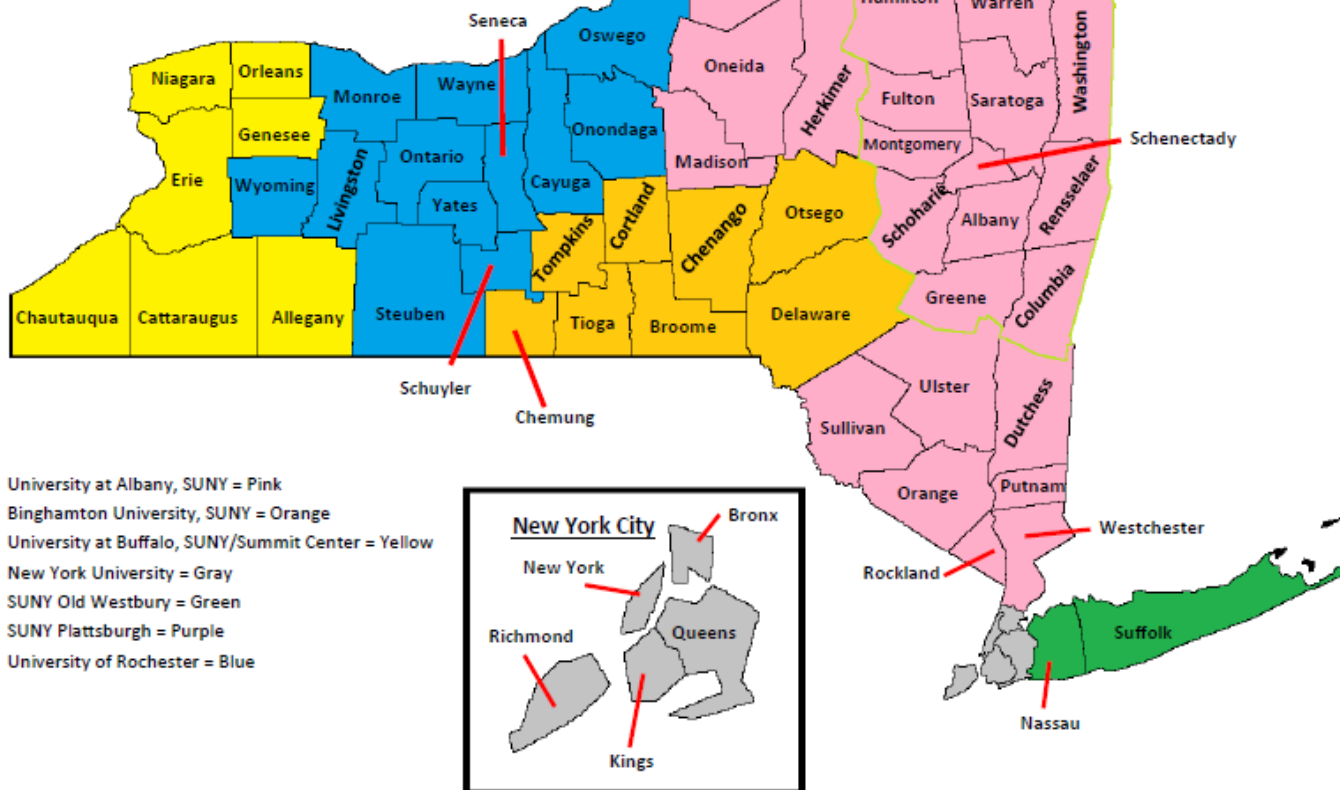# Increasing the Leisure and Recreational Skills of Persons with ASD

David McAdam, Ph.D., BCBA-D

Rochester Regional Center for Autism Spectrum Disorder

Strong Center for Developmental Disabilities

NEW YORK STATE REGIONAL CENTERS FOR AUTISM SPECTRUM DISORDERS

NYSRCASD

University at Albany, SUNY = Pink
Binghamton University, SUNY = Orange
University at Buffalo, SUNY/Summit Center = Yellow
New York University = Gray
SUNY Old Westbury = Green
SUNY Plattsburgh = Purple
University of Rochester = Blue

New York City

MEDICINE of THE HIGHEST ORDER

UNIVERSITY of ROCHESTER MEDICAL CENTER

Definition of Leisure Time

- Leisure has often been defined as a quality of experience or as free time. Free time is time spent away from business, work, job hunting, domestic chores, and education, as well as necessary activities such as eating and sleeping (Wikipedia)

- Leisure refers to an individual's free time-time when a person can do what he or she prefers to do (Webster's Third New International Dictionary)

The terms Leisure and Recreational Used Interchangeably Today

Importance of Leisure/Recreation Recognized by a Variety of Organizations and Laws

- The United Nations, in article 23 of the Convention on the Rights of the Child
- No Child Left Behind Act of 2001 (P.L. 107–110)
- Individual with Disability Education Improvement Act of 2004 (P.L. 108-446)
- Rehabilitation Act (P.L. 102-569)
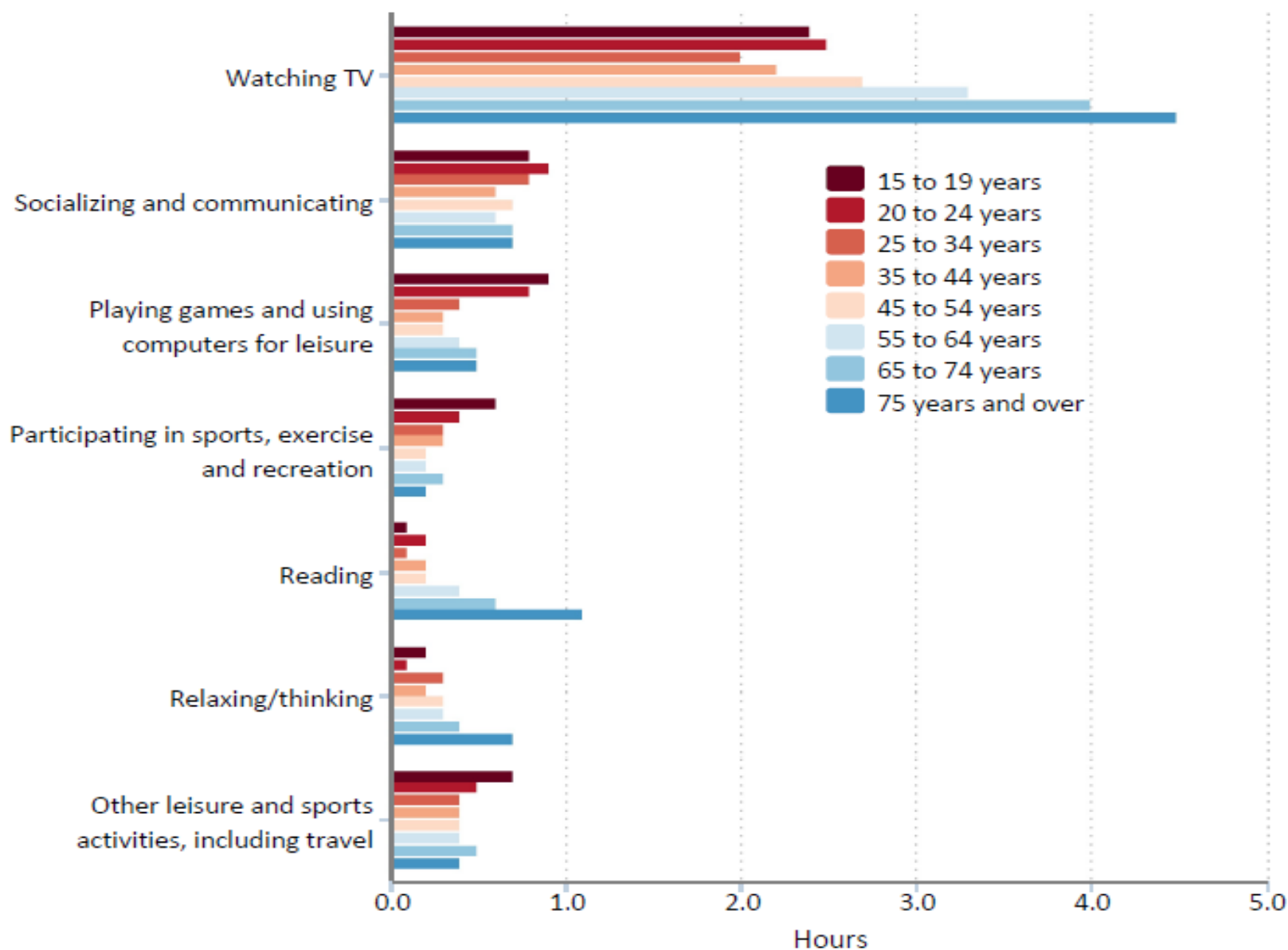
Benefits of Leisure or Recreation

- It may
  - Have a positive impact on physical health
  - Have a positive impact on mental health
  - Reduces stress
  - Reduce behavioral challenges (e.g., engagement competes with challenging behavior)
  - Promote development of friendships
  - Broaden an individuals interests
  - Increase family satisfaction

Amount of Leisure Time is Age Dependent

- Young children generally not assigned duties or responsibilities

- School age children's structure increases across grades with reduced leisure/playtime

- Adults generally have reduced leisure time due to work activities

- Leisure time often returns to a high level during retirement years

Average hours per day spent in leisure and sports activities by age, 2014 annual averages

The young spend more time playing games and using computers than older adults, while older adults spend more time reading

Legend:
- 15 to 19 years
- 20 to 24 years
- 25 to 34 years
- 35 to 44 years
- 45 to 54 years
- 55 to 64 years
- 65 to 74 years
- 75 years and over

Categories (y-axis):
- Watching TV
- Socializing and communicating
- Playing games and using computers for leisure
- Participating in sports, exercise and recreation
- Reading
- Relaxing/thinking
- Other leisure and sports activities, including travel

