

## Multiple Child Care Arrangements and Young Children's Development

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### Project Description

The purpose of this study is to improve our understanding of the determinants of and effects on young children's development of multiple, concurrent arrangements. Whereas some families may use multiple arrangements in order to expose their child to particular type(s) and amounts of preferred care, others may rely on them out of necessity, in order to cover all of their working hours. These different reasons for using multiple arrangements may in turn have implications for children's development.

Using data from a nationally-representative study of children born in the U.S. in 2001, this study first examines families' selection into multiple, concurrent arrangements in an effort to better understand the factors that shape families' decisions to use multiple arrangements, including the role of publicly-subsidized child care programs. The second part examines the associations between multiple arrangements and young children's cognitive and socio-emotional development at different ages in an effort to identify the conditions under which multiple arrangements matter for children's development.

### Research Questions

1. What child, family, and parental employment characteristics predict the use of any multiple, concurrent arrangements and different types of multiple arrangements at age 9 months, 2 years, and 4 years?
2. What is the relationship between child care subsidy use and multiple arrangements? And for preschool-aged children, what is the relationship between child care subsidy, Head Start, and public pre-kindergarten use and multiple arrangements?
3. What are the concurrent associations between multiple arrangements and children's cognitive and socio-emotional outcomes at age 2 years and 4 years? Do child care and family characteristics

moderate the relationships between multiple arrangements and children's outcomes?

4. What are the associations between the use of multiple arrangements at age 9 months, 2 years, and 4 years and children's cognitive and socio-emotional outcomes at kindergarten entry?

### Sample

This study uses data from the Early Childhood Longitudinal Study—Birth Cohort (ECLS-B), a nationally-representative study of approximately 14,000 children born in the U.S. in 2001. Children were followed from birth through kindergarten entry. In-home parent interviews were conducted when children were approximately 9 months (2001-2002;  $N=10,700$ ), 2 years (2003-2004;  $N=9,850$ ), and 4 years of age (2005-2006;  $N=8,900$ ), and during the fall of their kindergarten year (two waves:  $N=6,950$  in 2006-2007;  $N=1,900$  in 2007-2008). Children's cognitive and socio-emotional development was assessed at each wave, and a wealth of information was collected on child and family characteristics, including non-parental child care arrangements. Children's primary child care providers, center directors, and teachers were also interviewed at the 2-year, 4-year, and kindergarten waves.

### Method

This study uses data from all waves of the ECLS-B and several different analytic approaches. The use of multiple, concurrent arrangements is measured using three different specifications: (1) two or more arrangements; (2) two arrangements vs. three or more arrangements; and (3) by type of care (i.e. multiple, home-based arrangements or multiple, home- and center-based arrangements).

For Question 1, logistic and multinomial logistic regression models are used to predict the use of multiple arrangements at each of the 9-month, 2-year, and 4-year waves from child, family, and parental employment characteristics. To examine differences in the predictors of multiple arrangements by the

child's age, each wave will be analyzed separately, and tests for statistically significant differences in coefficients across the age-specific models will be conducted.

For Question 2, I use difference-in-difference methods, a technique which compares outcomes under different policy treatments and between treatment and comparison groups, to examine whether the generosity of state subsidy programs relates to the use of multiple arrangements. Analyses test whether state-level subsidy program spending predicts the use of multiple arrangements among families eligible for subsidies (defined as low-educated households with no more than a high school education) when compared to families who are not eligible (higher-educated households).

Questions 3 and 4 of the study employ multivariate OLS regression models to estimate the effects of multiple arrangements on children's cognitive and socio-emotional outcomes, controlling for a large set of child and family characteristics and a prior measure of the child outcome. As a robustness check, Questions 3 and 4 will be modeled using propensity score weighting (PSW) techniques.

### **Progress Update**

Analyses are on-going. Descriptive analyses show that the use of multiple arrangements increases with child age, increasing from 11% of all children at age 9 months to 24% at age 4 years. Additionally, the types of multiple arrangements used change over time. At age 9 months, the vast majority of children in multiple arrangements were in multiple home-based arrangements (9%), whereas at the 4-year wave the vast majority of children in multiple arrangements were in multiple home- and center-based arrangements (19%).

Results from Question 1 suggest that household composition, child care preferences, and maternal employment characteristics are all important determinants of the use of multiple arrangements at all ages, with important differences by the type(s) of care combined. Some differences in the predictors of multiple arrangements by child age were found, particularly between age 9 months or 2 years and age 4 years, which may reflect the greater supply of center-based programs available to 4-year-old

children and/or parental preferences for home-based care at younger ages and center-based care for preschoolers. These findings suggest that the use of multiple arrangements is likely driven by a combination of constraints and child care preferences.

Preliminary results from Question 2 suggest that higher levels of state subsidy spending are associated with lower rates of multiple arrangements among children who are eligible for the program both at younger ages (9 months/2 years) and at age 4. Head Start and state pre-k spending did not predict the use of multiple arrangements at age 4. Sensitivity tests are currently underway to test the robustness of these findings.

### **Implications for Policy/Practice**

First, this study aims to improve knowledge of the factors that play a role in parents' child care decisions about multiple arrangements. Preliminary findings suggest that both parental child care preferences and constraints likely influence decisions about whether and what type of multiple arrangements to use.

Second, this study aims to uncover the potential heterogeneity in the effects of multiple arrangements by examining their effects on cognitive and socio-emotional outcomes at different developmental periods, testing the moderating effects of family characteristics, and examining whether the timing of multiple arrangements matters.

### **Implications for Research**

This study aims to inform research as to how the determinants of and effects of multiple arrangements may vary by different specifications of multiple arrangements (by number and type of care) and by child age, as well as whether the effects of multiple arrangements are moderated by family characteristics.

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