



## MEASURING LEARNING-RELATED COGNITIVE SELF-REGULATION ON PRESCHOOL CHILDREN

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# About PRI:

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**Our mission is to conduct research aimed at improving the effectiveness of programs for children, youth, and families. Using field research, program evaluation, and research synthesis (meta-analysis), our faculty and staff help determine which programs are actually making a difference in the lives of the people they serve. PRI research addresses many aspects of child and family programs, such as their implementation, costs, dissemination, and social or political support. But the main focus for all of our work is the effects of programs on children and families.**

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# Administering Measures from the PRI Learning-Related Cognitive Self-Regulation Study

1. Peg Tapping
2. Head Toes Knees Shoulders
3. Dimensional Change Card Sort
4. Kansas Reflection-Impulsivity Scale for Preschoolers
5. Digit Span
6. Copy Design

# General Administration & Scoring

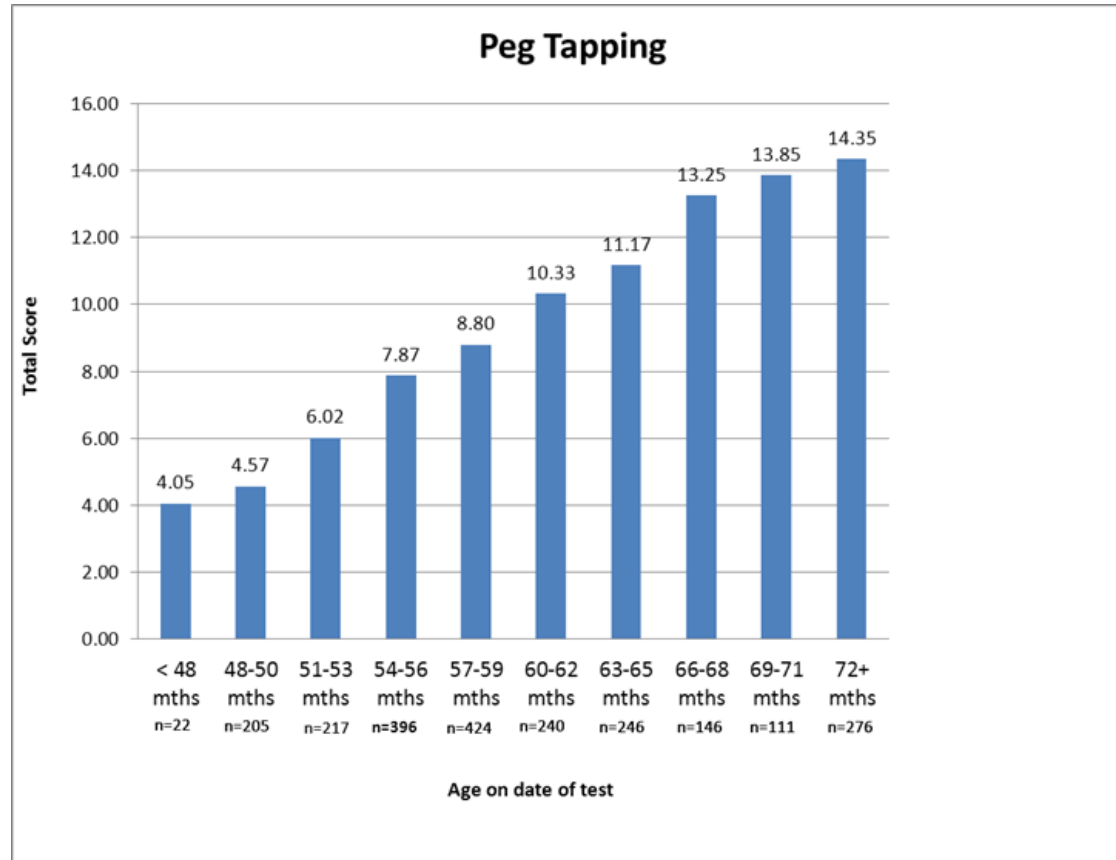
- Measures are easily portable and do not require a computer for administration
- A technical guide containing the background, citation, script, and scoring guidelines as well as paper copies of materials and score sheets is available online (hard copy available during this session)
- Though not required, a computer scoring tool is available (demo available during the 4-5 pm session).