X-axis: Hours (0.0, 1.0, 2.0, 3.0, 4.0, 5.0)

Average hours per day spent in leisure and sports activities by gender, 2014 annual averages

Watching TV accounts for more than half of leisure time
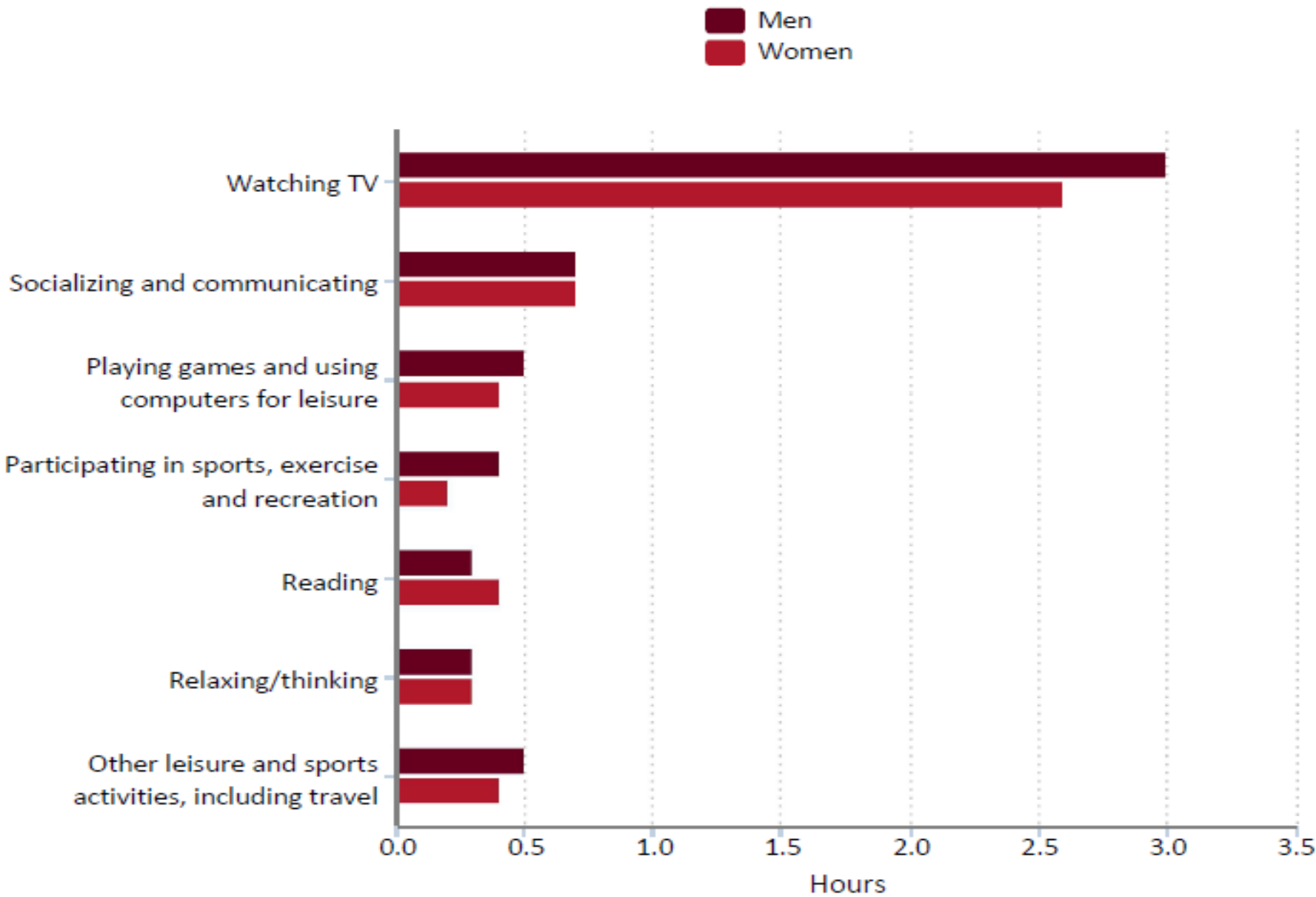
Leisure versus Non-Leisure time

- The distinction can be made by looking at the specific environments where leisure and non-leisure time takes place
  - Work non-leisure due to assigned work
  - School non-leisure due to assigned work
  - Home combination of leisure (e.g., reading a book; watching Dancing with the Stars with family members) and non-leisure (cooking dinner, doing landry)
  - Visiting the mall combination of leisure (window shopping, visiting with a friend) and non-leisure (shopping for new work clothes)

ASD and Leisure Time

- A national survey found that children with ASD (n = 483; ages 3–17) were less likely to participate in religious services, organized activities, and community activities than

children with Attention Deficit Hyperactivity Disorder (ADHD; n = 6,319) and typically developing peers (n = 58,953) (Lee et al. 2008).

Assessment of Leisure

Rationales for Leisure Assessment

To identify a individual's

- Preference and Interests including physical, sensory, social, special, and leisure interests.
- Dislikes including types of activities (e.g., sports) and environments (e.g., loud environments)
- History of past and present participation in leisure activities across settings (home, school, work, and community)
- Current knowledge and skills related to leisure activities
- Current leisure partners and interests of family members and friends (particularly important for children with ASD)

Key Assessment Question

Are leisure deficits related to a lack of engagement in functional activities, a skill deficit, or both?

Types of Leisure Assessments

- Surveys (indirect method)

- Interviews (indirect method)

- Direct environmental observation (direct method)

- Data-based behavioral assessments (direct method)

Surveys

Please mark an "x" next to the activities that best describe your community leisure interests. Additional items may be added to the list according to your interests.

ACTIVITY	HAVE DONE IN PAST	CURRENTLY DO	INTERESTED IN DOING
Engaging in Team Sports			
Basketball			
Softball/Baseball			
Soccer			
Football			
Hockey			
Bowling			
Volleyball			
Other (please specify):			
Other (please specify):			
Engaging or Observing Individual Sports			
Jogging/Running			
Swimming			
Bike Riding			
Walking			
Tennis/Ping Pong			
Darts			
Golf			
Badminton			

Advantages of Surveys

- Easy to administer
- Informant can be a variety of people (e.g., parent, teacher)
- Parents can use them without any professional support
- Time efficient
- Reportedly have face/social validity

Disadvantages of Surveys

- Results are based on subjective reports of people who are familiar with an individual

- Few empirical evaluations

Interviews

Interviews

- Indirect assessment technique
- People who know the individual can provide important information about an individual's preferences, interests, choices, behavioral challenges (e.g., stereotypic or repetitive behavior that competes with hitting a ball with a baseball bat)
- Can be conducted with individuals or groups (e.g., school educational team members)
- Face-to- face is preferred; however, can be conducted by phone or e-mail

Sample Leisure Interview Questions

- How does this person show or express interest?

- What activities does this person enjoy?

- Where does this person do that activity?

- In what new activities do you think this person would be interested?

- What activates has this person tried in the past but did not like?

Who to Interview?

- Parents

- Caregivers

- Educators (e.g., teachers, speech therapists)

- Individual with disability (if they have the level of expressive language to answer the questions)

Tips for Interviewing People with Disabilities

- Should be conducted by someone the person knows
- Conducted in a familiar environment
- Visual supports may be helpful
  - Pictures of activities
- Questions that match the individuals receptive language skills

Direct Observation

Important Information Derived from Direct Observation

- Overall level of engagement (may suggest the degree to which direct instruction and support from others is necessary)

- Level of environmental enrichment (see Risey, 1996)

- Impact of choice on engagement and type of activity

- Choice of leisure companions (does presence or absence of a particular person make a difference?)

- Choice of preferred locations (environments)

Observe For

- Type of interactions with items/activities (e.g., passive vs. active engagement)
- Current skills vs. skills to be taught with systematic instruction
- Potentially interfering skill deficits (e.g., fine motor skill difficulties) or excesses (e.g., stereotypy, aggression, self-injury)
- Categories of things they like (e.g., art, music)
- Type of engagement (i.e., isolated, parallel, and cooperative)

When to Conduct Observations

- Structured times
  - during a school day
  - a play group
- Unstructured times
  - after getting off work or out of school
  - weekends

Measures of Adult and Teaching Counselor Behavior

Adult engagement in functional activities and in maladaptive behaviors was measured with a 5-point observation code:

