

# Summer Skill Development Between PreK and Kindergarten

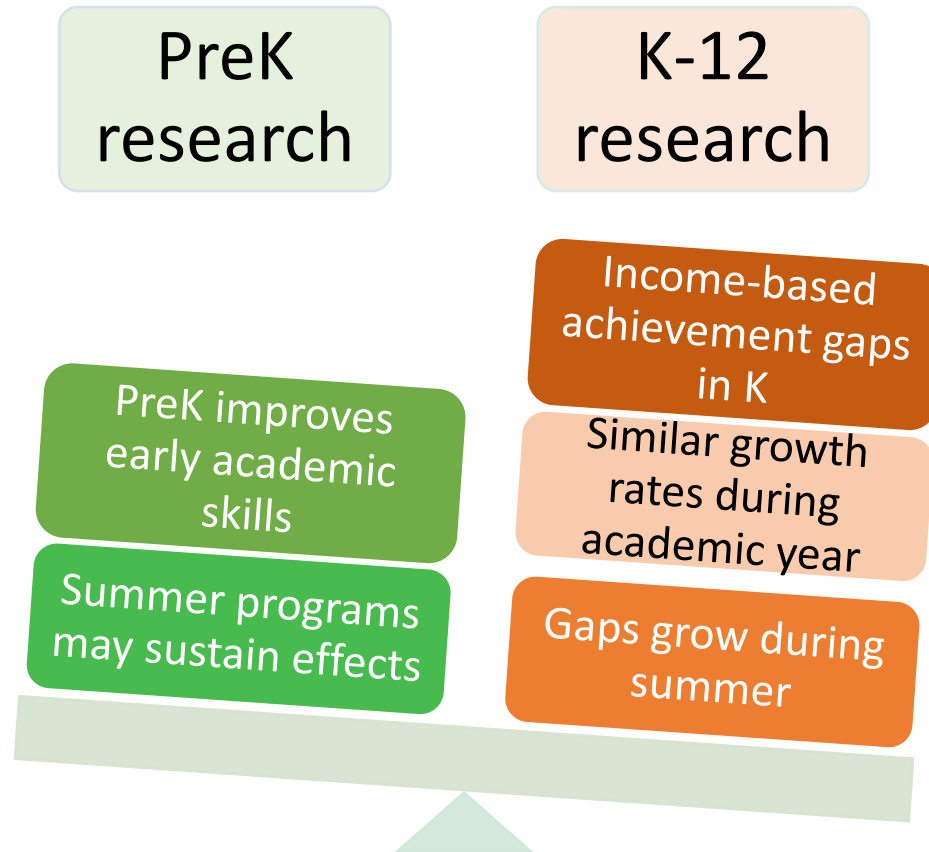
Mirjana Pralica  
Meghan McCormick  
Paola Rosada  
Christina Weiland  
JoAnn Hsueh  
Jason Sachs  
Catherine Snow

March 23<sup>rd</sup>, 2019

Society for Research on Child Development Biennial Meeting  
Baltimore, MD



# Summer learning between PreK and Kindergarten



# The current study

How does growth in academic skills differ during PreK, the summer between PreK and K, and the K academic year?

Does growth in academic skills during these time periods vary by students' SES, race, and DLL status?

Does enrollment in center-based summer care attenuate differences in growth rates between the summer and academic years?

# Study and site overview

Randomly sampled PreK programs/classrooms  
& students enrolled in those classrooms

Boston Public Schools (BPS)  
(N = 20)

