

# 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**
  - Meghan Broadstone, Education Development Center, Inc. | **Racial/Ethnic Characteristics of Classroom Peers and Indicators of Quality: Implications for Quality Improvement and Rating Systems**
- 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



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# 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

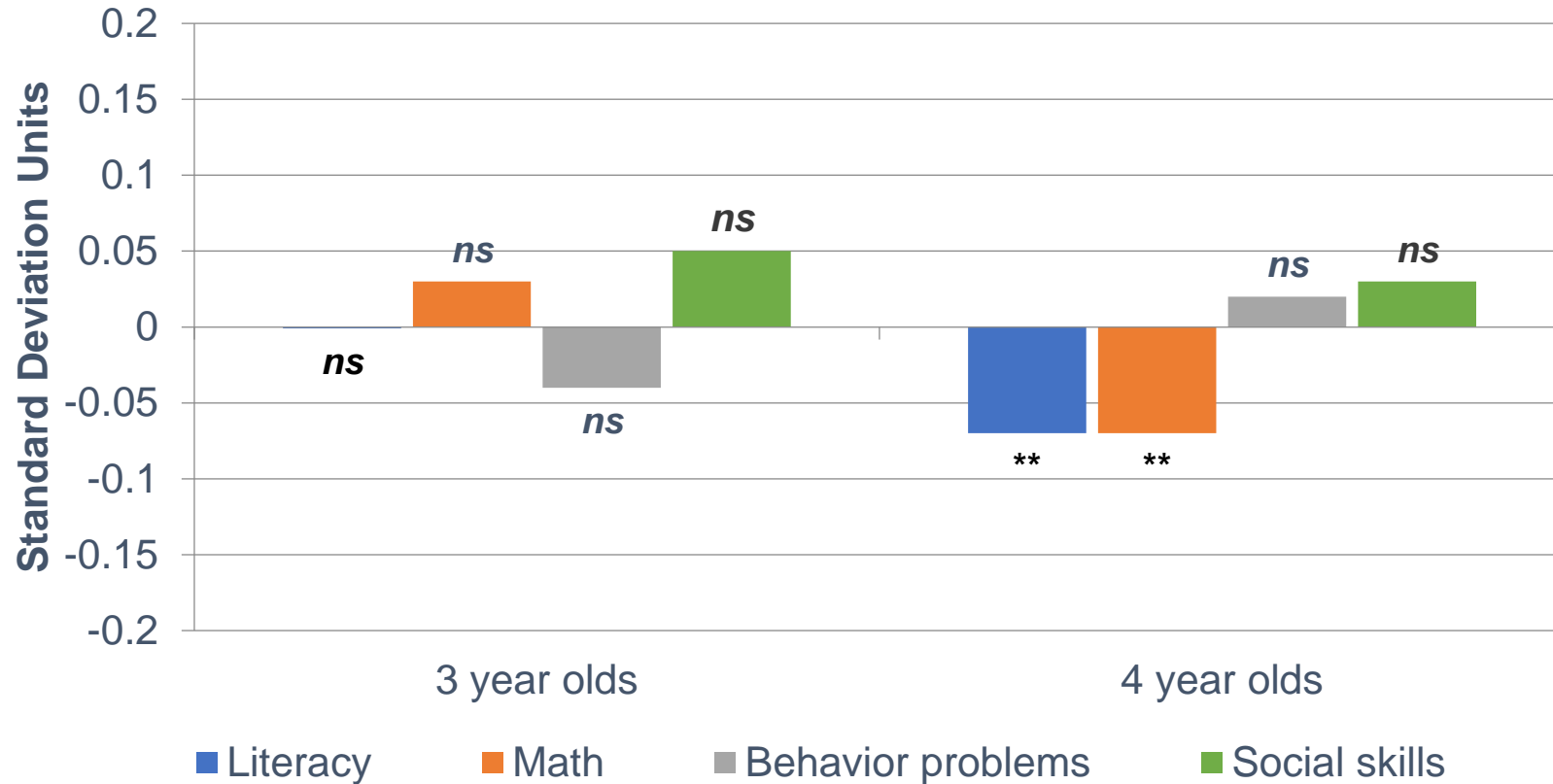


# Classroom Age Composition and Children's Cognitive and Socio-Emotional Growth: The Implications of Classroom Quality and Teacher Qualifications

