

# Clinical measurement of problem solving in children with autism

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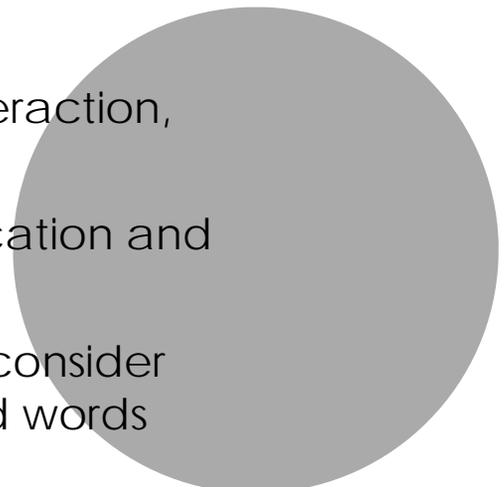
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# Disclosure

- ▶ I have no Relevant Financial Relationships or Relevant Non-Financial Relationship to disclose

# Autism Spectrum Disorders



- ▶ Autism is “defined by atypical communication, social interaction, interests, and body mannerisms” – Dawson (2007)
  - ▶ DSM-5 defines it as “persistent deficits in social communication and social interaction across multiple contexts”
  - ▶ Social interactions require a person to assess a situation, consider options, and choose the best way to react in actions and words
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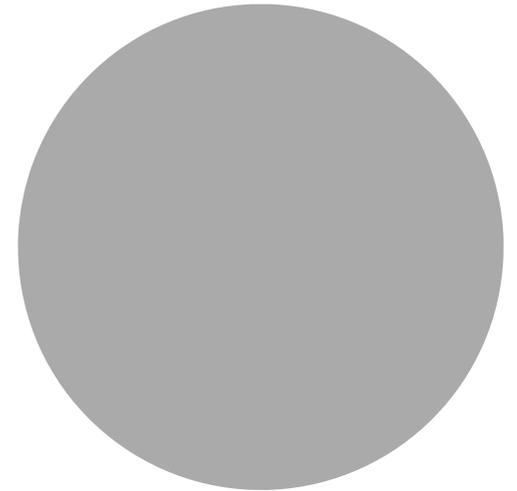
# Problem Solving



- ▶ Problem solving is a cognitive executive function that all people begin to develop from birth
- ▶ Our first problem we solve may be how gain attention, which direction to crawl, or which person to reach toward
- ▶ Executive Dysfunction (EDF) is “deficits... may include poor impulse control, planning and organizational problems, poor reasoning ability, perseveration and mental inflexibility, etc.” – Anderson
- ▶ There is a connection between autism and EDF
- ▶ There are two types of problem solving: verbal problem solving and non-verbal problem solving

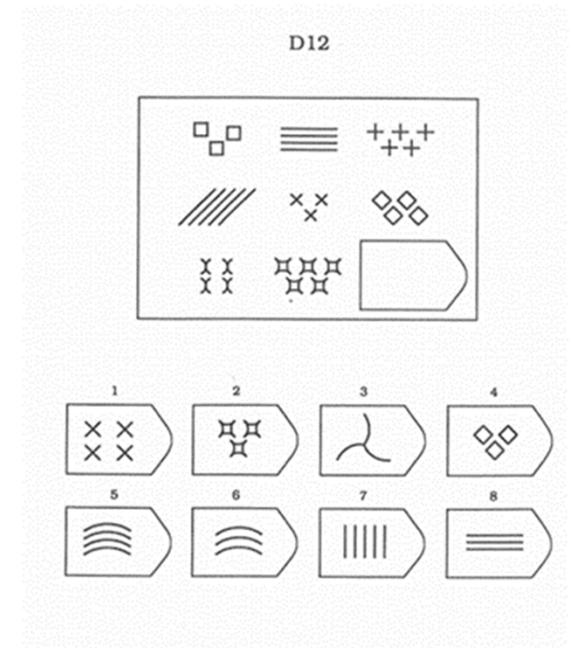
# Assessing Problem Solving

- ▶ Non-verbal Problem Solving
  - ▶ Raven's Progressive Matrices (RPM)
- ▶ Verbal Problem Solving
  - ▶ Rapid Assessment of Problem Solving (RAPS)



