Child Care Subsidy Use Among Low-Income Children With and Without Special Needs

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Abstract

Child care subsidies are intended to increase access to quality child care for low-income families and facilitate improved child and family well-being, but may not benefit children with and without special needs equally. This study examined patterns and predictors of subsidy use among children with disabilities or delays relative to children without special needs. Utilizing a nationally representative sample of approximately 4,050 young children from subsidy-eligible low-income families in the Early Childhood Longitudinal Study – Birth Cohort, we examined subsidized care receipt at ages nine months, two years, and four years using descriptive analyses and multivariate logistic regression. Results suggest young children with special needs utilize child care subsidies at significantly lower rates than their peers without disabilities. Parental marital status, number of siblings, mother’s work status, mother’s education, race, and mother’s age were significant predictors of subsidy use. Implications for policy implementation and multisector collaboration to support the early care and education of young children with special needs are discussed.

Keywords: child care, special needs, developmental delay, subsidy
Child Care Subsidy Use for Children with and without Special Needs

Quality child care promotes academic, social, and developmental competence necessary for success in school (Magnuson, Ruhm, & Waldfogel, 2007; Phillips & Lowenstein, 2011; Skibbe, Connor, Morrison, & Jewkes, 2011), yet low-income families—and especially those with young children with special needs—generally have limited access to high quality care (Barnett & Yarosz, 2007; Torquati, Raikes, Huddleston-Casas, Bovaird, & Harris, 2011; Wall, Kisker, Peterson, Carta, & Jeon, 2006). Child care subsidies offered via the federal Child Care Development Fund (CCDF) are intended to increase access to quality child care for children from low-income households. Subsidies may be particularly critical for children with special needs who come from low-income households, because both poverty and special needs increase risk for poor educational outcomes (Zhang, Katsiyannis, & Kortering, 2007). Few researchers have examined subsidy use among young children with special needs, so whether this subpopulation of children from low-income households uses and benefits from child care subsidies is unknown. Given policy and practice efforts to support children with special needs and increasing emphasis on collaboration across systems (Administration for Children and Families, 2014), knowledge of subsidy use for young children with special needs can inform subsidy policy refinement and implementation, and collaborative processes to support child and family well-being. This study investigated patterns and predictors of subsidy use among young children with disabilities or delays from low-income households relative to their typically developing subsidy-eligible peers.

Early Childhood Special Needs

Children with disabilities and developmental delays represent a substantial proportion of the general population under age five. Developmental delays—that is, below average acquisition
of cognitive, physical, language, motor, or social skills—and other childhood medical or psychiatric conditions affect approximately 15% of young children (Boyle et al., 2008; Rosenberg, Zhang, & Robinson, 2005). The prevalence of disabilities and delays among children from low-income households is even greater. Children with disabilities are significantly more likely to live in households below the poverty line than children without disabilities (Simon et al., 2013), and poverty increases risk for special needs as children age (Rosenberg et al., 2005). As such, young children with special needs in low-income families face cumulative risk for poor outcomes, making even more critical early care and education conducive to developmental gains (Parish, Cloud, Huh, & Henning, 2005).

Over 1.1 million children under age five receive early intervention and early childhood special education through services provided under the Individuals with Disabilities Education Act (IDEA; U.S. Department of Education, 2015). However, this represents only 2.8% to 5.9% of children in this age group despite the much higher prevalence of special needs, signaling that many children in need of services do not receive them (Boyle et al., 2011; Grant & Isakson, 2013; Hebbeler, Spiker, & Kahn, 2012; Rosenberg et al., 2008). As such, young children with special needs may benefit from other federal and state programs that provide access to early childhood education and care. Child care subsidies are one such program that may facilitate access to necessary child and family supports among low-income families of children with special needs.

