

Measuring More than Reading and Math

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NATIONAL CENTER for
MONTESSORI in the PUBLIC SECTOR

Ensuring Equity in Assessments



Iheoma U. Iruka, PhD
HighScope Educational Research
Foundation



Early Childhood Experiences Matter Long-term!

HighScope Perry
Preschool Program

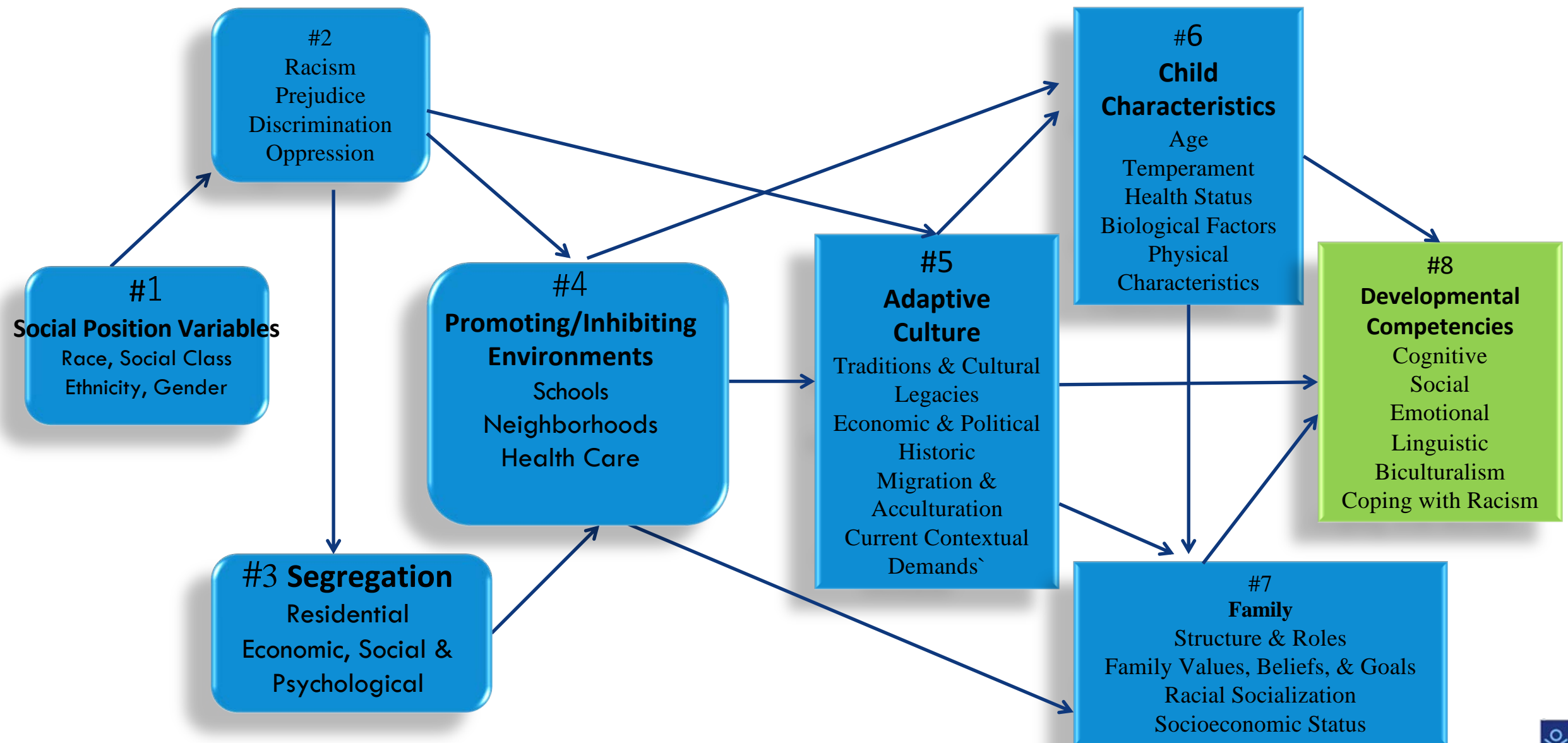
Carolina Abecedarian
Study



Investment in
ECE Yields
Return 7-10%



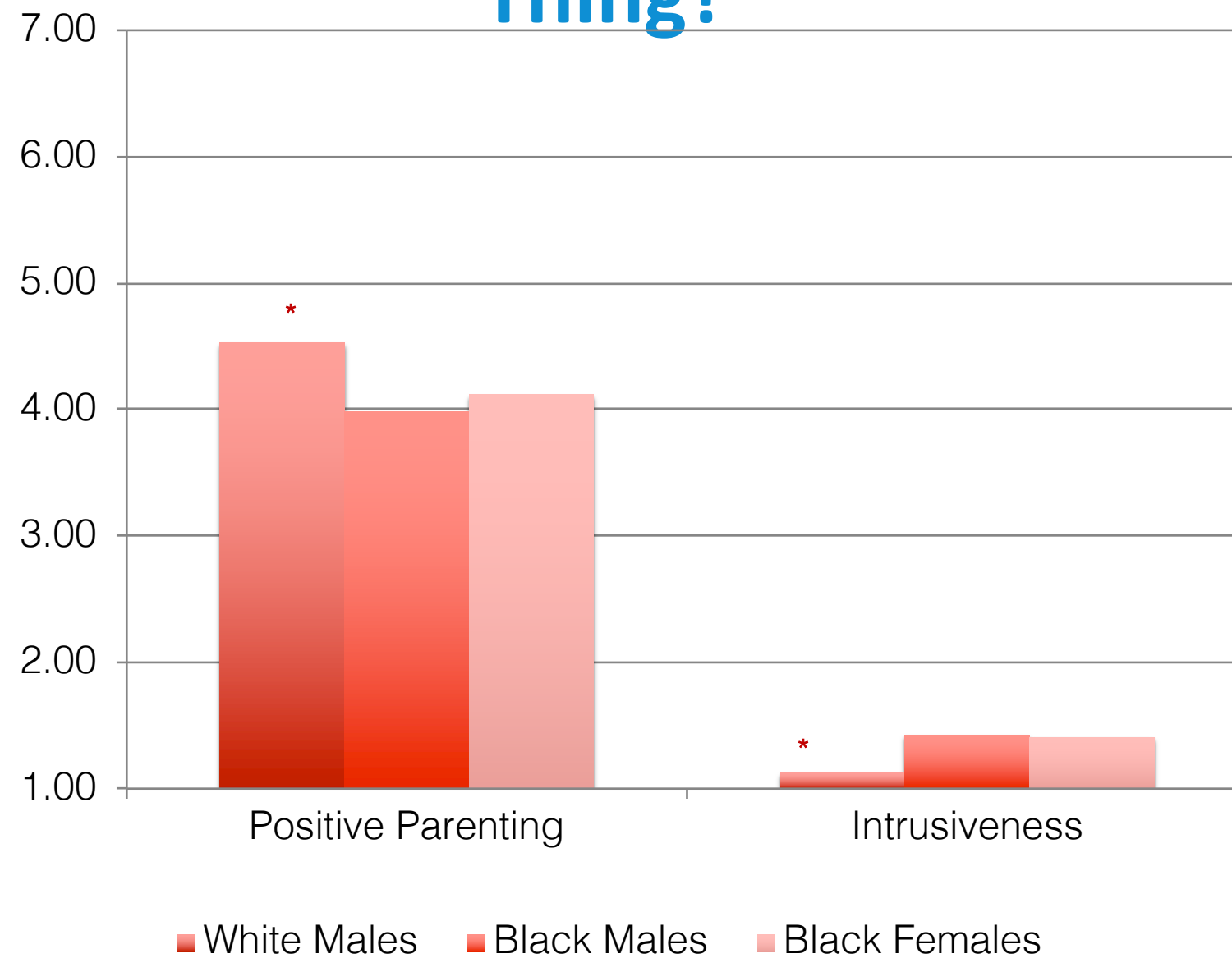
When thinking about issues of equity, there is need to think beyond academics.



García Coll, C., Lamberty, G., Jenkins, R., McAdoo, H. P., Crnic, K., Wasik, B. H., & García, H. V. (1996). An integrative model for the study of developmental competencies in minority children. *Child Development*, 67(5), 1891-1914. doi: 10.1111/j.1467-8624.1996.tb01834.x



Does Intrusive Parenting Mean the Same Thing?



