Published in final edited form as:

Child Youth Serv Rev. 2010 August ; 32(8): 1045–1053. doi:10.1016/j.chilgyouth.2010.03.024.

Early Childhood to Young Adulthood: An Introduction to the Special Issue

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Abstract

The identification and understanding of alterable influences on well-being are at the nexus of developmental science and social policy. These influences span the life course but child, family, and school experiences in the first two decades are particularly instrumental to health and well-being. To investigate some of these influences, we report data from the Chicago Longitudinal Study. The study investigates the life course development of 1,539 children (93% African American and 7% Hispanic) who were born in 1979-1980, grew up in the highest-poverty neighborhoods in Chicago, and attended early childhood intervention programs beginning in preschool. The goals of the study are to determine the effects of participation in the Child-Parent Center Program, document patterns of child and family well-being over time, and identify child, family, school, and community factors that can promote children's well being. We describe major intervention findings and summarize the contributions of a variety of personal, family, and school experiences in promoting multiple domains of well-being.

Intervention and Alterable Influences on Well-Being

The identification and understanding of alterable influences on child well-being are at the nexus of developmental science and social policy. This is especially true for the field of early childhood development. Early education today is a national priority for promoting school readiness and well-being (Lynch, 2007; Reynolds & Temple, 2008; Zigler, Gilliam, & Jones, 2006). As much as the evidence is growing that early educational enrichment can positively impact well-being into adulthood, limitations in the knowledge base have slowed progress in creating sustained programs and practices within established services systems such as schools. In the early education field, for example, most of the evidence for enduring effects of intervention is from small-scale model programs rather than large-scale established programs (Karoly, Kilburn, & Cannon, 2005; Reynolds & Temple, 2008). The extent to which early childhood experiences are reinforced and strengthened by positive school-age experiences and programs also have not been well-documented and warrant greater attention (Takaniski & Kauerz, 2008).

In addition, intervention participation is one of many early experiences that can have enduring life-course effects on well-being as measured by educational attainment, SES, health status, and social behavior. Child characteristics such as low birth weight and

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parenting behaviors leading to child maltreatment also may dramatically impact continuity of development leading to lower adult well-being. Impacts on adult well-being have not been a major focus of investigation, however.

Finally, the mechanisms through which early experiences affect life-course development are just beginning to be understood. In early education, the cognitive advantage hypothesis has been the dominant explanatory perspective with less attention to socioemotional, school, and family influences. The identification of generative mechanisms and processes that link early experiences and intervention benefits to adult well-being has direct implications for policy development and modification in early childhood and in post-program learning environments.

In this special issue, the complex links between alterable early childhood experiences and adult well-being is investigated using data from the Chicago Longitudinal Study (CLS), an on-going investigation of a large cohort of 1,539 children from the inner-city, most of whom participated in an established, school-based early intervention called the Child-Parent Centers (CPC). After Head Start, CPC is the nation's oldest federally funded preschool program. Prospective data have been collected from a comprehensive set of sources from birth to age 24, thus allowing thorough examination of the effects of early childhood experiences on adult well-being and the processes through which these effects are manifested. Given that the sample grew up in high poverty contexts, the identification of alterable influences and experiences are especially salient for improving well-being. Exploration of the policy-relevant factors that promote well-being in urban settings is timely given the increasing evidence that targeted investments in children and families can prevent problem behavior and promote healthy development (Committee for Economic Development, 2002; Romer, 2003; U. S. Department of Health and Human Services, 2001).

The economic and social costs of not adequately addressing the needs of children at risk are high. The National Science and Technology Council (1997) estimated that the annual cost to the nation of school dropout was \$250 billion in lost productivity, tax revenues, and health comprising behaviors. Similarly, the annual cost of crime in the United States is estimated at \$100 billion in treatment and administration as well as tangible and intangible costs to crime victims (Cohen, 1998). Annual state and federal expenditures for child welfare services such as substitute care (Courtney, 1998; Farrington & Welch, 2007) and for school remedial services such as special education and grade retention (Belfield & Levin, 2007; Teague et al., 1998) total well in excess of \$50 billion. Consequently, the identification of investment strategies and interventions that reduce the societal costs of later treatment is greatly needed (Karoly et al., 2005; Lynch, 2007; Weissberg & Greenberg, 1998; Zigler et al., 2006).

