

Assessing development trajectories of executive functions in low income ethnic minority preschoolers: Challenges and opportunities

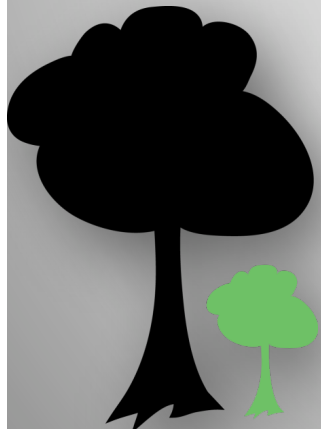
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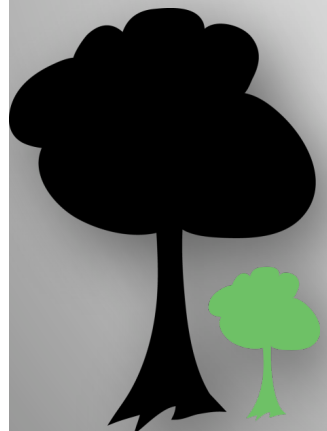
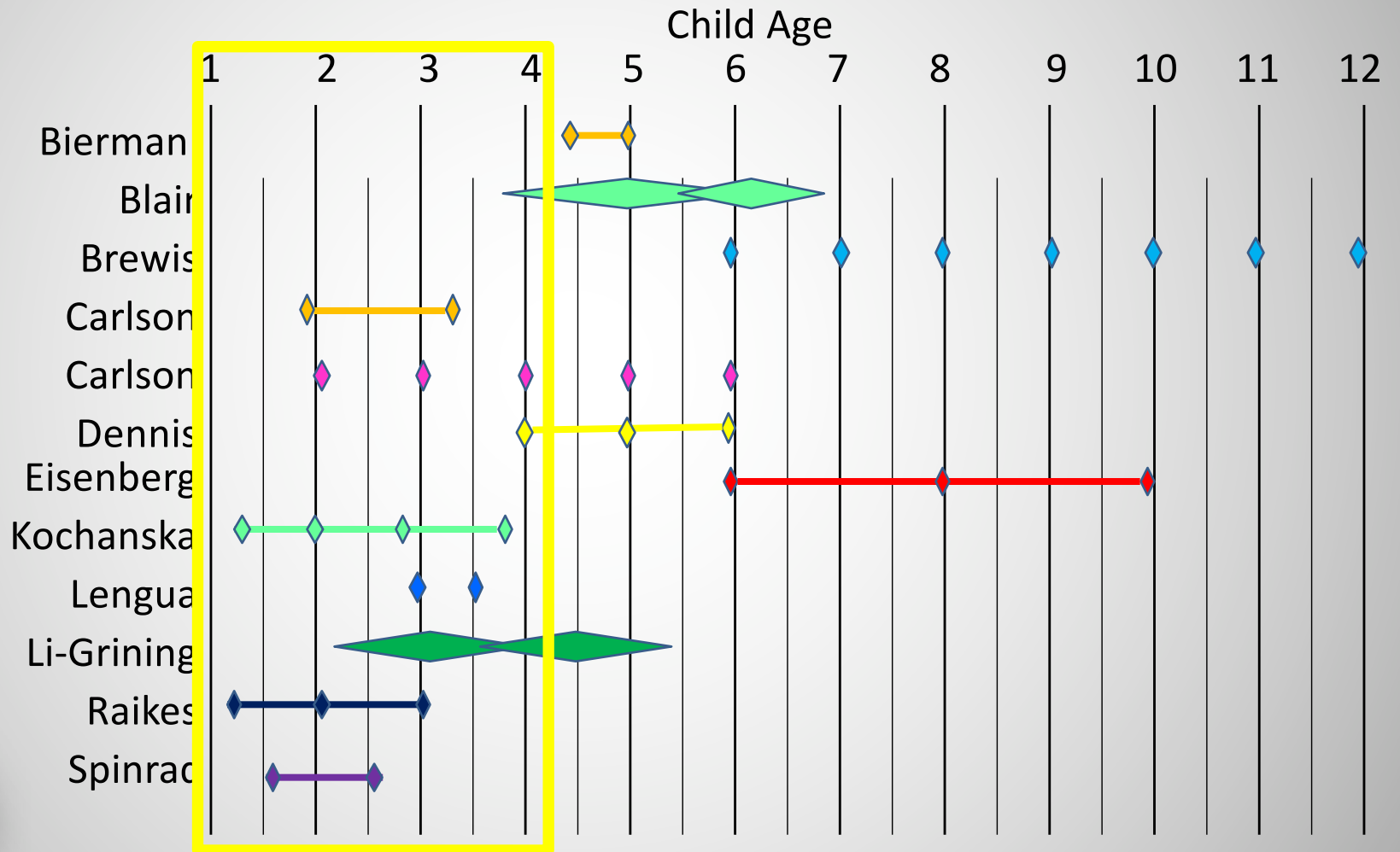
*Executive Function in Preschool Children:
Current Knowledge and Research Opportunities
June 8-9, 2010*

Why is it important?