Indirect Effect Results - - FSM

		White	Black	English Latinx	Spanish Latinx	Asian
Receptive Language	Food Insecurity	√ (INR)	√ (INR)		√ (INR)*	
	Depression					
	Sensitive	√ (INR & M. ED)	√ (INR & M. ED)		√ (M. ED)	√ (M. ED)
	Negative	√ (M. ED & EMP)				
Expressive Language	Food Insecurity			√ (INR)*		
	Depression			√ (INR)*		
	Sensitive	√ (M. ED)			√ (M. ED)	√ (M. ED)
	Negative	√ (M. ED)				

*=more than one mediating variable



Indirect Effect Results --

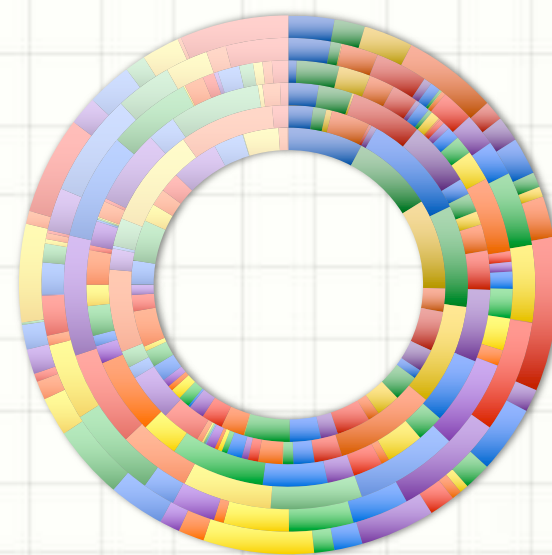
FSM

		White	Black	English Latinx	Spanish Latinx	Asian
Language & Literacy	Food Insecurity		√ (INR & M. ED)*		√ (INR)*	√ (INR)*
	Depression		√ (INR & M. ED)*		√ (INR)*	√ (INR)*
	Sensitive		√ (INR & M. ED)		√ (M. ED)	
	Negative	√ (M. ED & EMP)				
Math & Numeracy	Food Insecurity	√ (INR)*	√ (INR)		√ (INR)	
	Depression	√ (INR)*				
	Sensitive	√ (M. ED)	√ (M. ED)		√ (INR M. ED)	
	Negative	√ (M. ED & EMP)				