- 2 = The adult actively participated in a functional activity that was classified as personal care, housekeeping, recreation, or social interaction.
- 1 = The adult attended to another person or a functional activity but neither performed an action nor manipulated an item.
- 0 = The adult neither participated in functional activities nor engaged in maladaptive behavior.
- −1 = The adult engaged in a maladaptive behavior that was not potentially harmful to the adult or others (e.g., stereotypy.)
- −2 = The adult engaged in a maladaptive behavior that potentially could harm the adult or others (e.g., self-injury and aggression.)
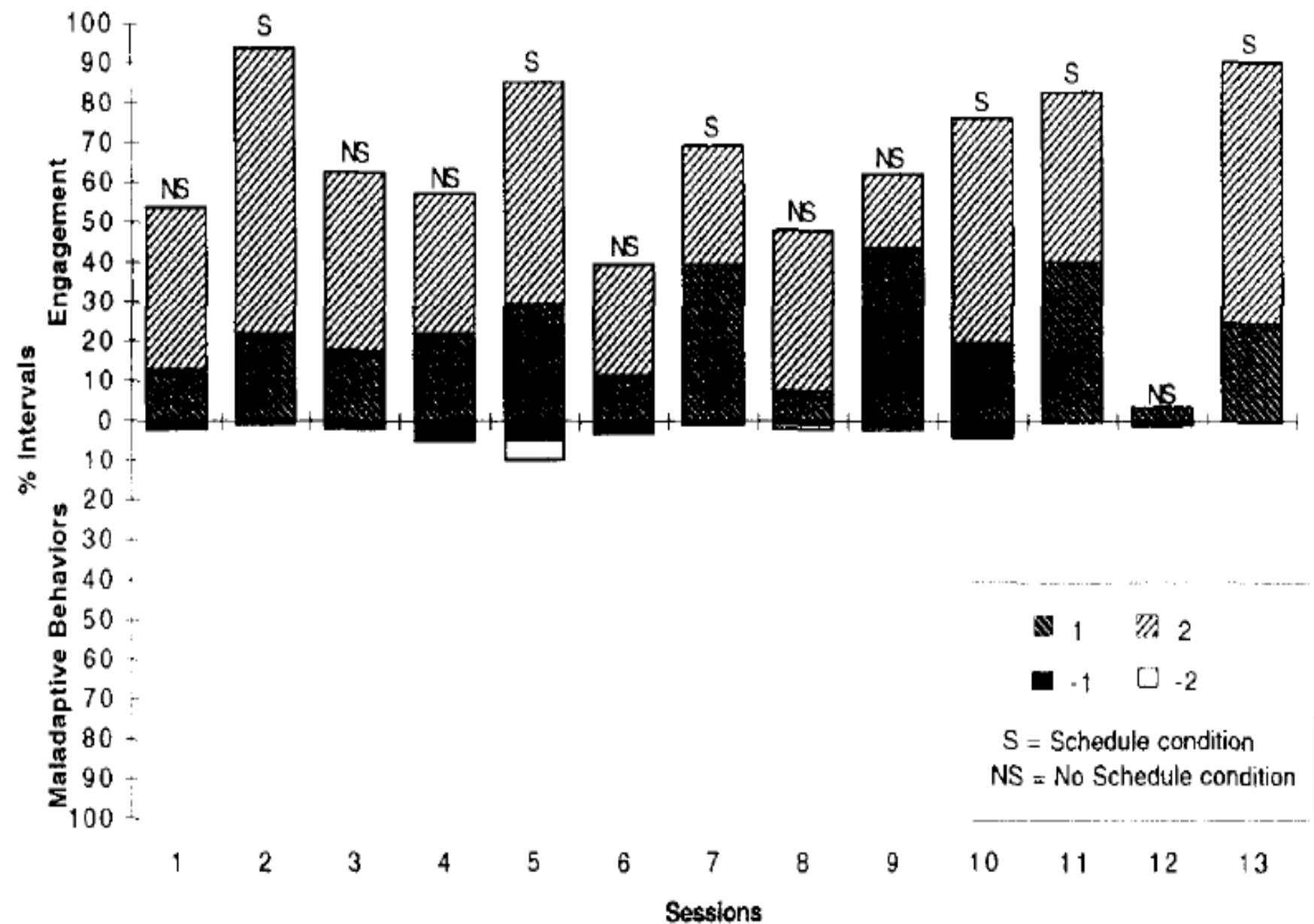
FIGURE 1. Engagement of Tina in Schedule and No-Schedule conditions.

Assessment Outcome 1
Lack of an Engaging Environment

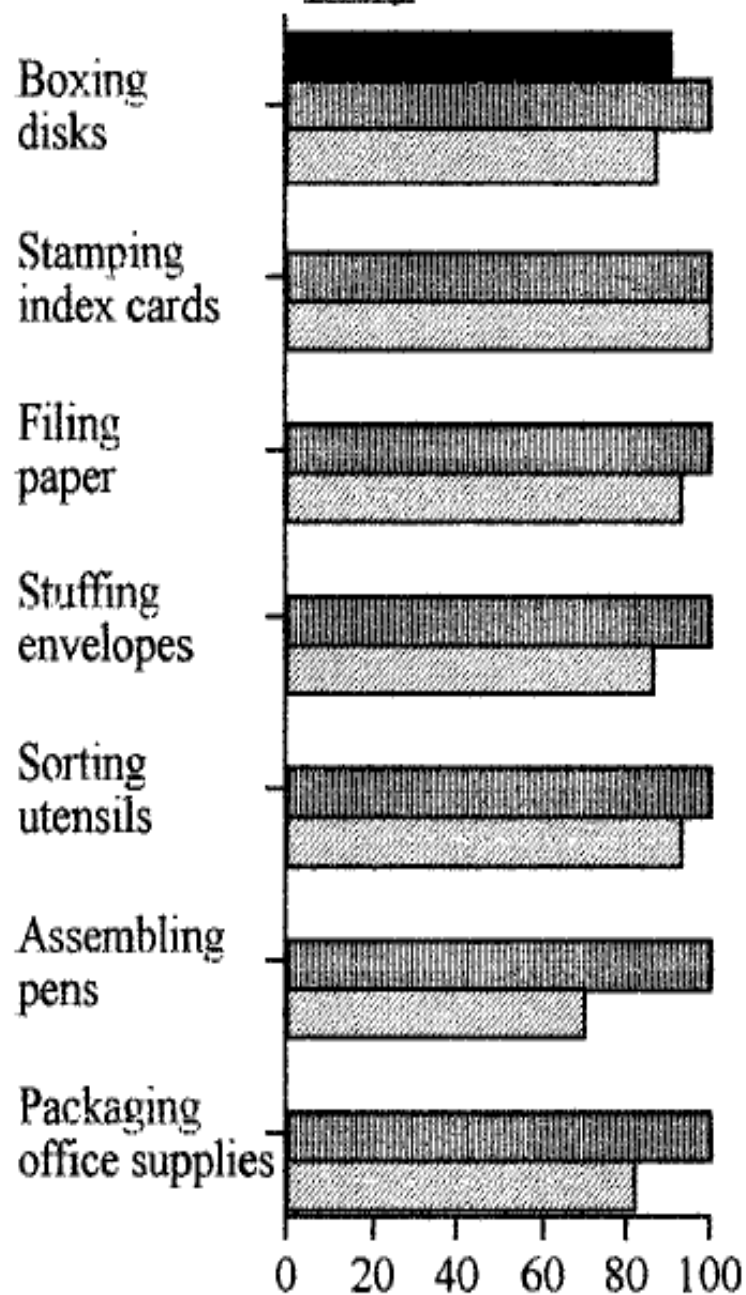# Duration-Based Preference Assessment

Steps for Duration Based Preference Assessment

- Identify 8-10 items

- Present each item one at a time

- Present each item for the predetermined time interval (generally, 3, 5 or 10 minutes)