Chicago Longitudinal Study

The Chicago Longitudinal Study (CLS, 2005; Reynolds, 1999, 2000) is an investigation of the educational and social development of a same-age cohort 1,539 African American (93%) and Hispanic (7%) children who grew up in high-poverty neighborhoods in central-city Chicago and graduated from government-funded kindergarten programs in 1985-1986. Born between 1979 and 1980, children in this on-going 20-year study participated in the Child-Parent Center Program, a comprehensive school-based early childhood intervention ($n = 989$) or participated in the comparison group from randomly selected schools in high poverty neighborhoods ($n = 550$). See Figure 1 for study sites and participants of the CLS. The comparison group enrolled in kindergarten programs, which was the treatment as usual. Together, the sample well represents young children from low-income families in central Chicago and most likely economically disadvantaged children in many other urban contexts. Because they face social-environmental disadvantages, such as neighborhood poverty,

family low-income status, and other economic and educational hardships, study children were at risk of school failure and social difficulties.

The CLS is guided by five major goals:

1. To document patterns of school performance and social competence throughout the school-age years, including their school achievement and attitudes, academic progress, and psychosocial development.
2. To evaluate the effects of the Child-Parent Center Program on child and youth development. Children and families had the opportunity to participate in this unique Head Start-type early childhood intervention from ages 3 to 9 (preschool to third grade).
3. To identify and better understand the educational and psychosocial pathways through which the effects of early childhood experiences are manifested, and through which scholastic and social development proceeds.
4. To investigate the contributions to children's educational and social well being a variety of personal, family, school, and community factors, especially those that can be altered by program or policy interventions to prevent learning difficulties and promote healthy development.
5. To determine the economic returns of participation relative to costs for preschool, school-age, and extended intervention.

The first two goals have been addressed in many previous studies. For instance, length of participation in the Child-Parent Center (CPC) program has been found to be significantly associated with higher levels of school achievement, with enhanced parent involvement in children's education, and with lower rates of grade retention and special education, lower rates of early school dropout, and with lower rates of delinquent behavior (Reynolds, 2000; Reynolds & Temple, 1995, 1998; Temple, Reynolds, & Miedel, 2000). Children's patterns of school and social adjustment over time (Ou & Reynolds, 2006; Reynolds, 2000; Reynolds & Bezruczko, 1993; Reynolds & Gill, 1994; Reynolds, Temple, Ou, Robertson, Mersky, Topitzes et al., 2007; Reynolds, Temple, Robertson, & Mann, 2001) as well as several methodological contributions (Reynolds & Temple, 1995; Reynolds, 1998a, 1998b; Reynolds et al., 2002) also have been reported. Figure 2 shows several paths through which early childhood interventions are hypothesized to affect later social competence. Examples of studies addressing goals 3 and 4 are reported in two special issues (Reynolds, 1999, 2004) and elsewhere (Ou, 2005; Ou, Mersky, Reynolds, Kohler, 2007; Ou & Reynolds, 2008; Reynolds & Ou, in press; Reynolds, Ou, Topitzes, 2004). For goal 5, two cost-benefit analyses (Reynolds et al., 2002, in press) and two syntheses of economic studies have been completed (Reynolds & Temple, 2008; Temple & Reynolds, 2007).

As one of the most extensive and comprehensive on-going studies of life-course development, the strengths of the study in addressing the themes of the special issue are many. First, as a prospective investigation of life-course development, the CLS has collected a comprehensive set of data from birth to age 24 to assess main effects, processes, and mechanisms of change. These include child and parent surveys, teacher reports, and administrative records from a variety of sources. The contributions of birth weight, intervention, and other early childhood experiences are derived from these sources. A second strength of the study is that because of the comprehensive measurement of child, family, and school experiences, mechanisms of change from early childhood to adulthood can be tested strongly. Two of the studies in the special issue examine the mediators and mechanisms of the 5-hypothesis model of intervention and early-experience effects. This model posits that direct links between program participation and later outcomes is explained

by cognitive advantage, family support, school support, social adjustment, and motivational advantage hypotheses. The model has been validated in studies of child and adolescent outcomes.

Third, prior studies have consistently documented that estimated links between early experiences and child and adolescent well-being can be confidently interpreted as effects. These findings strengthen confidence that the estimated links with adult outcomes to be examined in the special issue studies are accurately assessed. Finally, sample recovery rates have exceeded 85% on adult outcomes and thus the statistical power to investigate longitudinal relations and predictive links is relatively high. The findings will also be representative of the original sample and of large urban contexts. At age 24, for example, 1,389 participants (90.3%) were active in the study and provided information on educational attainment or employment. For the outcomes of child maltreatment and adult crime, over 1,400 participants (over 91%) have available data. These rates of sample recovery are rare for extensive longitudinal studies.