*=more than one mediating variable



ASSESSING CLASSROOM SOCIOCULTURAL EQUITY SCALE (ACSES)



Stephanie M. Curenton, Boston University

Iheoma U. Iruka, HighScope Education Research Foundation

Bryant Jensen, Brigham Young University

Tonia Durden, Georgia State University

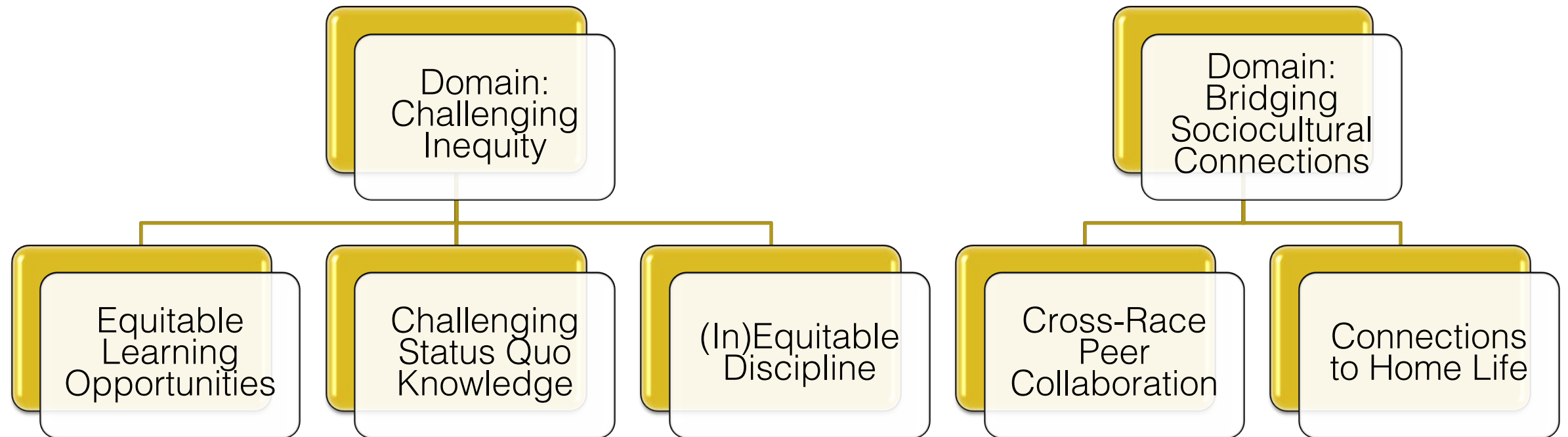
Marisha Humphries, University of Illinois at Chicago

Shana Rochester, Boston University

Jacqueline Sims, Boston University

- The purpose of the Assessing Classroom Sociocultural Equity Scale (ACSES) is to provide a reliable and valid assessment of equitable sociocultural interactions within early childhood classrooms environments (P-3rd).

