Research Findings on Peer Effects, Quality, and Outcomes—Equity, Quality and Policy Implications

February 8, 2018
Facilitator: Diane Schilder, Education Development Center, Inc.

Panelists:
- Kelly Purtell, Ohio State University | Classroom Age Composition and Children’s Cognitive and Socio-Emotional Growth: The Implications of Classroom Quality and Teacher Qualifications
- Sara Anderson, West Virginia University | Pre-K Absenteeism and School Readiness: The Moderating Role that the Gender of Children in Attendance and Classroom Quality Have on Child Outcomes

Discussant: Jana Martella, Education Development Center, Inc. and the Center on Enhancing Early Learning Outcomes
Desired Outcomes:

- Learn about existing and new research on peer effects
- Hear about innovative methodological approaches
- Discuss implications for research
- Engage in conversation about implications for policy and practice
Methods:

Existing studies conducted by economists, sociologists, psychologists, and educators:

• For the most part, analyze the relationship between child/family characteristics and outcomes
• Do not necessarily examine peer effects
• But, some studies that employ specific quantitative methodologies have examined the effects of the characteristics of the group of children in attendance on quality and outcomes
Existing Research:

- Mixed-income grouping benefit children from all economic levels except those in the highest income group (Bartik)
- Peer Effects on Children’s Language Achievement During Pre-Kindergarten (Mashburn, Justice, Downer, & Pianta)
- Do peers influence children's skill development in preschool? (Henry & Rickman)
- Yet, regulations from Head Start, pre-K and child care can lead to more homogeneous groupings of children
Classroom Age Composition and Children’s Cognitive and Socio-Emotional Growth: The Implications of Classroom Quality and Teacher Qualifications

Kelly Purtell
Ohio State University
Classroom Age Composition and Children’s Cognitive and Socio-Emotional Growth: The Implications of Classroom Quality and Teacher Qualifications

• What is the association between the age of classroom peers and children’s academic growth and social behavior development across one year of Head Start?

• Are these associations moderated by classroom quality?

• Are these associations moderated by teachers’ education and experience?
Classroom Age Composition and Children’s Cognitive and Socio-Emotional Growth: The Implications of Classroom Quality and Teacher Qualifications

Methods:

• Family and Child Experiences Survey 2009 (FACES; n=2,829 children in 486 classrooms)
  • Nationally representative survey of children in Head Start
  • About 10 children per classroom
  • Collected every 3 years
  • 2009 was first year that teachers’ reported on age composition of their classroom

• Data is collected in the fall 2009 and spring 2010 so growth/change across the year can be examined

Analytic strategy:

• Regression models with interaction terms and sampling weights
Classroom Age Composition and Children’s Cognitive and Socio-Emotional Growth: The Implications of Classroom Quality and Teacher Qualifications

Measures:

• Teachers’ reported on classroom age composition:
  • How many children in classroom?
  • How many 3 yr. olds (or younger)?
  • How many 4 yr. olds? How many 5 yr. olds?

• Children’s outcomes:
  • Behavior Problems: Teacher reports on children’s aggressive, hyperactive, and withdrawn behaviors
  • Social Skills: Teacher reports on children's positive classroom behaviors (ex. following directions, putting things away)
Classroom Age Composition and Children’s Cognitive and Socio-Emotional Growth: The Implications of Classroom Quality and Teacher Qualifications: RQ 1

-0.2  -0.15  -0.1  -0.05  0  0.05  0.1  0.15  0.2

-0.2  -0.15  -0.1  -0.05  0  0.05  0.1  0.15

Literacy  Math  Behavior problems  Social skills

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Classroom Age Composition and Children’s Cognitive and Socio-Emotional Growth: The Implications of Classroom Quality and Teacher Qualifications: RQ 2

- When 4-year olds were in classrooms with a lower proportion of 3-years, high classroom quality was linked with greater gains in literacy.

- When 4-year olds were in classrooms with a higher proportion of 3-year olds, classroom quality was unrelated to their gains in language and literacy.

- Similar pattern for math
• Teacher experience did not moderate relations between age composition and child outcomes.

• Teacher education did moderate relations between composition and literacy gains for 4-year olds.
Discussion Questions

• What classroom factors and teacher practices lead to positive development for children of all ages in a mixed-age preschool classroom?

• Why is classroom quality not associated with children’s developmental outcomes in mixed-age classrooms?

• How does exposure to peers of differing ages influence preschool children’s social and emotional development?

• How do peers’ ages matter in family-based child care settings?
How do pre-K classroom attendance, quality, and gender affect school readiness?