Social Context and Sample Characteristics

Figure 3 shows the community areas in which children from the CLS resided. Both CPC and comparison sites are identified. In 1990, 22 of the 24 centers were located in one of the 20 poorest neighborhoods. Five of the six poorest neighborhoods have at least one Child-Parent Center. Study children were significantly more economically disadvantaged than children in the rest of Chicago. CLS children attended schools, for example, in which 67% of children resided in low-income families compared to 42% for all children in the Chicago schools.

The Chicago Fact Book Consortium (1995) described the declining social conditions of the West Garfield Park Community area, one of the neighborhoods served by the CPCs:

Between 1960 and 1970, more than 40,000 new African-Americans were added to the population of 7,000. With 40,000 whites relocating outside the area, West Garfield Park became predominantly black during the 1970s, bringing the community to the most pivotal decade in its most recent history. All community indices relating to previous vitality were reversed.

Between 1970 and 1980, the population decreased significantly by 30%.... This change was accompanied by a drop in housing units of 28%... Unemployment rose from 8 percent to nearly 21 percent. At the same time, the number of families living below the poverty line increased from 24 percent to 36 percent and female-headed households doubled to 58 percent. One major anomaly appeared as home ownership rose to 22 percent and subsequently continued to rise.

By 1980, the landscape was transformed dramatically as large empty lots, formerly occupied by small and medium-sized apartment buildings evidenced the loss of living space resulting from the withdraw of investment, under-maintenance, and arson.

Table 1 presents selected characteristics of the original study sample and the follow-up sample at age 24 for whom educational attainment or employment status is known. The study sample is evenly split between boys and girls, over half of the mothers reported they did not complete high school, and over 90% of the children were eligible for free or reduced-price lunch. Continuously promoted children graduated from high school in 1998. The characteristics of follow-up sample are similar to those of the original sample.

Child-Parent Center Program

Early childhood intervention programs have been implemented in the U.S. for over four decades. The goal of these programs is to improve disadvantaged children's skills so that they can begin school on an equal footing with their more advantaged peers (Zigler & Styfco, 2003). The positive associations between early intervention programs, and school competence and achievement have been found in many studies (Barnett, 1995; Durlak, 1997; Campbell, Pungello, Miller-Johnson, Burchinal, & Ramey, 2001; Reynolds & Temple, 2008; Camilli et al., 2010). Findings have suggested that such programs are effective in increasing the probability that a child completes high school (Oden, Schweinhart, & Weikart, 2000; Reynolds, et al., 2001). In addition to the positive associations with school achievement, associations with other domains have been shown as well, such as delinquency and economic well being (Reynolds et al., 2001, 2007; Schweinhart, Barnett, & Weikart, 1993; Yoshikawa, 1995). However, most of the findings are from studies of model programs with small sample sizes. Long-term effects of early intervention programs are needed for large-scale programs. Very few studies of model programs and no studies of large-scale programs have assessed impacts on early adulthood psychosocial well being.

The Child-Parent Center (CPC) Program is a center-based early intervention that provides comprehensive educational and family-support services to economically disadvantaged children from preschool to third grade. Funded by Title I of the Elementary and Secondary Education Act, it is the second oldest (after Head Start) federally funded preschool program in the U. S. and is the oldest extended early childhood intervention. The program is designed to promote children's academic success and to facilitate parent involvement in children's lives. The components of the CPC program include parental involvement, comprehensive services and a child-centered focus on the development of reading/language skills (Reynolds, Mavrogenes, Bezruczko, & Hagemann, 1996; Sullivan, 1971). The CPC program has been implemented in 25 centers throughout the Chicago public schools. Centers are located in separate buildings close to the elementary school or attached to the wings of the parent elementary school (Reynolds, 2000).

To be eligible for enrollment in the CPC program, children need to meet three conditions. First, children must live in school neighborhoods that receive Federal Title I funds. Second, children cannot be enrolled in another preschool program (e.g., Head Start). Third, parents must agree to participate in the program at least one half-day per week (Reynolds, 2000).

The components of this program include a structured half-day preschool program for three- and four-year-olds, a half-day or an all day kindergarten program for five-year olds, with a child-centered focus on the development of reading/language skills, literacy skills, and other family support services. The center operates on the regular nine-month school year calendar. An eight-week summer program is also provided. The program is offered in different sites; however, it has no uniform curriculum. Each site tailors its program to children's needs through a unified philosophy of literacy and a common core of activities that include individualized instruction, small group activities, and field trips.