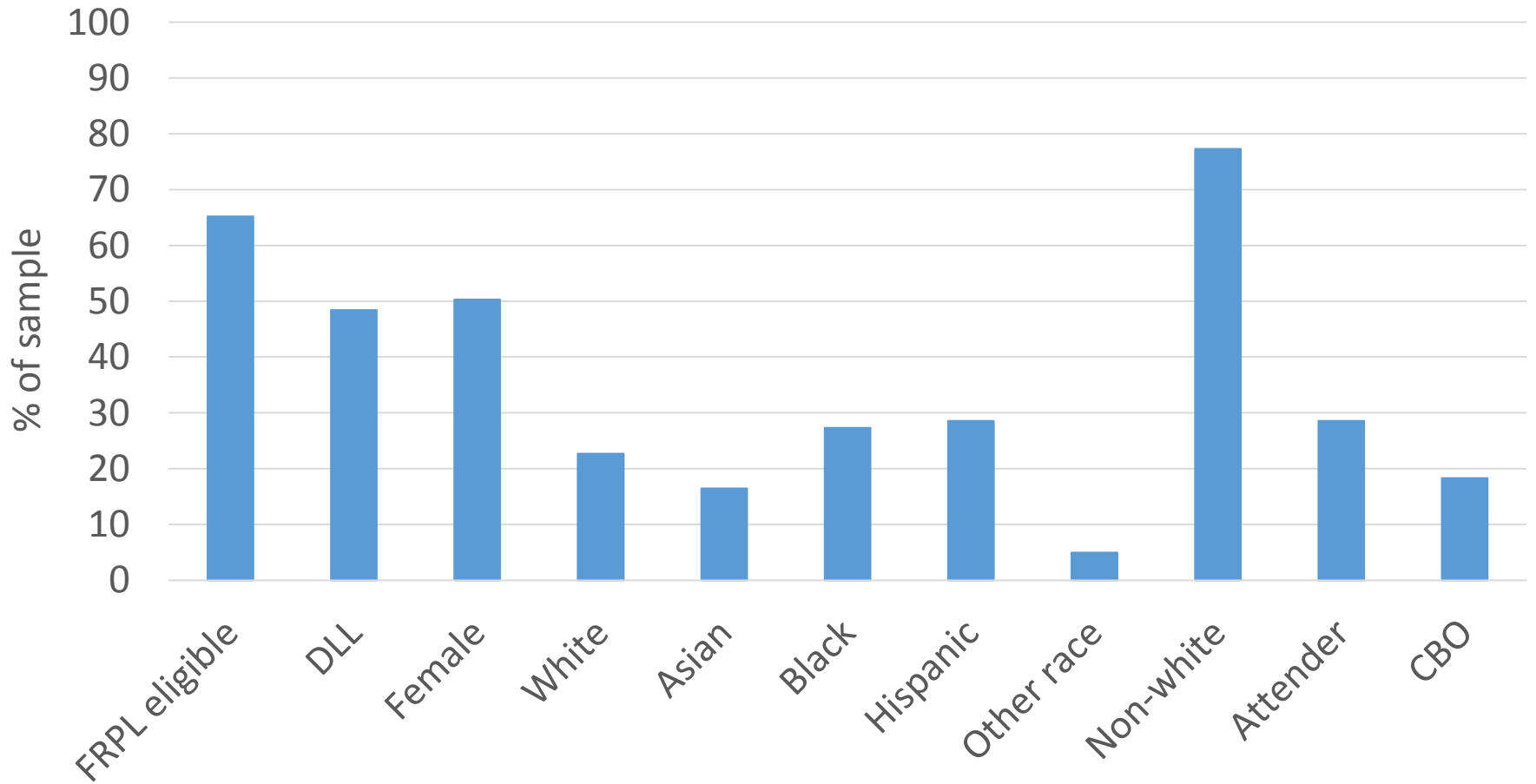
Community-based  
organizations  
(N = 10)

Free, full-day, available to 4-  
year-old students via lottery

BPS PreK model implemented  
with supports from district  
coaches

# Summary of student sample

Demographic characteristics of the sample ( $N = 320$ )



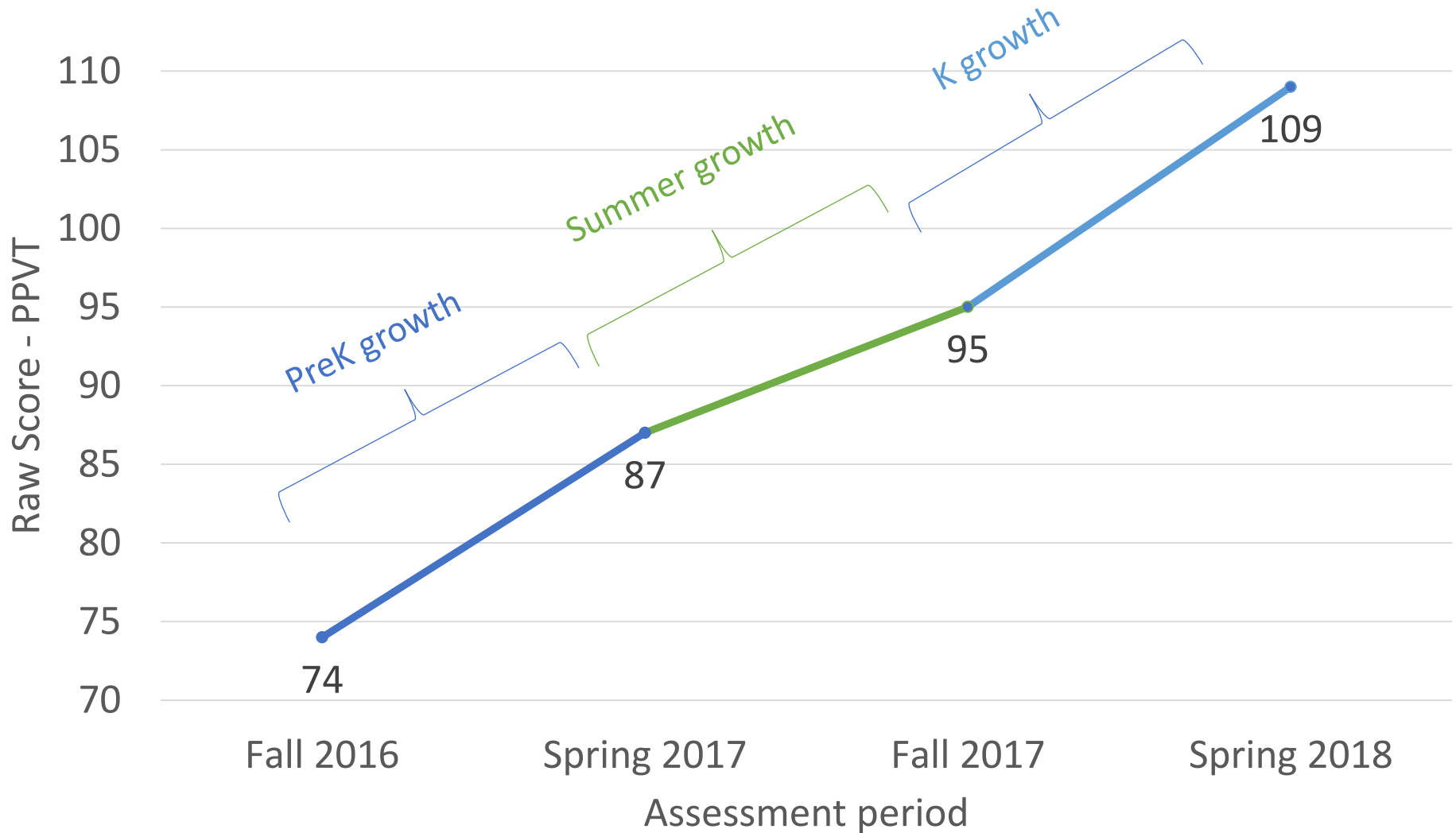
# Analytic approach: Piecewise individual growth models

