Classroom Context Matters: Observing Dual Language Learners' Self-Regulation Skills

Liz Frechette[1], Brooke Rumper[2] & Daryl Greenfield[3]

[1]*University of Oklahoma*, [2]*Temple University*, [3]*University of Miami*

OPRE OFFICE OF PLANNING, RESEARCH & EVALUATION
An Office of the Administration for Children & Families

ECEI · TEMPLE INFANT & CHILD LABORATORY · UNIVERSITY OF MIAMI DEPARTMENT of PSYCHOLOGY

Background

Dual Language Learners
- The number of Dual Language Learners (DLLs) in the U.S. is rising
  - 3 in 10 children enrolled in Head Start are DLLs[1]
- An achievement gap exists between DLLs and their monolingual English speaking peers[2]

Self-regulation
- The ability to respond to environmental cues to[3]:

Regulate emotions | Focus attention | Problem solve frustrating situations

- Is critical for positive behavior and is associated with later academic achievement and social-emotional functioning[4]

Classroom Context
- The ecological characteristics of the preschool classroom include[5]:

Focus of Instruction | Group Size | Teacher Practices used to manage behaviors

- Considering the national focus on improving early education for DLL children enrolled in early childhood programs, it is important to examine the measurement of developmental skills, like self-regulation, that contribute to later success

Methods to Assess Self-Regulation

Direct Assessments
- One-on-one
- Different demands compared to the classroom

Classroom Observations
- Account for the demands of the classroom
- Ecologically valid

Research Aims

1. Examine a multi-method measurement of DLL children's self-regulation skills.
   H1: The relation between the two measures of self-regulation remained exploratory because of mixed findings from previous research[6]

2. Investigate the impact the classroom context has on the use of self-regulation skills.
   H2: It was hypothesized that DLL children would demonstrate higher self-regulation skills in:
   (a) small group compared to whole group[7]
   (b) academic instruction and play-like instruction compared to transitions[8]
   (c) when the teacher is present and interacting compared to when the teacher is not interacting with children[9]

Method

Participants
- 341 Head Start children from 9 centers
- Mean age: 49.79 months (*SD* = 6.81 months)
- 48.97% Female
- 100% Spanish-English speaking Dual Language Learners

Subsample for Observation Measure
- 55 Head Start children
- Mean age: 47.96 months (*SD* = 6.71 months)
- 45.45% Female
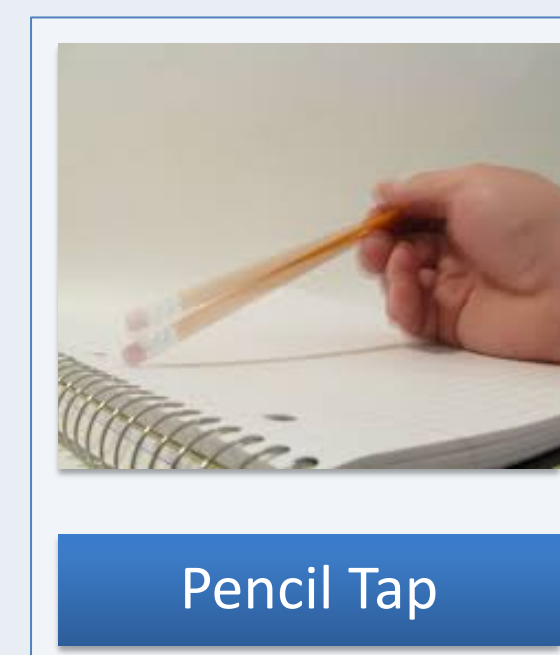- 100% Spanish-English speaking Dual Language Learners

Procedure, Practice, and Measures

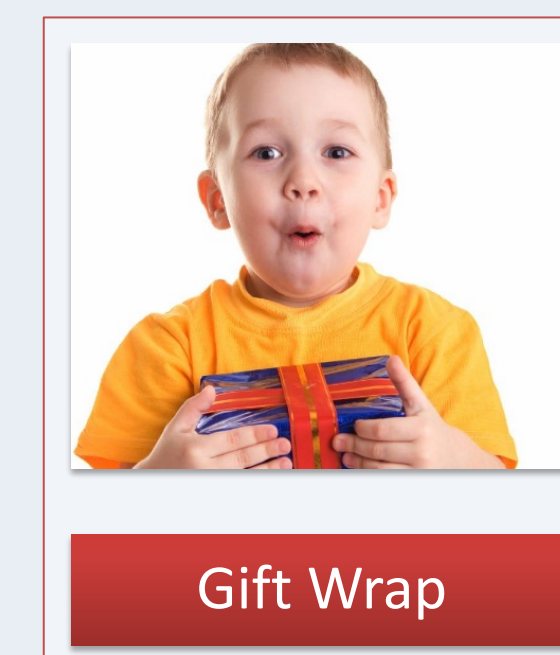### Preschool Self-Regulation Assessment (PSRA) [10]