- Record the duration of engagement with each item
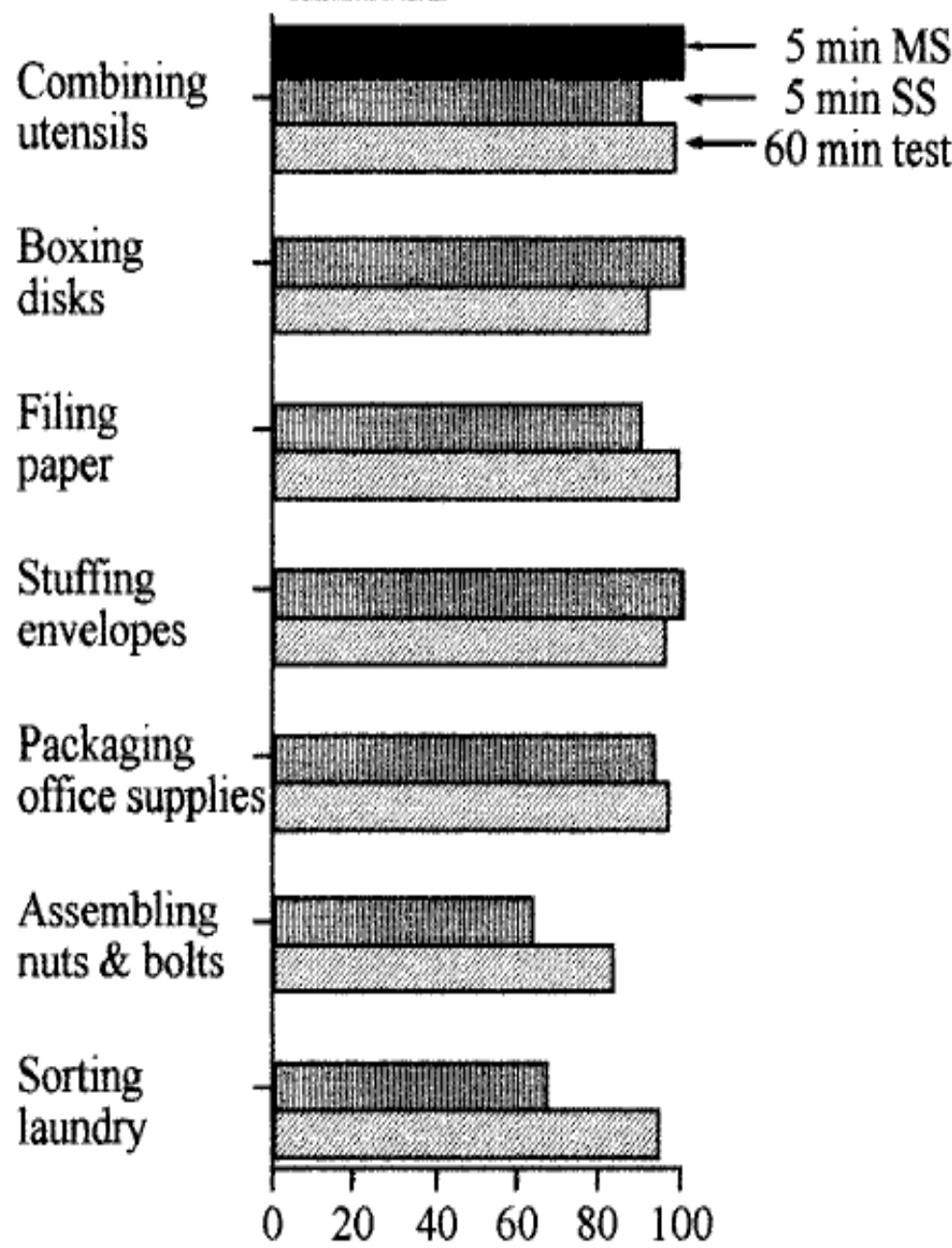
- Note if repetitive/stereotypic behavior occurs or does not occur with each item
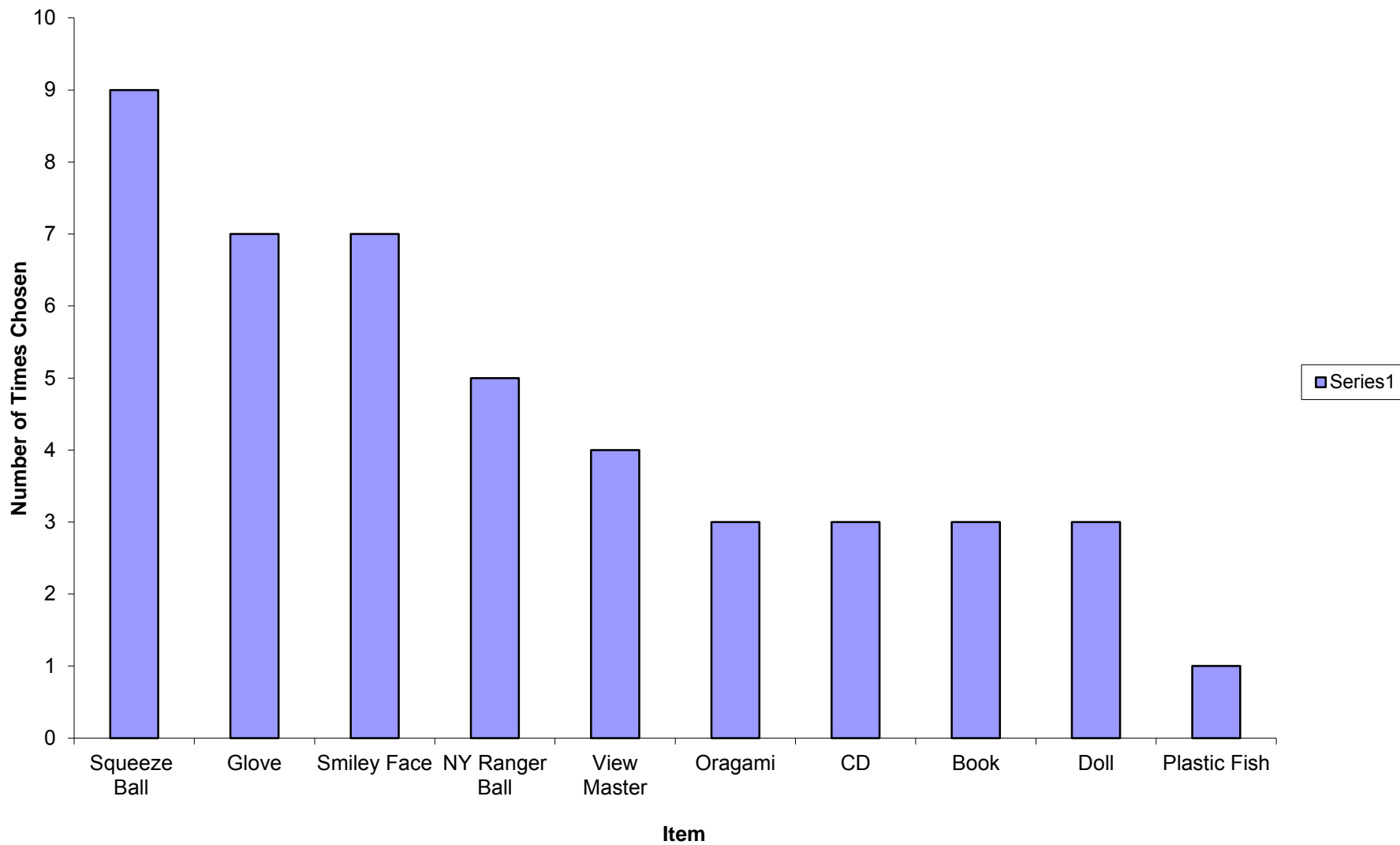
John's Rank Order of Items

High Preference Items | Low Preference Items

□ 1 Passive Engagement
■ 2 Active engagement

Mean Number of Intervals Engaged

Different Items

Marbles, Clay, Foam Puzzle, Puzzle, Keyboard, Pinball, Basketball Game, Lite Bright, Bubble Toy, Labyrinth, Mopping Floor, Skeetball Game, Vacuuming Floor, Squiggle Pen, Washing Windows

Carly

- Boxing disks
- Stamping index cards
- Filing paper
- Stuffing envelopes
- Sorting utensils
- Assembling pens
- Packaging office supplies

Jasmine

- Combining utensils
- Boxing disks
- Filing paper
- Stuffing envelopes
- Packaging office supplies
- Assembling nuts & bolts
- Sorting laundry

← 5 min MS
← 5 min SS
← 60 min test

0 20 40 60 80 100

Paired-Stimulus Choice Preference Assessment

Steps for Paired Choice Assessment

- Identify 8-10 items

- Present items in pairs. Pairing every item with each other item

- Alternative between presenting an item on the right or left side

- Provide access to the items selected

Chad's Paired-Choice Preference Assessment

Bar chart showing "Number of Times Chosen" (y-axis, 0 to 10) by "Item" (x-axis):

Item	Number of Times Chosen
Squeeze Ball	9
Glove	7
Smiley Face	7
NY Ranger Ball	5
View Master	4
Oragami	3
CD	3
Book	3
Doll	3
Plastic Fish	1

Legend: Series1

Evaluate Whether Choice Makes A Difference

Choice

- Easy assessment for parents and teachers to conduct
- Choice can make a significant difference in the level of engagement for some individuals but not all
- Choice also may reduce some escaped maintained and some sensory maintained challenging behavior