*Time (t) nested in students (i) nested in school groups (j):*

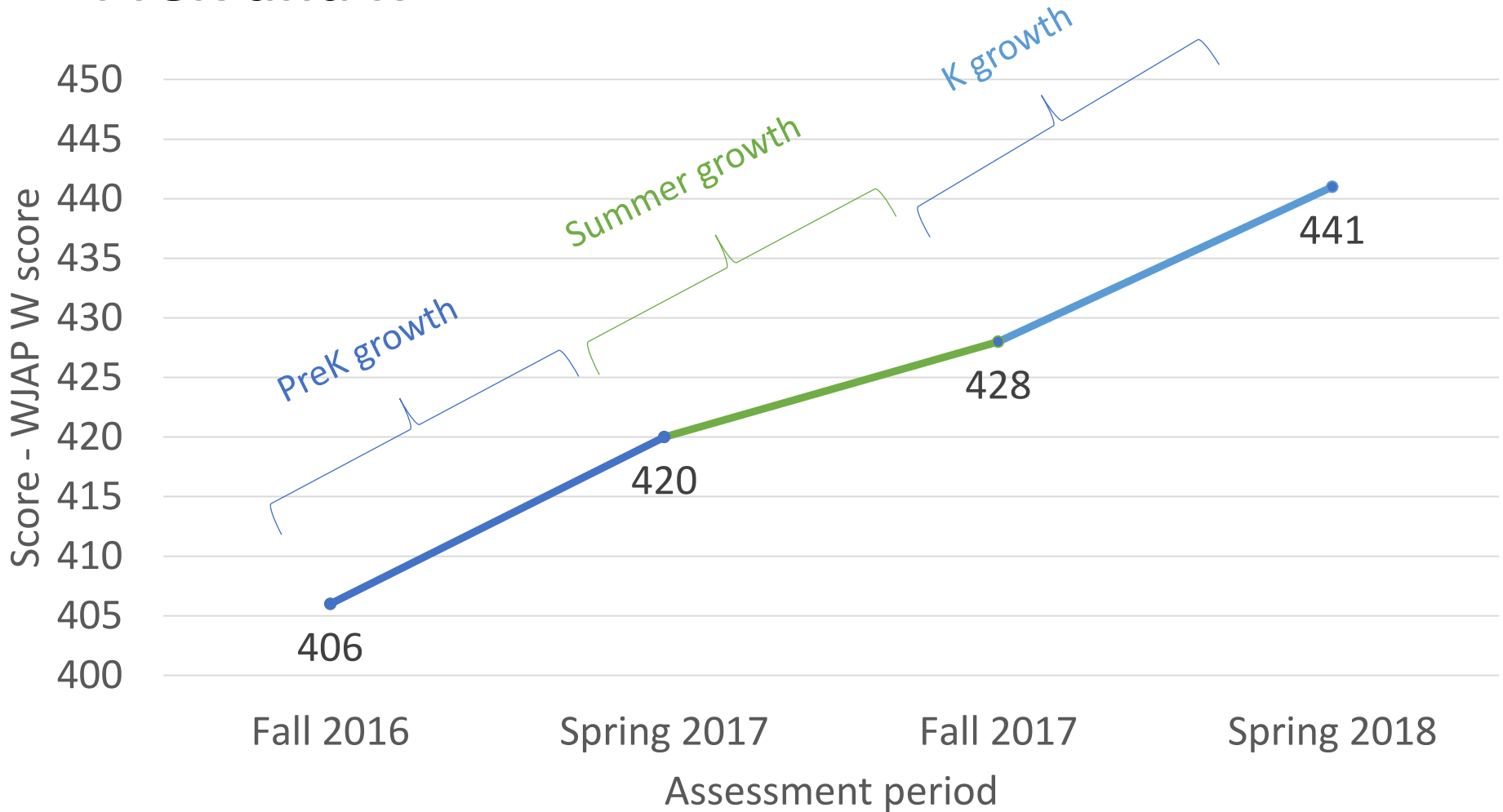
$$Y_{ijt} = \alpha_{ij} + \beta_{1ij}SpringPK_t + \beta_{2ij}FallK_t + \beta_{3ij}SpringK_t + \eta_j + e_{ijt}$$