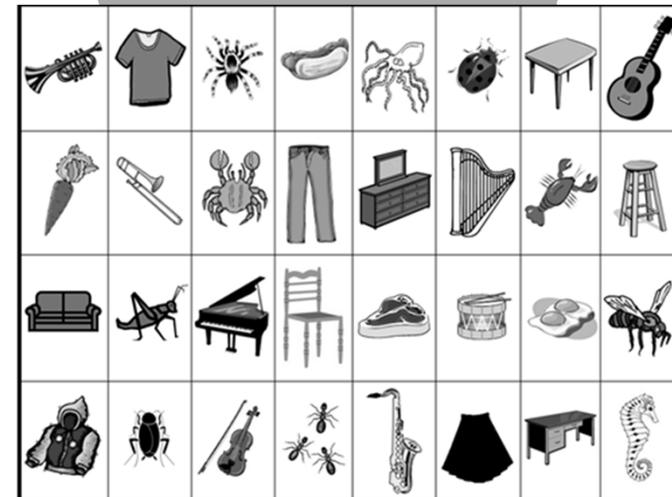
# Raven's Standard Progressive Matrices (SPM)

- ▶ The Raven's Standard Progressive Matrices (SPM) was created by J.C. Raven and directly measures two main components of general intelligence: educative ability and reproductive ability
- ▶ Standardized on adults and children in the United States and across the globe
- ▶ In 2007, Dawson and associates utilized the RPM in a study regarding the level and nature of autistic intelligence. This study indicated children with autism may be intellectually underestimated when assessed solely on intelligence



# Rapid Assessment of Problem Solving (RAPS)

- ▶ Based off Mosher and Hornsby's 20Q task
- ▶ Requires general sequential reasoning, fluid intelligence, and executive functioning
- ▶ Yields efficiency and planning scores
- ▶ Reveals the strategies utilized by each participant
- ▶ Normative data for children was reached in 2015 by Smith in a research study that included 229 children



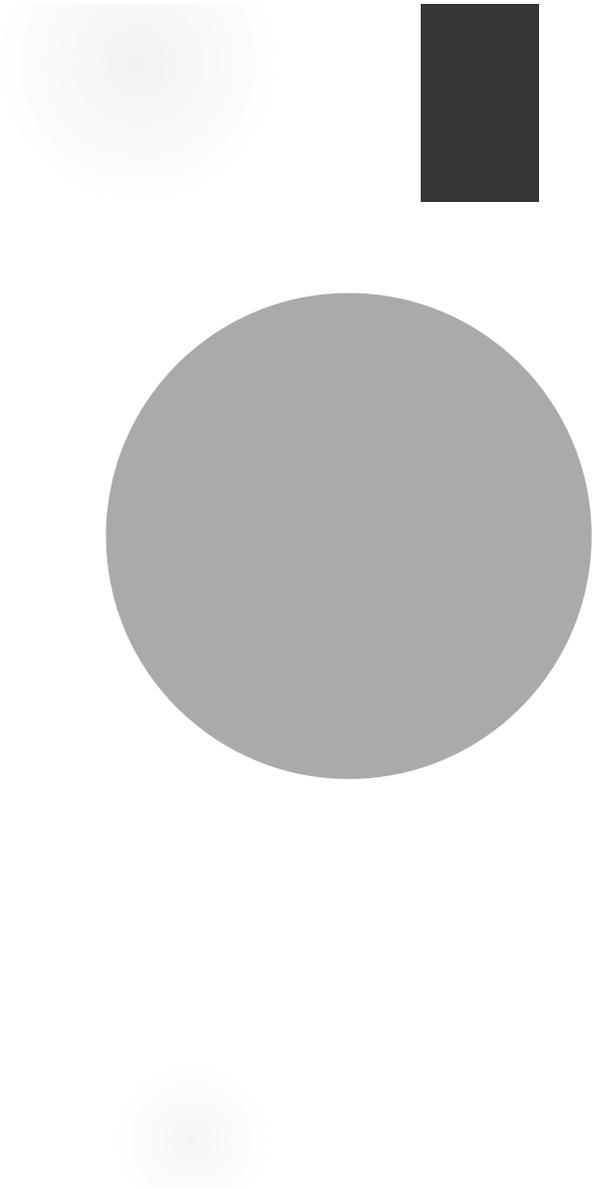
# What did we want to learn?