# Peg-Tapping

- Measures:
  - Inhibitory control
  - Requires the ability to hold 2 rules in mind while inhibiting the natural tendency to mimic the experimenter
- Materials:
  - 1 wooden dowel, 6 in. long and 1/4 in. in diameter
- Items:
  - 16 items in length with a varied sequence of taps (1 vs. 2)
  - Experimenter taps 1<sup>st</sup> then hands peg to child
  - Child supposed to tap 1 time when experimenter taps 2 times and vice versa
- Scoring:
  - Number of times the child taps the wooden dowel are recorded for each item
  - Each item receives a score of 0 or 1
  - Possible range of scores: -1 to 16 (-1 given when task is aborted)



# Peg-Tapping



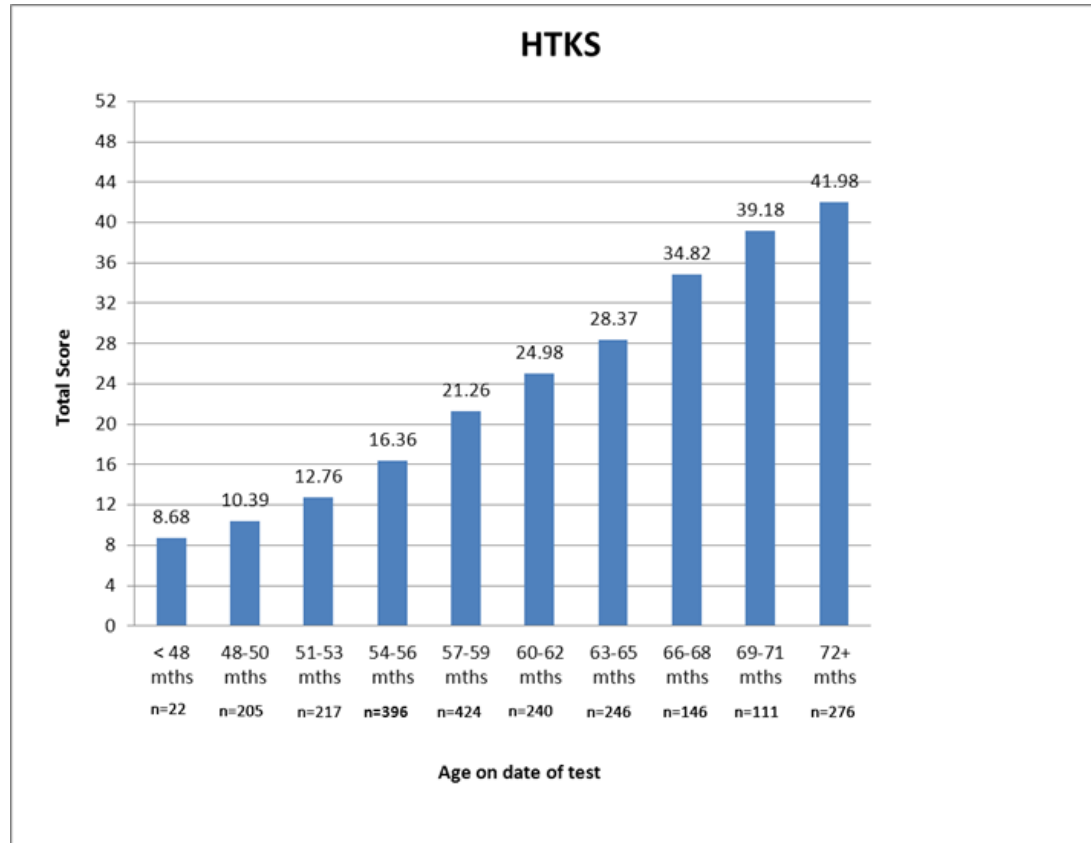
Mean scores by age from the Self Regulation Measurement Study

# Head Toes Knees Shoulders

- Measures:
  - Inhibitory Control, Working Memory, & Attention Focusing
  - Requires the ability to hold the rules in mind while inhibiting the natural tendency to mimic the experimenter and attending to the directions
- Materials:
  - None
- Items:
  - 11 practice items and 20 test items
  - Experimenter gives direction and child to do the opposite
- Scoring:
  - Score of 0, 1, or 2 recorded for each item
  - The final score is the sum of the first six practice items and the 20 test items
  - Possible range of scores: 0 to 52



