

2009 CCPRC Annual Meeting
Breakout C-1
Friday, October 30, 2009, 10:30 a.m. – 12:00 p.m.

Quality and Children’s Development in the Earliest Years

Description

This session provided the context for a general discussion about research on the relationship between the quality of child care and children’s development during the earliest years through brief presentations on (1) the quality of child care that infants and toddlers in the US experience, using data from the ECLS-B; (2) results from the Educare implementation study; and (3) emerging approaches to analyzing data on the relationship between quality and child outcomes.

Moderator

Martha Zaslow, Child Trends

Presenters

Nicole Forry, Child Trends
Noreen Yazejian, University of North Carolina, Chapel Hill
Anna Johnson, Columbia University
Rebecca Ryan, Georgetown University

Scribe

David Gottesman, National Center for Children in Poverty

1. Documents in Session Folder

- “Evidence on Quality for Infants and Toddlers Emerging from National Data,” Nicole Forry, Rachel Anderson, Kate Perper, and Tamara Halle.
- “Sustained Exposure to High Quality Programming During the Earliest Years: Evidence from the Educare Cross-Site Implementation Study,” Noreen Yazejian.
- “New Analytic Approaches: Analyzing the Impact of Subsidy Receipt on Quality in Longitudinal Data,” Rebecca M. Ryan and Anna D. Johnson.

2. Summary of Presentations

- **Introduction: Martha Zaslow**
 - Marty introduced the session with the question, “What happens if infants and toddlers receive high-quality care in a sustained way from birth to five?”
- **Summary of Presentation #1: Nicole Forry**
 - Evidence on quality for infants and toddlers emerging from national data: ECLS-B.
 - Few studies offer nationally representative, comprehensive data on infants.
 - Among nationally representative datasets, ECLS-B has some unique features:
 - It oversamples.
 - It includes observed quality measures and child assessments.
 - And is longitudinal in nature.

- What is ECLS-B?
 - Data collected by National Center for Education Statistics.
 - It includes a nationally representative sample of approximately 11,000 children born in 2001.
 - Characteristics of the nationally representative sample of infants:
 - 19% non-English as primary home language.
 - 23% below 100% poverty.
 - 9% subsidy receipt
- Child Care Arrangements of ECLS-B Sample at 9 and 24 months:
 - About one-half of the 9- and 24-month olds were not in non-parental care.
 - Of those in non-parental care, the greatest proportion was in relative care at 9 and 24 months.
 - Information on the type of care used by children in the ECLS-B sample is available through online NCES publications.
- Quality of Child Care Arrangements Used by Sample of Toddlers from the ECLS-B:
 - FDCRS and ITERS scores were, on average, in the “minimal” range.
 - There were statistically significant differences in observed quality when comparing children in families at or below poverty compared to over 100% poverty on the FDCRS and Arnett with the arrangements of children living in poverty being rated as lower quality.
- Recent Child Trends publications based on ELCS-B data:
 - *Primary Child Care Arrangements of U.S. Infants: Patterns of Utilization by Poverty Status, Family Structure, Maternal Work Status, Maternal Work Schedule, and Child Care Assistance.*
 - *Associations between Provider Training and Education and Other Quality Indicators in Low-Income Children’s Primary Care Arrangements at 24 Months of Age.*
 - *Disparities in Early Learning and Development: Lessons from the Early Childhood Longitudinal Study–Birth Cohort (ECLS-B).*
- **Summary of Presentation #2: Noreen Yazejian**
 - *Sustained Exposure to High Quality Programming During the Earliest Years: Evidence from Educare Cross-site implementation Study.*
 - Educare was created through the formation of Educare and the Bounce Learning Network and involves public/private partnerships.
 - Existing and sites under development include:
 - Eight operational sites: Chicago, Denver, Milwaukee, Miami, Oklahoma City, Tulsa and two in Omaha.
 - Sites opening by the fall of 2010: Kansas City, Maine (central), Seattle, and two in Tulsa.
 - Nine more sites in development: Anacostia, Arizona, California, Cleveland, Michigan, New Jersey, New Orleans, West DuPage, and Yakima.
 - Core Features:
 - Small class size, staff qualifications, continuity of care, early oral language and literacy, social emotional development, problem solving and numeracy, starting early, research-based family support services (parents who will