Dunlap et al. 1994
Journal of Applied
Behavior Analysis
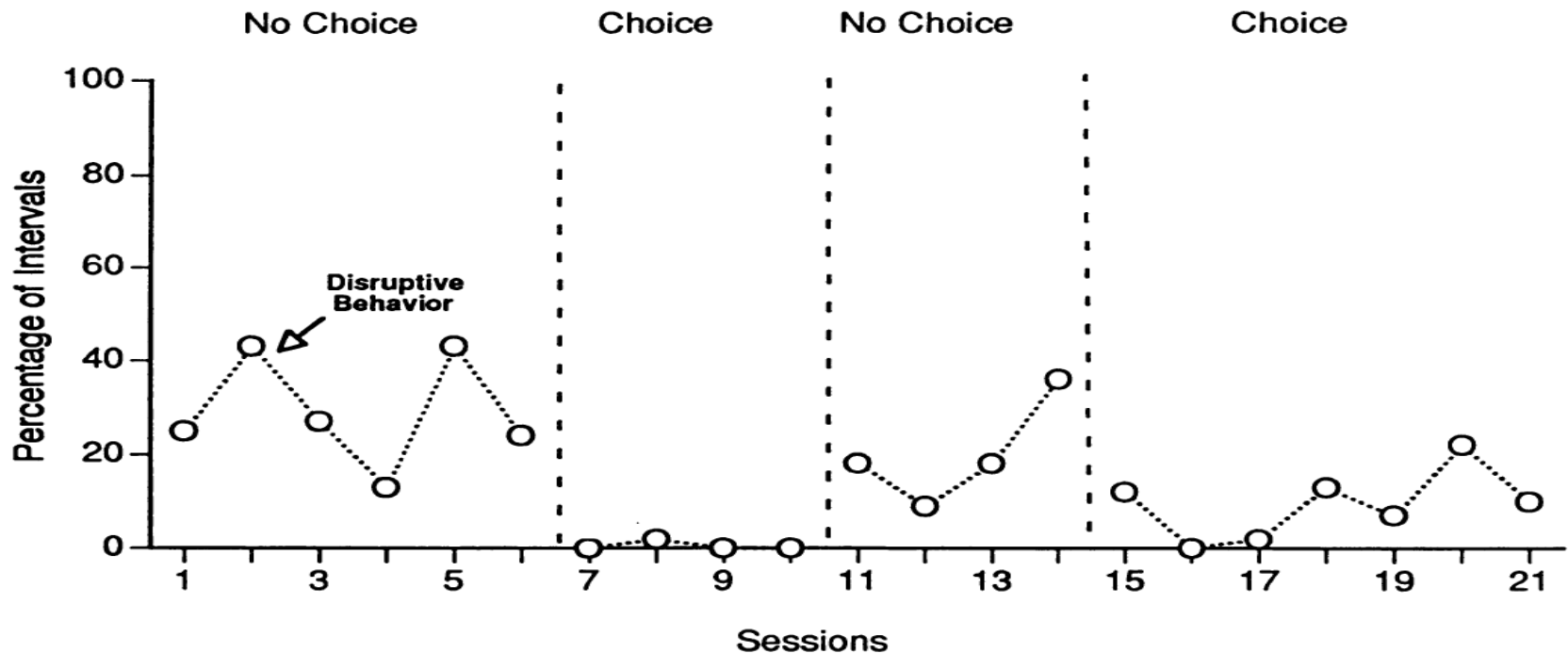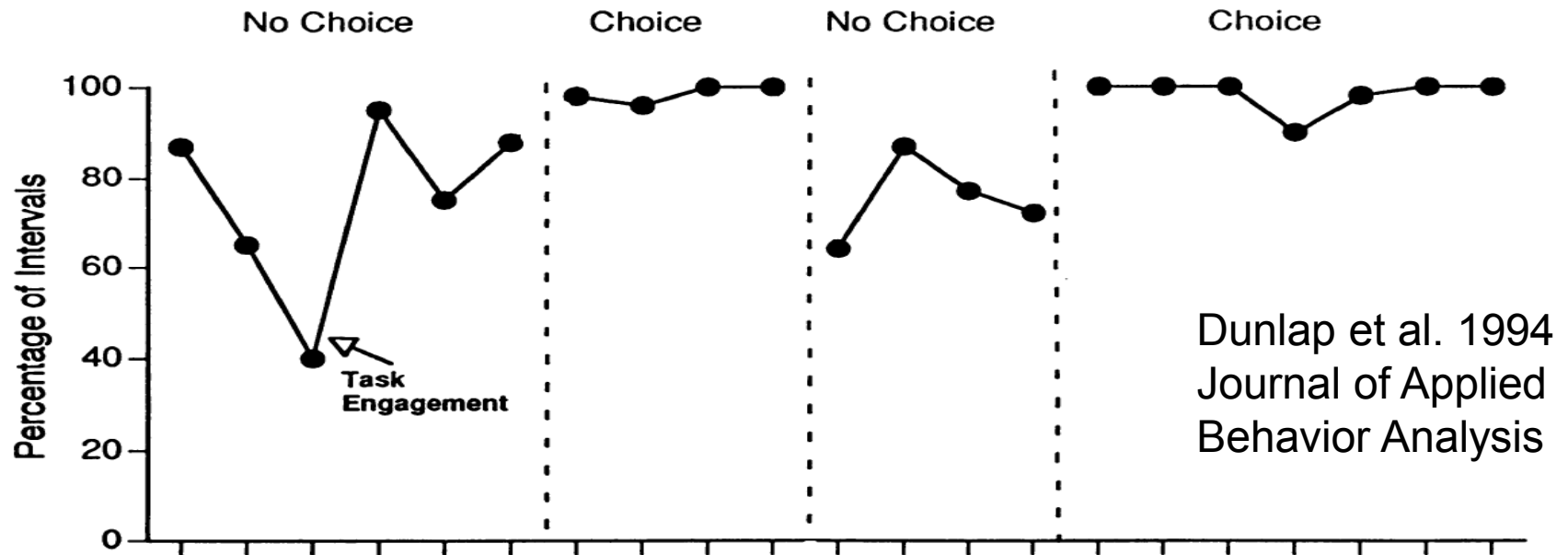
Choice/NO Choice Assessment
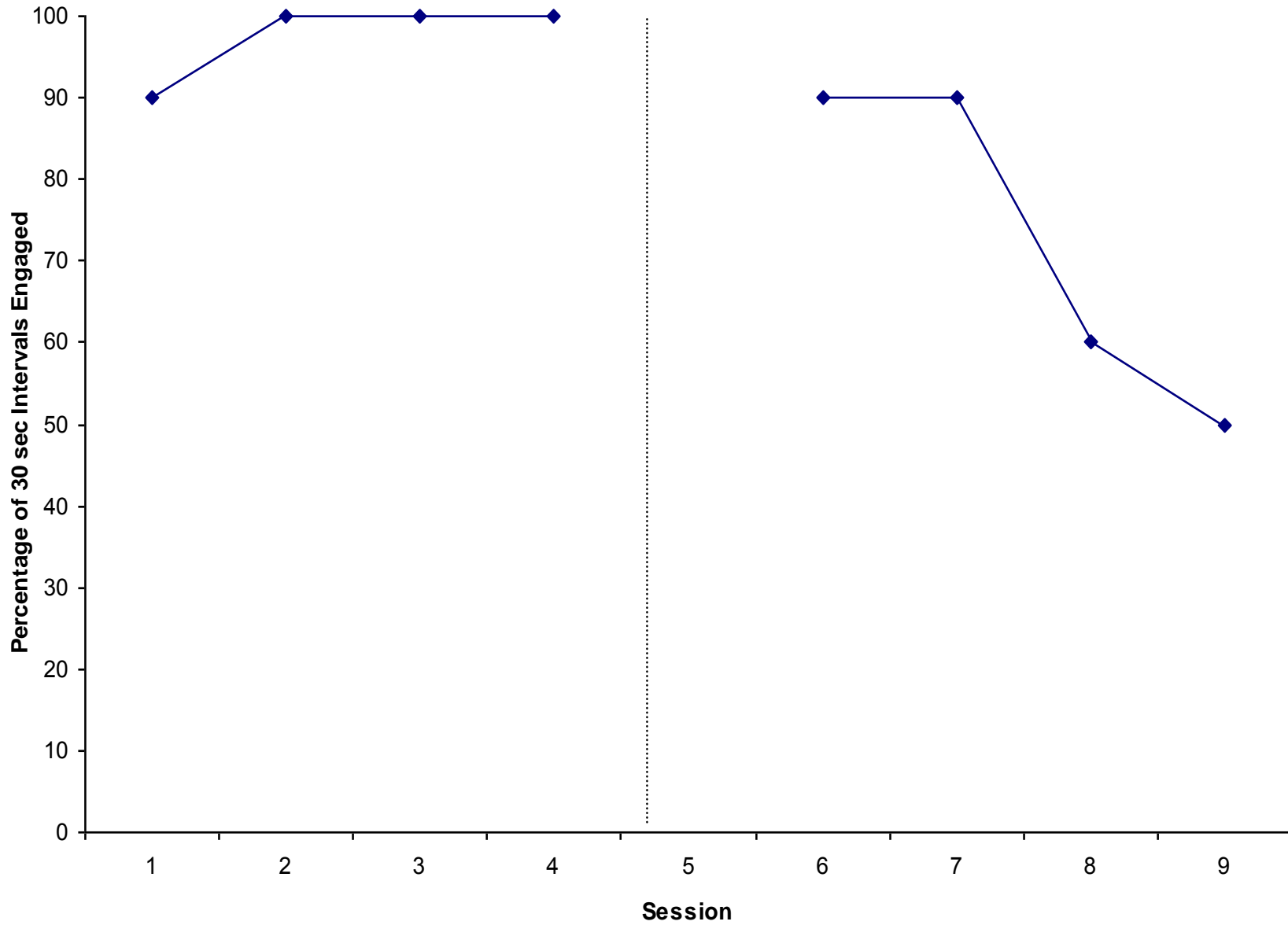
Restructure the Environment
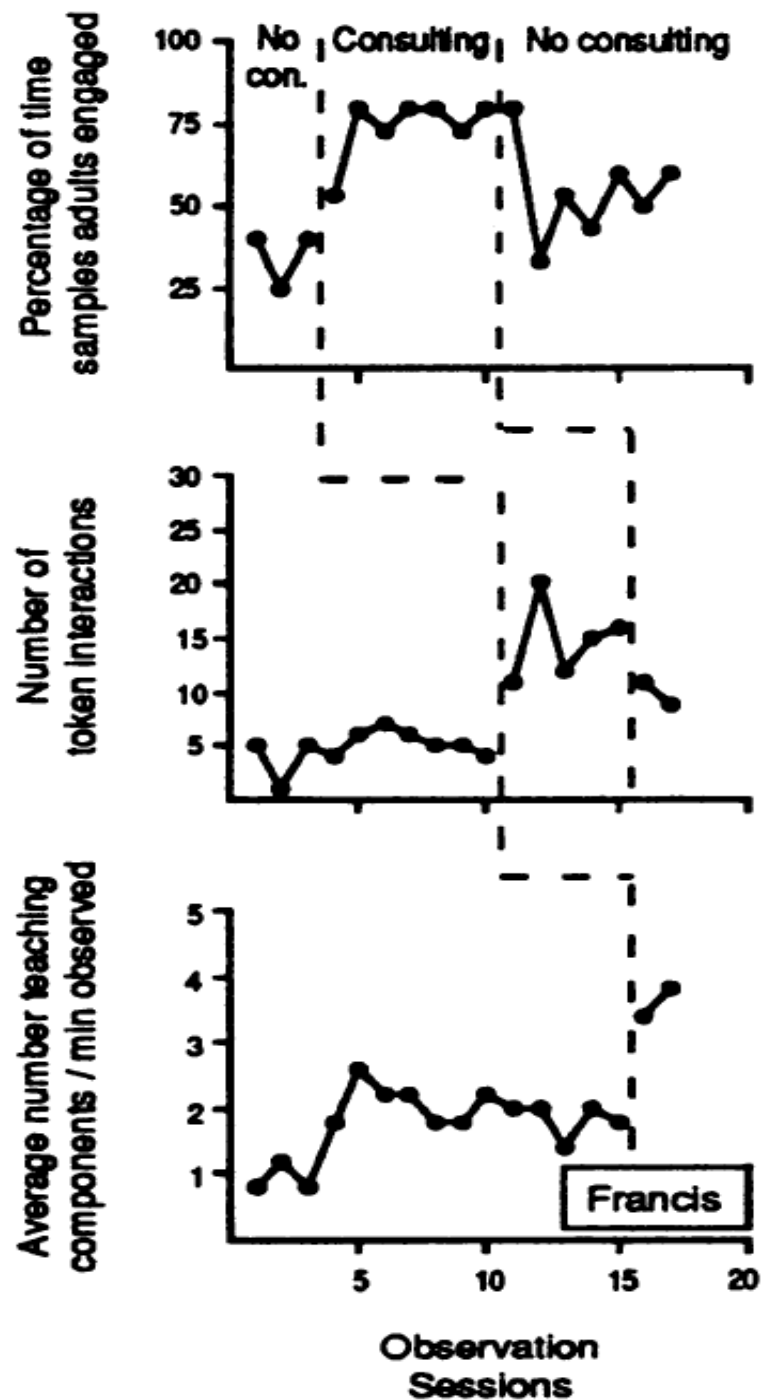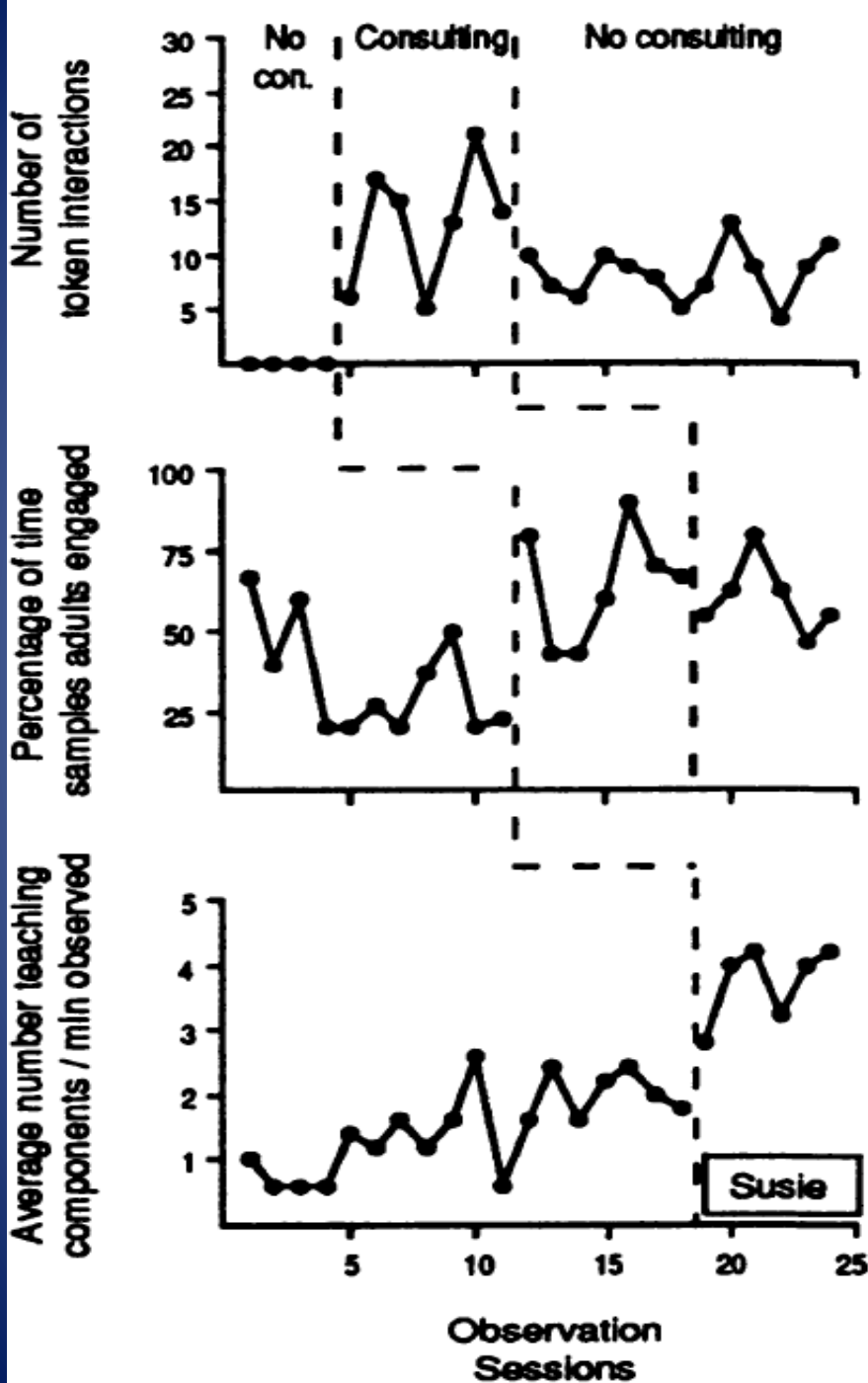
MANIPULATIVE AREA
MEAN PERCENT PARTICIPATING

