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Preschool and School Readiness

Experiences of Children with Non-English-Speaking Parents

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Summary

Many children begin school unprepared to meet its academic requirements. If this school readiness gap is not addressed, it can be a precursor to continuing low achievement. One promising approach to this problem is to provide high-quality early learning opportunities to low-income children. Many publicly funded early care and education programs in California target subsidies specifically to low-income children to encourage their participation. The children of immigrant parents constitute a large subset of disadvantaged children, and of special concern are linguistically isolated children, that is, children who encounter little or no English in their homes, who are most likely to be classified as English learners when they enter school. About half of preschool-age children in California are children of immigrants, and about 20 percent are linguistically isolated. However, we lack information on the early care and education experiences of children of immigrants, and particularly those who are linguistically isolated. What are the characteristics of this subgroup? What kind of early care and education do they receive? Do they use nonparental care at different rates than other children? What is the relationship between their participation in center-based preschool programs and their academic skills upon entering school?

This report examines these questions by focusing on the early care and education experiences and the kindergarten readiness skills of four-year-old children in both California and the United States as a whole. We find that linguistically isolated children in California, observed in the year before they are eligible to enter kindergarten, have similar background characteristics as linguistically isolated children nationally. They are more likely than other subgroups of children to be disadvantaged, as evidenced by low family income and low maternal education levels, and they are predominantly Hispanic.

Our findings indicate that most linguistically isolated children are eligible for publicly funded preschool in the year before they enter kindergarten, and we show that most who use nonparental care participate in publicly funded programs. Although linguistically isolated children use any nonparental early care and education arrangements at lower rates than other children, almost two-thirds of these children in California in nonparental care use center-based care as their primary nonparental care arrangement, a proportion similar to that of children of non-immigrant parents. However, in the United States as a whole, linguistically isolated children in nonparental care are less likely to use center-based care than other children. Nonetheless, once we account for differences in such background characteristics as household income, we do not find differences between linguistically isolated children and other children in their use of various early care and education arrangements in the year before they enter kindergarten. This suggests that the differences in participation in nonparental care can be explained by differences in child and family characteristics that are correlated with linguistic isolation, such as low income and low maternal education levels.

A common reason for participation in center-based preschool programs is to improve school readiness skills. We find that linguistically isolated children who participate in center-based care in the United States in the year before they enter kindergarten significantly improve their early reading skills compared to those who do not participate. However, the size of the gains are similar to those of children of U.S. natives, hence the gap between achievement levels of the two subgroups does not appreciably change. School readiness gaps, then, may not narrow unless programs are targeted to isolated children.

We do not find similar improvements for mathematics skills, which suggests that center-based programs serving linguistically isolated children are missing the opportunity to promote readiness in mathematics. Our investigation of the relationship between the quality of center-based early learning settings and school

entry skills did not find differences in reading and mathematics scores at kindergarten entry by quality of care; however, this may be because the commonly used quality measure we analyze does not capture differences in program quality that contribute to the outcomes we examine.

These findings have several implications for California policymakers. Although California enrolls many linguistically isolated preschool-age children in center-based care, one-third of linguistically isolated children do not participate in these programs. Increasing the number enrolled in center-based programs such as the State Preschool Program is likely to help prepare more linguistically isolated children for formal schooling. However, improving the quality of mathematics preparation through focused curricula and teacher professional development may also be needed. Because preschool alone is not sufficient to close school readiness gaps, policymakers should consider preschool programs as one strategy in a set of interventions to promote school readiness among linguistically isolated children. Finally, continued efforts are needed to understand how best to measure aspects of center-based care quality that are meaningful for promoting children's developmental gains during the preschool years.

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Technical appendices to this paper are available on the PPIC website:
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Introduction

Many children from disadvantaged backgrounds in the United States begin school unprepared to meet its academic requirements. If this school readiness gap is not addressed, it can be a precursor to continuing low achievement. An examination of the nature and quality of children’s early care and education experiences can help us understand these readiness gaps. One group of particular concern is children of immigrant parents, who represent half of California’s child population under age 6 and about one quarter of young children nationally (Karoly & Gonzalez, 2011). These children are more likely than children of parents born in the United States to be economically disadvantaged and at risk for poor school performance. Yet little is known about the early care and education experiences of these children, and how these factors relate to school readiness.

One promising approach for improving school readiness is to provide high-quality early learning opportunities to disadvantaged children—opportunities most often offered through preschool programs that serve children in the year before they enter kindergarten.¹ In California, most state and federal subsidies supporting participation in preschool programs are targeted toward low-income families. The state plays an important role in providing access to high-quality early care and education programs to children who might not otherwise be able to afford or participate in such programs.