- Outcomes ( $Y_{ijt}$ )
  - PPVT: receptive vocabulary skills
  - Woodcock Johnson Applied Problems: math skills
- Key predictor:
  - Enrollment in center-based care during summer between PreK & K
- Covariates
  - SES, DLL, race/ethnicity, gender, child's age (time-varying), enrollment in CBO, parent age, marital status, parent ed., HH size, & employment

# RQ1 : Growth in receptive vocabulary between PreK and K



# RQ1 results: Growth in math skills between PreK and K



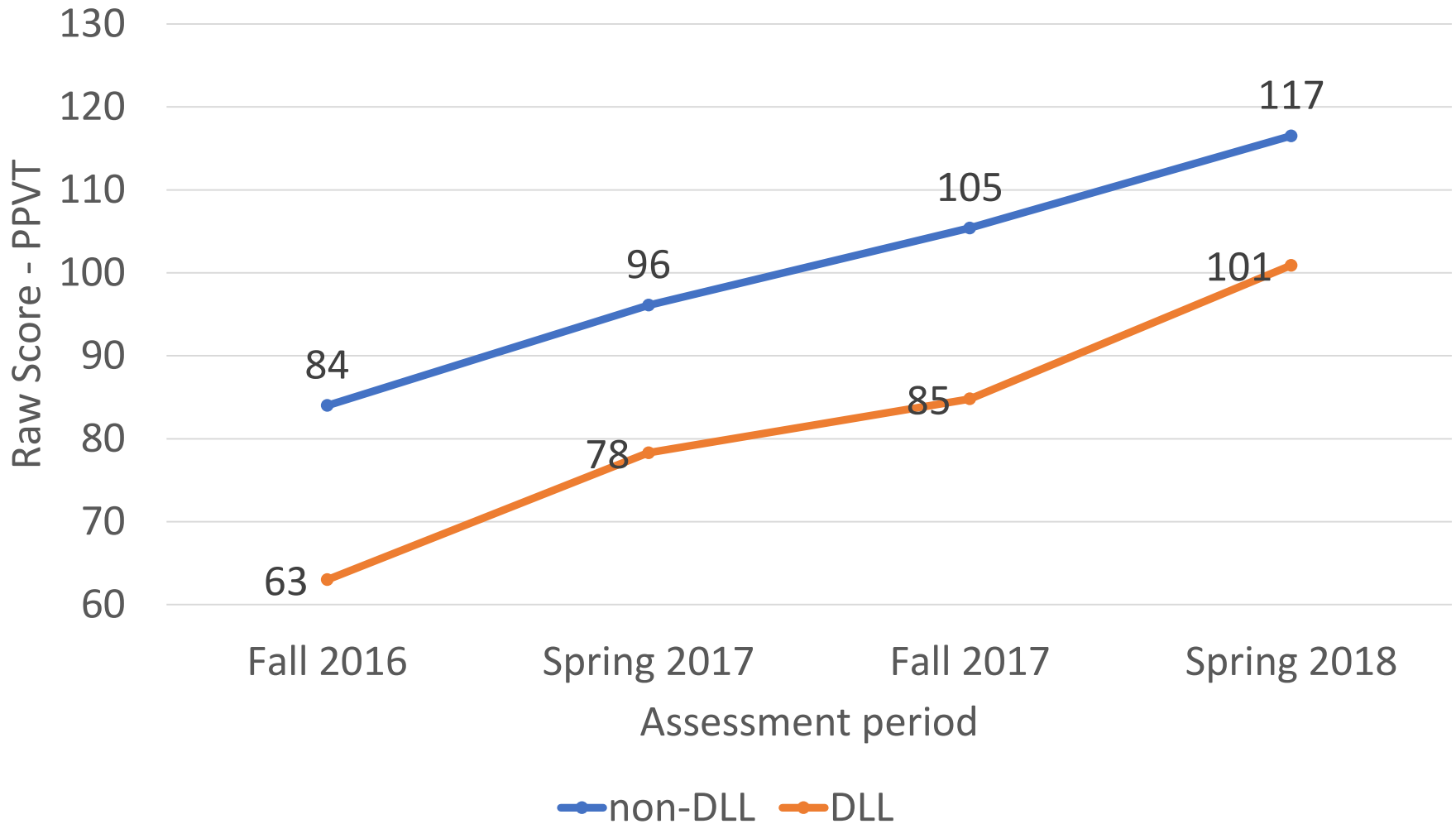


# RQ2-RQ3: Summary of group differences in growth during the summer before Kindergarten

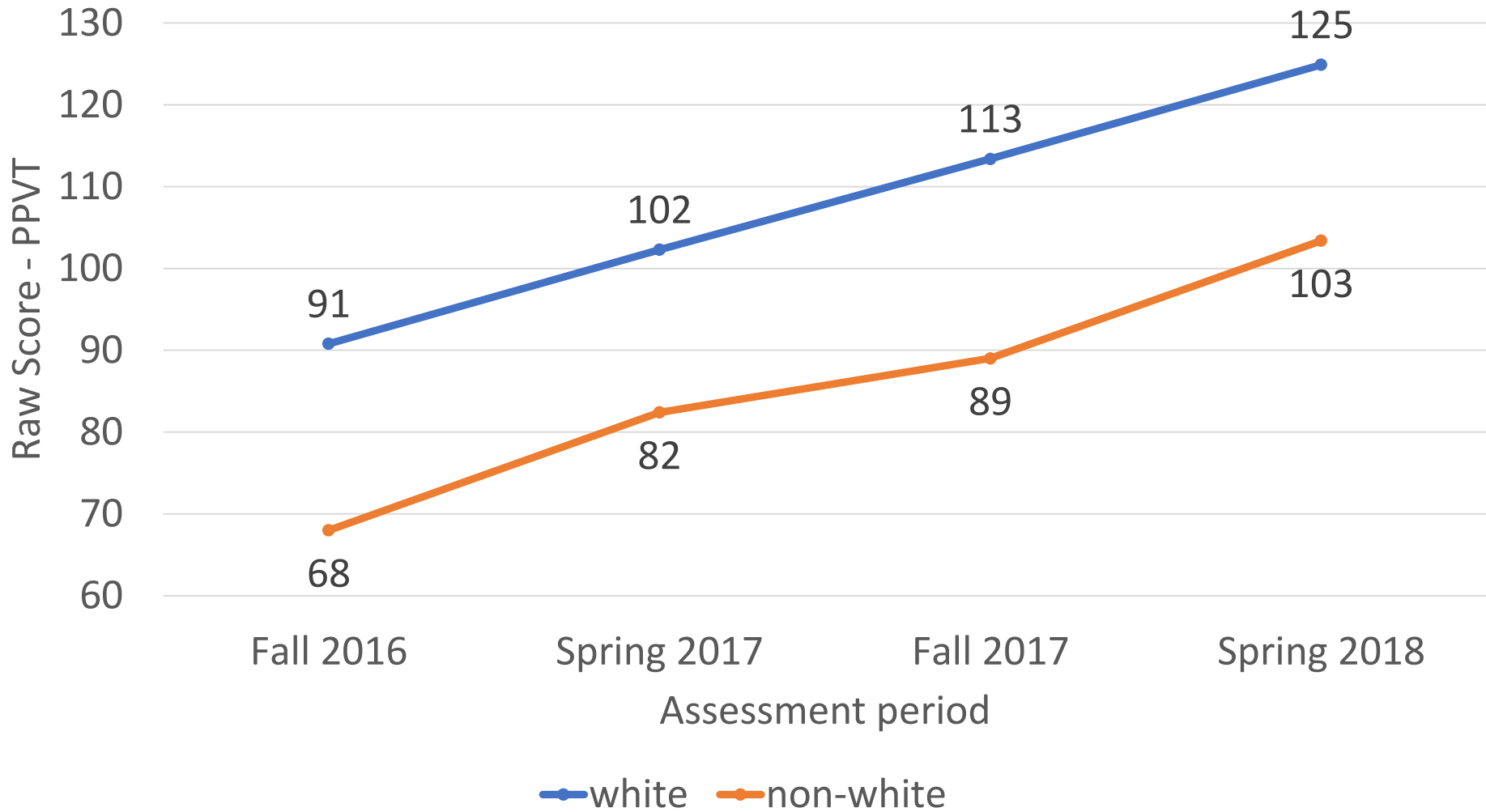
Outcomes tested	Groups compared			
	DLLs vs. non-DLLs	White vs. non-White	Lower vs. higher-SES	Center-based summer care vs. not
Receptive vocabulary skills	✓	✓	✗	✗
Math skills	✗	✗	✓	✓