ACSES Domains and Dimensions

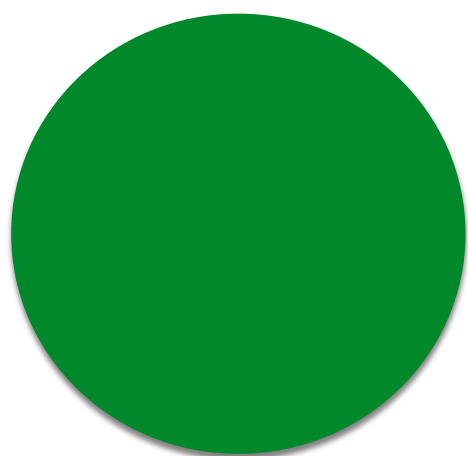


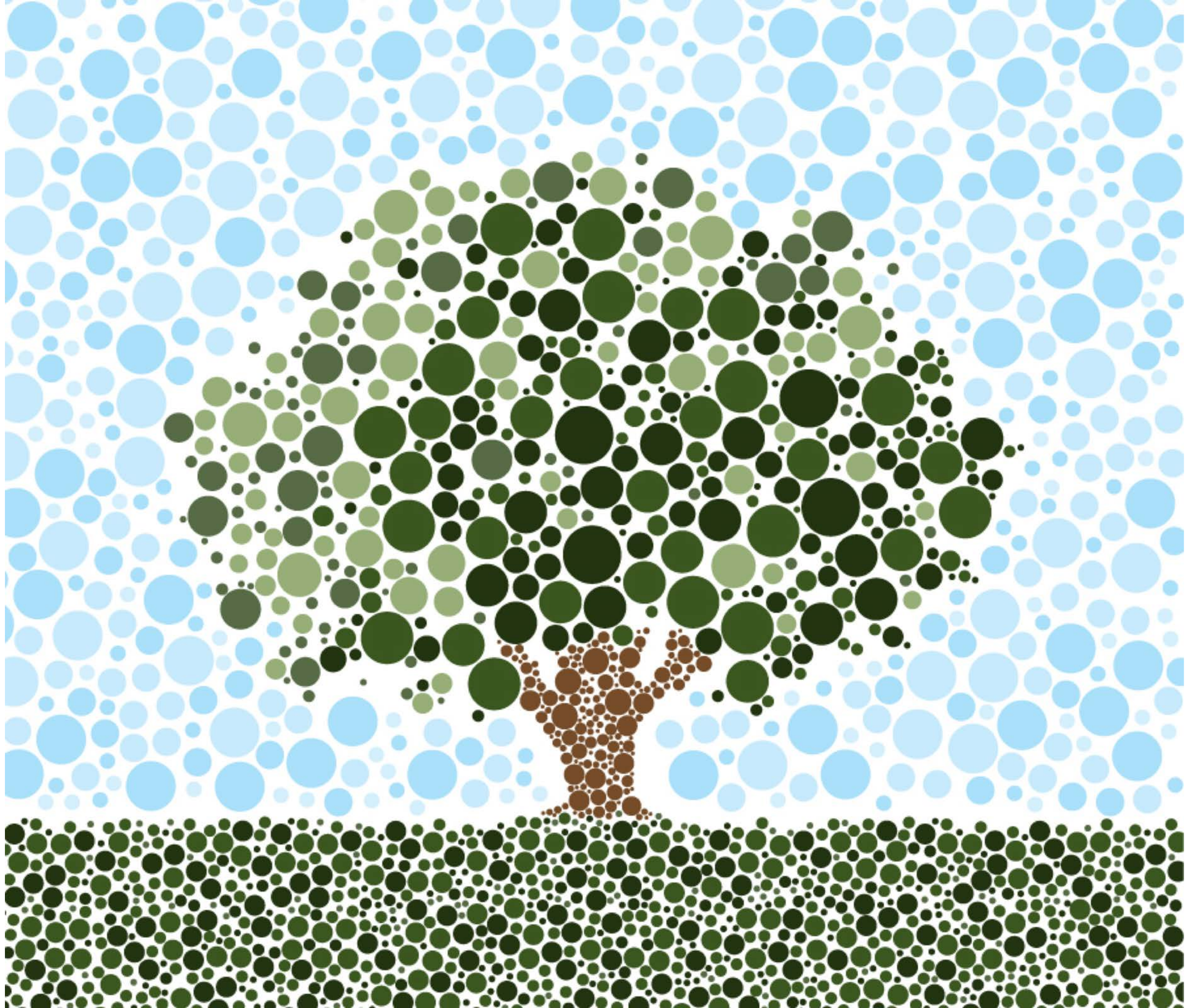


Questions to ask?

- Critical to consider potential bias of measures
- From whose viewpoint was this measure validated?
- Are there constructs we have not examined that may benefit minoritized groups?
- Do these assessments measure what we think they should? How do you know?

Changing the Narrative





Outcomes that Count

- Performance on Standardized Tests
 - Reading, Math, Writing, *and sometimes* Science
- Attendance and Retention
- School Matriculation after Montessori

Outcomes that Matter

Conversation

Engagement/Focus

Reading

Inquiry/Flexible Thinking

Use of Evidence

Well being

Susan Engel, *End of the Rainbow*

Outcomes That Matter

Executive Functions

Concentration

Inhibition

Flexibility

Persistence

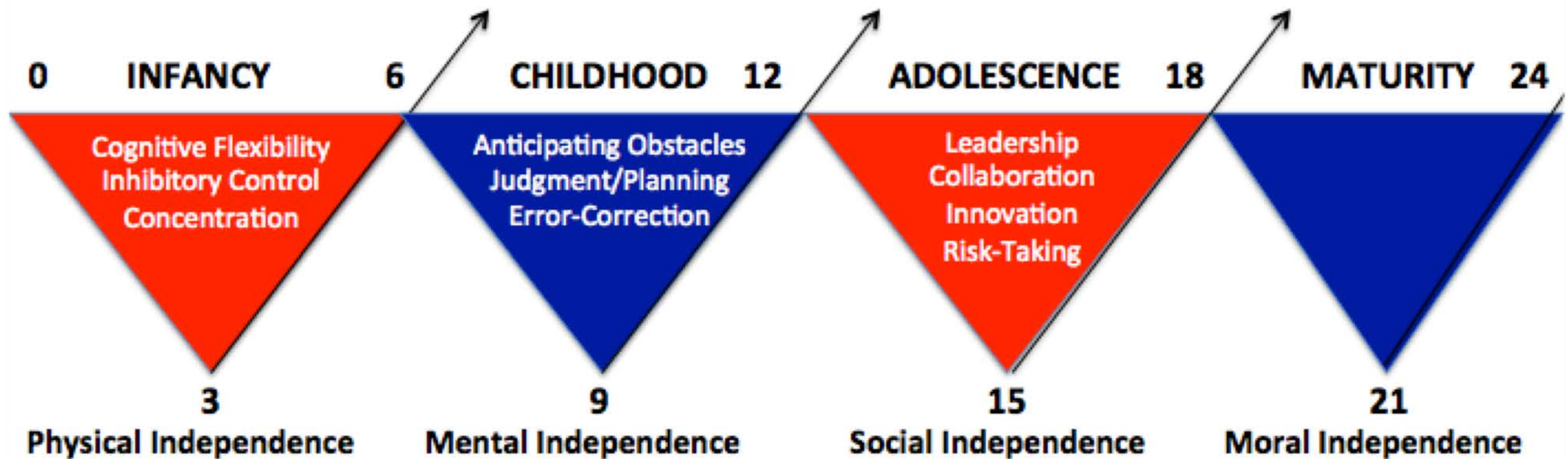
Planning

Executive Function includes:



