



# EFFECTS OF THE DENVER PRESCHOOL PROGRAM ON HISTORICALLY DISADVANTAGED STUDENT GROUPS

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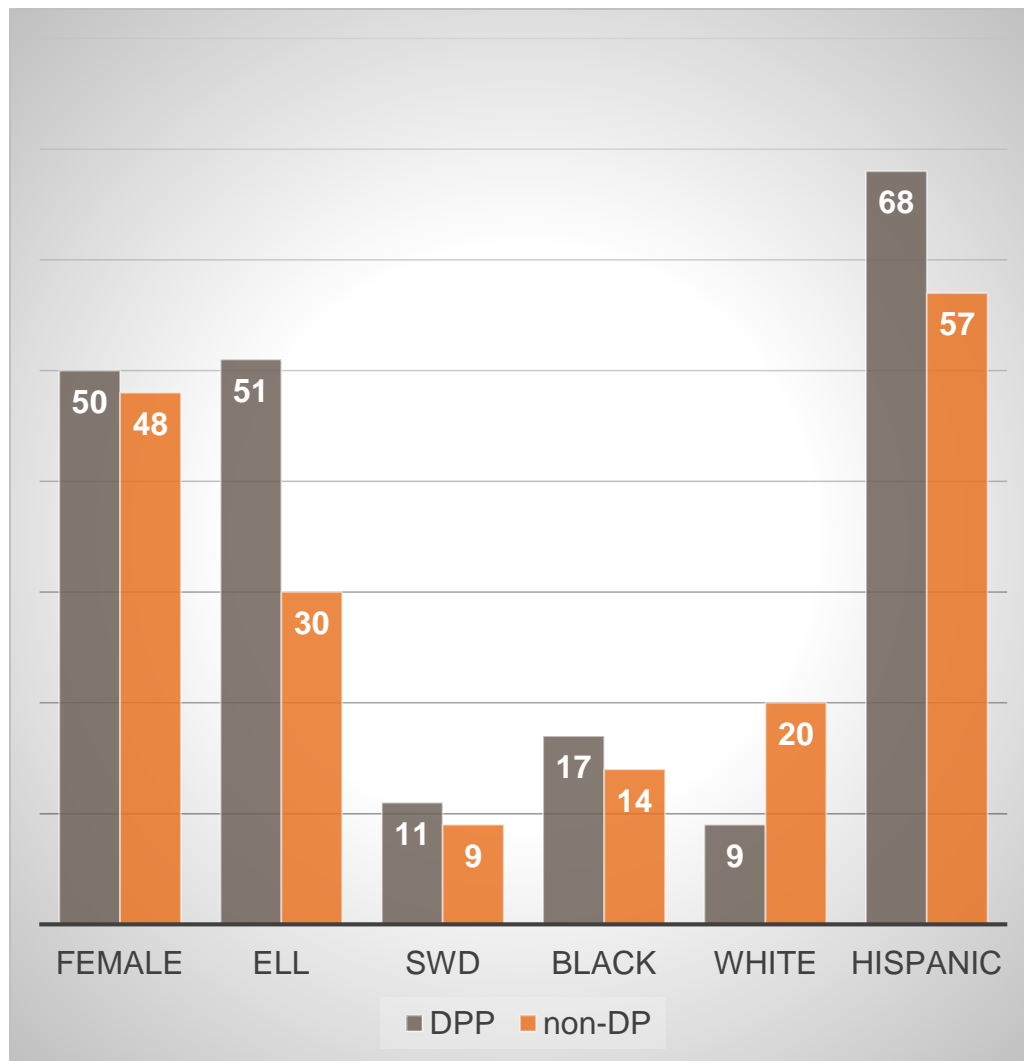
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# Goals of subgroup analysis

- Which student groups are we examining?
  - Hispanic children
  - Black children
  - Children eligible for free or reduced-price lunch
  - Spanish-speaking English language learners
  - Children with disabilities
- How do the kindergarten outcomes of DPP participants compare to non-participants?
  - Reading performance (direct assessments)
  - Social-emotional and physical skills (teacher reports)
  - Chronic absence (district records)
  - Retention (district records)