- ▶ 1. Do early-adolescent and adolescent children with autism use different strategies than typically developing children to solve problems on the RAPS?
- ▶ 2. Do early-adolescent and adolescent children with autism perform differently than typically developing age-matched peers on the RAPS and RPM?

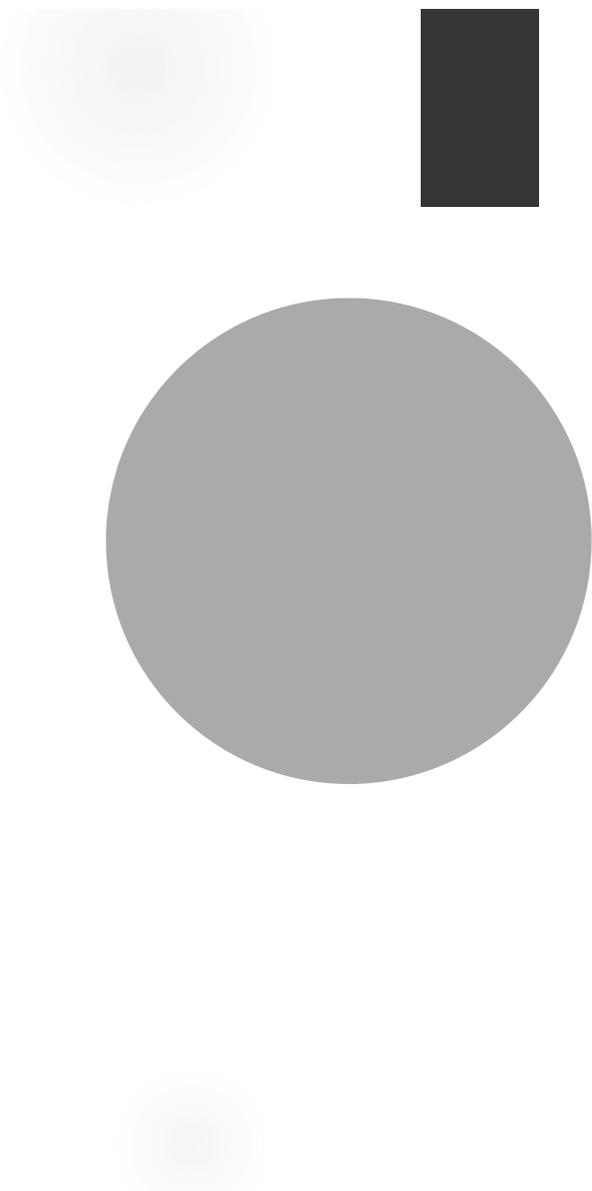
# What happened?

- ▶ Twenty-seven male children ages 10-16 years (12 with autism and 15 who are neurotypical) were recruited through Western Kentucky University's Kelly Autism Program
- ▶ Before participating in the study, each participant had a guardian sign an informed consent and each participant signed an assent form
- ▶ RAPS screening task to ensure each participant could ask yes/no questions
- ▶ Two assessments of the RAPS
- ▶ One online assessment of the RPM

# Results



# Discussion



# References

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