- Inhibitory control
- Working memory
- Flexibility/shifting

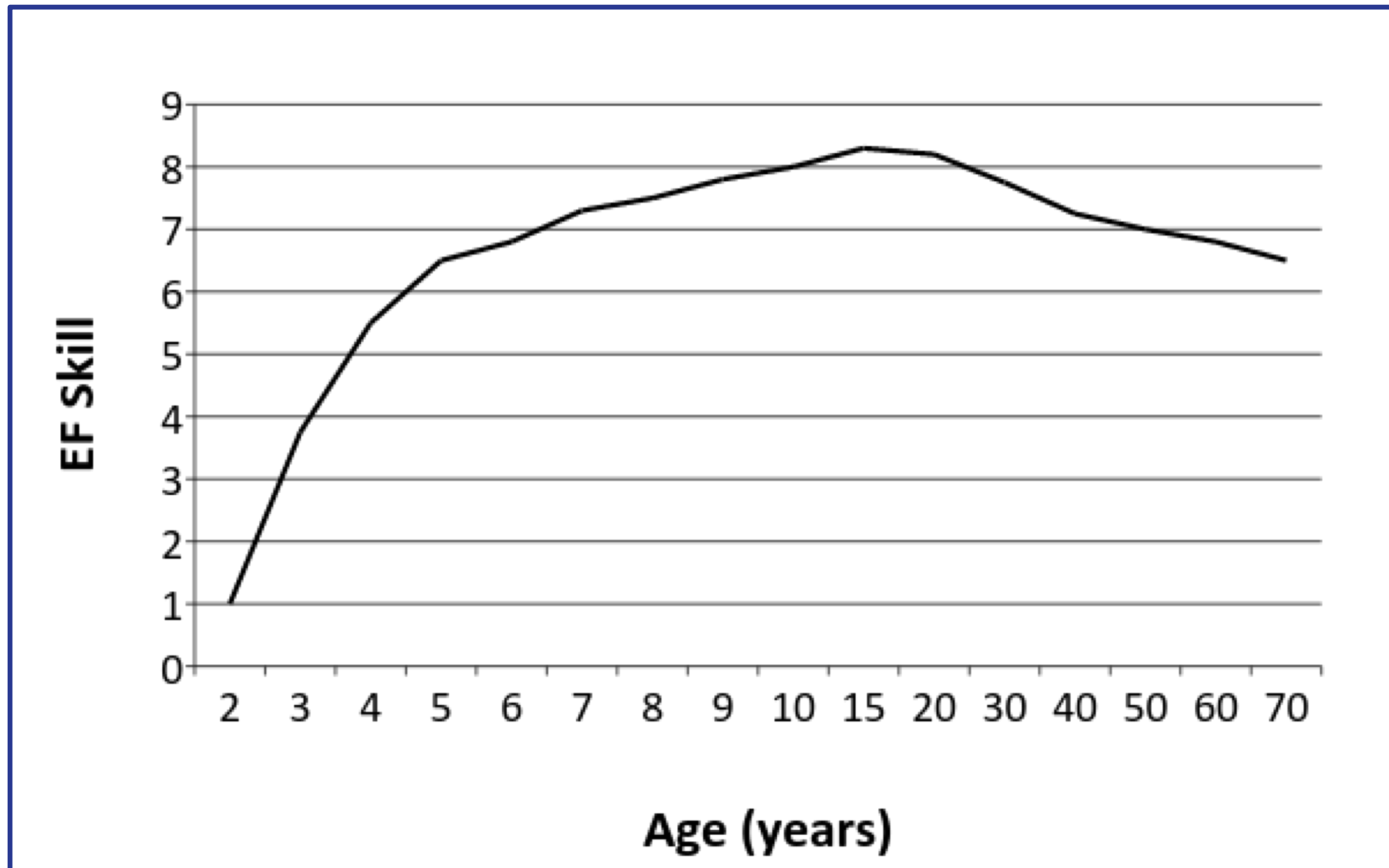
EF's and Human Development



Executive Functions Predict...

- **Socio-emotional skills** (theory of mind, emotional intelligence)
e.g. Carlson et al., 2004
- **School readiness** (early math and reading ability)
e.g. Blair & Razza, 2007; Bull & Scerif, 2001; Hassinger-Das et al., 2014
- **Better than IQ:** Teachers say more important to **pay attention, self-regulate**
e.g. Rimm-Kaufmann, Pianta, Cox, 2000
- **SAT scores**
e.g. Shoda et al., 1990
- **Grade retention, high school graduation, and college graduation**
e.g. Duckworth & Carlson, 2013
- **Even predicts from preschool to middle age**
e.g., Casey et al., 2011; Moffitt et al., 2011

Trajectory of EF Development



(Zelazo et al., 2013; Carlson & Zelazo, 2015)