## Measures:

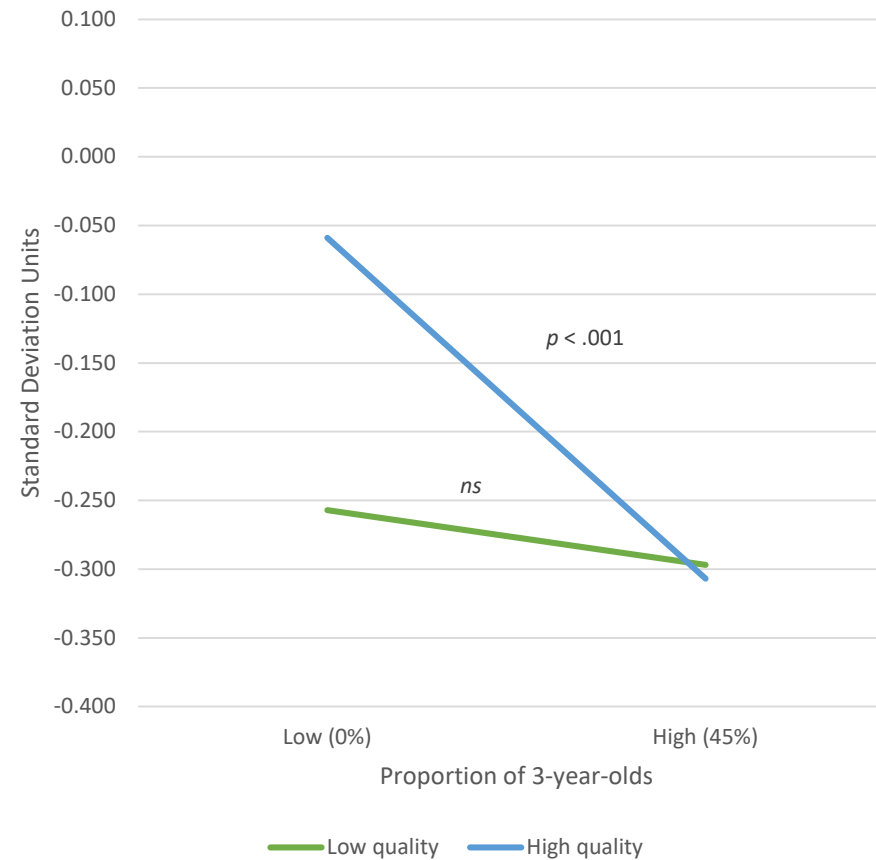
- Teachers' reported on classroom age composition:
  - How many children in classroom?
  - How many 3 yr. olds (or younger)?
  - How many 4 yr. olds? How many 5 yr. olds?
- Children's outcomes:
  - Language and Literacy: Peabody Picture Vocabulary Test, Woodcock-Johnson Letter-Word Identification subtest, Woodcock-Johnson Spelling subtest Math: Woodcock-Johnson Applied Problems
  - 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