An extensive body of research has documented the gains in cognitive and socio-emotional development associated with high-quality preschool programs. Evidence of their effectiveness comes from experimental and quasi-experimental evaluations of both smaller scale demonstration programs, such as Perry Preschool in Michigan, and larger-scale publicly funded programs, such as the Chicago Child-Parent Centers, Head Start, and various state-funded pre-kindergarten programs (Gormley and Gayer, 2005; Hustedt, Barnett, and Jung, 2007; Hustedt et al., 2008, 2009; Lipsey et al., 2011; Reynolds et al., 2002; Schweinhart et al., 2005; U.S. Department of Health and Human Services, 2005; Wong et al., 2008). These studies have found sizeable impacts on measures of school readiness, primarily for measures of cognitive development (e.g., pre-reading and pre-math skills), for both targeted programs serving disadvantaged children and universal programs serving more diverse populations of children.² One of the most powerful ways to attain higher elementary school achievement is to improve basic academic skills for low-performing students before they enter school (Claessens, Duncan, & Engel, 2009).

Though extensive studies of preschool point to its benefits for disadvantaged children, less is known about early care and education experiences of specific subgroups of children of immigrants, either in California or nationally. Evidence suggests that children of immigrants nationally are less likely than children of non-immigrants to participate in formal early learning programs such as center-based preschool, despite having a high likelihood of eligibility for subsidies (Espinosa, 2007; Karoly & Gonzalez, 2011). Many children of immigrants are dual language learners, where English is not the primary home language, and they are the most likely to be classified as English learners (ELs) when entering kindergarten. Lack of English language ability may present an additional risk factor beyond low income. We know that EL students are more likely to face school readiness and achievement gaps compared to non-EL students (Cannon & Karoly, 2007;

¹ We use the terms preschool and prekindergarten interchangeably.

² A more detailed discussion of prior research is provided in [Technical Appendix E](#).

Galindo, 2010), and these gaps can be larger than gaps for Latinos compared to white children, or low-income students compared to non-disadvantaged children. A study of California children found that EL students were already behind their peers on reading assessments at the end of kindergarten and first grade, as well as on measures of school readiness at kindergarten entry, and gaps are still seen through third grade (Cannon & Karoly, 2007).

We provide a detailed examination of subgroups of children of immigrants, by English proficiency status, and compare them to children of U.S.-born parents. This allows us to paint a portrait of early care and education experiences among these children in California—the state with the largest number of immigrants and English learner students. We pay particular attention to the differences among children of immigrant parents based on the English proficiency of the child’s parents, especially those children in linguistically isolated homes where parents do not speak English well.

Focus of This Report

The goal of this study is to provide policymakers with a better understanding of the early care and education experiences of four-year-old children of immigrant parents who do not speak English well, and relate these experiences to school readiness skills. Our research questions are:

- What are the demographic characteristics of children of immigrants, particularly those who are linguistically isolated, in the year before school entry?
- What are the patterns of nonparental care for linguistically isolated children? Are they more or less likely than other subgroups of children to use center-based care in the year before they enter school?
- What are the characteristics of the center-based settings attended by linguistically isolated children compared with those attended by other subgroups of children?
- Is use of center-based care the year before kindergarten associated with improvements in early reading and mathematics skills (measured at kindergarten entry) more than use of other types of care?

We examine four subgroups of children based on parental nativity and language labeled and defined as follows:

1. Native: parents are U.S. born,
2. English-Speaking: at least one parent is an immigrant and both parents speak English at home,
3. Non-Isolated: at least one parent is an immigrant, primary home language is non-English, but at least one parent speaks English pretty well or very well, and
4. Linguistically isolated or Isolated: at least one parent is an immigrant, primary home language is non-English, and parents speak English not very well or not well at all.³

We investigate these children in two study populations: the RAND California Preschool Study of preschool-age children in the state who were eligible to enter kindergarten in fall 2007, and the Early Childhood

³ We base our subgroup classifications on both parents’ nativity and language fluency for two-parent (or guardian) households, and on a single parent’s characteristics in single-parent (or guardian) households. Our definition of “linguistically isolated” differs somewhat from the U.S. Census definition. The Census defines linguistically isolated households as ones in which no one 14 years old and over speaks only English or speaks a non-English language and speaks English “very well.” Owing to data limitations on all household members’ English fluency, we rely solely on parents’ language, and we do not include parents speaking English “pretty well” in our Isolated group. Children with no parent speaking English pretty well or very well are the most likely to be classified as English learners when entering formal schooling because of their lack of home exposure to the English language. Sensitivity tests that include parents speaking English “pretty well” in the Isolated group produced qualitatively similar results.