**Child Care and Subsidy Utilization**

Quality child care can provide benefits to both low-income children and their families, fostering development of more positive home environments and improved school readiness (McCartney, Dearing, Taylor, & Bub 2007; Vandell, Belsky, Burchinal, Steinberg, &
Child care subsidy recipients demonstrate improved parental education, employment, and earnings as a result of increased access to non-parental care options (Ha & Miller, 2015; Tekin, 2005). Center-based care in particular has been linked to positive outcomes, such as reduced risk of later special education needs (e.g., Reynolds, Temple, White, Oh, & Robertson, 2011) and decreased child abuse and neglect (Green et al., 2014; Mersky, Topitzes, & Reynolds, 2011). Unfortunately, for low-income families, securing and paying for consistent, high quality child care is an ongoing challenge. This is especially true for families of children with special needs who often report difficulty securing appropriate or adequate care for their children due to providers’ limited willingness and competence to provide services for children with special needs (Forry et al., 2013; Grisham-Brown, Cox, Gravil, & Missall, 2010; see also Parish et al., 2005 for discussion of early studies).

The child care subsidy program, funded by CCDF (Office of Child Care, 2014), can increase low-income families’ access to high quality care, allow for better management of parenting and employment (for discussion, see Healy & Dunifon, 2014), and may have the potential to enhance children’s development. Originally included in 1996 welfare reform legislation, CCDF aimed to encourage low-income parents to seek employment outside the home by providing vouchers and grants for non-parental child care via the Child Care and Development Block Grant (CCDBG; Vesely & Anderson, 2009). The 2014 CCDBG reauthorization included additional requirements for reporting on children’s disability status, increasing the supply of quality care, and coordinating across different programs, including Early Intervention and Early Childhood Special Education provided under the Individuals with Disabilities in Education Act, Head Start, and Child Care Resource and Referral providers (OCC Fact Sheet, 2014). With the final rule for implementation of the reauthorization released in
September 2016, the present study offers baseline estimates on differential access to subsidies for children with special needs, and can inform efforts to improve subsidy access and utilization among their families.

Whether subsidy-eligible low-income families who have children with special needs access subsidies at rates that are similar to other subsidy-eligible families is unknown. Although earlier federal policy recognized the increased care needs of children with special needs by exempting their families from employment requirements, current federal policy does not make special allowances, though states may choose to do so (Forry, et al., 2013; Parish et al., 2005). Child care centers receiving any federal funding cannot deny children with special needs services under the Americans with Disabilities Act of 2008 and Section 504 of the Rehabilitation Act of 1973 (Booth & Kelly, 2004), but there is some evidence that children with special needs may not benefit from equal access to federally-funded subsidies (Herbst & Tekin, 2010).

By most recent estimates, more than 1.45 million children—the majority of whom were under age 4—in 874,200 families received child care assistance via CCDF (Office of Child Care, 2014). Federal reporting does not yet allow for estimation of participation by families with children who have special needs. Obtaining estimates of subgroups’ subsidy use is important because studies show that families who access subsidies are more likely to report having good choices of care (Marshall, Robeson, Tracy, Frye, & Roberts, 2013) and to use higher quality care (Ryan, Johnson, Rigby, & Brookes-Gunn, 2011) than subsidy-eligible families who do not use subsidies (Johnson, Ryan, & Brooks-Gunn, 2012; Marshall et al., 2013). Without estimates of use, it is not possible to know if families with children who have special needs underutilize child care subsidies. Previous research indicated parents’ utilization of subsidized care is related to a variety of family factors, including mother’s English-proficiency, mother’s education, parental
marital/partnership status, child support arrangements, parental employment status, income-to-
needs ratio, number of siblings in the home, food security, urbanicity, child age, and child care
cost and proximity (Herbst, 2008; Johnson, Martin, & Brooks-Gunn, 2011; Shlay, Weinraub,
Harmon, & Tran, 2004). Whether those predictors of subsidy use are also predictive of subsidy
use in families with children who have special needs warrants further exploration, particularly in
light of the new emphasis on ensuring access.