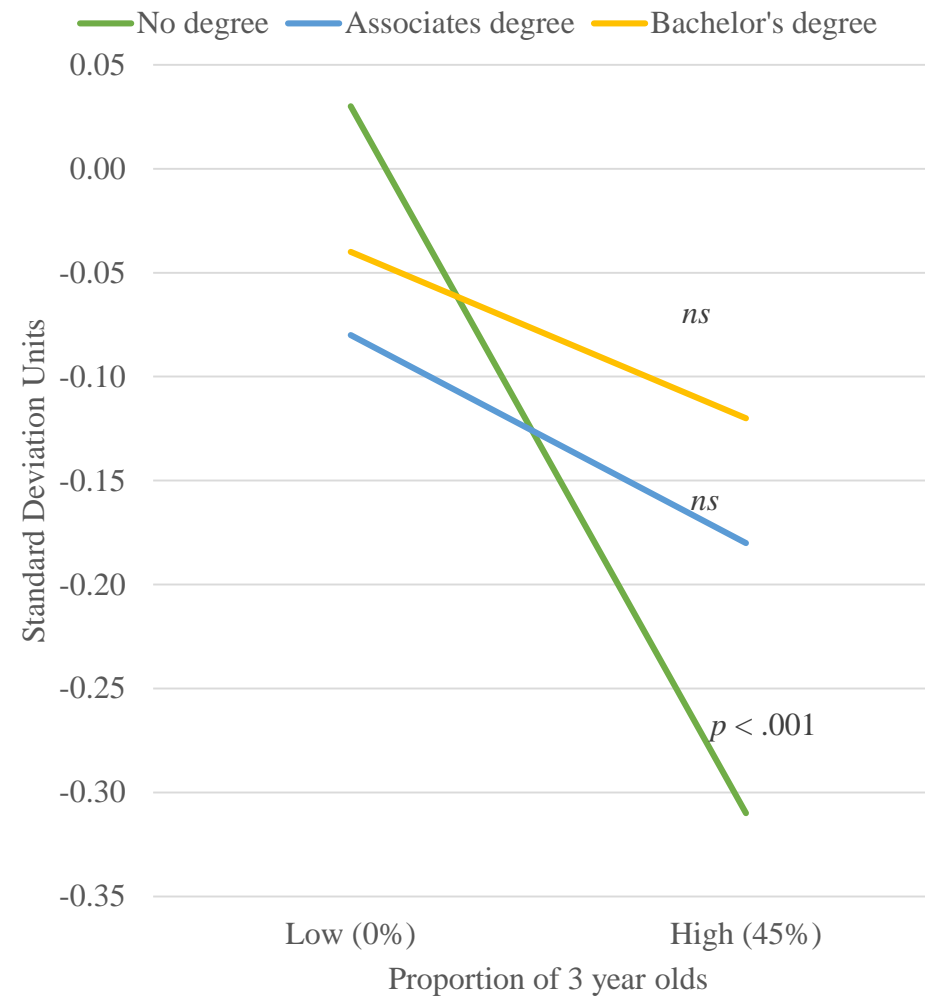
## Classroom Age Composition and Children's Cognitive and Socio-Emotional Growth: The Implications of Classroom Quality and Teacher Qualifications: RQ 2

- 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



## Classroom Age Composition and Children's Cognitive and Socio-Emotional Growth: The Implications of Classroom Quality and Teacher Qualifications: RQ 3

- 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?