McClannahan & Risley, 1975
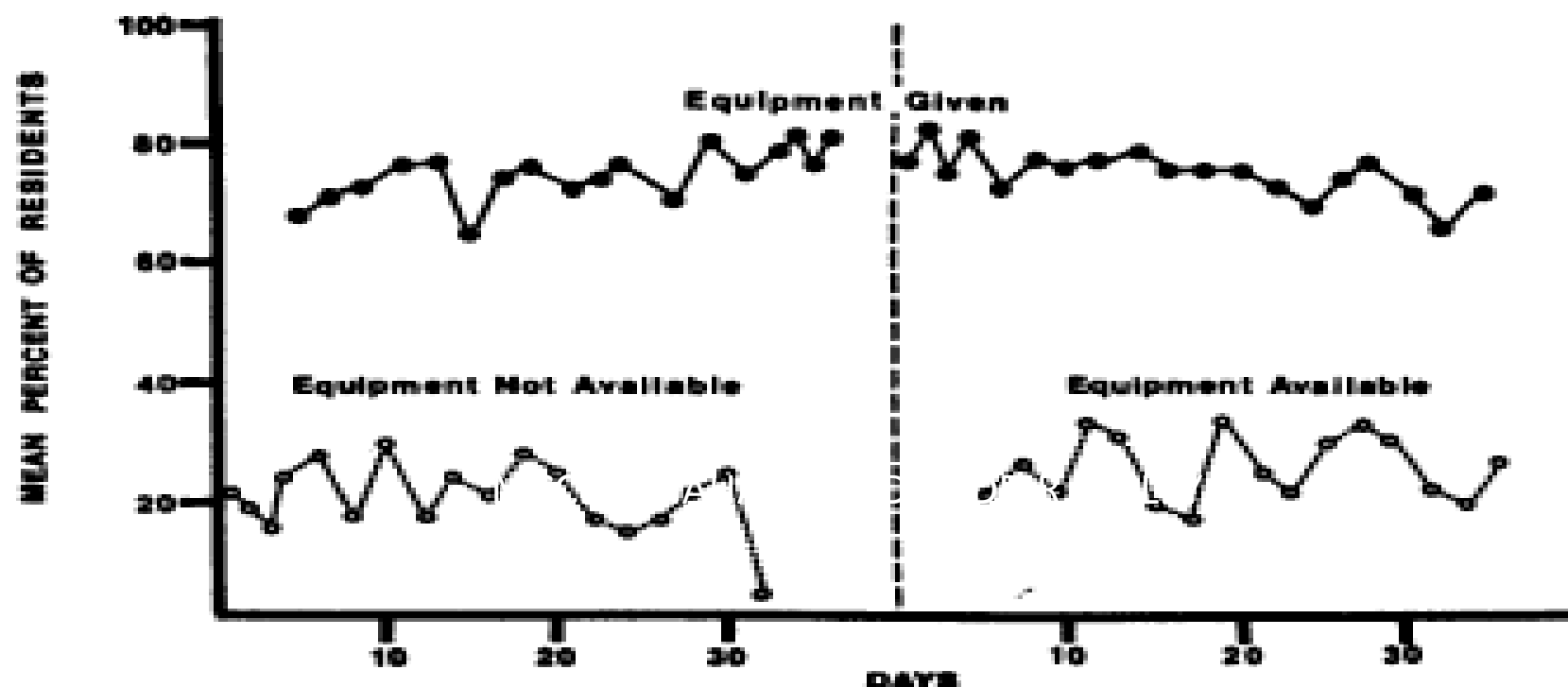
Fig. 3. Mean per cent of residents participating in the lounge. During Phase I, the grand mean was 74% on days when equipment was given, and 20% on days when equipment was not available. In Phase II, the grand mean was again 74% for the "equipment-given" condition, but only 25% for the "equipment-available" condition.

Outcome #2
Need for Systematic Instruction

Using Activity Schedules on IPOD Touch to Teach Leisure Skills to Children with Autism