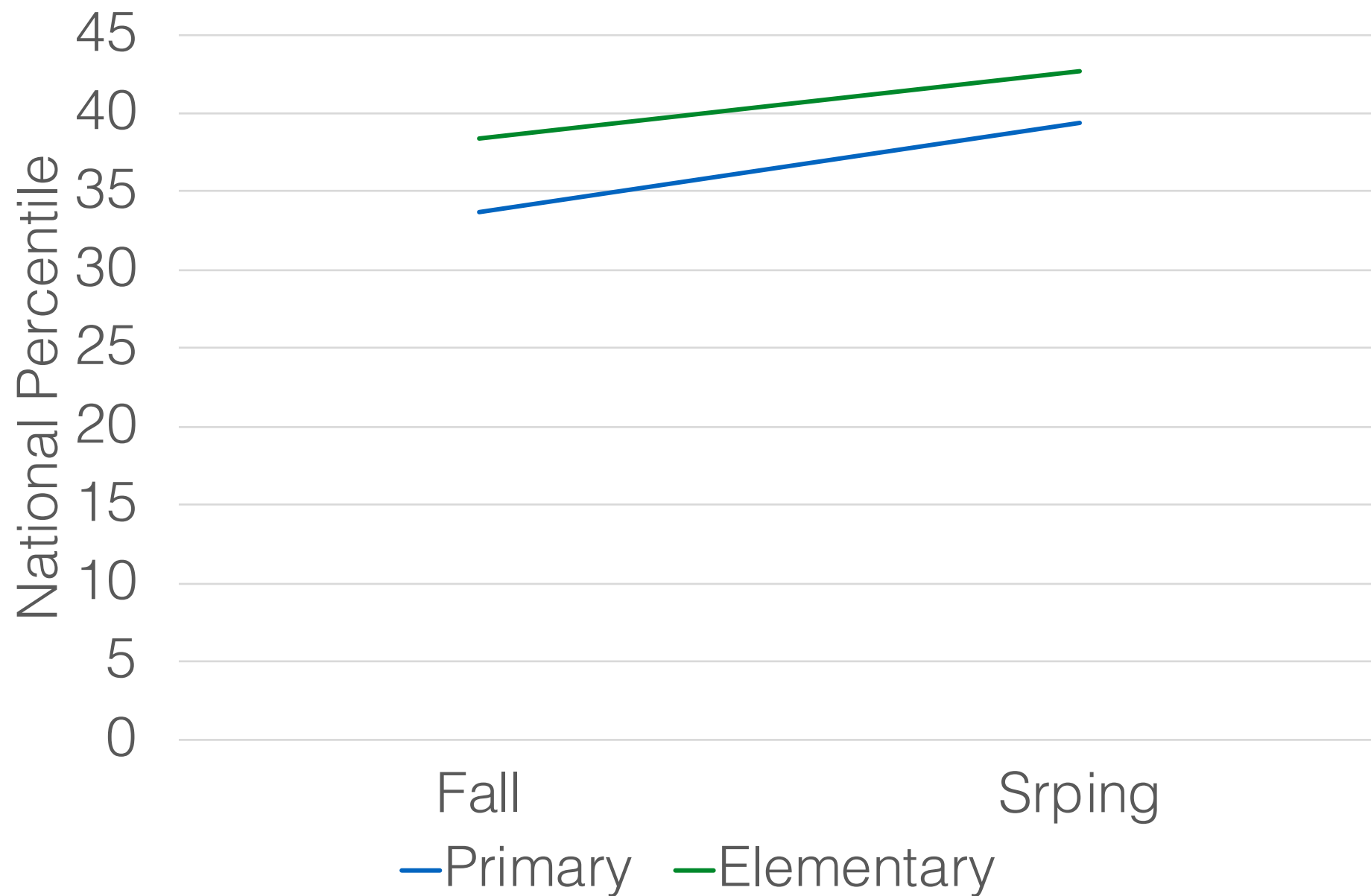
Minnesota EF Scale (MEFS™)