✗ - No significant differences in growth rates  
 ✓ - Significant differences in growth rates

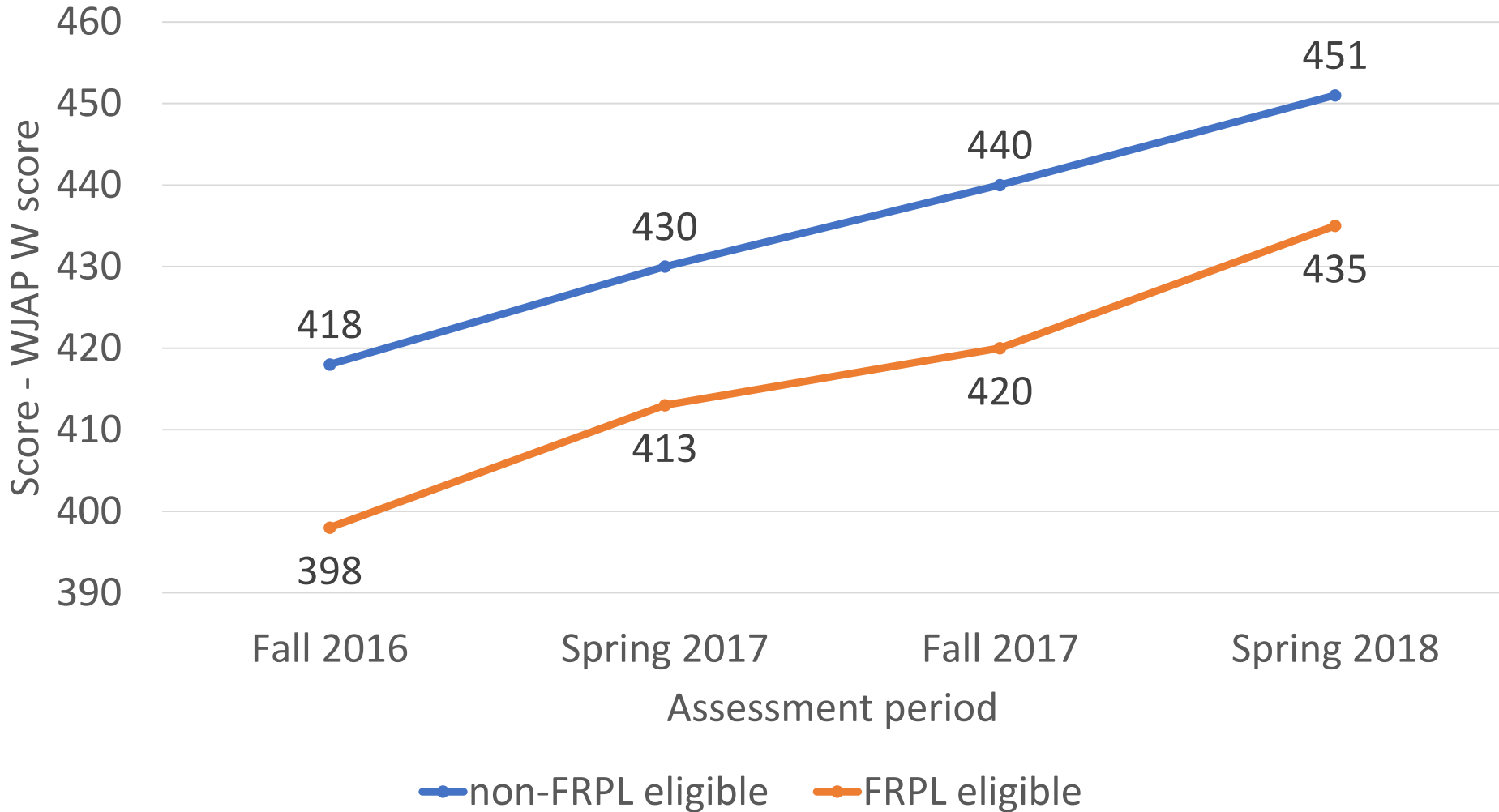
# RQ2: Variation in vocabulary growth for DLLs