Direct assessment designed to assess self-regulation in emotional, attentional, and behavioral domains by using a brief, structured battery of tasks
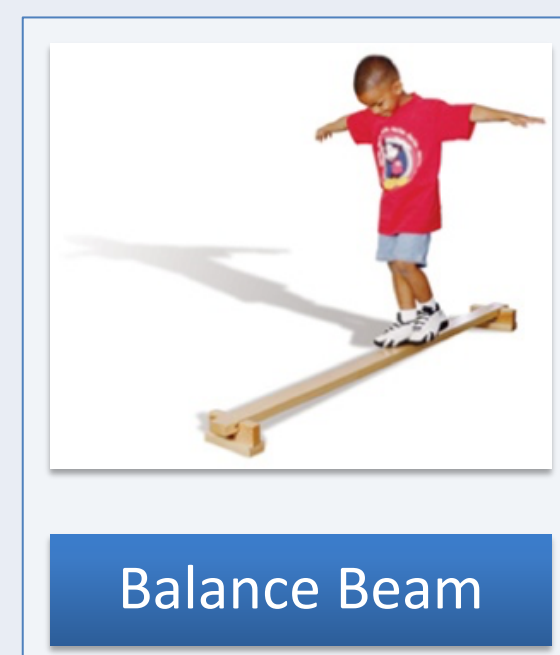
Balance Beam | Pencil Tap | Gift Wrap | Snack Delay

Tasks of the Preschool Self-Regulation Assessment

Factor	Task Title	Assessor Directions/Procedure	Scoring Method
Cool Executive Control	Balance Beam (3 trials)	Ask child to walk on a short length of tape for three trials; reduce speed for second trial and slower for third trial.	Subtract first trial from mean of second and third trials (amount of reduction of speed)
Cool Executive Control	Pencil Tap (16 trials)	Ask child to tap pencil after assessor, assessor taps 1x child should tap 2x; assessor taps 2x child should tap 1x.	Percentage of trials correct
Hot Executive Control	Gift Wrap	Ask child not to peek while assessor wraps a toy in tissue/and bag for 1	Latency to first peek
Hot Executive Control	Snack Delay (4 trials)	Ask child to wait before getting a candy from under a cup for three rounds (10, 20, 30, 60 s).	Average of four trials on the level of waiting (ranging from does not touch cup or timer to eats candy)

Note. Adapted from Smith-Donald et al. (2007); factor structure from confirmatory factor analyses Basset et al. (2012)

Social Development Lab-Kindergarten Coding System (SDL-K) [11]