# Head Toes Knees Shoulders



Mean scores by age from the Self Regulation Measurement Study

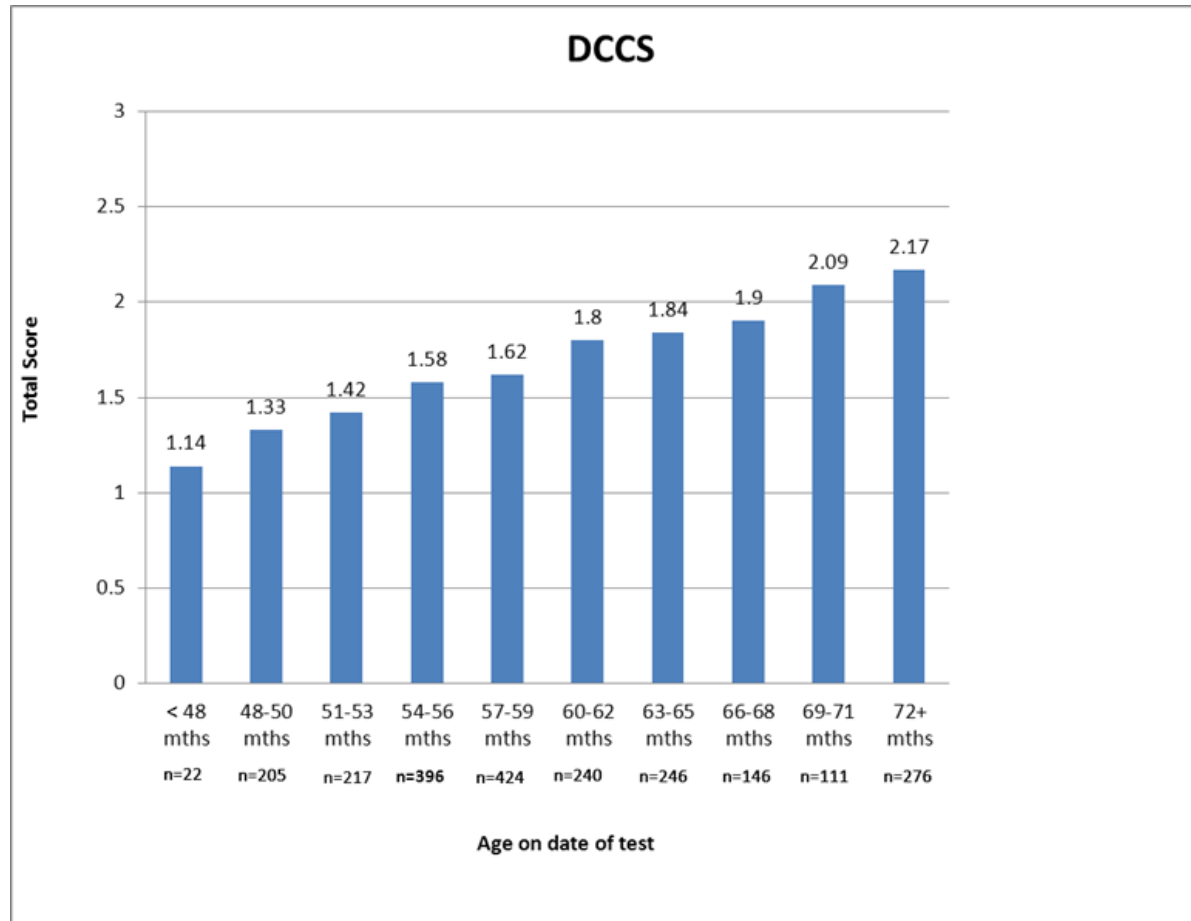


# Dimensional Change Card Sort

- Measures:
  - Attention Shifting
  - Requires attention shifting between the first 2 levels and then shifting between each card for the 3<sup>rd</sup> level
- Materials:
  - Two black plastic recipe boxes with hole in top
  - Laminated cards for each level
- Items:
  - 6 items each on the 1<sup>st</sup> and 2<sup>nd</sup> level and 12 items on the 3<sup>rd</sup> level
  - Experimenter gives direction to sort by color, shape then color or shape depending on whether or not the card has a border
- Scoring:
  - Score of 0, 1 for each item, pass/fail given for each level
  - Possible range of scores: 0 to 3 (1 point for each level passed)