Carlson & Zelazo, 2014



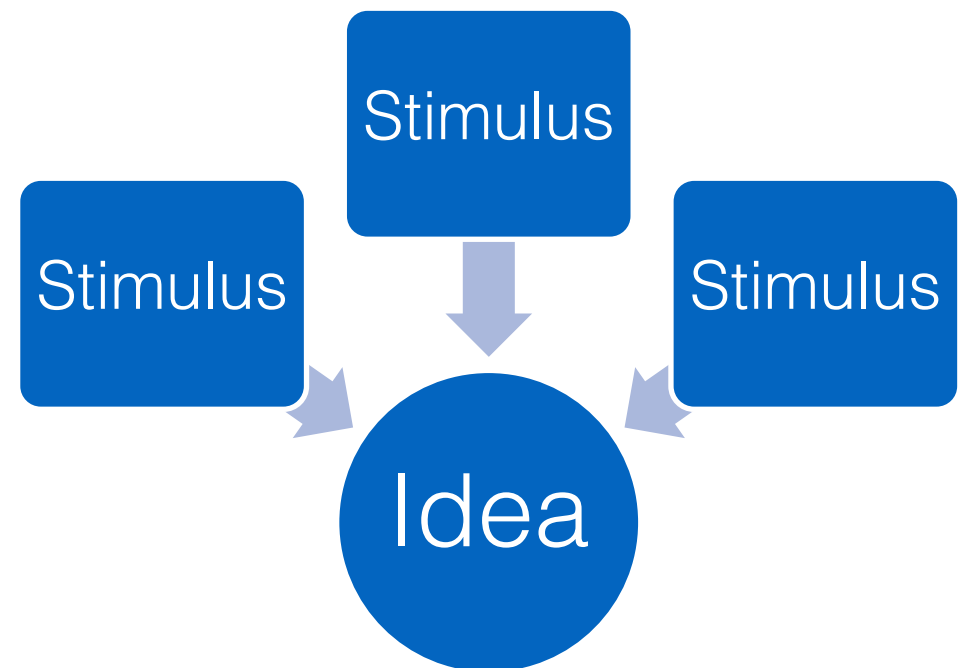
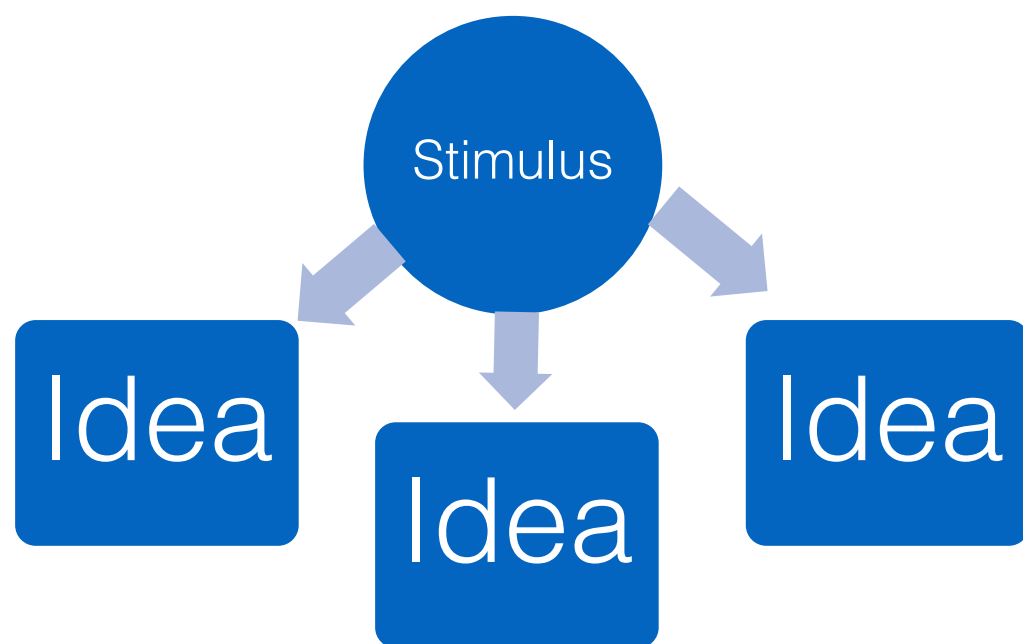
Assessing Impact

MEFS Growth by Grade Level



Creativity

- Creative performance vs. creative potential
- Divergent and convergent thinking