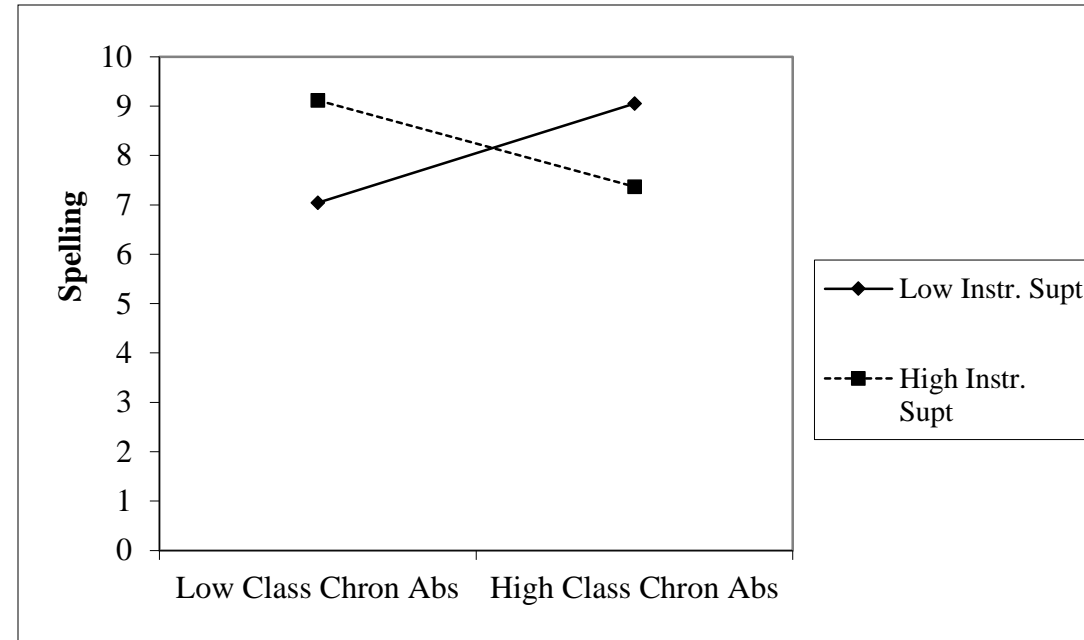
## Findings

- 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

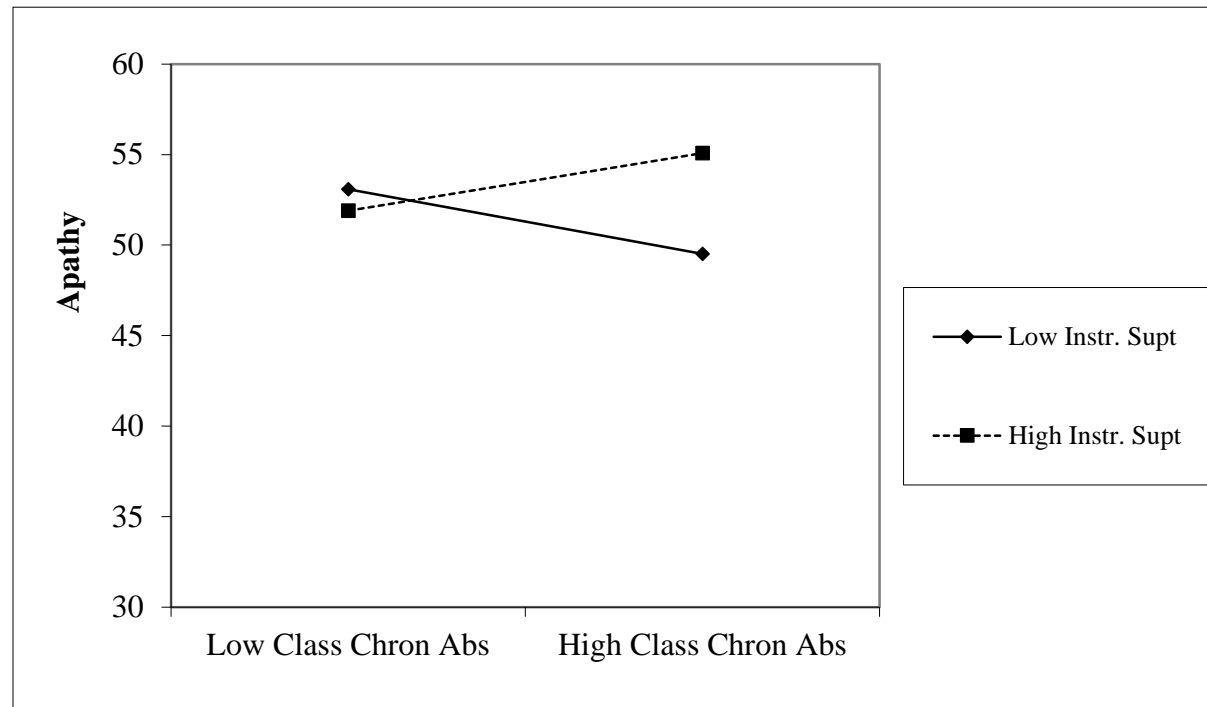
When pre-K students in classrooms with **higher peer chronic absenteeism**, they demonstrated better spelling skills in classrooms with **lower (vs. higher) instructional quality**