Sara Anderson
West Virginia University
How do pre-K classroom attendance, quality, and gender affect school readiness?

Research Questions

• Is pre-K classroom-level chronic absenteeism associated with compromised school readiness and behavior?
• Is the association moderated by
  • Classroom instructional quality
  • Gender
How do pre-K classroom attendance, quality, and gender affect school readiness?

**Method**

- **Sample:**
  - Universal pre-K program in public schools, teachers with BA and pre-K certification, 1:10 ratio
  - Cohort of 1,204 students from pre-K in 2005-06

- **Measures:**
  - Chronic absenteeism (absent > 10% school year, 17 days) aggregated to the classroom level; 36% chronically absent
  - Classroom quality as measured by the CLASS
  - Covariates from parent survey and administrative data
  - School readiness measures at start of K:
    - Woodcock-Johnson (letter-word, spelling, math)
    - Adjustment Scales for Preschool Intervention (disobedient, aggressive, attention seeking, apathetic, timid)

- **Analytic strategy:**
  - Multiple imputation for missing covariates
  - Covariate-adjusted multiple regression with interaction terms
  - Clustered errors for nesting within classrooms
How do pre-K classroom attendance, quality, and gender affect school readiness?

Findings

• Class-level chronic absenteeism alone not associated with school achievement or behavior
  • Though individual-level absenteeism is for achievement

• 2-way moderation
  • Instructional support for spelling and apathy/lethargy
  • Gender for apathy/lethargy

• No 3-way moderation by gender
How do pre-K classroom attendance, quality, and gender affect school readiness?

**Spelling & IS**

When pre-K students in classrooms with higher peer chronic absenteeism, they demonstrated better spelling skills in classrooms with lower (vs. higher) instructional quality.
How do pre-K classroom attendance, quality, and gender affect school readiness?

Apathy & IS
When pre-K students are in classrooms with higher peer chronic absenteeism, they demonstrated more apathy in classrooms with higher (vs. lower) instructional quality.
How do pre-K classroom attendance, quality, and gender affect school readiness?

**Apathy & Gender**

In high chronic absenteeism classrooms, boys demonstrated more apathy than girls.
How do pre-K classroom attendance, quality, and gender affect school readiness?

Discussion Questions

• Why doesn’t classroom quality help children in classrooms with high rates of absenteeism?
  • What other factors could help children in these classrooms? Or, do we need to focus on individual-level factors?

• How does chronic absenteeism influence classroom quality?

• Why may boys suffer in high chronic absenteeism classrooms than girls?
Racial/Ethnic Characteristics of Classroom Peers and Indicators of Quality: Implications for Quality Improvement and Rating Systems

Meghan Broadstone
Education Development Center
Racial/Ethnic Characteristics of Classroom Peers and Indicators of Quality

Child Care Collaboration Study Research Questions:

• Overall research goal: Is child care providers’ engagement with state and federal initiatives that support collaboration linked to differences in program quality?

• What other factors are linked to program quality?

• Are these factors linked to QRIS ratings?
Methods:

• Online survey

• Questions about program characteristics, provider engagement with QRIS and other initiatives, indicators of program quality

• 283 family child care and center-based providers

• Regression analyses of different predictive models
Racial/Ethnic Characteristics of Classroom Peers and Indicators of Quality

Findings: Race of Children & QRIS Ratings

• As the percentage of minority students goes up in programs, the QRIS ratings go down (p<.000)

• Specifically, the percentage of black students is driving the majority of the findings in the overall model [F(3, 100)= 19.41, p< .000, R²= .38]
Racial/Ethnic Characteristics of Classroom Peers and Indicators of Quality

Findings: Program Type, Race, and QRIS Rating

• Explored relation between race and QRIS rating by type of program: family child care and center-based care

• Percentage of African American children and QRIS rating is a negative correlation for both types of care but only significant (and highly significant) for center-based care
Racial/Ethnic Characteristics of Classroom Peers and Indicators of Quality

Findings: Special Education and QRIS Rating

• Overall, Special Education Funding funding is a significant predictor of QRIS rating
  $B = .28$, $\beta = .15$, $p < .03$

• Finding remained significant for center-based and family child care
Racial/Ethnic Characteristics of Classroom Peers and Indicators of Quality

Discussion Questions:

• What are different states doing to specifically address equity issues in access to highly rated programs?

• Is this finding replicable across states? With a larger sample?

• Does it support or challenge other research?

• Does Special Education funding relate to other accessibility issues?
Discussion: Policy Implications

Jana Martella