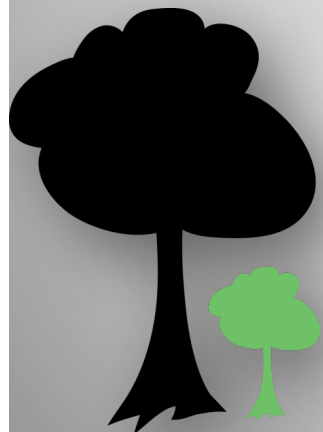
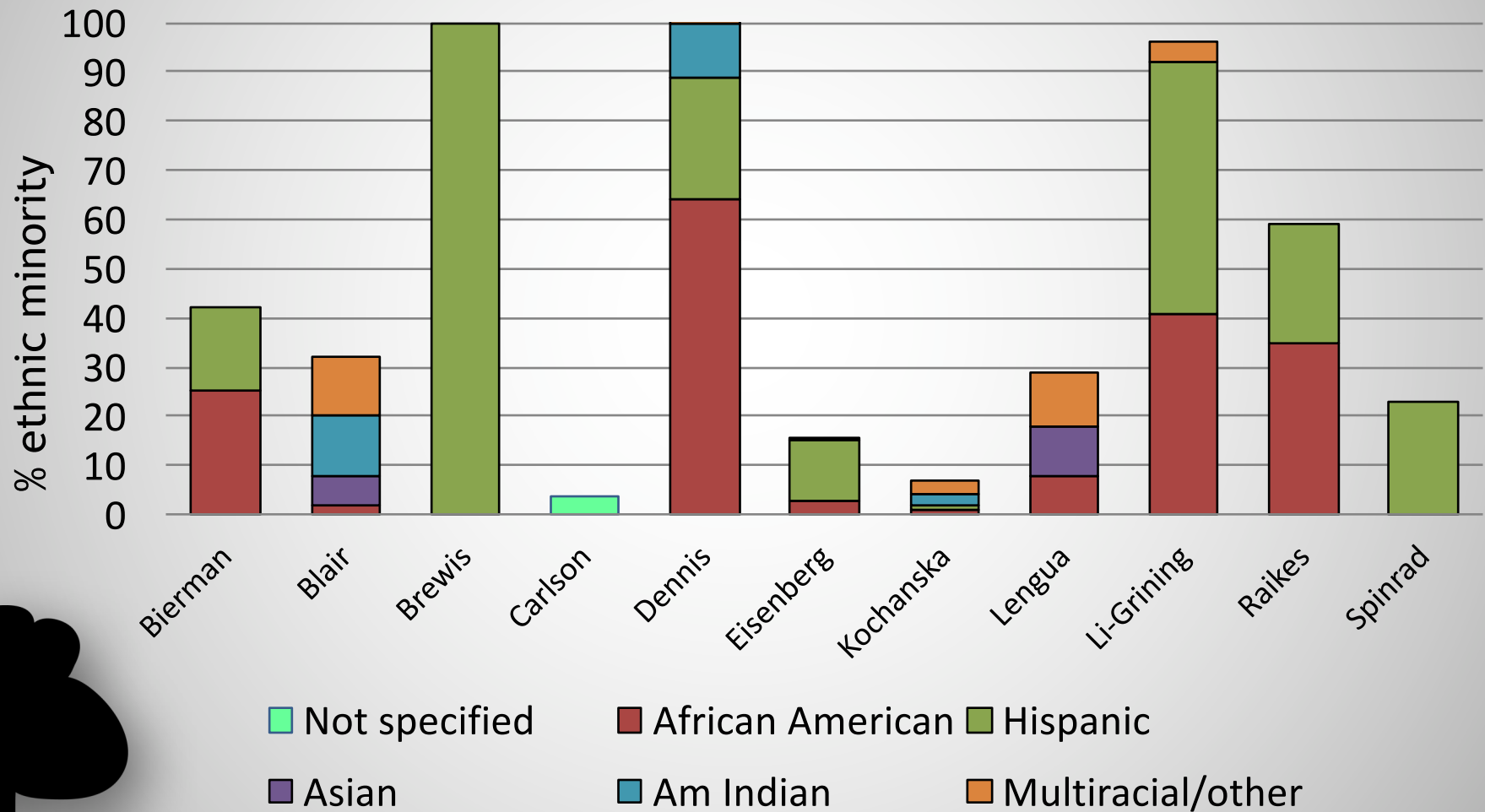
- Race/ethnic disparities in school readiness
 - 34% of African American and 42% of Hispanic kindergarteners are in the lowest quartile of reading skills
- Self regulation skills are emerging as an important foundation of school readiness
- Earlier intervention is more effective



What do we know about development trajectories for EF?



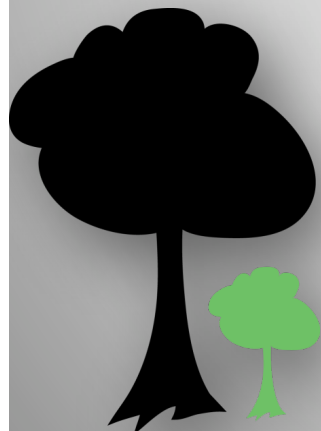
Ethnic composition of longitudinal studies of executive functioning



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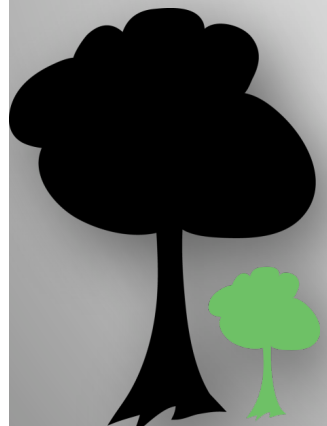
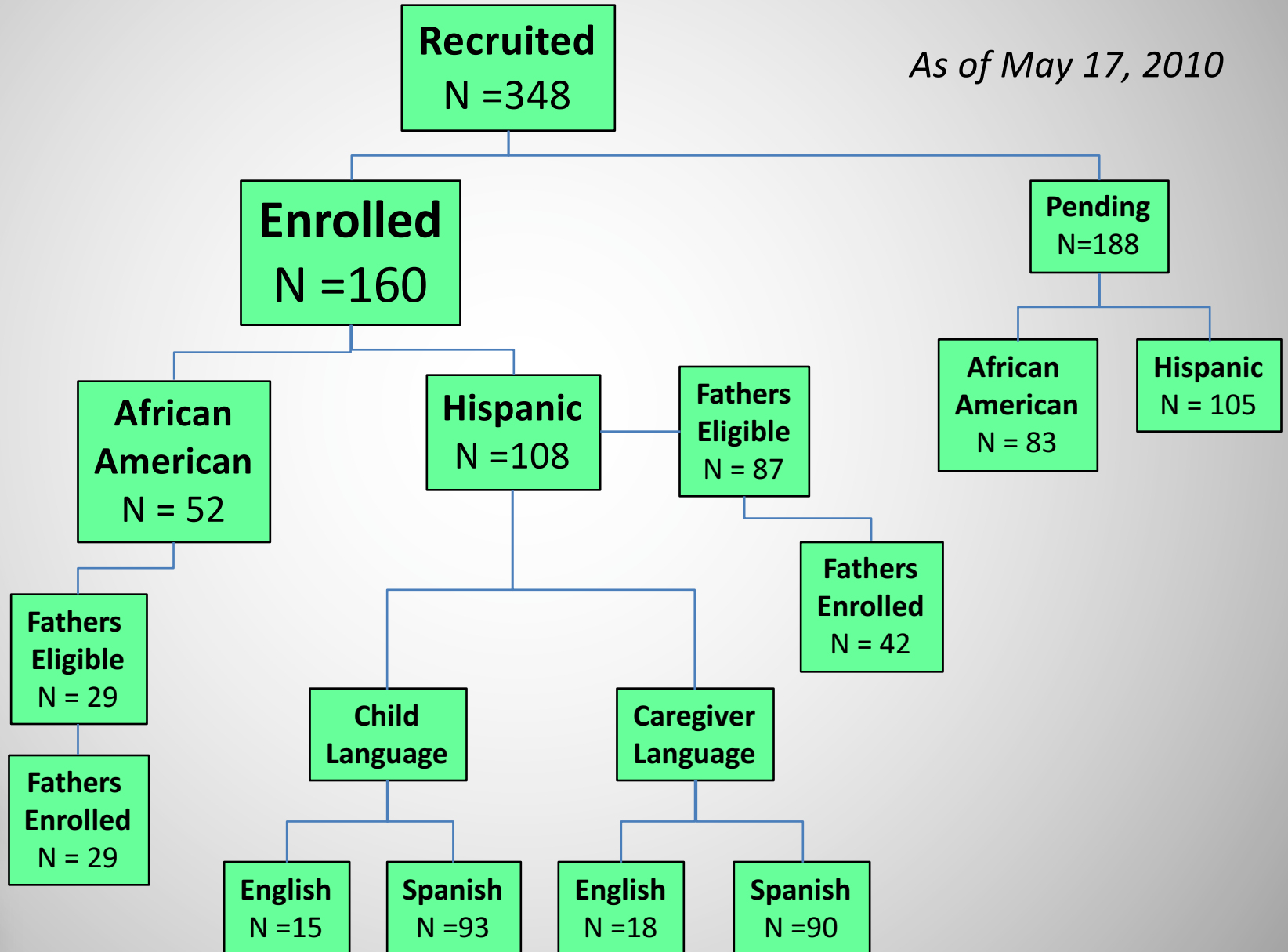
- 400 preschoolers to be assessed annually starting at age 2½ years
 - All either African American or Hispanic
 - All with family incomes <200% poverty
- Measures of executive functions
 - Delay of gratification: snack delay, wrapped gift, forbidden toy
 - Effortful attention: Fruit Stroop, Mommy & Me, Heads & Toes, Walk-the-line
- Other measures
 - Video of mother-child and father-child interaction
 - Parenting attitudes and beliefs about school readiness
 - Racial socialization practices
 - School readiness