# Dimensional Change Card Sort



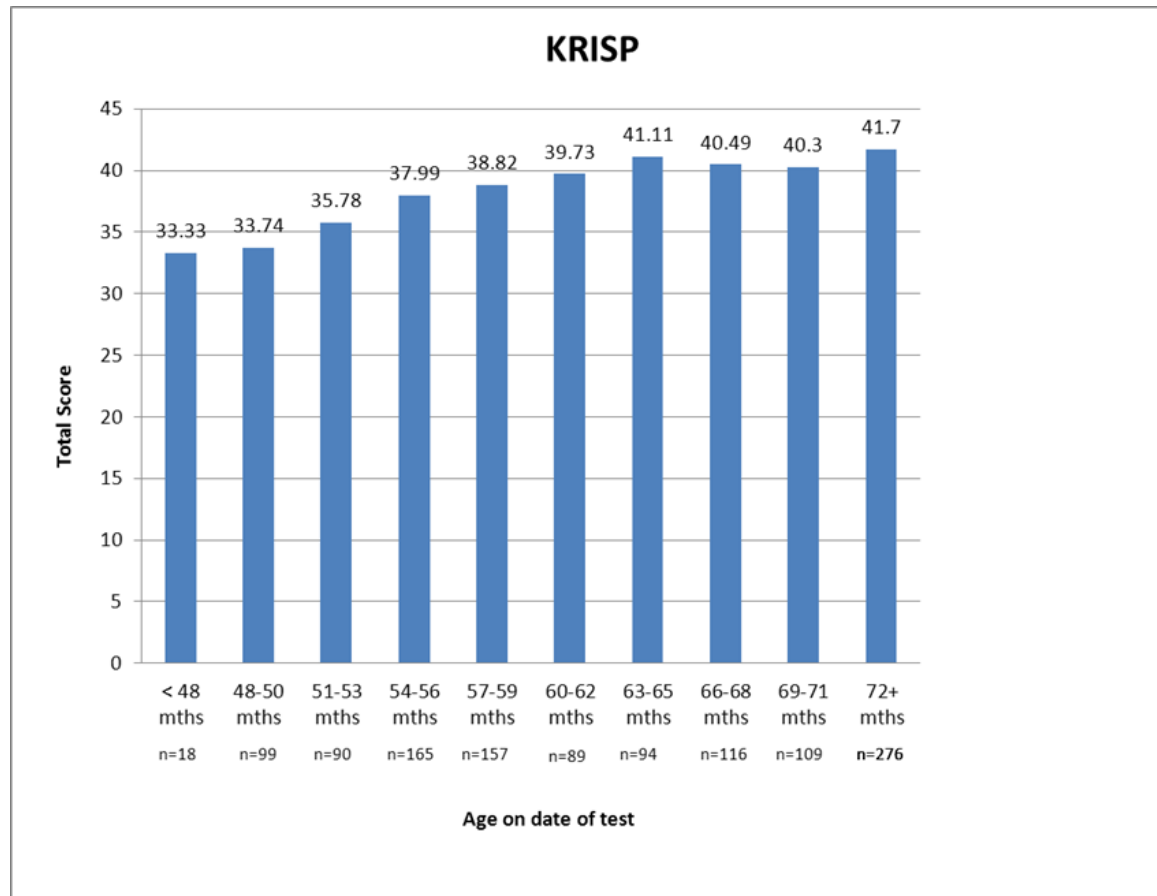
Mean scores by age from the Self Regulation Measurement Study

# Kansas Reflection-Impulsivity Scale for Preschoolers

- Measures:
  - Attentiveness, Reflexive processing, & Sustained Focus
  - Requires the identification of a picture in a array of drawings that exactly matches a target picture
- Materials:
  - Pictures arranged in clear plastic sheets within a binder
- Items:
  - 1 practice item and 15 test items
- Scoring:
  - Score of 0, 1, 2, or 3 recorded for each item
  - Score is the total number of errors made for each item up to 3
  - The final score is the total # of errors possible (45) minus the actual # of errors made
  - Possible range of scores: 0 to 45