Carlile, Reeve, Reeve, and DeBar, 2013

Participants and Setting

- Four 8-12 years old boys with ASD
- All enrolled in an Applied Behavior Analytic public educational program
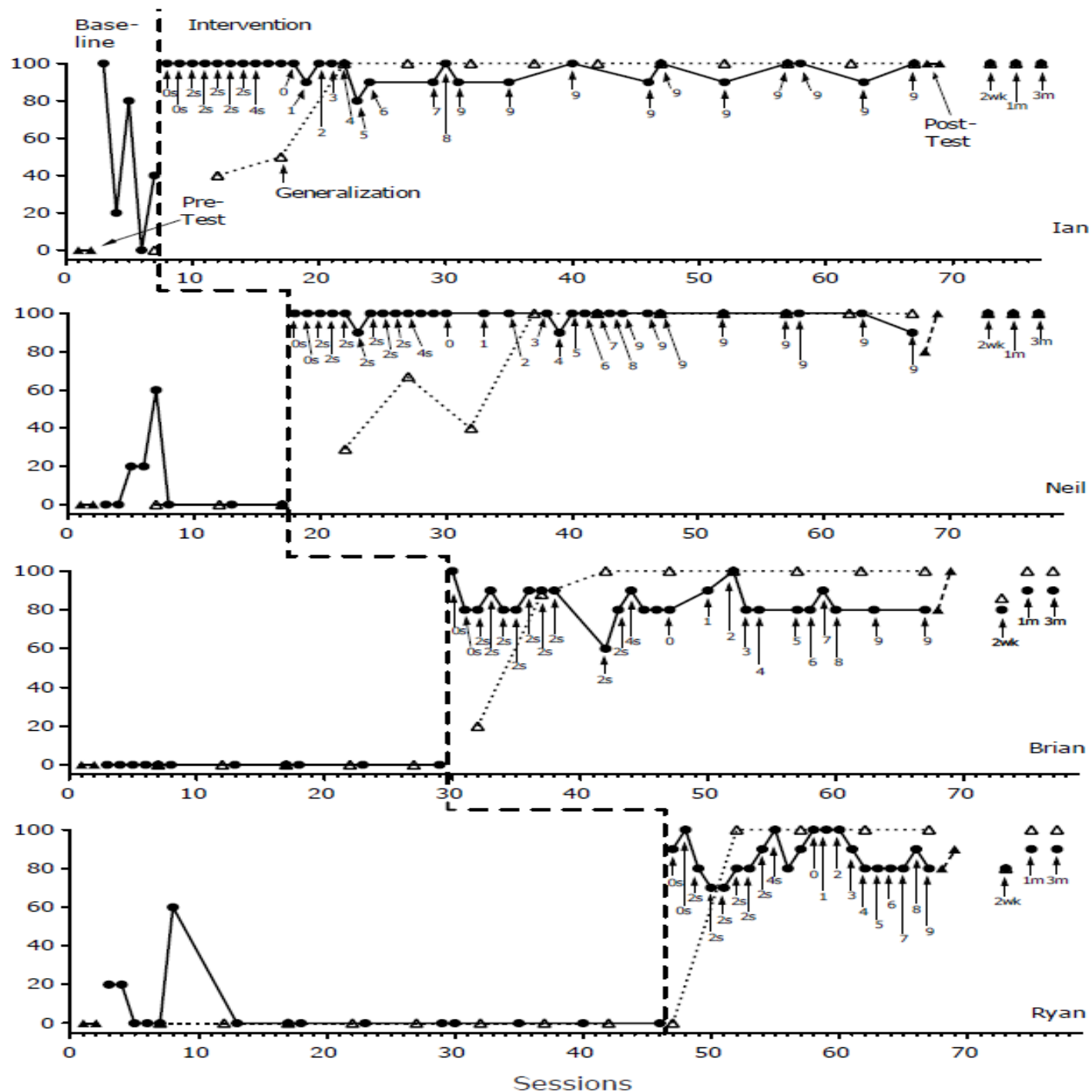- All had experience using an IPOD touch as school

Figure 1. The iPod touch 4G device showing photo icons of five activities in an individualized picture activity schedule used to teach the participants to structure their leisure time.
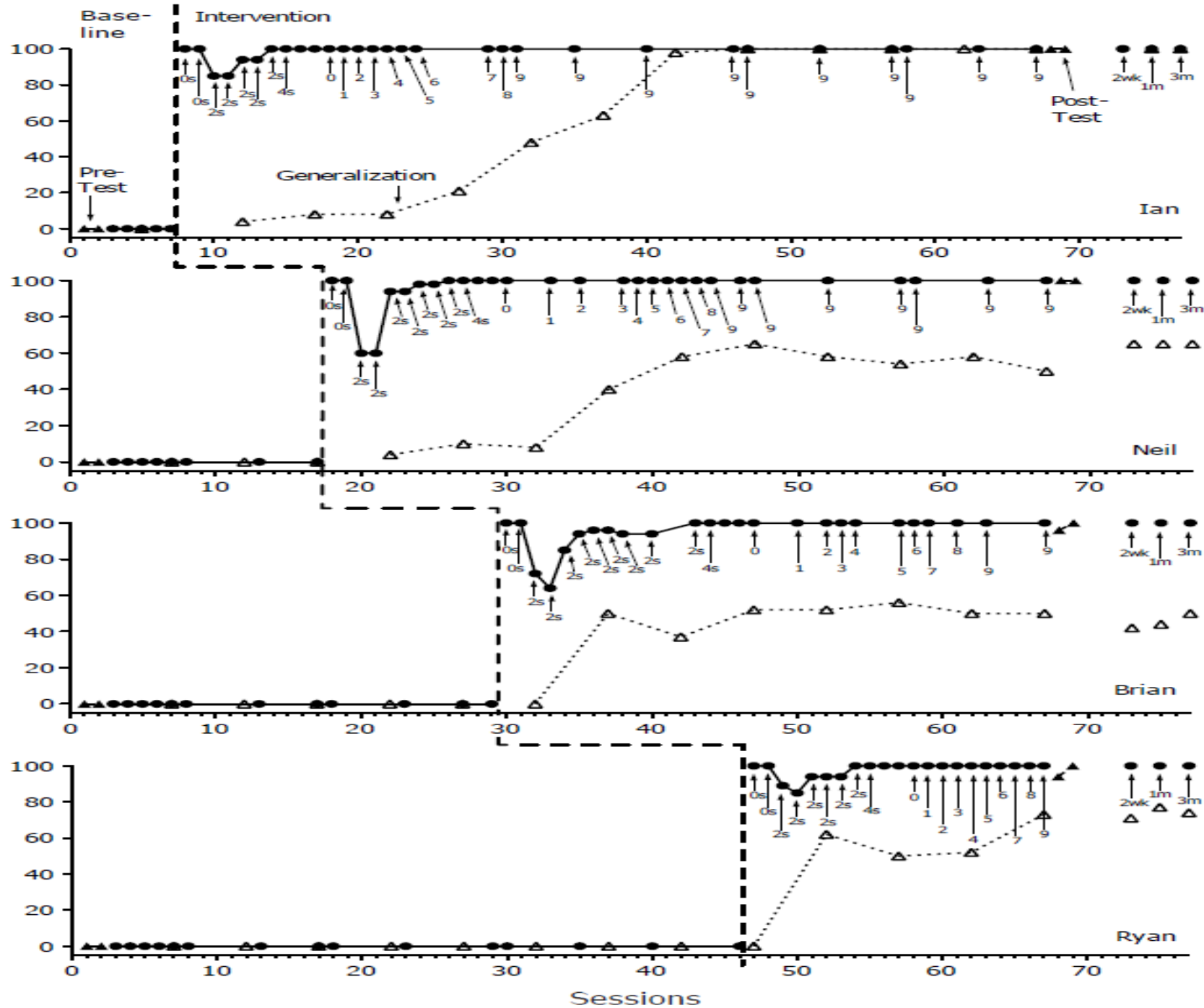
Teaching a Functional Leisure Skill Cluster to Rehabilitation Clients: The Art of Macrame

Halasz-Dees and Cuvo, 1986

Task Analysis for Playing Connect Four

- Communicate that you want to play connect four
- Walk to shelf and get game
- Sit across from partner and organize game for play
- Check release lever for centered positon to hold checkers in game frame
- Choose red or black checkers
- Take turns playing with peer
- Pick up correct color checker and place in any available slot on game grid
- Verbally acknowledge that game is completed