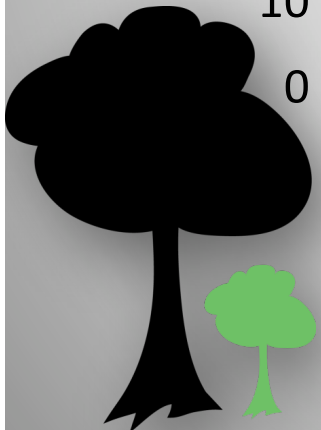
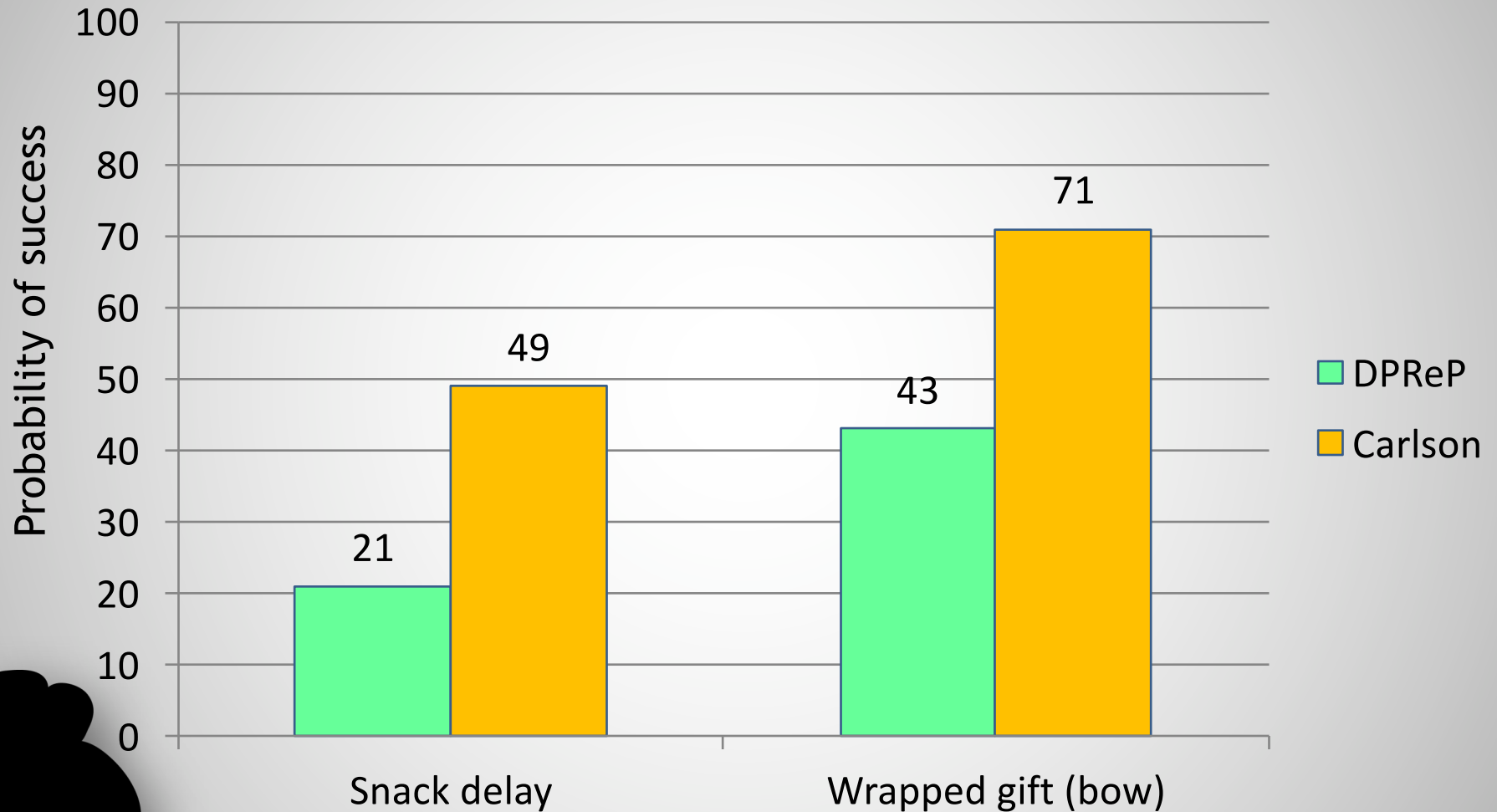
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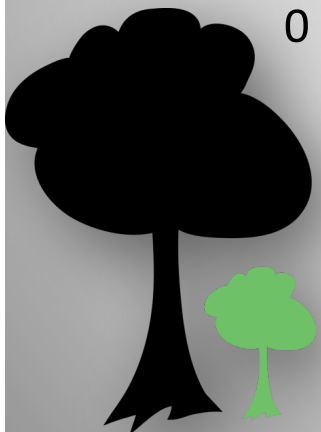
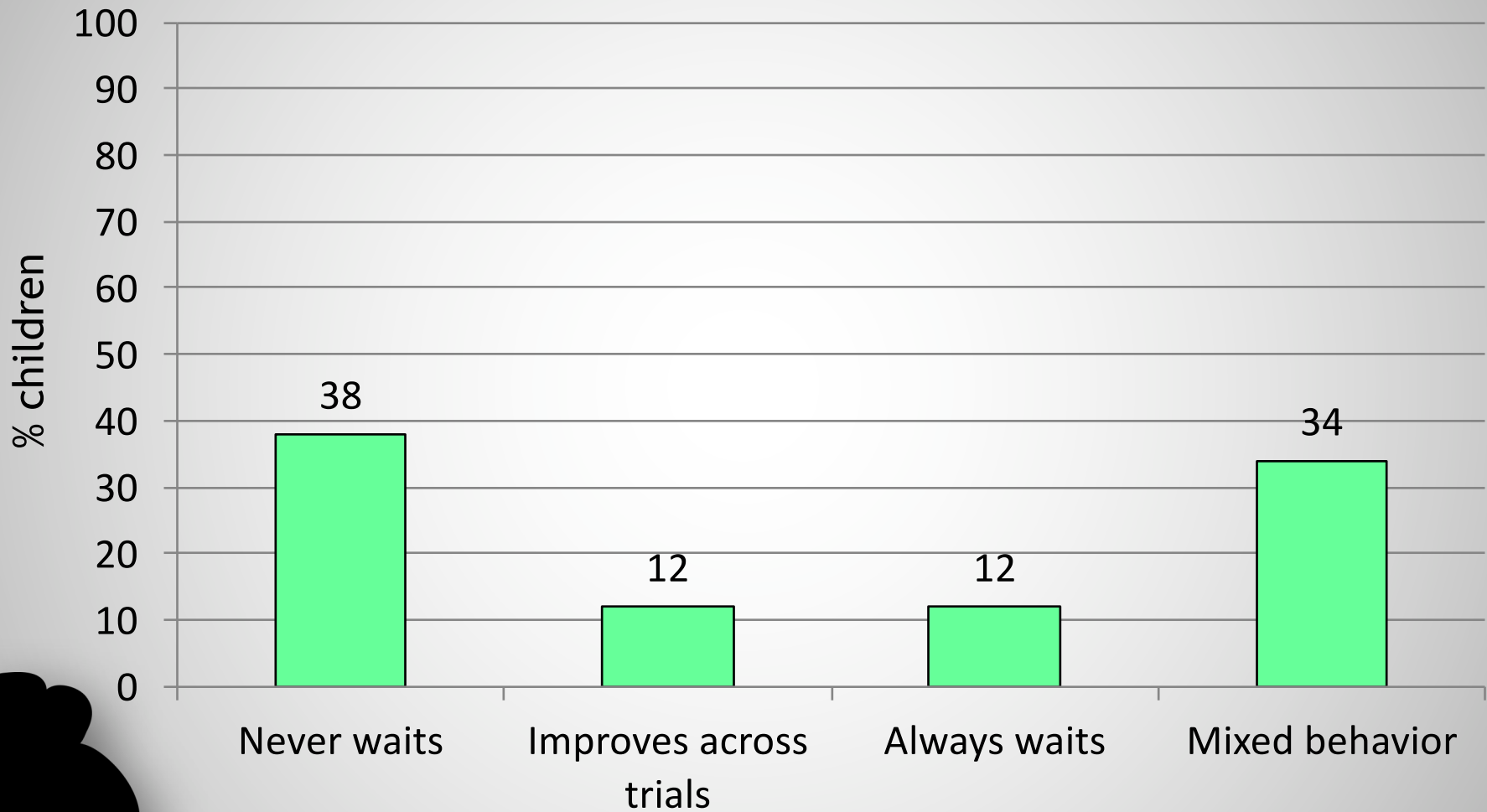
As of May 17, 2010