The comprehensive services include (a) attending to children's nutritional and health needs (i.e., free breakfasts and lunches and health screening), (b) coordinated adult supervision, including a CPC head teacher, parent resource teacher, school-community representative, and a teacher aide for each class, (c) funds for centralized in-service teacher training in child development as well as instructional supplies, and (d) emphasis on reading readiness through reduced class size, reading and writing activities in the learning center, and reinforcement and feedback (Reynolds et al., 2002; Reynolds et al. 1996).

Table 2 presents levels of program participation for the preschool group and comparison group. The preschool group participated average 1.54 years in preschool, and the comparison group participated average 0.24 years in Head Start program but attended full day kindergarten, an alternative educational enrichment program.

Table 3 shows the similarity of the age 24 sample attributes for the preschool group and the comparison group at the time of program entry or as soon afterwards as possible. The *p*-values for the original sample are provided for comparison between the original and the age 24 samples. There were no significant differences between the groups in most of the attributes, including the family risk index. There were significant differences between groups on gender, mother not employed at child's age 3, and school poverty level 60% or more. Two of these differences favored the preschool group and one did not. Because the comparison group received an alternative intervention and CPC participants reside in the highest poverty neighborhoods, estimates of program impact are likely to be conservative (see Reynolds et al., 2001, 2002).

Summary Findings on Indicators of Adult Well-Being

Prevalence rates of educational and social success

Figure 4 displays the overall prevalence rates for five indicators of adult well-being. Because they are cumulative rates for the CLS cohort, comparable community and national rates are heuristic and should be interpreted with caution. By age 24, 74.7% of CLS youth completed high school (graduation or GED status). A higher proportion of females completed high school than males (81.3% vs. 67.6%). This overall rate is similar to that for youth in the Chicago public schools but lower than 83.7% rate of high school completion for African American youth ages 18-24 in 2000.

For adult crime, 22.6% of CLS youth were ever incarcerated between the ages of 18 and 24. The cumulative arrest rate for males (40.7%) was much higher than for females (5.3%). The overall rate of out-of-home placement (primarily owing to maltreatment) by age 17 for CLS youth was 7.5%. The overall cumulative rate for the CLS sample is very similar to the 8.3% cumulative rate for all children ages 0 to 19 in Chicago (Goerge, Voorhis, Sanfilippo, & Hardin, 1997). National rates of substantiated maltreatment are reported in 1-year intervals. In 1997, 2.5% of African American children were victims of child abuse and neglect. By age 24, 66.2% of CLS youth had any health insurance, and 15.3% of CLS youth reported any depressive symptoms.

Estimated effects of CPC preschool intervention

Previous studies in the CLS found that significant associations between program participation and higher school achievement, lower rates of grade retention and placement of special education at age 15, a lower rate of child maltreatment, and lower dropout rates and higher high school completion rates (Ou & Reynolds, 2006; Reynolds, 2000; Reynolds, et al., 2001, 2007; Reynolds & Robertson, 2003; Temple, Reynolds, & Miedel, 2000). Figure 5 summarize findings regarding long-term effects of the CPC preschool participation for five major indicators of well being. The cumulative rates for program and comparison groups are adjusted for differences in family risk indicators, gender, race, CPC school-age intervention and child welfare history.

As shown, CPC preschool participation was associated with substantial improvements in all five indicators of well being. The program group had a significantly higher rate of high school completion by age 24 (79.5% vs. 71.4%) and health insurance coverage by age 24 (70.2% vs. 61.5%), and significantly lower rates of incarceration by age 24 (20.6% vs. 25.6%), out-of-home placement by age 17 (4.5% vs. 8.4%), and depressive symptoms by

age 24 (12.8% vs. 17.4%). Improvements in performance over the comparison group ranged from 12% (high school completion) to 46% (out-of-home placement prevention). These impacts translate into an economic return, assessed at age 21, of \$7-10 for every dollar invested in the CPC preschool component. School-age and extended intervention components also led to benefits that exceed costs (Reynolds et al., 2002). Cost-benefit analysis at age 26 indicated returns of \$10-12 for every dollar invested (Reynolds et al., in press).