# Kansas Reflection-Impulsivity Scale for Preschoolers



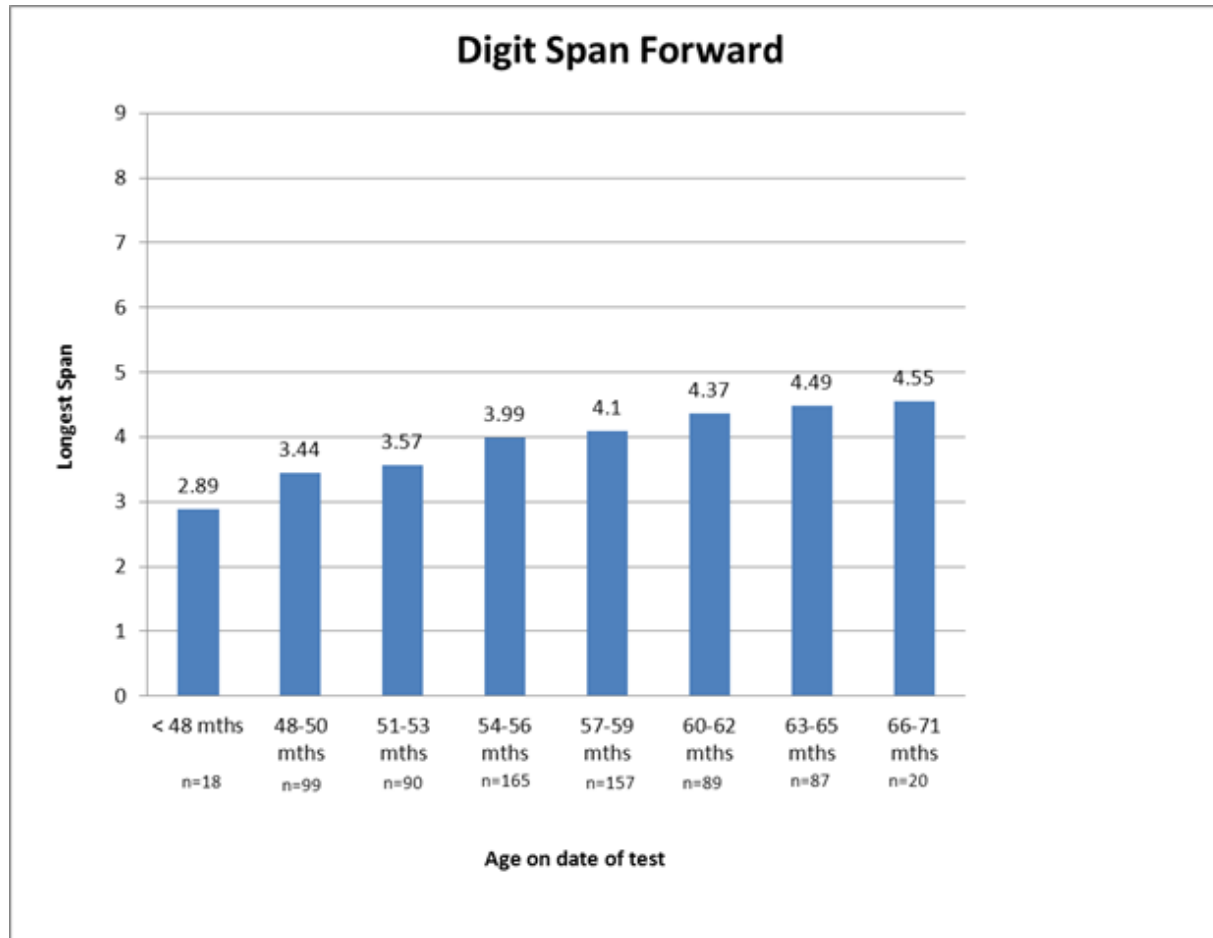
Mean scores by age from the Self Regulation Measurement Study

# Digit Span

- Measures:
  - Working memory
  - Requires the ability to hold and manipulate numbers
- Materials:
  - None
- Items:
  - 16 items with 2 trials each (patterns increasing in length)
  - Each trial given regardless of score on 1<sup>st</sup> trial for each pattern length
  - Experimenter says a number pattern and child repeats forward or backward
- Scoring:
  - Child's response recorded for each trial
  - Each item receives a score of 0 or 1
  - Final score is the longest span recalled correctly (0 to 9 possible for forward, 0 to 8 for backward)