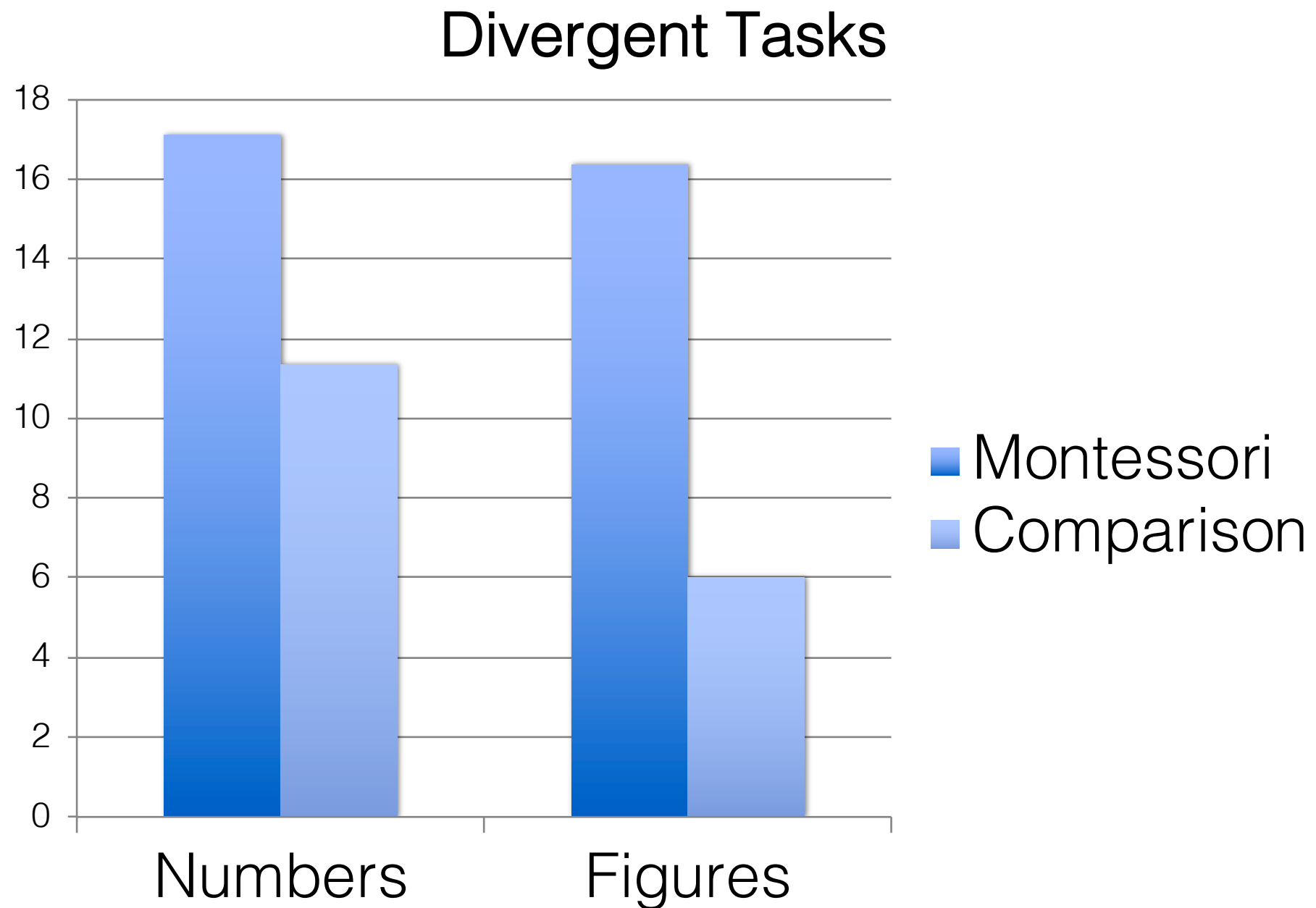


Montessori and Creativity

Identified as Highly Creative	Montessori	Traditional
Improving a toy task	◆◆◆◆	◆
Parallel lines task	◆◆◆◆◆	
Storytelling task	◆	◆
Drawing task	◆	

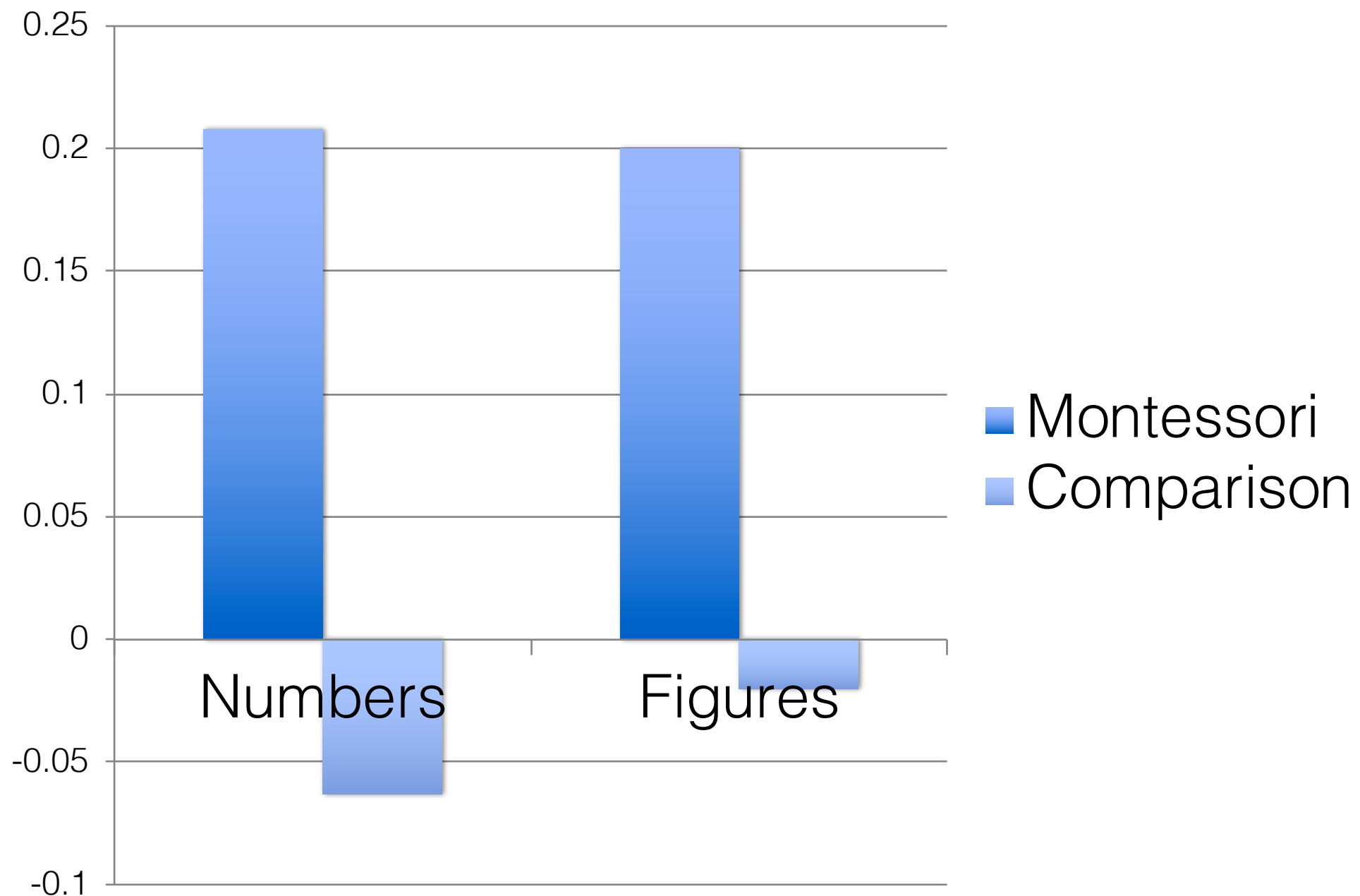
Besançon, M., Lubart, T., & Barbot, B. (2013). Creative giftedness and educational opportunities. *Educational & Child Psychology, 30*(2), 79-88.

Outcomes: Montessori vs. Traditional Adolescents



Outcomes: Montessori vs. Traditional Adolescents

Convergent Tasks



Change the story to change the conversation.

Questions?

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