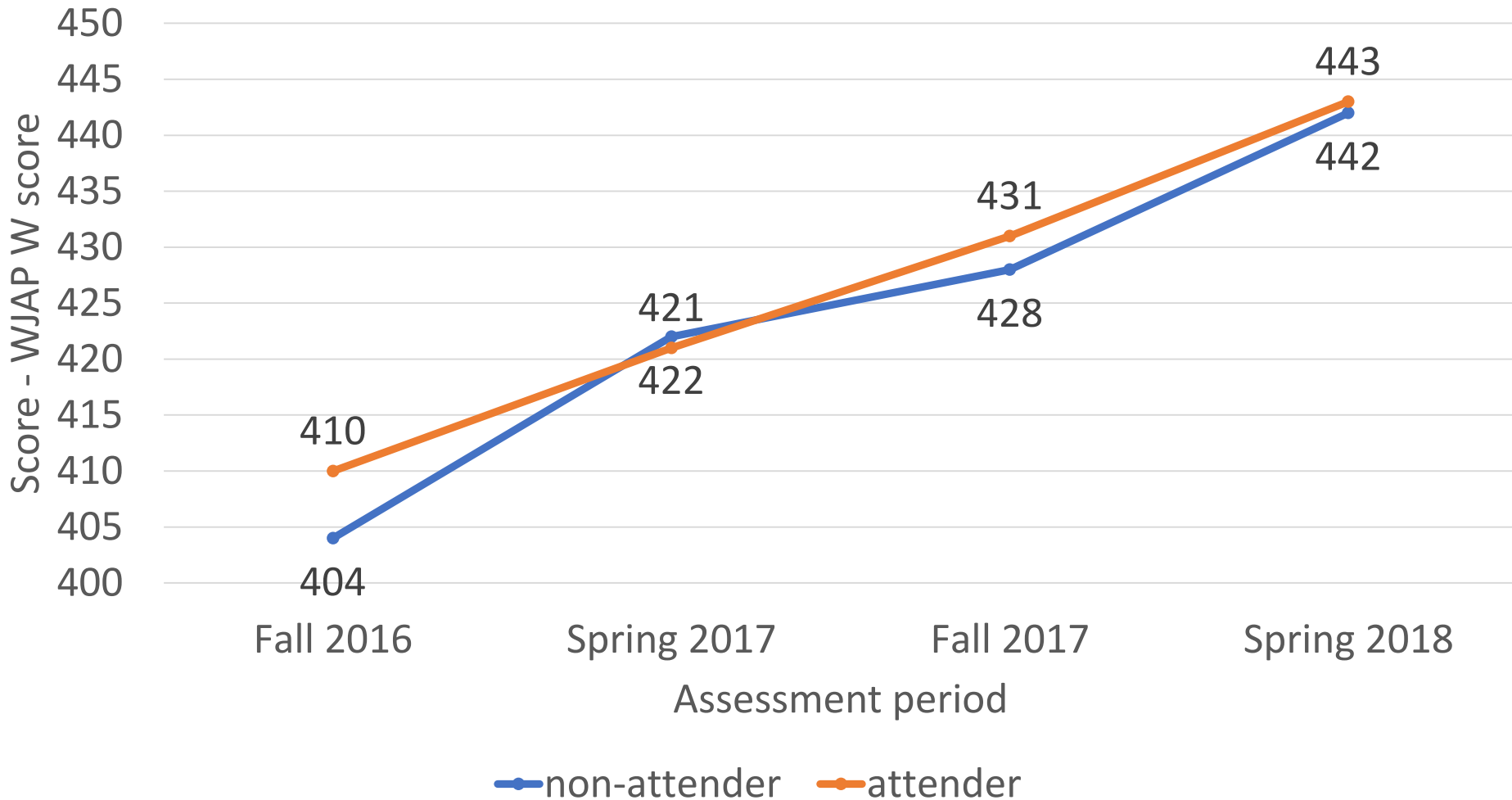
# RQ2: Variation in vocabulary growth by race