Observation includes two 10-minute blocks where observers record frequency of contexts and quality of self-regulation skills of the target child
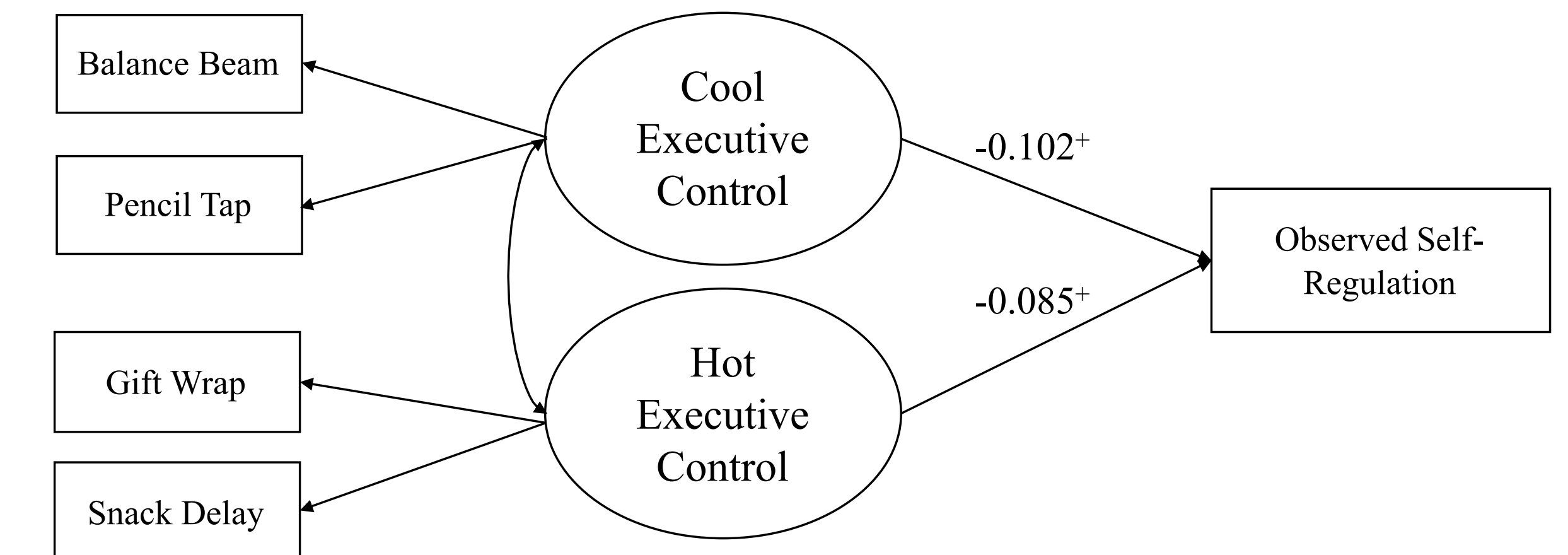
SDL-K Contexts
Group Size — Whole Group, Small Group
Focus of Instruction — Academic Instruction, Play-like Instruction, Transitions
Teacher Proximity — Teacher Present, Teacher not Present

SELF RELIANCE | ENGAGEMENT | ATTENTION

Acknowledgements

Results

Aim 1: Examine a multi-method measurement of DLL children's self-regulation skills.

Balance Beam, Pencil Tap → Cool Executive Control → -0.102[+] → Observed Self-Regulation
Gift Wrap, Snack Delay → Hot Executive Control → -0.085[+]

$\chi^2(12, N = 341) = 23.923$, $p < .05$, RMSEA estimate = 0.054, 95% CI [0.020, 0.085]; CFI = 0.954, SRMR = 0.065

*not significant. *$p < 0.05$. **$p < 0.01$.

Aim 2: Investigate the impact the classroom context has on the use of self-regulation skills.

Table 1. *Type III Analysis of Variance Tables with Satterthwaite's Method*

	Sum of Squares	df Effect	df Error	F	p
Group Size Model					
Age	0.125	1	51.04	0.227	0.635
Gender	1.066	1	50.86	1.928	0.171
Dominant Language	0.886	1	50.8	1.604	0.211
Group Size	10.415	1	1084	18.848	<.001
Focus of Instruction Model					
Age	0.053	1	50.65	0.101	0.752
Gender	1.028	1	50.43	1.965	0.167
Dominant Language	1.308	1	50.15	2.499	0.12
Focus of Instruction	46.031	2	1081.75	43.992	<.001
Teacher Proximity Model					
Age	0.167	1	50.35	0.301	0.586
Gender	1.497	1	51.25	2.694	0.107
Dominant Language	0.789	1	50.26	1.419	0.239
Teacher Proximity	6.431	1	1083.45	11.578	<.001

Table 2. *Least Square Means Table for nested ANOVAs*

Group Comparison	β	SE	df	t	p
Whole Group - Small Group	-0.307	0.071	1084	-4.341	<.001
Academic - Play-like Instruction	-0.672	0.075	1082	-8.948	<.001
Academic Instruction - Transitions	0.199	0.075	1081	2.626	<.01
Play-like Instruction - Transitions	0.474	0.071	1081	6.653	<.001
Teacher Present - Teacher Not Present	0.243	0.071	1083	3.401	<.001

Discussion

- Lack of a significant relation between direct assessment and observation of self-regulation may be due to:
  - Differences in the rating of self-regulation skills (i.e., HEC and CEC versus overall self-regulation)
  - Contextual differences in the measures (i.e., structured set of prompts versus no intentional behavioral demands)
  - The influence of other environmental variables (i.e., quiet room versus a classroom)
- The contexts of the classroom may be a point of leverage for influencing children's behavior:
  - Small group settings may give teachers more opportunities to reinforce and manage children's behaviors
  - Teachers may have more opportunities to elaborate on learning in play-like instructional contexts and children may have more autonomy over their focus of learning
- Understanding of the impact of the classroom context on DLL children's self-regulation skills contributes to the goal of early education programs to identify how to improve the educational experiences of DLL children