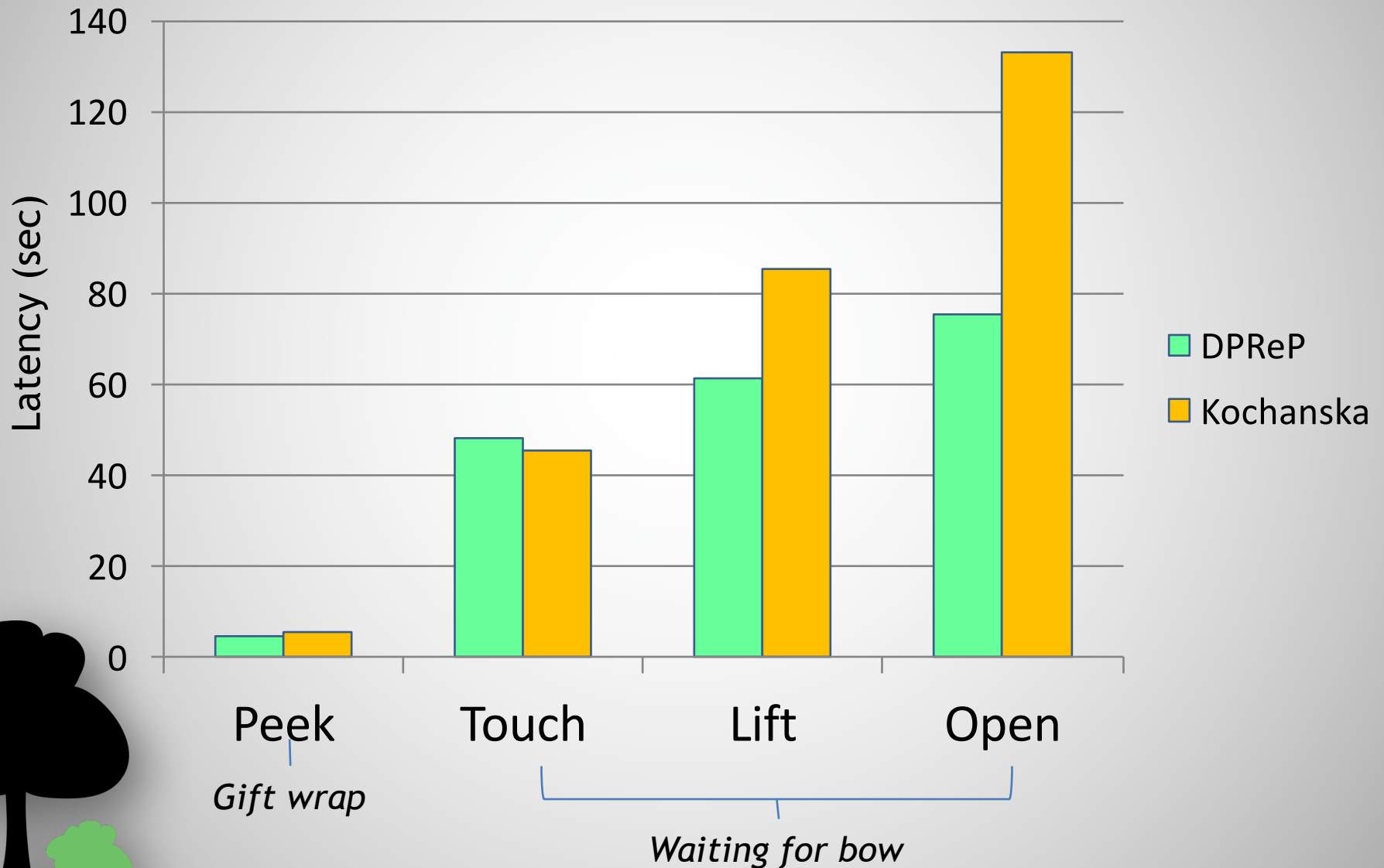
Cross-sample comparison: Delay of gratification tasks