**Present Study**

Families with children who have special needs may experience difficulty securing
appropriate child care, and this difficulty may be exacerbated when children live in low-income
households. Child care subsidies may facilitate access to high quality care if programs afford
appropriate access and participation for families affected by special needs. Understanding the
patterns of utilization among this population can inform efforts of policymakers and providers to
support the sufficiency and well-being of low-income young children with special needs and
their families (Forry et al., 2013). Further, because only a subset of subsidy-eligible families
receive services, there is value in identifying whether children with special needs have equal
access and participation. As such, the purpose of this study was to describe patterns and
predictors of subsidy use among families with children who have special needs relative to their
typically-developing peers within the population of subsidy-eligible, low-income families. We
addressed the following research questions:

1. Do low-income children with and without special needs have different rates of subsidized
care throughout early childhood?

2. What child and family characteristics predict subsidized care among low-income children
with special needs as infants, toddlers, and preschoolers?
Method

Data Source

Data were drawn from the Early Childhood Longitudinal Study – Birth Cohort (ECLS-B), a nationally-representative study of 10,700 children born in the United States in 2001 (Najarian, Snow, Lennon, & Kinsey, 2010). The ECLS-B was commissioned under the federal Early Childhood and Household Studies Program and sponsored by the National Center for Education Statistics (NCES), a division of the Institute of Education Sciences (IES) of the United States Department of Education. The study was administered and implemented in collaboration with a number of federal agencies involved in early care, education, and health services using a multi-method, multi-informant approach (Najarian et al., 2010). The present study was approved by the researchers’ university institutional review board and adheres to the requirements stipulated for licensed data users (e.g., per IES requirements, all reported frequency counts are rounded to the nearest 50 and results are reported for the weighted estimates only).

Design. The purpose of the ECLS-B was to gather information on how young children’s experiences influence their school readiness and various developmental outcomes (Najarian et al., 2010) and to inform public policy decisions (Nord, Edwards, Andreassen, Green, & Wallner-Alle, 2006), making it well suited for the present analysis. The ECLS-B was based on an ecological framework to studying child development; thus, data were collected from birth certificate records, caregivers, child care providers, schools administrators and teachers, and via direct child assessment (Nord et al., 2006). Data were collected from birth records and at ages nine months, two years, four years, and kindergarten, and included input from both parents of each participant when possible.
Sampling. The ECLS-B researchers used a stratified complex sampling design, which accounted for census region, urbanicity, income, minority status, and region size in order to approximate the population of children born in the United States in 2001 (Nord et al., 2006). Approximately 14,000 children were sampled from the birth records recorded with the National Center for Health Statistics; of these, 10,700 children participated. The study excluded children born to mothers under 15 years of age and infants who were adopted or died prior to the age of nine months. Researchers also over-sampled American Indian and Asian children, twins, and infants with low birth weights to ensure sufficient participation to allow for subgroup analyses. Although children with special needs could not be oversampled using birth certificate data, Nord and colleagues (2006) noted that the analyses of this group are valid based on other measures in the dataset. Use of sampling weights derived by the designers allow for population estimates representative of children born in 2001 and who began kindergarten in 2006 or 2007. Because of limited data collection regarding special needs and child care in other large-scale datasets, the ECLS-B provides the most current and nuanced data source to answer our research questions.

Procedures. Data collection took place across five waves from 2001-2008 corresponding to birth (via birth certificates), age 9 months, age 2 years, age 4 years, and kindergarten (Najarian et al., 2010). Only data from the first three waves of data collection were utilized in the present study because of the focus on subsidy use during early childhood. Field investigators engaged in several days of rigorous training prior to collecting data (Najarian et al., 2010; Nord et al., 2006). Active and passive consent procedures, consistent with state law, were used to access birth certificate data, and informed consent was obtained from each participant’s primary caregiver, usually the mother, to participate in other data collection procedures (Nord et al., 2006). Data collection procedures included review of birth certificate data, interviews with both parents of
each participant when possible, parent-child interaction observations, interviews with child care providers and school staff, self-administered questionnaires, and direct child assessments.