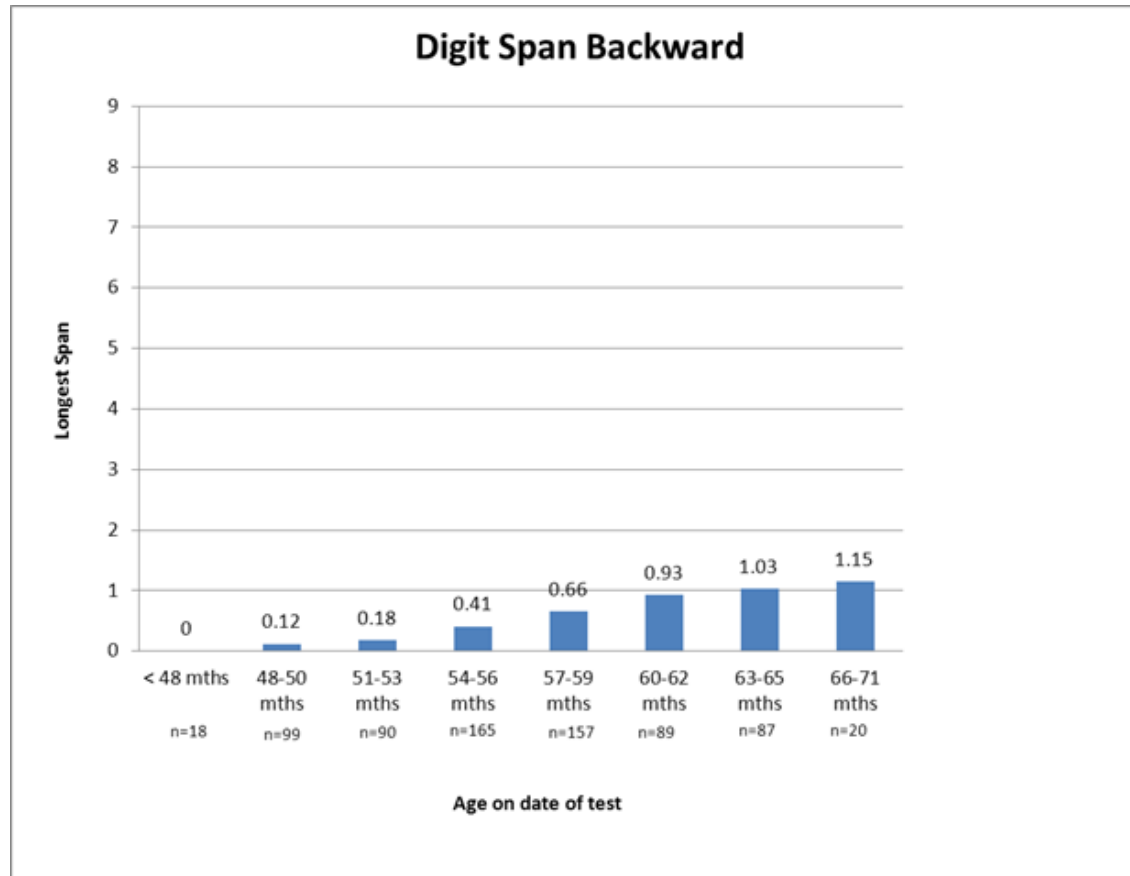


# Digit Span



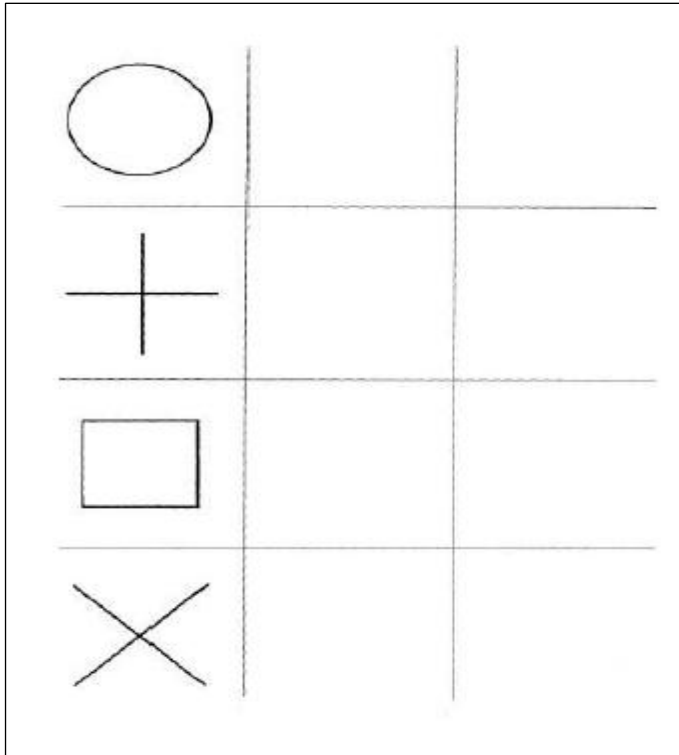
Mean scores by age from the Self Regulation Measurement Study