The breadth of outcomes affected by CPC participation reflects the high quality of the program and the dual emphasis on the development of child literacy activities and on intensive family support activities within and outside of the center. Several studies in the project have investigated the mechanisms that account for the long-term effects of CPC participation (Ou, 2005; Reynolds, 1992; Reynolds et al., 2004; Reynolds et al., 1996). Findings indicate that hypotheses associated with cognitive-scholastic enrichment, enhanced family support behavior, and increased post-program school support account for substantial amounts of the main effects of program participation (Reynolds, 2004).

Summary of Studies

In the rest of this overview, we summarize the unique features of the studies in the special issue. In the article “Preschool Education, Educational Attainment, and Crime Prevention: Contributions of Cognitive and Non-Cognitive Skills”, Arthur Reynolds, Judy Temple, and Suh-Ruu Ou investigate the extent to which cognitive (e.g., scholastic achievement) and noncognitive skills (e.g., social and emotional development) accounted for the measured links between participation in preschool intervention and high school completion, highest grade completed, and incarceration history in early adulthood. Regression analysis indicated that Cognitive skills were more important for explaining educational attainment while noncognitive skills made greater value-added contributions to incarceration history. As one of very few studies investigating the differential contributions of cognitive and noncognitive skills to preschool effects, our findings support the important role of test scores, school performance, and social and motivational factors in explaining the effect of enriched preschool on economically important indicators of well-being.

In “Mechanisms of Effects of an Early Intervention Program on Educational Attainment: A Gender Subgroup Analysis”, Suh-Ruu Ou and Arthur Reynolds examine whether the processes that account for the link between participation in the Chicago Child-Parent Center (CPC) program and educational attainment differed by gender. Five mechanisms derived from previous studies, i.e., cognitive advantage, family support, social adjustment, motivational advantage, and school support, were investigated. Findings suggest that cognitive advantage played a more important role for males than for females, and family support played a more important role for females than for males. Motivational advantage and social adjustment hypotheses were not significant mediators for either females or males, although they contributed to the overall model fit. Motivational advantage seemed to play a more important role for males. Findings provide directions for future investigation of the two groups.

In “Family Typologies and Educational Attainment”, Dylan Robertson and Arthur Reynolds use cluster analysis to establish family typologies in early and middle childhood and investigate the influence of these typologies on educational attainment. Results indicated that children who had family profiles characterized by higher levels of human capital resources and more favorable scores on indicators of family functioning were more likely than other children to have higher educational attainment. Moreover, children who experienced a positive change in family profile characteristics between the ages of 8 and 12

were more likely than other children to have higher educational attainment. Implications for intervention and research are also discussed.

In “Links between Child Maltreatment and Adult Well-Being”, Joshua Mersky and James Topitzes investigate whether the effects of substantiated child maltreatment continue into adulthood across a range of well-being indicators. Probit and linear regression analysis indicated that substantiated maltreatment was significantly associated with higher adult arrest, felony arrest, and incarceration, higher rates of substance use and depressive symptoms, and with lower rates of educational attainment and economic well-being. Differences by abuse and neglect are presented as is evidence that CPC preschool participation has preventive effects on child maltreatment that weakens the link between maltreatment and adult crime.

In “Childhood Predictors of Young Adult Male Crime”, Suh-Ruu Ou and Arthur Reynolds investigate the childhood predictors of young adult male crime. Probit regressions indicate that common childhood predictors were AFDC participation by child’s age 3, negative home environment, maltreatment experience, trouble making behavior, and number of school moves. Unique predictors are mother unemployed by child’s age 3 for incarceration or jail, four or more children in household by child’s age 3 for felony conviction, and mother did not complete high school by child’s age 3 and social competence for both incarceration or jail and felony conviction. Implications on crime prevention are discussed.

In “Early Childhood Predictors of Adult Substance Abuse”, Irma Arteaga, Chin-Chih Chen, and Arthur Reynolds investigate the child, family, and school-related antecedents of the onset and prevalence of substance abuse. Results indicate that substance abuse was significantly associated with youth trouble making behavior, school mobility, personal experience of substance use, and dropout. Age of first substance use was associated with factors measured by age 9 including gender, receipt of child protection services, and family risk. Survival analysis showed that parent substance abuse experience, child welfare, and family risk status increased the likelihood of the onset of substance use leading to dependency. Females and participants in preschool intervention had lower likelihood of experiencing progression from substance use to dependency. Findings indicate that promoting family involvement and academic and pro-social behavior might reduce the risk of substance abuse.