Analytic Samples

This study utilized a subsample of ECLS-B participants eligible for child care subsidies. Given variation in state child care subsidy eligibility criteria, subsidy eligibility was defined to include parents who reported receiving welfare benefits or whose income was 130% of the federal poverty level following federal eligibility criteria at the 9-month, 2-year, and 4-year waves of data collection. Since families receiving or transitioning off welfare were also eligible for subsidy at the time of data collection, children for whom parents indicated receipt of welfare in the previous year were also treated as subsidy-eligible (Herbst & Tekin, 2014). Because family income and resultant eligibility cannot be assumed to be static throughout childhood, eligibility was determined for each wave, with a range of 1,092,650 to 1,496,550 children (unweighted n = 2,350 to 4,050). Table 1 provides a summary of the descriptive statistics for the samples drawn from each wave of data collection by special needs status.

Measures

Most variables were taken from birth certificate or parent interview data. Parent interviews were conducted at each wave of data collection, with each child’s primary caregiver, typically the child’s mother, and lasted approximately 60-minutes. During these face-to-face sessions, the field investigator used a computer-assisted parent interview (CAPI) to gather information from parents (National Center for Education Statistics, 2016). The only variable that also included direct child assessment data was special needs status.

Special needs. Children with special needs were identified at the 9-month, 2-year, and 4-year waves if they met any of the following three criteria: (1) parent reported that the child had
an Individual Family Service Plan (IFSP) or an Individual Education Program (IEP); (2) birth certificate data or parent report indicated the child had a medically diagnosed disability (e.g., down syndrome, spina bifida, intellectual disability, autism, etc.); or (3) child performed at least 1.5 standard deviations below the mean of the T-scores on direct assessments of cognitive, motor, or social-emotional skills consistent with previous research (Parish et al., 2005).

Cognitive and motor skills were assessed using the Bayley Short Form – Research Edition (BSF-R), an abridged version of the Bayley Scales of Infant Development – 2nd Edition. The BSF-R measures cognitive skills associated with object permanence, exploration, receptive and expressive language, and problem solving as well as fine and gross motor performance (Barry, Bridges, & Zaslow, 2004). Social-emotional skills were measured using a researcher-created scale. During administration of the BSF-R, field administrators rated the children’s social-emotional functioning on dimensions of positive affect, negative affect, interest in materials, attention to tasks, and social engagement. Ratings were assigned using a scale of 1 (low frequency) to 5 (high frequency). Using the field administrators’ ratings on the five dimensions of functioning during the BSF-R, a composite of social-emotional functioning was derived. Exploratory factor analysis indicated the five ratings loaded sufficiently onto a unidimensional latent construct (.46 - .85) and had adequate reliability ($a = .77$); thus, we operationalized social-emotional development as scores on the derived scale.

Because young children are so severely underserved in early intervention and special education, this study included children with special needs who have been identified for services and those who have diagnosed conditions or functional deficits indicative of delays. Previous researchers have considered only the relations of diagnosed disabilities, special needs service receipt, or parent-reported developmental difficulties—each of which underrepresents the
subpopulation—to subsidy receipt and did not find a relationship to subsidy receipt (e.g., Herbst, 2008; Herbst & Tekin, 2013; Johnson et al., 2013; Parish, Cloud, Huh, & Henning, 2005), but a broader conceptualization of special needs will provide more precise estimates of access to subsidies and potential disparities. Special needs status was dichotomized for our analyses.

**Subsidy use.** Subsidy receipt was operationalized as parent report during the interview that social services paid for their child care.

**Child and family characteristics.** Because subsidy is not an entitlement, predictors of subsidy use may reflect systematic differences in policy implementation and state practices (Grisham-Brown et al., 2010). Research on service utilization in the general population of families eligible for public assistance indicates correlations to income, education, maternal age, race, and number of children (Herbst & Tekin, 2014), so these factors are among those explored here. Child characteristics measured were sex (boy or girl) and race/ethnicity (White, Black, Hispanic, Asian/Pacific Islander Multi-race/other). Family characteristics included mother’s age, education level (below high school, high school or equivalent, some college or degree), employment status (working full time, working part time, not currently working), and marital status (married or not currently married); home language (English or other); receipt of other public assistance (food subsidies and health subsidies); number of siblings in the home (none, one, two, three or more); census region (Northeast, Midwest, South, West); and urbanicity of the home (urban/suburban or rural).