# Digit Span



Mean scores by age from the Self Regulation Measurement Study

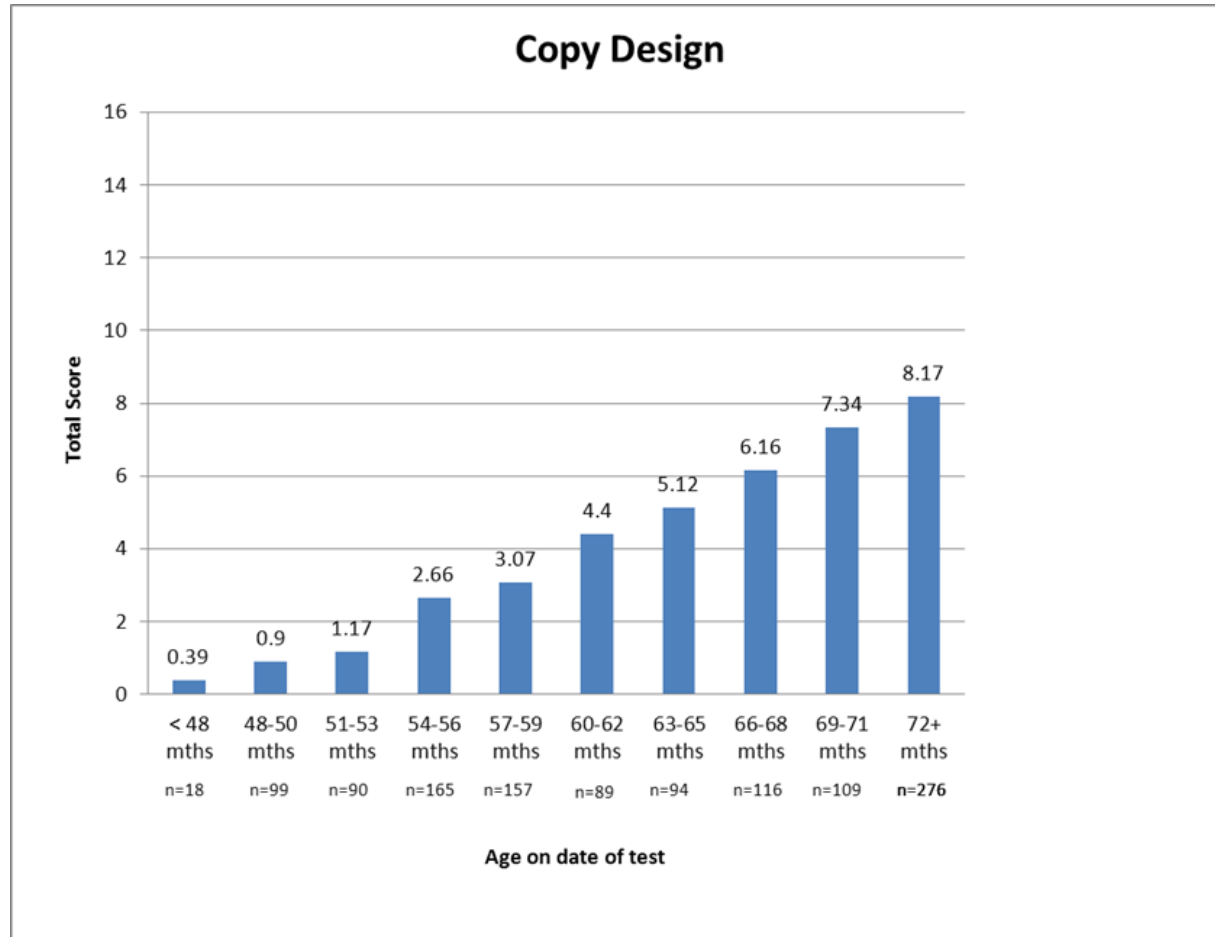
# Copy Design



- **Measures:**
  - Persistence and sustained attention
  - Requires attention to detail when recreating each figure
- **Materials:**
  - Copy Design Form
- **Items:**
  - 8 test items
  - Experimenter gives direction and child tries to copy each design twice
- **Scoring:**
  - Score of -1, 0, or 1 recorded for each item
  - The final score is the sum of each attempt for each design
  - Possible range of scores: 0 to 16



# Copy Design



Mean scores by age from the Self Regulation Measurement Study