Child Characteristics and Self-Regulation Shaping Classroom Interactions

Denise Vega Ruvalcaba, Kathleen Gallagher, Ph.D., & Cara L. Kelly Ph.D.

Introduction

While attending Head Start is linked to improved social-emotional outcomes, some children may not receive the same benefit from attending a high- quality early childhood program compared to their peers (Lee et al., 2016).

This study examines how children's characteristics, executive functioning, self-regulation and behavioral concerns are associated with their interactions in the classroom using an observational tool that captures children's individual classroom experiences.

Sample

- Data obtained from multiple cohorts of a large Head Start evaluation in Oklahoma from 2018-2019, 2019-2020, 2021-2022, 2022-23, and 2023-2024
- 767 children with fall executive function and teacher reported social emotional ratings, and individual classroom interactions observed in the winter

Sample demographics	
Child age in months	m = 44
Previous enrollment in program	72%
Gender (male)	49%
Race/Ethnicity • *White* • *Hispanic* • *Black/African American* • *Asian* • *American Indian/Alaska Native* • *Other or multi-racial*	11% 43% 29% 5% 3% 9%
Receiving services for behavior or inclusion	28%
DLL	40%

Method

- **Child Observation in Preschools (COP; Farran et al., 2018)** - observation tool that captures children's individual classroom experiences through multiple 3 second observations
- **Minnesota Executive Function Scale (MEFS; Zelazo & Carlson, 2014)** - tablet-based card sorting task administered by trained assessor
- **Deveraux (DECA-P2; LeBuffe & Naglieri, 2012)** - rating scale of children's self-regulation and behavior concerns completed by the classroom teacher

Interactions	Indicators
Non-academic	Routine activities (transitioning, hand washing, eating, cleaning), waiting on teacher or materials
Unoccupied	Not focused on learning activity present, engaged in inappropriate use of material, wandering, zoned out or engaged in disruptive behavior
Learning	Engaged or observing story time, pretend play, block building, art, sensory play, music/movement, outdoor play, or activities with ELA, math, social studies or science content
Social	Verbal and non-verbal socialization either with teacher or children

- Proportions of COP interaction states were calculated
- Learning Interaction was the total proportion of the interaction states that had a focus (learning activity) coded
- Multiple regressions were conducted with child characteristics and fall EF, SR and BC as predictors and interaction states as outcomes

Results

	Model 1			Model 2			Model 3			Model 4		
Predictors	Non-academic			Unoccupied			Learning			Social		
	β	t	*p*	β	t	*p*	β	t	*p*	β	t	*p*
Child gender (1=male)	.04	1.10	.27	.10	2.70**	.007	-.02	-.64	.53	-.09	-2.45*	.02
Child age in months	-.02	-.51	.61	-.02	-.40	.69	-.15	-3.59***	<.001	.28	6.68***	<.001
DLL (1=Yes)	.05	1.40	.16	.03	.93	.35	.01	.23	.82	-.11	-3.18**	.002
Receiving services (1=Yes)	.03	.78	.44	.09	2.16*	.03	-.03	-.69	.49	-.06	-1.54	.12
Previously enrolled (1=Yes)	-.14	-3.82***	<.001	.02	.62	.54	.13	3.43***	<.001	.01	.34	.73
Executive function	.07	1.57	.12	-.02	-.54	.59	-.001	-.03	.98	-.09	-2.13*	.03
Self-regulation	-.10	-1.75	.08	.02	.37	.71	.15	2.59**	.01	-.09	-1.50	.10
Behavior concerns	-.08	-1.40	.16	.10	1.66	.10	.05	.89	.37	-.01	-.17	.87

Discussion

Children's characteristics predicted their classroom interactions:

- Children with stronger self-regulation and previous enrollment in the HS program showed greater engagement in learning.
- Boys and children receiving services were more unoccupied during learning activities.
- Older children interacted more socially but showed less engagement in learning, while boys, dual language learners (DLLs) and children with stronger executive function had fewer social interactions.

Implications

- Some children – including boys, children receiving services for behavior or inclusion, and DLLs – may need additional support to experience better outcomes of attending high quality early care.
- Our findings emphasize the importance of fostering emotional support and behavioral resilience through activities and routines that build self-regulation skills.

References

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