**Analyses**

All analyses were completed using the complex sampling module of SPSS version 22 which uses Taylor Series adjustments to estimate standard errors given the ECLS-B stratified random sampling. Prior to conducting analyses, data were weighted using the sampling weights
Frequencies of missing data were also analyzed, and it was determined that the use of the sampling weights was sufficient to account for missing data as well as to produce results that are nationally-representative of children born in the United States in 2001.

Three sets of analyses were conducted to address the research questions. First, we estimated the rates of child care subsidy receipt among children with and without special needs who were eligible for subsidized care at ages 9-month, 2-year, and 4-years. Second, z-tests of population proportions were completed to test for differences in these rates. Finally, multivariate logistic regression models were fitted to examine the predictors of child care subsidy use among children with special needs at each wave of data collection. The final logistic regression models included child and family characteristics regressed on subsidy receipt. When fitting the logistic regression models, only children with special needs from the analytic sample described above were included, with the weighted subsamples ranging from approximately 83,500 (unweighted \( n = 450 \)) children at 9-months to 464,900 (unweighted \( n = 1,100 \)) children at 4-years who had special needs and were subsidy-eligible.

**Results**

**Patterns of Use**

At each age point, subsidy-eligible families of children with special needs were significantly less likely to use child care subsidies than families of children without special needs. At age 9 months, 8.1% of subsidy-eligible children received subsidized care, compared to 8.5% of children without special needs (\( z = 4.34, p < .05 \)). At age two years, the rates of participation were 11.6% and 11.8%, respectively (\( z = 3.18, p < .05 \)). The largest difference was
seen at age 4, when 6.7% of eligible children with special needs received subsidized care compared to 9.8% of children without special needs ($z = 48.84, p < .05$).

**Predictors of Use**

Adjusted odds ratios (AOR) for the multivariate logistic regression models used to predict child care subsidy use at 9-months, 2-years, and 4-years are displayed in Table 2. Notably, the only factor that significantly predicted child care subsidy use among young children with special needs throughout early childhood was parents’ marital status. As compared to children whose parents were currently married, children with unmarried parents were significantly more likely to use subsidies at 9-months (AOR 1.64, 95% CI: 2.98-45.48), 2-years (AOR 4.08, 95% CI: 1.67-9.97), and 4-years (AOR 2.97, 95% CI: 1.24-7.12).

In addition to parental marital status, child race and mother’s age were significant predictors of child care subsidy use at 9-months. When compared to White children, children who are Black (AOR 5.03, 95% CI: 1.46-17.35) and Asian/Pacific Islander (AOR 26.70, 95% CI: 2.52-282.86) were more likely to use child care subsidies. Mother’s age was also a significant predictor of child care subsidy use at 9-months; for every year older a mother was at the child’s birth, the child was 10 percent more likely to use child care subsidies (AOR 1.10, 95% CI: 1.03-1.17).

At 2-years, number of siblings in the home, mother’s work status, and mother’s highest level of education were also significant predictors of subsidy utilization. Children who had either one (AOR 0.28, 95% CI: 0.13-0.58) or three or more (AOR 0.10, 95% CI: 0.03-0.27) siblings living at home had significantly lower odds of using child care subsidies compared to children who did not have siblings in the home. Further, compared to children whose mothers worked full time, those with mothers who were not currently working were at significantly reduced odds of
using child care subsidies (AOR 0.31, 95% CI: 0.15-0.63). Finally, compared to children whose mothers had attended some college or held a post-secondary degree, those with mothers who did not graduate from high school (AOR 0.33, 95% CI: 0.13-0.89) or who had a high school diploma or equivalent (AOR 0.33, 95% CI 0.14-0.74) had decreased odds of using child care subsidies at 2-years of age. Finally, at 4-years of age, mother’s work status was an additional significant predictor of subsidy use. When compared with children whose mothers who worked full time, children whose mothers were not currently working had lower likelihood of using child care subsidies (AOR 0.20, 95% CI: 0.09-0.44).