Longitudinal Study, Birth Cohort (ECLS-B), of children who were born in the United States in 2001 and followed through kindergarten (fall 2006 or fall 2007). The RAND data allow us to describe children in California, specifically, who may have different characteristics than immigrant children in other parts of the country. The national data provide a descriptive comparison to California children, as well as longitudinal data that allow us to examine the relationship between early care and education experiences and kindergarten entry skills.

Our specific focus in this study is on four-year-olds⁴ in the Isolated subgroup. Children from linguistically isolated households are most likely to be classified as English learners in kindergarten, and they may differ from other children in their options and choices for early care and education programs. Almost 20 percent of four-year-olds in California are linguistically isolated, compared to about 7 percent in the nation as a whole (Table 1), making this an especially vital issue for the state’s education system.⁵ California invests significant funds addressing the needs of English learners in the K–12 system, and preschool may provide a promising opportunity to intervene to potentially narrow the school readiness gap for this group of students.

Table 1.
Half of California four-year-olds are children of immigrants

	California	U.S.
Children of U.S.-born	49.0	77.7
Children of immigrants	51.0	22.4
Isolated	19.6	6.9
Non-Isolated	20.1	8.2
English-Speaking	11.3	7.3

SOURCES: RAND California Preschool Study and ECLS-B.

NOTES: California sample for 2007 and U.S. sample for 2005. U.S. sample does not sum to 100% owing to rounding.

In the remainder of this report, we provide a brief overview of the California early care and education system and describe the demographic characteristics and early care and education experiences of children by the four subgroups. We then examine whether these subgroups differ significantly in their early care and education arrangements in the year before school entry, taking account of differences in other characteristics across students. Next, we examine whether Isolated and other subgroups of children have significantly higher reading or math skills early in their kindergarten year if they attended center-based preschool programs, controlling for differences in families. Finally, we present our conclusions and their implications for policy. We provide more extensive details on data and methodology in the [Technical Appendices](#), which we refer to throughout the text and which are available at http://www.ppic.org/content/pubs/other/512JCR_appendix.pdf.

⁴ We refer to 4-year-olds throughout the report to mean children in the year before school entry. Some of these children may be five years old when surveyed but not yet have started kindergarten.

⁵ All children in the ECLS-B sample are U.S. born, so the percentages reported in Table 1 will underrepresent the share of children of immigrants living in the U.S. at age four (i.e., children born abroad who move to the U.S. by age four are not represented). As a point of comparison, in the American Community Survey, the national share of children under age six who have an immigrant parent is 25 percent (Karoly & Gonzalez, 2011). Depending on how the share of immigrant children varies across single-year age groups, this suggests that the ECLS-B immigrant share of 22.4 percent among four-year-olds may be somewhat low.

Early Care and Education in California

A majority of states have responded to the school readiness gap in part by creating state-funded pre-kindergarten programs, including the California State Preschool Program, one of the first in the nation. Yet the State Preschool Program is only one component of California's subsidized early care and education system. A complex mix of programs and funding sources provides publicly funded preschool and child care for four-year-olds in the state (Karoly, 2009). The primary focus for most of these programs is children in low-income families, and public subsidies are provided through federal, state, and local entities. For instance, the federally funded Head Start program targets children below the poverty level, the State Preschool Program managed by the California Department of Education (CDE) targets children in families making below 70 percent of the state median income,⁶ and California Work Opportunity and Responsibility to Kids (CalWORKs) child care subsidies offered through CDE and the California Department of Social Services (CDSS) target children in families living below the poverty level and receiving Temporary Assistance for Needy Families or transitioning off cash aid. Subsidized care is also available to low-income working families through the Alternative Payment program administered by CDE. Other targeted programs that serve a smaller number of four-year-olds include Title I, Cal-SAFE, CalLearn, and Migrant Child Care and Development. Finally, a number of county First 5 commissions have supported local expansions of preschool programs through their Preschool for All initiatives, with the goal of reaching universal access.