Finally, in the article “Preschool-to-Third Grade Programs and Practices: A Research Review”, Arthur Reynolds, Katherine Magnuson, and Suh-Ruu Ou review the knowledge base on the effectiveness of Pk-3 intervention programs and practices for young children making the transition to school. The coverage includes extended early childhood interventions, preschool programs, full-day kindergarten, reduced class sizes in the early grades, parent involvement, instructional practices, and school transitions (mobility). Findings on PK-3 programs and practices from the Early Childhood Longitudinal Study-Kindergarten Cohort of 1998-99 are also documented. Evidence on the cost effectiveness of PK-3 programs and practices with particular attention to findings from a few extensive longitudinal studies are reviewed as well. Implications and policy recommendations are discussed.

Conclusion

The intervention, child, family, and school experiences investigated in the special issue substantially impact multiple domains of well-being into adulthood. These and many other factors, practices, and policies need to be taken into account in promoting long-term success. As noted by many developmental researchers (Bronfenbrenner, 1989; Gray, 1983; Zigler &

Styfco, 1993), optimal well-being is the product of personal resources and experiences in relation to the total ecology or environment of the person. Bronfenbrenner (1989) described this from the perspective of developmental continuity in that “the degree of stability, consistency, and predictability over time in any element or level of the systems constituting an ecology of human development is critical for the effective operation of the system” (p. 241). It is this principle of developmental continuity that provides the foundation for interpreting and understanding the contributions of the child, family, school, and broader factors on life course well-being.

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Figure 1.
Flowchart of Study Sites and Participants in the Chicago Longitudinal Study (Preschool to Age 24)

Figure 2.
Five Hypotheses for Explaining Effects of Early Childhood Intervention

Figure 3.
Neighborhood Context in the Chicago Longitudinal Study

Figure 4.
Prevalence Rates for Five Measures of Adult Well Being in the Chicago Longitudinal Study

Figure 5.
Adjusted Group Differences for Measures of Adult Well Being in the Chicago Longitudinal Study

Table 1

Selected Characteristics of the Original Sample and the Follow-Up Sample at Age 24

Sample characteristic	Original sample	Age 24 sample
Number of children	1,539	1,389
CPC preschool	989	902
No CPC preschool	550	487
Sample recovery (%)	100	90.3
CPC preschool (%)	64.3	64.9
CPC follow-on program (%)	55.2	56.7
African American (%)	93.0	93.2
Girls (%)	50.4	50.9
Low birth weight (less than 2500 gm) (%)	12.4	12.6
If had child welfare case history by child's age 4 (%)	4.1	4.0
From neighborhoods >60% low income (%)	76.0	75.3
Live in single-parent home by age 3 (%)	75.6	76.0
Mother did not complete high-school degree by child's age 3 (%)	54.0	53.9
Eligible for free lunch by age 8	82.7	82.9
Age at kindergarten entry in months (M)	63.3	63.3
Word analysis score in kindergarten (M) (National average = 60)	63.8	63.7

Table 2

Levels of Program Participation for Child-Parent Center and Comparison Groups

Sample characteristic	CPC Preschool Group (n=902)	Comparison group (n=487)
Preschool participation, %	100	15.6
Number of cases, 1 year	413	34
Number of cases, 2 years	489	42
Mean number of years	1.54	0.24
Kindergarten participation, %	100	100
Full-day program, %	59.8	100
School-age participation, %	71.2	30.0
Number of cases, 1 year	111	27
Number of cases, 2 or 3 years	532	119
Mean number of years	1.49	0.69

Note. Preschool participation of the comparison group was in Head Start.

Table 3

Characteristics of Preschool Group and Comparison Group at age 24 (N=1,389)

Characteristics	CPC Preschool Group (N=902)	No-Preschool Group (N=487)	P-value	Original Sample P-value
Percent girls	53.0	47.0	.049	.109
Percent Black	93.7	92.6	.500	1.0
Percent mother not completed high school at child age 3	51.0	59.4	.003	.001
Percent single parent at age 3	76.4	75.3	.688	.613
Percent parent were teen (<19) at child's birth	9.7	10.3	.761	.695
Percent mother not employed at age 3	64.9	59.9	.087	.123
Percent eligible for free lunch by age 8	83.3	82.3	.652	.384
Percent participation at AFDC/TANF by age 3	62.8	60.9	.483	.609
Percent child welfare case histories by age 4	3.2	5.3	.077	.069
Percent income level is 60% + poverty for school area	77.3	71.7	.023	.040
Family risk index (0-7)	4.50	4.49	.912	.802