# How do we make the two groups “equal”?

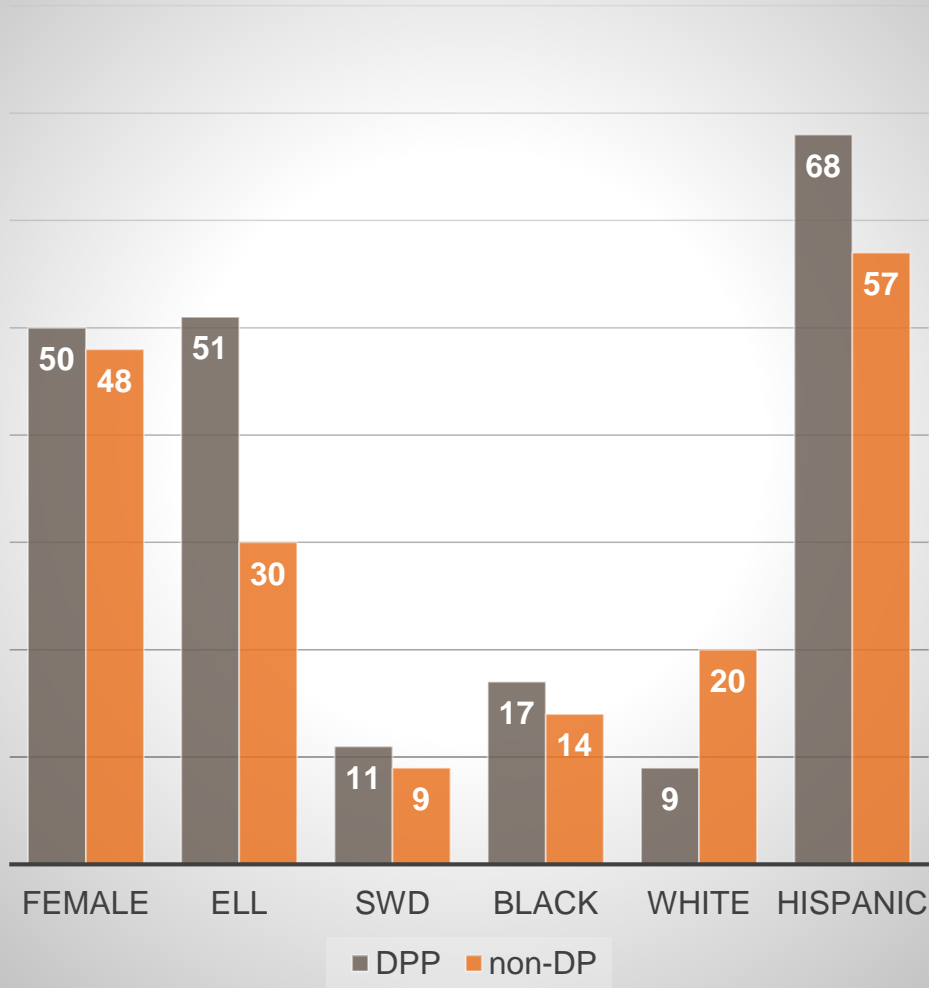


There can be substantial variation, even within the same subgroup

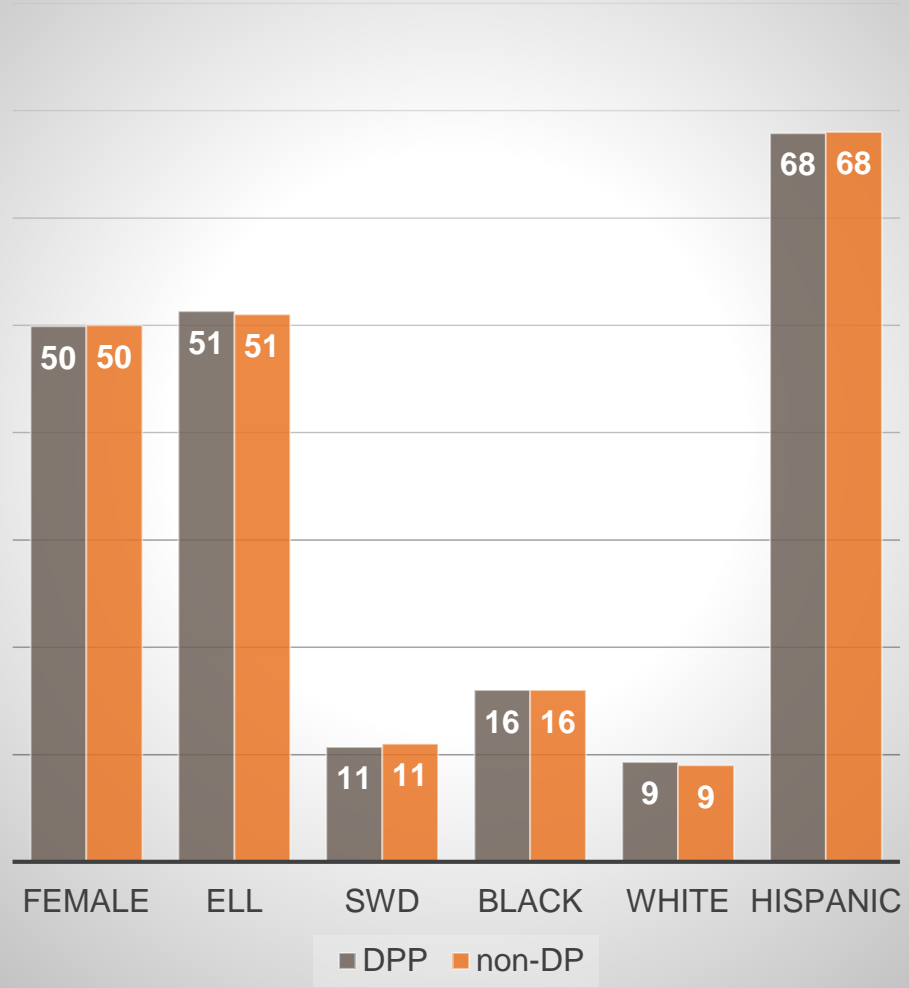
Among children who were eligible for free or reduced-price lunch, DPP children were significantly more likely to be ELL or Hispanic

# Use statistical weights to “balance” the two groups

## Before Weighting



## After Weighting



# Laying the groundwork to interpret the findings

- Effect sizes (ES) – emphasize magnitude of the difference between two groups
- ES of 0.20 and larger are considered substantively important and denote an approximately 10-percentage point difference between two groups
- Example of ES in early childhood education interventions
  - Duncan and Magnuson (2013) meta-analysis of high-quality preschool (ES = 0.21)
  - Grindal et al. (2016) meta-analysis of ECE programs with parent education, modeling, and home visits (ES = 0.29)

# Large ES were Observed

Table 1. Summary of ES across Outcomes and Subgroups

Outcome	Median ES	Range of ES
Reading	0.26	0.21-0.37
Social-emotional skills	0.15	0.04-0.24
Physical skills	0.20	0.15-0.21
Chronic absence	0.24	0.17-0.30
Retention	0.09	0.03-0.12

*Our study is the first-known research to examine the effects of a preschool tuition credit on the kindergarten outcomes of historically disadvantaged children.*

# What are our next steps?

- Conduct a cost-effectiveness analysis to understand the return on investment
- Explore longer-term outcomes
  - National Student Clearinghouse: on-track for graduation, graduation rates, college enrollment, college persistence, transfers to 4-year colleges
  - Collaboration with the Colorado Department of Education to obtain data from the Departments of Corrections, Labor and Employment, and Human Services

Questions? Please email us at: [le-vinhuan@norc.org](mailto:le-vinhuan@norc.org)

**Thank You!**



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