**Discussion**

In this study, we aimed to provide much needed information on subsidy use by families of children with special needs as compared to their typically developing peers, a topic that has received little attention in research. In addition, using a nationally-representative sample of low-income children with special needs we examined the predictors of subsidy receipt for this subpopulation. The results have the potential to inform research on the early care and education experiences of children with special needs who come from low-income households and to improve policies and practices to support their needs and their access to early education and intervention via use of child care subsidies.

**Rates of Subsidy Use**

Children with special needs were significantly less likely than their same aged peers without disabilities to receive subsidized child care throughout early childhood. Rates of subsidy usage decreased between ages two and four years, with children with special needs showing particularly depressed rates of usage. Our findings contrasts with an earlier study of subsidy-eligible families in Philadelphia which suggested that subsidy recipients and non-recipients did
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not differ substantially, and that families of children with and without special needs were equally likely to use child care subsidies (Shlay, Weinraub, Harmon, & Tran, 2004). This distinction may be attributable to the differences in samples or effects of the state policy. Because little previous research has considered such disparity, potential causes of the differential use of subsidies have yet to be explored.

Several potential explanations for the observed disparities should be explored. For instance, our findings may be attributable to the difficulty faced by families of children with special needs in finding child care providers willing and equipped to appropriately provide care, education, and intervention to their children (Knoche, Peterson, Edwards, & Jeon, 2006); providers who do and do not accept subsidies may not differ in this regard. This dynamic may be exacerbated by state policies that do not allocate sufficient subsidies to account for the added cost of providing care to children with multiple or intensive needs (Wheatley, 2016). In addition, families’ awareness or valuation of various services in other sectors may be limited by ineffective coordination between state agencies administering early intervention and special education and those involved in facilitating child care (OCC Fact Sheet, 2015). In these ways, families who are low-income and who have children with special needs may be doubly disadvantaged when seeking high quality care. Future research should explore the extent to which these contextual factors are related to differential rates of subsidized care, particularly low use of child care subsidies among families with children who have special needs as well as whether newly released federal rules improve access and participation as intended.

An alternative explanation for our findings may be found in parents’ child care preferences as opposed to access to subsidies. Previous research suggested that parents of very young children prefer parental care and other informal care arrangements (Susman-Stillman &
Although subsidies can be used with unregulated informal care providers, state requirements for these providers vary significantly (e.g., background check, registration stipulations, health and safety training and requirements, in-home observation requirements, etc.; Minton, Stevens, Blatt, & Durham, 2015; Raikes, Raikes, & Wilcox, 2005) and may disincentivize subsidy receipt among these providers (Rachidi, 2016). In addition, parents of young children with disabilities may rely on parental care longer or more frequently than parents of children without special needs (for a summary see DeRigne & Porterfield, 2010). Past findings suggested married parents with children who have disabilities more often choose parental care than single mothers who have children with special needs (DeRigne & Porterfield; Porterfield, 2002), and parents whose children have more profound needs tend to select parental care over non-parental care throughout childhood (Leiter, Krauss, Anderson, & Wells, 2004). Previous research also indicated that while families of children with special needs who rely on parental care may perceive more costs and fewer benefits for maternal employment than families who use child care, but that these families to similar to families without children with special needs on demographic characteristics, child characteristics, childrearing attitudes, or caregiving (Booth & Kelly, 2002)—so then, it is valuation of out of home care and maternal employment that distinguish families who do and do not utilize non-parental care. Families of children with special needs may also rely primarily on other services provided through other systems such as respite and early intervention/special education because of their children’s delays or disabilities, decreasing the need for child care, subsidized or not. Finally, families of children with severe special needs may have less of a need for child care because state policies for welfare receipt may exempt these parents from eligibility requirements for employment or educational activities (Minton, Stevens, Blatt, & Durham, 2015).
The variation in subsidy use across early childhood should also be explored. For instance, the drop in subsidy usage among preschool age children may be due to participation in other public programs, including early childhood education and special education. Conversely, it may be due to families cycling in and out of the program due to changing family resources and needs or difficulties in securing ongoing support due to policy and procedural barriers that hinder maintenance of eligibility (Ha & Meyer, 2010). Researchers should consider whether such policies and services reduce families’ needs for child care, particularly among parents of children with special needs. Given the risks associated with early childhood special needs and that quality child care can bolster school readiness and long-term outcomes (Phillips & Lowenstein, 2011), we must consider trends in access, participation, and outcomes of early care and education for young children with special needs who live in low-income households.