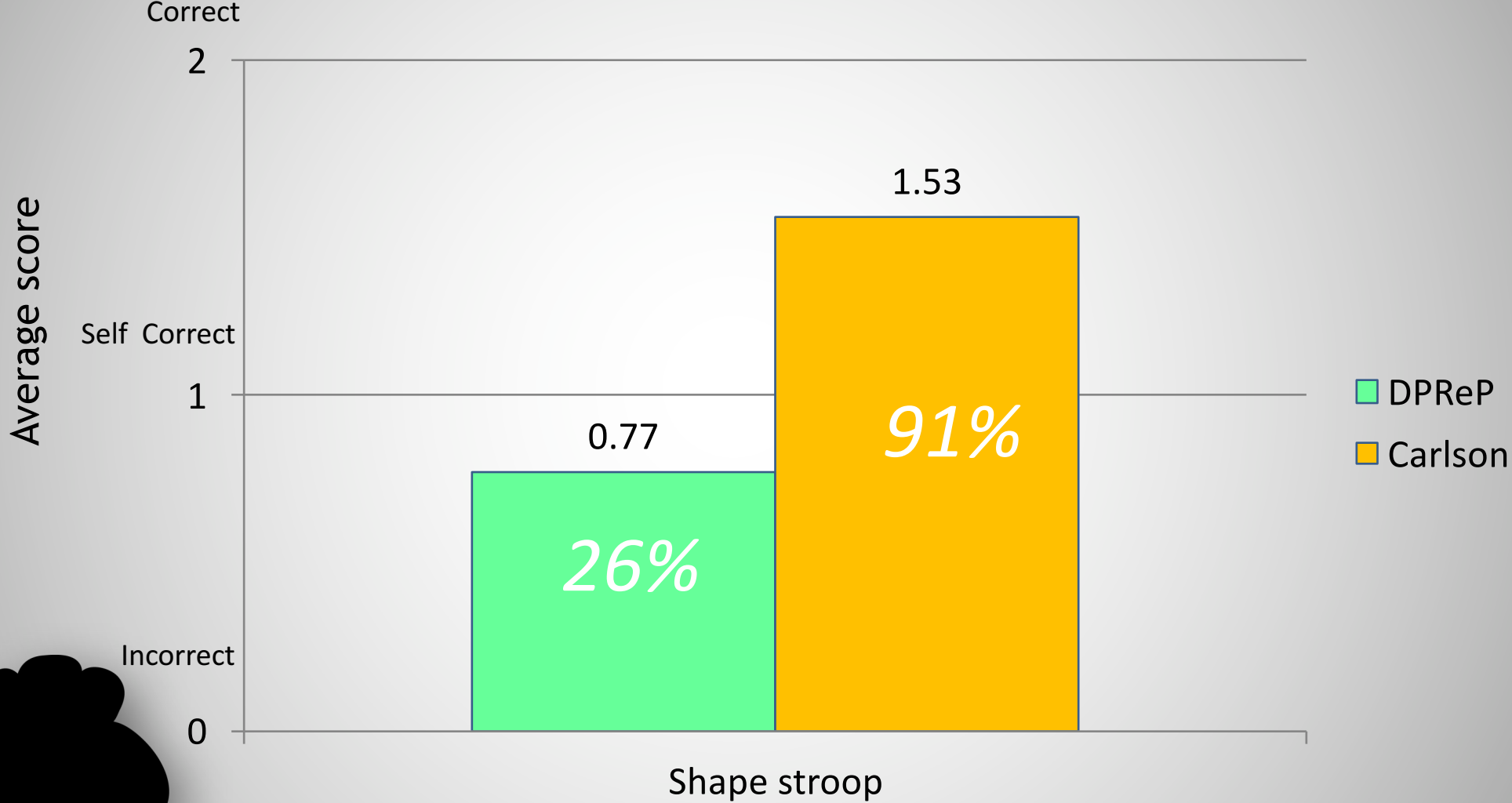
Snack delay: Behavior across trials



Cross-sample comparison: Delay of gratification tasks

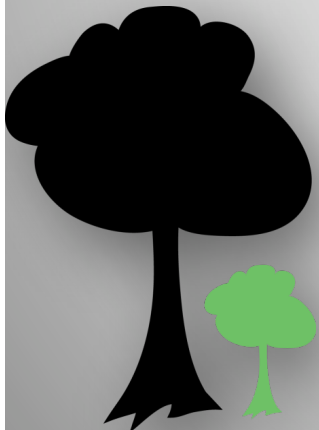
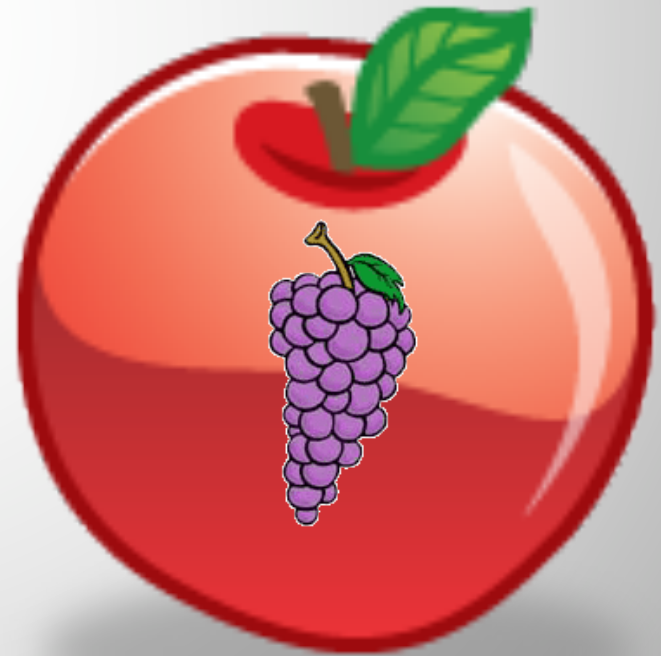
