the following segment the child:

Lock No.	5		4					
Lock Activity	X	c		X				
Toy Activity								
No.			3					
Lock		c		X				
Toy	c T				r			

½

1

unlocked and then closed latch 5, unlocked latch 4, removed the toy, explored it, and closed the door. He then unlocked 3, removed the toy and relocked the door.

Scoring

The moves made by the child are tallied onto the summation sheet which is arranged so that the scores for the five scales can be easily identified. The first three scales all listed under Competence include Total Adaptive (TA), Total Non-adaptive (TN) which is subtracted from 100, and number of latches unlocked:

SUMMATION SHEET

T_A

T_N $100 - T_N =$

4

LOCK ACTIVITY

	1	2	3	4	5	6	7	8	9	10	TOTALS
• UNLOCKED											
• ATTEMPTED											
• NOT ATTEMPTED											10

The next scale, Organization, is composed of sequencing -- the number of adjacent locks a child pursues -- and Patterning -- the ability of a child to follow the same pattern of exploration (e.g. open a door, remove a toy and relock) over three or more locks.

ORGANIZATION

SEQUENCING:
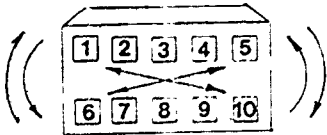
NO. OF LOCKS	POINTS
3	1
4	2
5	3
6	4
7	5
8	6
9	7
10	8

● ONSET: 2 Pts. if sequence of 3 or more is immediate/1 pt. if delayed one or two moves

● Points for No. of adjacent locks.

PATTERNING: (RECORD PATTERN BELOW).

NO. OF GROUPINGS	POINTS
3	1
4	2
5	3
6	4
7	5
8	6
9	7
10	8

● Points for No. of groupings

NO. OF COMPONENTS	POINTS
3	1
4	2
5	3
6	4
7	5

● Points for No. of components

● Nature of components: 2 pts. if identical/1 pt. if similar

● Position of groupings: 2 pts. if together/1 pt if interrupted

Organization Total (SEQUENCING & PATTERNING)

The final scale, Aimless Actions, describes the child's purposeless activity (e.g., leaving the Box, scanning the locks, opening and closing a door without removing a toy and returning to locks already approached).

Profile

Scores for the major scales are transferred to the face sheet and graphed on the profile corresponding to the child's age. It has been found that retarded children are apt to do poorly on all scales, disturbed children with normal IQs are likely to fall down only on Aimless Actions, whereas distractible/hyperactive children will probably show low scores on Organization and Aimless Actions.

ANALYSIS

Percent	Adaptive	Nonadaptive	Unlocked	Organization	Aimless Actions
100	52	94	10	19	100
75	37	82	8	9	97
50	28	76	6	6	95
25	17	69	4	2	90
10	13	63	3	1	85
0	1	54	1	0	74
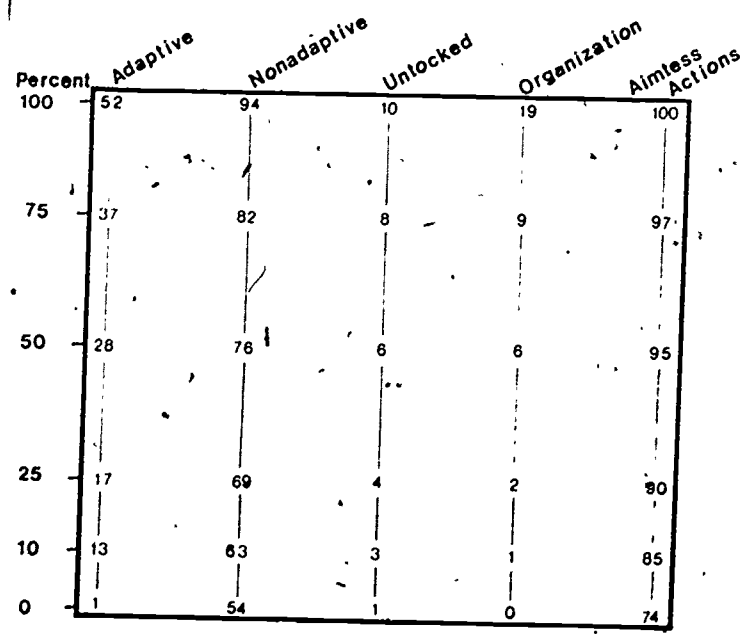
SCORES

Competence
- Total Adaptive _____
- *Total Nonadaptive _____
- Number Unlocked _____

Organziation
- Total _____

Aimless Actions
- *Total Aimless Actions _____

*Totals are 100 minus the raw score.