- demand the best for their children), interdisciplinary approach, reflective supervision and practice, and integration of the arts.
- Ounce of Prevention Fund developed an Implementation Checklist. The first level on the checklist represents adherence to Head Start Program Standards. Going from a 1 to a 5 on the checklist means implementation improvements in 12 areas.
 - Implementation study purposes:
 - For internal stakeholders: Ounce of Prevention assists with program improvement, site-specific technical assistance, and answering site-specific questions.
 - For external stakeholders: Documents core features, highlights high quality, contributes to literature on enhancing child outcomes, and provides data and a place for advocacy.
 - Who are we?
 - Local evaluators at eight sites (in 2009-10) with a central evaluation coordination site at Frank Porter Graham.
 - National advisory board for the implementation study.
 - Local program leaders and funding.
 - Technical assistance staff for Ounce of Prevention.
 - Data collection includes:
 - Staff questionnaire including demographic information, beliefs, and practices. Information collected annually.
 - Parents' interview including demographic information, beliefs, activities, involvement, and risk factors. Data are collected in fall and spring annually.
 - Classroom observation: ITERS-R or ECERS-R; classroom activities, language, interaction, and overall quality; collected annually.
 - Child assessment.
 - Technical ratings.
 - ITERS-R Scores in the Educare Study: Average score in 2008 was 5.45. Average score in 2009 was 5.19. 5+ considered good quality; 6+ considered great. There was a slight decrease from 2008-2009.
 - ECERS-R Scores in the Educare Study: Average score in 2008: 5. Average score in 2009: 5.29. Nearly 70% of classrooms scored above 5.
 - Child demographics:
 - Gender split about even.
 - Race/ethnicity: 29% Hispanic; 56% Black; 7% White; and 8% Biracial.
 - Primary caregiver education:
 - 19% have not graduated from high school.
 - 14% have high school plus technical training.
 - 20% completed high school or have a GED.
 - 10% have an A.A. degree.
 - 24% completed some college.
 - 7% have a B.A. degree.
 - Summary of entry effects:
 - Age of entry matters: The earlier children enter, the higher their scores on:
 - Bayley cognitive and language at age 2.

- Peabody Picture Vocabulary Test (PPVT) at age 3 (English speakers).
 - The Bayley Language Standard.
 - For children who entered Educare before 2 years of age, PPVT scores before Kindergarten are near the national average.
 - For children who entered Educare before 2 years of age, Bracken school readiness scores are above the national mean.
 - For children who enter early, Educare serves as a prevention program, as these children’s scores remain consistent.
 - Most consistency for English speaking early enterers.
 - The later children enter Educare, the more change they show. Non-English late enterers show most growth, but also have lowest scores.
 - Summary of early findings:
 - Strong evidence for “earlier is better.”
 - High-quality classrooms presumed to play a role, but other Educare core features are important as well.
 - Planning for a randomized study to better compare effects of Educare with “typical” care.
 - More information at: <http://www.fpg.unc.edu/~bounce>.
- **Summary of Presentation #3: Anna Johnson and Rebecca Ryan**
 - *New Analytic Approaches: Analyzing the Impact of Subsidy Receipt on Quality in Longitudinal Data.*
 - *Research questions:*
 - Do child care subsidies allow parents to purchase higher-quality care than they could otherwise afford?
 - Subsidy use when children are age two and in preschool.
 - Quality when children are age two and in preschool.
 - Does use of a subsidy lead to greater school readiness?
 - Child outcomes in preschool and kindergarten.
 - Essentially, subsidy use equals treatment variable, quality equals outcome.
 - Why do we need new approaches?
 - Estimates from non-experimental studies may misstate the true causal impact of subsidy receipt on child care quality:
 - Selection bias: Family characteristics related to subsidy receipt may also predict child care quality.
 - Omitted variable bias: Excluding other independent variable(s) that may be correlated with subsidy use and predictive of quality.
 - Parents who select higher quality programs potentially could navigate the subsidy system in a better way.
 - Analytic Approaches
 - New methods capitalize on rich longitudinal data of the ECLS-B. Control for earlier measures of child care quality.
 - Traditional method: OLS regression with extensive controls.
 - Better: Propensity score matching.
 - Best: Difference-in-Difference matching.
 - *Propensity Score Matching:*

- Mimics randomization:
 - Matches cases on observable characteristics.
 - Excludes cases with no matches—subsidy recipients who are unlike all non-recipients on observable characteristics. We exclude cases with no matches because these are people for whom reliable estimates of the effect of subsidy use on quality cannot be generated.
- Without random assignment: Self-selection into treatment groups.
 - People split into two groups: those who receive subsidies and those who do not.
 - It doesn't make sense to compare people who are very likely to take-up subsidies, and in fact do take them up, with people who are highly *unlikely* to take them up. In the real world, without random assignment, people who don't receive subsidies do not have an equal likelihood of receiving subsidies; they are qualitatively different from the people who receive subsidies, and probably in ways that also influence the quality of care they choose for their children.
- Propensity scores:
 - The propensity score represents likelihood of receiving a subsidy and ranges from 0-1 (least to most likely).
 - It is a one-dimensional summary score of all covariates.
 - Treated cases are then matched with untreated cases based on the propensity score.
- Limitations:
 - Selection on observables: Differences may remain after matching.
 - P-score matching only addresses selection bias to an extent. It's based on observables, so to the degree that you've measured everything that matters for subsidy use and care quality selection, and you've included all of those measured variables in your p-score, then it could theoretically eliminate selection bias. However, it's unlikely that everything that matters to the treatment and the outcome were measured and included in your model—those unmeasured, unobserved, and often unobservable characteristics are not accounted for.
 - Need to account for *unmeasured* covariates that may predict the treatment, the outcome, or both.
 - Solution: Exploit longitudinal data to control for *unobserved* characteristics of individuals that are time invariant.
- *Difference-in-Difference Matching*:
 - Estimate propensity scores.
 - Calculate change in quality from age 2 to preschool for children who did not have subsidies at age 2 but did in preschool.
 - Compare to the change in quality from age 2 to preschool for those who never received subsidies:
 - Recipients: Quality in preschool minus quality at age 2.
 - Non-recipients: Quality in preschool minus quality at age 2.
 - Since you are estimating changes in treatment (subsidy use) status over time and changes in the outcome, you are taking out any time-invariant