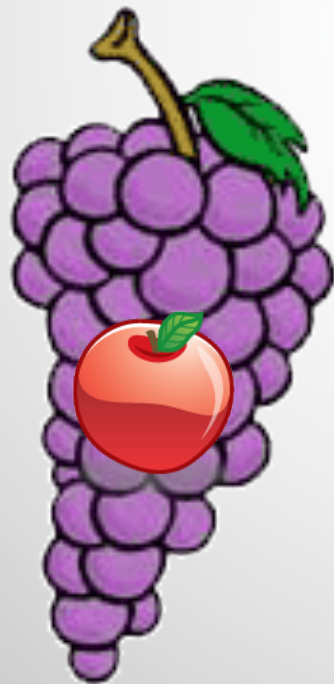


Cross-sample comparison: Effortful attention tasks

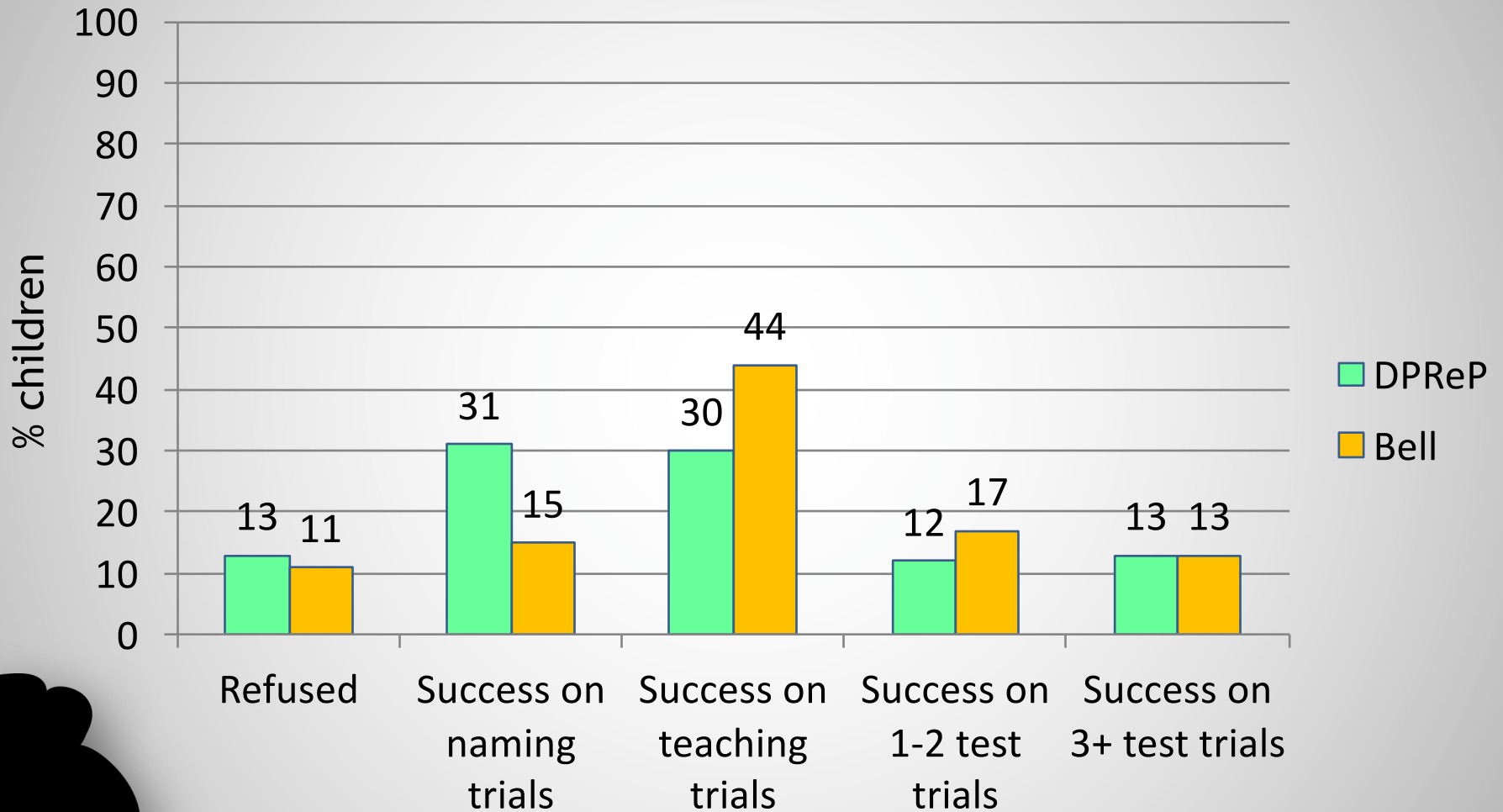


Effortful attention tasks: Fruit Stroop

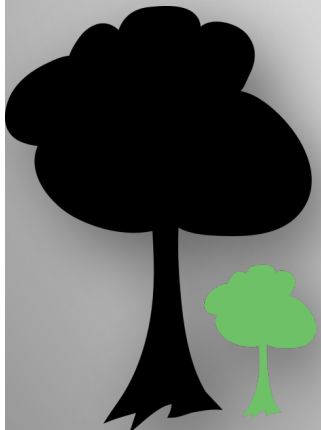
"Show me the baby grapes"