Participants and Setting

- 5 participants with mild disabilities
- Participating in an independent living program designed to teach social, vocational, and independent living skills
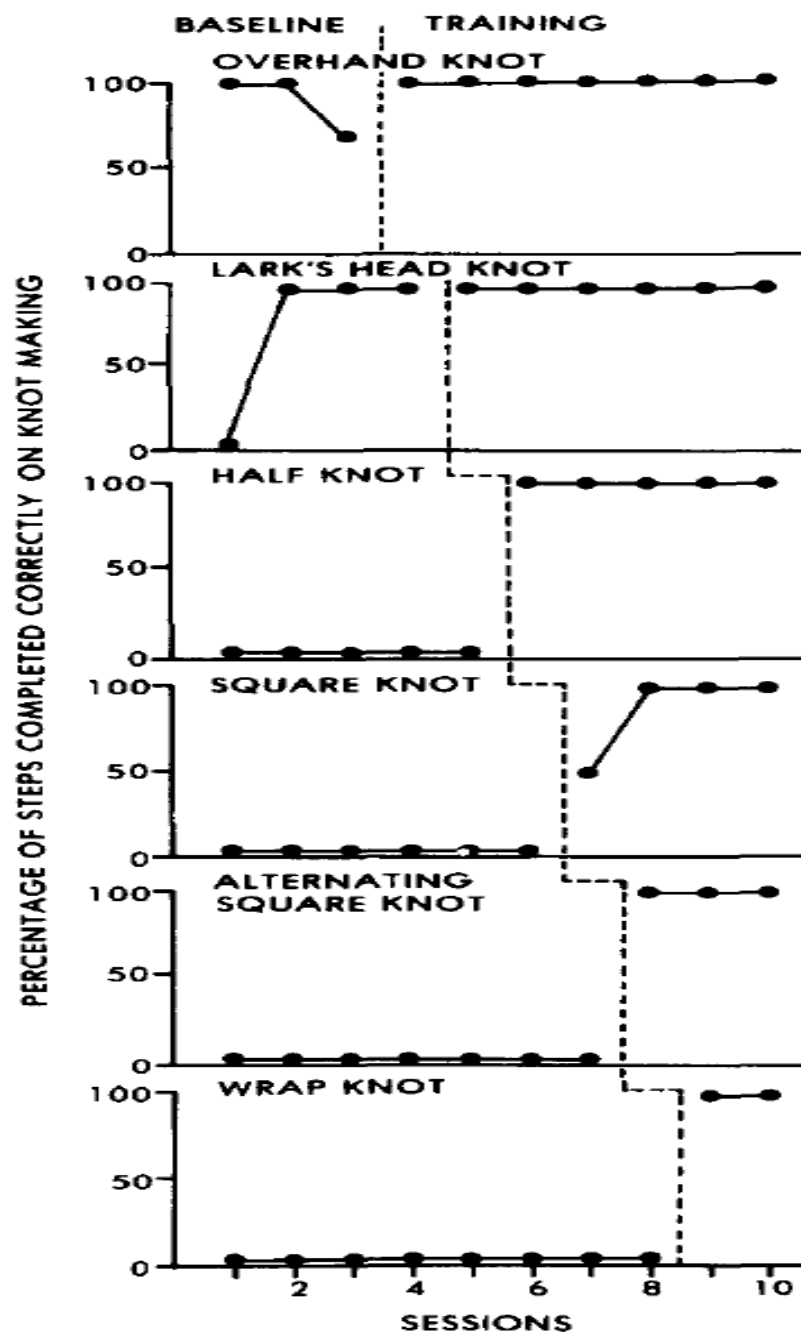
FIGURE 2. Percentage of steps correctly completed with No-Help by Sarah on the Knots T before and after training on each knot.
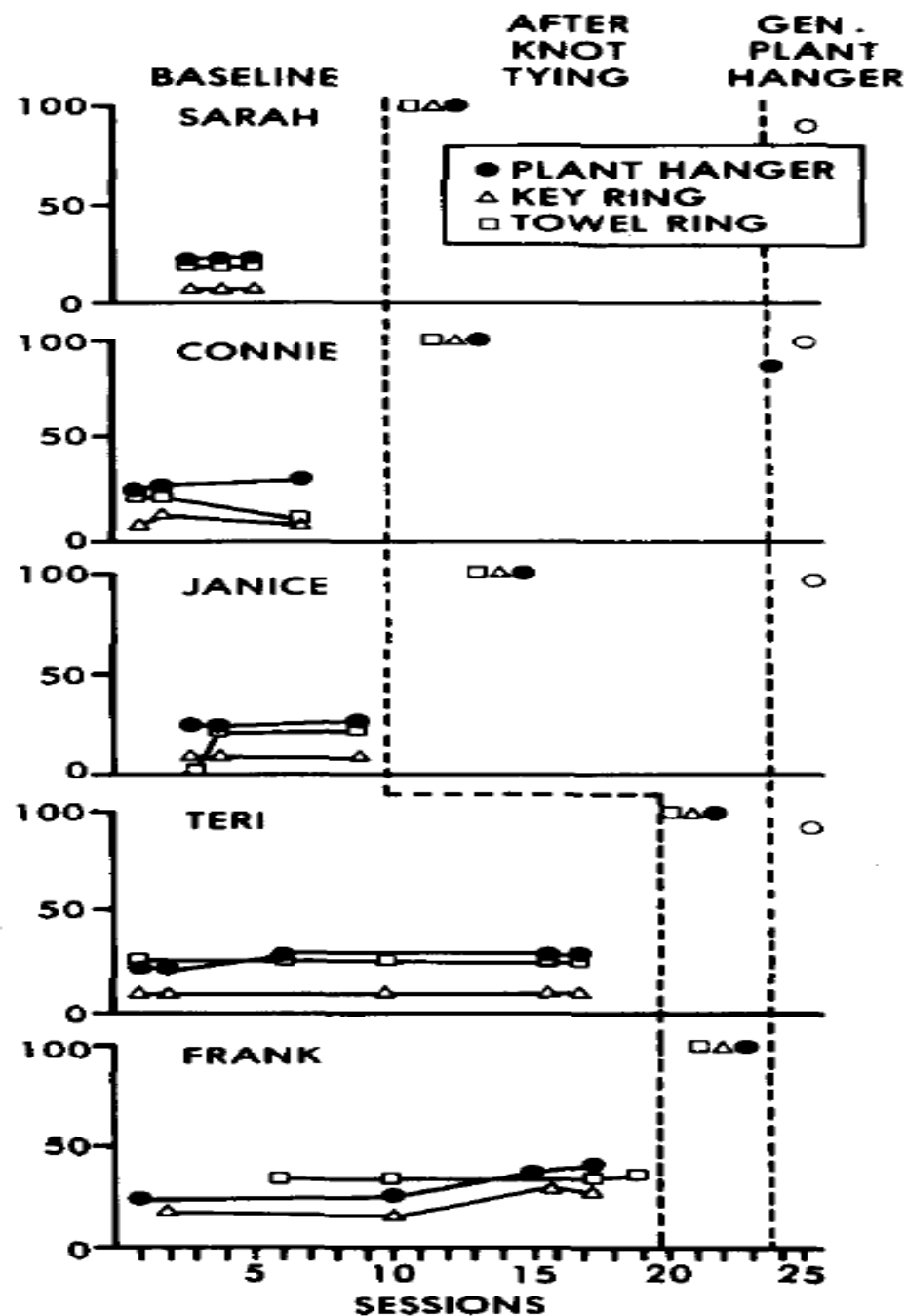
FIGURE 1. Mean proportion of steps correctly completed with No-Help on Finished Projects

Using a Constant Time Delay Procedure to Teach Foundational Swimming Skills to Children With Autism

Rogers, Hemmeter, and Wolery, 2010

Table 1. Task Analyses for Foundational Swimming Skills

| Skill	Steps
Flutter kick	1. Participant holds onto both sides of kickboard, body extended, facing forward, resting just below water surface.
	2. Trainer pulls kickboard through the water.
	3. Participant's legs and feet alternatively move up and down four times (collectively) at or just below the water surface.
Arm strokes	1. Participant holds onto both sides of kickboard, body extended, facing forward, resting just below the water surface.
	2. Participant's body rests just below water surface while trainer pulls kickboard through the water.
	3. Participant moves one hand off the kickboard, directly down into the water.
	4. Participant rotates arm in circular motion, down past body. Arm breaks water surface near upper thigh, reaches up and over, until hand is brought back to resting position on kickboard.
Head turns	1. Participant holds onto both sides of kickboard, body extended, facing forward, resting just below the water surface.
	2. Trainer pulls kickboard through the water.
	3. Without moving body, participant turns head and neck (about 90 degrees) to the right side (if right-handed; to the left side if left-handed) so the left ear faces down toward the pool floor.
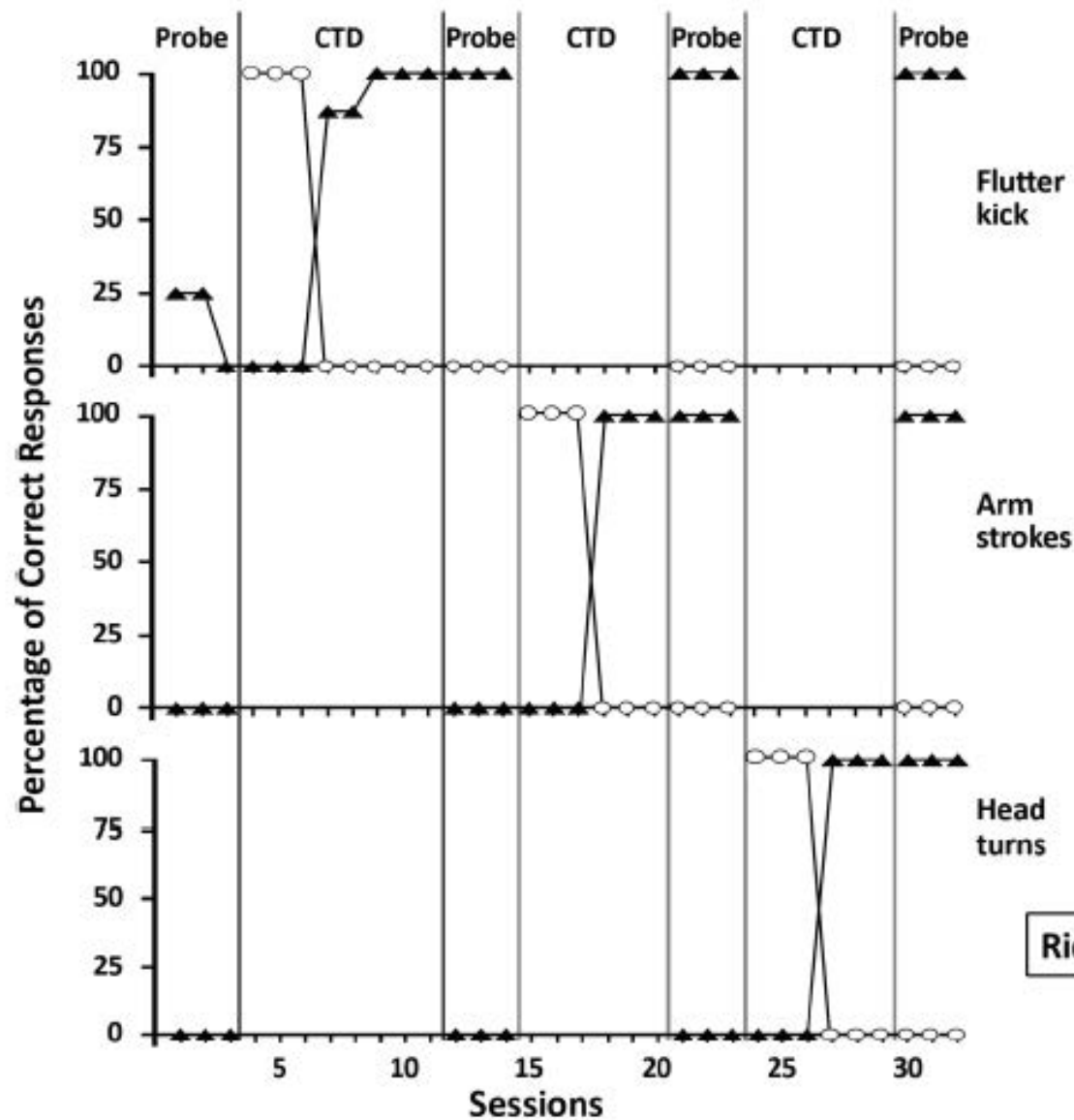
Figure 1. Percentage of correct responses for Richie during probe and instructional sessions
Closed triangles represent unprompted correct responses. Open circles represent prompted correct responses.

Thanks!

Contact Information:
david_mcadam@urmc.rochester.edu

<u>Using Visuals to Increase Tolerance for Waiting in Children with ASD</u>

Kenneth Shamlian, Psy.D., BCBA-D

Tuesday, January 16, 2018

3:00-4:30 p.m.

Register at www.scdd.urmc.edu/rrcasd