**Predictors of Subsidy Use Among Children with Special Needs**

Several child and family characteristics were significant predictors of subsidy use among eligible children with special needs. Nationally, throughout early childhood, children with special needs whose parents were not married were significantly more likely to utilize child care subsidies. This is not an unexpected finding, as single-parent headed households tend to have lower incomes than dual-parent households (Child Trends Data Bank, 2015), and the subsidy program is targeted at low-income families. Further, given that single parents with children who have special needs are more likely to choose non-parental care than their married counterparts (DeRinge & Porterfield, 2010), low-income families that are headed by single-parents may be more likely to apply for and receive subsidies to help defray the costs associated with non-parental care. Other predictors of subsidy use included the child’s race, maternal age, number of siblings in the home, maternal employment status, and maternal level of education; however,
these characteristics did not consistently predict subsidy usage and were instead only predictive at specific time periods.

Some predictors of subsidy use for children with special needs were consistent with those identified by previous researchers for the general population of subsidy-eligible children. For instance, Johnson and colleagues (2011) also found that when compared to subsidy-eligible non-recipients, children who received child care subsidies had older mothers and fewer siblings living at home. Similarly, Herbst and Tekin (2010) reported that children whose mothers were more highly educated were more likely to receive subsidies, and findings from three other studies indicated families who used child care subsidies were more likely to be headed by single-mothers who were employed or African American (Herbst, 2008; Marshall et al., 2013; Shlay, Weinraub & Harmon, 2010). Still, other predictors of subsidy use for children with special needs were not consistent with findings for the general population of subsidy-eligible children, suggesting that some patterns may be unique to families of children with special needs. Unlike previous research (Herbst & Tekin, 2010; Johnson et al., 2011), language status and use of food subsidies (e.g., WIC or food stamps) did not predict subsidy utilization for children with special needs. This finding suggests efforts to facilitate subsidy use by targeting groups based on these characteristics may not be influential for families of children with special needs.

Limitations

While the current study adds to our understanding of child care subsidy use by families with young children with special needs, it is not without limitations. A common limitation in this line of research is difficulty capturing variation in states’ policy implementation since federal law only requires that subsidy recipients’ have children under 13 years of age and have incomes under 85% of the state’s median income (Vesely & Anderson, 2009). State policies vary in
eligibility and employment requirements, use of waiting lists, requirements for parent co-payments for child care, and child care provider reimbursement rates (Minton, Stevens, Blatt, & Durham, 2015; Schulman & Blank, 2011; Vesely & Anderson, 2009). Using nationally representative data, we are essentially averaging across all states, so the effects of interstate policy variations are unknown. Since the Office of Child Care (2014) reported that approximately 78% of families who access CCDF subsidies have incomes at or below 130% of the federal poverty level, we used this to approximate subsidy-eligible families in the United States; however, the results may not generalize well to states with eligibility criteria that is substantially different. Federal reports indicated that at the time of the ECLS-B data collection, fewer than one-third of subsidy-eligible families participated in the CCDF program, but reasons for these low rates and declining rates observed here are not known (U. S. Government Accountability Office, 2010). In addition, research suggested that using self-report data to identify subsidy-recipients may result in over estimates of participants as compared to using administrative data (Krafft, Davis, & Tout, 2015), suggesting future studies should be conducted using samples drawn from CCDF administrative records. Future research should also account for both variations in states’ CCDF implementation, children’s special needs, and other family characteristics to help elucidate the trends identified here and elsewhere.