Cross-sample comparison: Effortful attention tasks



Fruit Stroop

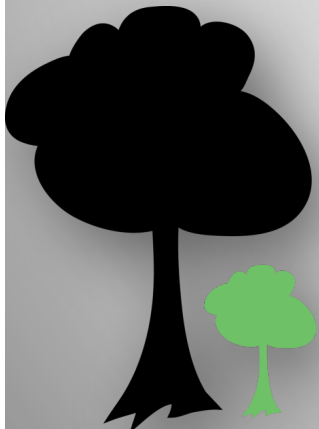


Effortful attention tasks: Mommy & Me

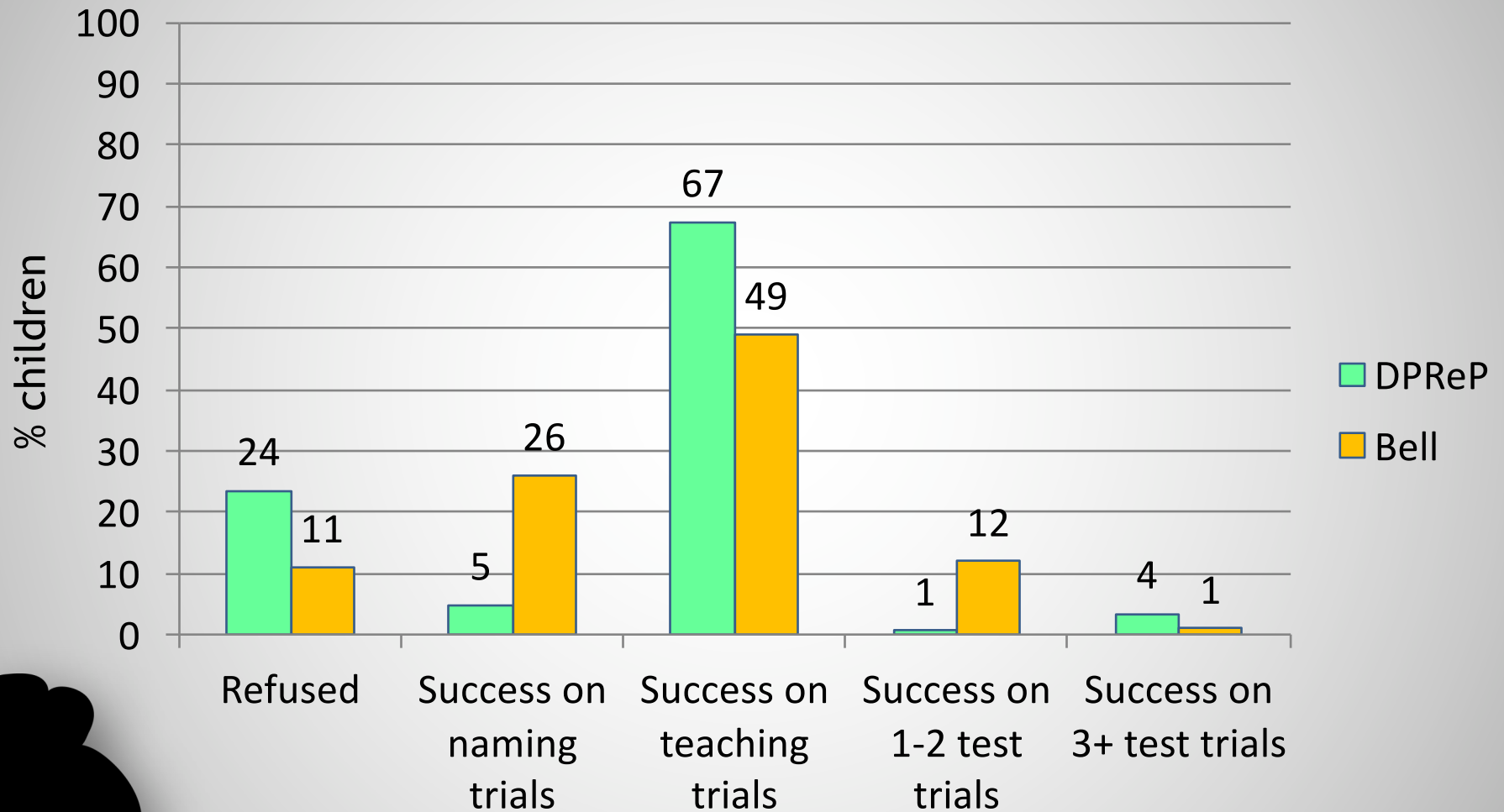
Mommy & Me



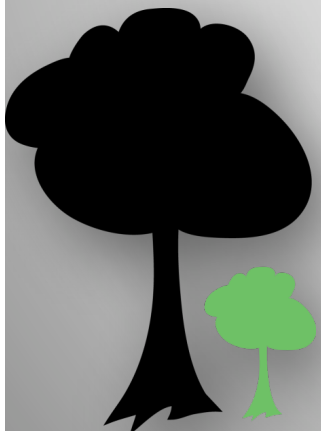
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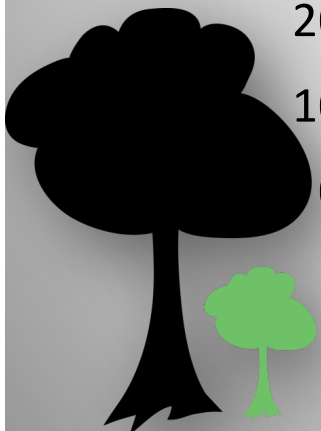
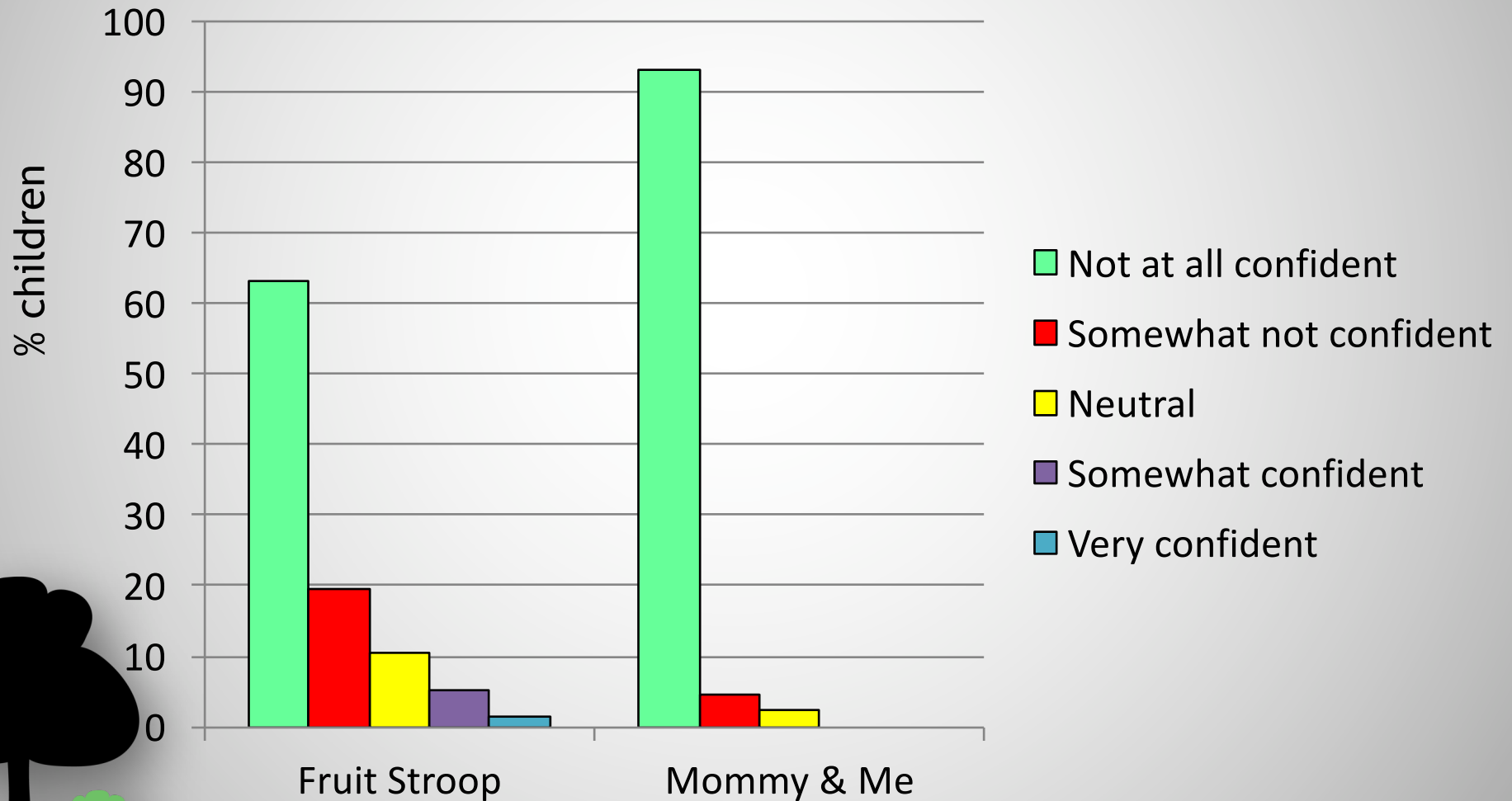
Cross-sample comparison: Effortful attention tasks



Mommy & Me

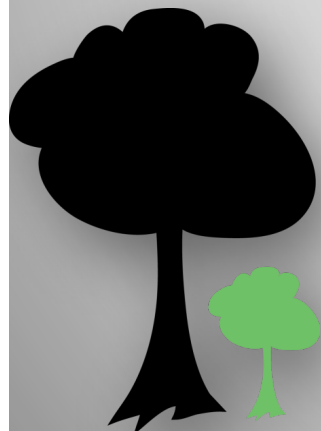


Effortful attention tasks: Confidence in child comprehension



How is the development of EF shaped by the unique ecological niches of minority children?

- Acculturation and the development of effortful attention
 - Carlson & Meltzoff (2008): Bilingual kindergarteners perform better on attention conflict tasks
- Racial socialization
 - A home environment rich in Africentric culture is associated with better cognitive skills in African American preschoolers (Caughy et al., 2002) and first graders (Caughy et al., 2006)



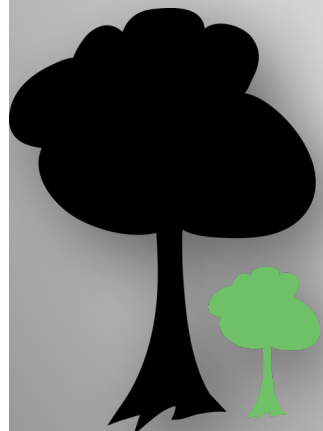
How is the development of EF shaped by the unique ecological niches of minority children?

- Importance of fathers
 - Fathers very engaged
- Unique family/household characteristics
 - Instability of household residents
 - Non-traditional family structures
 - Instability of non-maternal care providers
 - Multiple family households
- A number of families in this population will already be involved in some sort of intervention project.
- Is the association between proximal factors and EF development moderated by contextual factors?



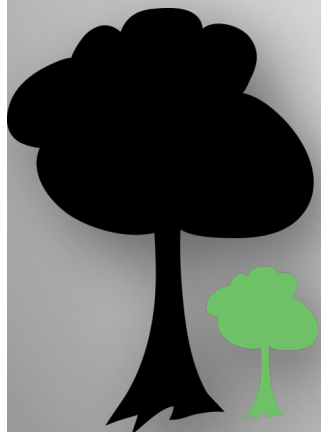
Conclusions and questions

- How well can we generalize what we know about development trajectories of EF to those children most at risk for school failure?
 - Standard EF tasks show variability in low income minority children.
 - How do we best capture subtle individual differences in self regulation skills?



Conclusions and questions

- In what ways should we broaden our consideration of factors important for the development of executive functions in low income, ethnic minority children?



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