unobservable characteristics that might still be differentiating the two groups. This could include things like motivation, conscientiousness, etc.

- Limitation: Only use cases that didn't have subsidy at age 2.
 - Reduces sample size.
 - Who are the “changers?”
 - Unobservable variables may not be time-invariant.

3. Summary of Discussion with Presenters and Participants

- We're limited in the extent to which we know where children are. What we're doing is an average effect across all environments, controlling for family characteristics. Location has an impact on subsidies and quality of care chosen. Hopefully, a dataset is coming soon that will have much more information, including structural markers of quality.
- The question was asked, “How good or valid is the measure of subsidy in ECLS-B?” Anna Johnson replied that it's very difficult to generate valid measures. Surveys don't ask questions that use the word subsidy. It's a big question. The field is moving toward a unified way to measure subsidy use in the survey context. However, many studies have developed ways to measure subsidy. One approach involves asking parents “Do you pay for child care?” and then, “Do you receive any assistance?” In 2005, the Assistant Secretary for Planning and Evaluation (ASPE) estimated subsidy take up among likely-eligible families at around 30%; using the ECLS-B (which includes parent and provider report). Anna Johnson obtained a take-up rate of 29% among eligible children for the same year, suggesting that it may be possible to get a more reliable measure of subsidy receipt using survey data than has previously been thought.
- The speakers were asked to elaborate on the issue of subsidy recipients for whom they weren't able to find an appropriate match. What makes them different? Rebecca Ryan indicated that (in analyses using the Fragile Families and Child Wellbeing Study data) people they were less likely to find matches for were those who were among those very likely to get subsidies, e.g., people with lower educations and incomes—the least advantaged cases. Many were using kin arrangements or home care.
- The presenters were asked to clarify whether or not they included Head Start and/or children in state pre-kindergarten programs in their subsidy group. Anna Johnson replied that they used provider report to distinguish between different kinds of subsidized care (Head Start versus pre-k versus CCDF-type subsidy) and that these are important considerations to make. Among subsidy-eligible families, most are using some kind of care, so it is important to account for the type of care used by families who don't take-up subsidies. In this analysis, provider reports were used to identify which children are in which programs.
- A comment was made that it looked as though ELL children in Educare had higher scores, at least at times. A question was asked about whether the studies showed any variation in children. Noreen Yazejian replied that children who enter early are not losing Spanish when learning English. But more data is needed to determine this further. When asked if the Spanish-speaking children are also strong in English, Noreen replied that centers aren't standardized in terms of how languages are balanced, but children who enter early appear to do better on language surveys.

- The question was asked, “What determines whether the student goes in early or not?” Noreen Yazejian responded that they’ve tried to control for that. They randomize 0-18 months and look at children served versus those in the control group.
- In response to questions about the Devereux Early Childhood Assessment (DECA) and whether or not Educare is considered a holistic model or pieces, Noreen replied that they hadn’t seen any age of entry effect with DECA yet, but more results are coming. Children who enter early appear to have more protective factors. Later entry kids tend to catch up. As for the second question, they’re still not sure and hope to learn more as sites replicate.
- When the presenters were asked if they had any thoughts on center versus home-based care, Nicole Forry responded that home-based providers might not be very different from the families they serve, in terms of being low-income.
- When asked if there is a requirement to match for culture/race/ethnicity, Noreen replied that some sites do better than others.
- In response to a question about the relationship between Educare building design and ratings, Noreen said that the buildings were built before we they had ratings, but that they have some L-shaped rooms that can cause issues.

4. Key Themes and Issues

- Important to come to terms with the national picture. Lots of room for improvement.
- Start early with children.
- Educare showing promising early findings.
- Methods for analyzing the effect of non-randomized treatments (subsidy receipt; quality care) are emerging.