Additionally, due to constraints of using extant data, the predictors of subsidy use were limited to those child, family, home, and geographic variables available in the dataset. It is possible that other factors not included in this study contribute to subsidy use for families with young children with special needs. Limitations notwithstanding, this study is significant because we provide nationally representative estimates of subsidy use and correlates among families of children with special needs, an often understudied subgroup of children from low-income
households. Future research is needed to identify the mechanisms underlying the observed patterns. Finally, the ECLS-B allows for estimates of participation that predate the most recent policy changes, but more current data are not available because of limited collection of data pertaining to special needs and child care in other studies. Thus, the present study offers the most current and comprehensive estimates of subsidy use among families with children who have special needs, and can be considered a baseline for recent federal rules intended to provide improved reporting on subsidy use by disability status and to facilitate access among families of children with special needs.

**Implications for Policy and Practice**

These findings indicate families with children who have special needs access subsidies at lower rates than other low-income subsidy-eligible families. Under the CCDBG reauthorization, states must make policy and practice adjustments, particularly through improved data collection, consumer information, provider supports, and system coordination to facilitate access among all families, with some targeted efforts towards families of children with special needs (Office of Child Care, 2015). Because children’s special needs may affect how and where parents access child care information and services, improving knowledge and coordination among frontline subsidy workers, social and health service providers, and educators who engage with families with young children who have delays and disabilities (e.g., early interventionists, therapists, pediatricians, early childhood educators and other providers of IDEA Part B and C services) about CCDF could help improve subsidy awareness, and, in turn, use among this group.

In addition, state agencies may ease barriers for providers who serve or are interested in serving children with special needs. With the advent of quality rating and improvement systems (e.g., QRIS Learning Network), additional resources and training for providers may increase
availability of subsidized care for children with special needs. Most states offer special rates for providers who care for children with special needs, but providers may need additional supports to qualify and successfully apply for increased reimbursement rates. Furthermore, the rates, which vary by state, need to be sufficient to cover the increased cost of caregiving for children with special needs since any costs not covered by the child care subsidy may be passed on to families, thereby undermining the intention of the programming by disincentivizing family utilization of services.

**Conclusion**

Findings from this study have the potential to bolster advocacy and dissemination efforts by providing nationally representative estimates on usage rates and predictors of child care subsidy use among families of low-income children with special needs. The disparate subsidy rates here signal the need for greater exploration of child care needs and experiences of these families in order to ensure children with special needs are not disadvantaged within this system. Disparities in subsidy receipt may indicate greater effort is required to ensure families with children who have special needs know about and access subsidies. In addition, it may indicate the need for more intentional collaboration between agencies overseeing subsidies, early childhood care and education, health care providers, and early intervention and special education, thereby supporting children’s developmental outcomes and school readiness.
References


National Center for Education Statistics. (no date). *Early childhood longitudinal program, instruments and assessments*. Retrieved from:


http://dx.doi.org/10.1016/j.childyouth.2016.03.023


http://dx.doi.org/10.1016/j.ecresq.2010.11.004


Retrieved from


Wheatley, E. (September, 2016). Equity: More elusive than you think. Presentation at the Parent Aware Retreat, Roseville, MN.

Table 1

*Characteristics of Low-Income, Subsidy-Eligible Children at Three Age Points (As Proportions Unless Otherwise Indicated)*

<table>
<thead>
<tr>
<th></th>
<th>9-months</th>
<th>2-years</th>
<th>4-years</th>
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<tr>
<td></td>
<td>(N = 1,496,550)</td>
<td>(N = 1,329,550)</td>
<td>(N = 1,092,650)</td>
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<tr>
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<td>1200</td>
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<td>0.57</td>
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<td>0.32</td>
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<td>0.24</td>
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<td>0.35</td>
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<td>0.28</td>
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<td>2-years (N = 1,329,550)</td>
<td>4-years (N = 1,092,650)</td>
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<tr>
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<td>CI 95%</td>
<td>Wald F</td>
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<td>-</td>
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<tr>
<td>Mother’s age (1 year increments)</td>
<td>1.10</td>
<td>1.03-1.17</td>
<td>8.21**</td>
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</table>

Note: * indicates the reference category. *p ≤ 0.05, **p ≤ 0.01, †p ≤ 0.001.