# How do pre-K classroom attendance, quality, and gender affect school readiness?

## Apathy & IS

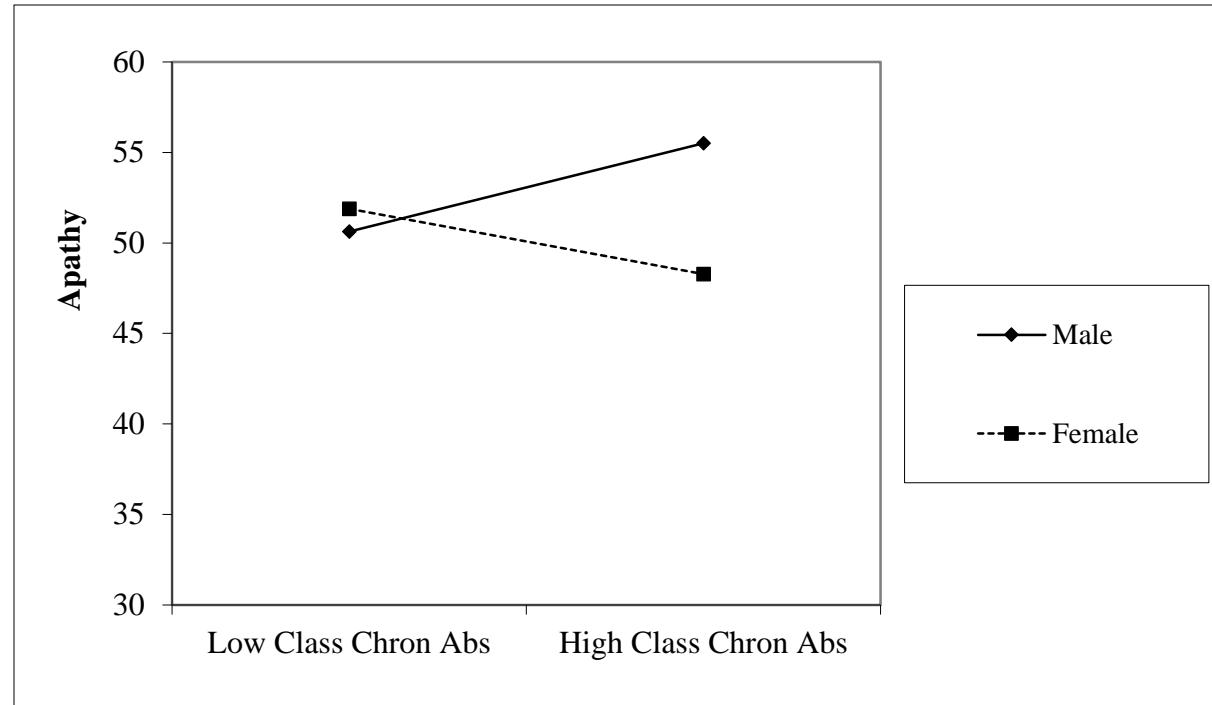
When pre-K students are in classrooms with **higher peer chronic absenteeism**, they demonstrated more apathy in classrooms with **higher (vs. lower) instructional quality**



# 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?

# Racial/Ethnic Characteristics of Classroom Peers and Indicators of Quality

## 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 [ $F(3, 100) = 19.41, p < .000, R^2 = .38$ ]

# 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