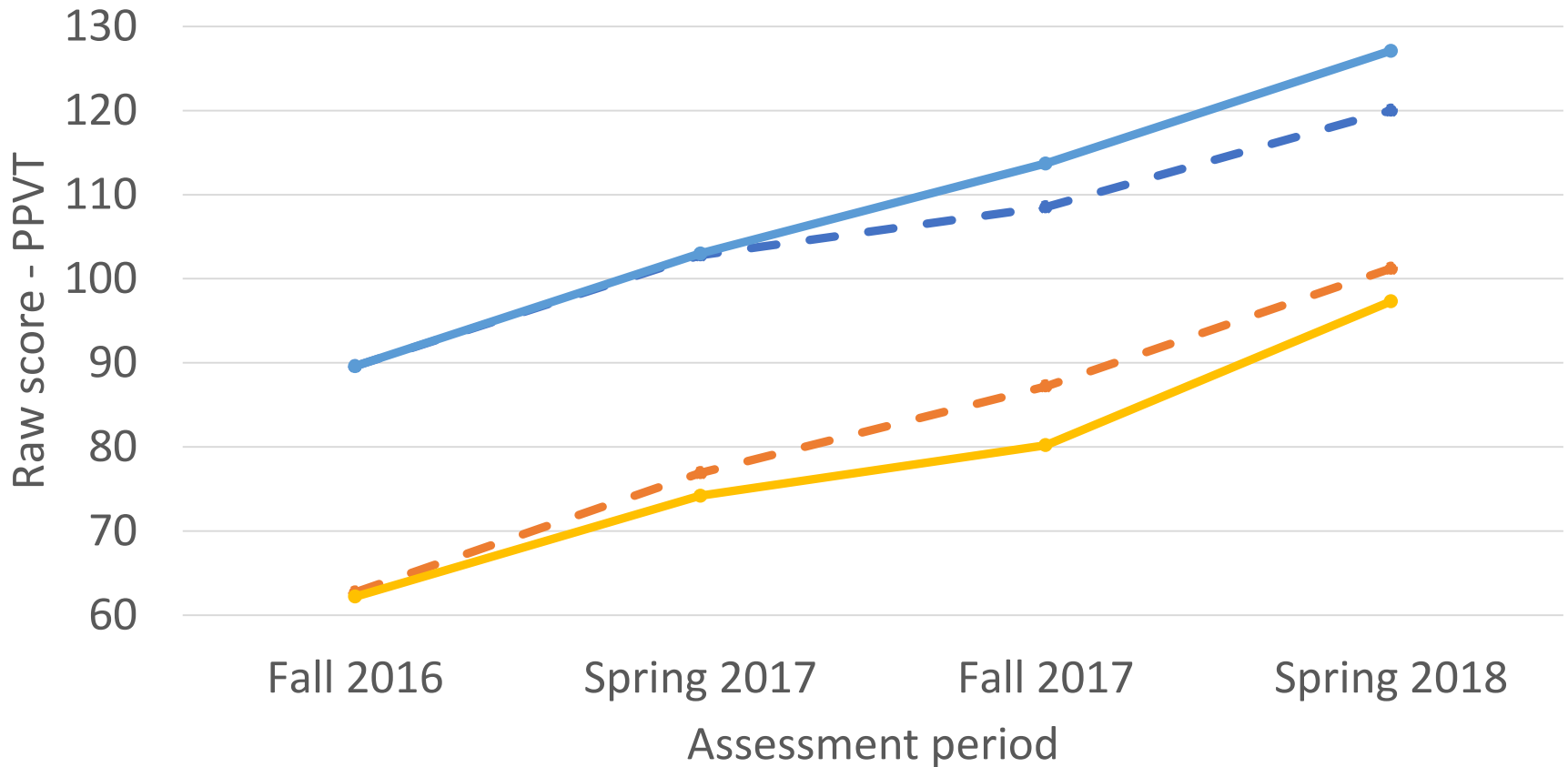
# RQ2: Variation in math skills by SES



# RQ3: Variation in math skills by enrollment in center-based summer care



# Variation in vocabulary skills by SES and summer care



—●— non-FRPL non-attender    —●— non-FRPL attender  
- - -●- - - FRPL non-attender    —●— FRPL attender



# Conclusions

- Students continue to grow in academic skills during the summer between PreK and K
- Growth in skills during the summer is slower than during the PreK or K academic years
- Variation in summer growth rates by students' SES, race/ethnicity, and DLL status (depending on outcome)
- Enrollment in center-based care during the summer appears to help sustain PreK growth rates but mostly for higher-SES students.

# Limitations

- Findings cannot be interpreted causally
- Lower-SES kids are more likely to be missing data on parent-reported variables – including enrollment in center-based care during the summer
- Selection at the school-level
- Lack of data on the quality of care that children received during the summer; difficult to get QRIS or administrative data for summer programs.



# Thank you to our team!

## MDRC

Marissa  
Strassberger  
Rama Hagos  
Sharon Huang  
Jared Smith  
Desiree Alderson  
Ilana Blum  
Kelly Terlizzi  
Samantha Xia

## BPS

Brian Gold  
Abby Morales  
Marina Boni  
Melissa Luc  
David Ramsey  
BPS Dept. of  
Early Childhood  
Staff

## University of Michigan

Deborah Ball  
Lillie Moffett  
Paola Rosado  
Amanda Ketner

## Harvard

Nonie Lesaux  
Sibyl Holland  
Maia Gokhale  
Data collection team

# Funding Acknowledgment

The research reported here was supported by the Institute of Education Sciences, Department of Education, through Grant R305N160018 – 17 to MDRC.

The opinions expressed are those of the authors and do not represent views of the Institute or U.S. Department of Education.