As of 2007, over half of preschool-age children in California were estimated to be eligible for public subsidies based on family income, but the number of available subsidized preschool and child care slots is insufficient to enroll all those eligible (Karoly, Reardon, & Cho, 2007). The exact percentages of children currently receiving subsidized care are not available by age group, but we have recent information that helps illustrate the scope of subsidized care for four-year-olds in California. As of 2008, about 34 percent of all four-year-olds (about 185,000 children) received state or federal subsidies, and it is estimated that about 65 percent of income-eligible four-year-olds received subsidies (Karoly, 2012). CDE estimates that as of June 30, 2010, about 64,000 children ages three and four were on the centralized eligibility waiting list to receive subsidized care (CDE, 2010). It is important to note that these figures do not reflect the impact of subsequent cuts in state early care and education expenditures that have further reduced the number of publicly funded preschool slots. In 2010, it is estimated that 17 percent of California four-year-olds were enrolled in State Preschool and 11 percent in Head Start (Barnett et al., 2010). Currently, the CDE and CDSS programs are estimated to serve about 350,000 children across all ages (Brown, 2012).

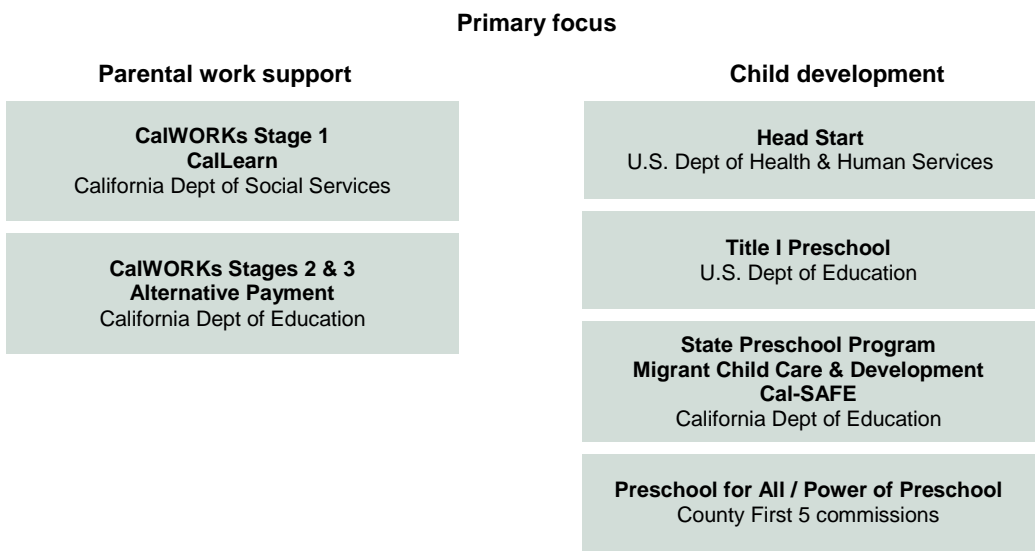
Early care and education programs differ in their auspices, as well as in their requirements about the type of care that is publicly funded and the primary focus of care. Programs in the early care and education system have two different objectives: to support parental work participation and to support child development (Karoly, Reardon, & Cho, 2007) (Figure 2). Separate agencies oversee subsidized programs, and depending on the program, publicly funded early care and education services may be provided in a licensed center (group setting outside a home environment), in a licensed family child care home (up to 12 children in a home setting), or by a license-exempt provider in a home-based setting (such as care by a relative).⁷

⁶ For example, beginning in July 2011, this means that a family of three making up to \$42,216 is eligible for subsidies. This cutoff of 70 percent was reduced from 75 percent as a result of state budget cuts.

⁷ See Karoly, Reardon, and Cho (2007) for further details on licensing and some exemptions.

Programs such as Head Start and the State Preschool Program subsidize primarily center-based care, whereas CalWORKs and the Alternative Payment program subsidize both center-based and home-based care.

Figure 1.
Subsidized early care and education programs for four-year-olds focus on either parental work support or child development



Moreover, centers funded through Head Start, federal Title I (through school funds), and the State Preschool Program must meet stricter requirements for such characteristics as group size and teacher education levels than required under California’s Title 22 licensing requirements. This is an important distinction because these programs have a child development orientation with the aim of providing early learning opportunities as a way to prepare children for kindergarten and beyond. However, such programs may be offered only part day. In contrast, because CalWORKs child care and the Alternative Payment program are designed primarily to support working parents and their need for care, the subsidies can cover full-day care. While some of these child care-focused settings may in practice meet the stricter requirements of the developmentally oriented programs, their funding eligibility is not based on this developmental focus.

Currently, only the part-day State Preschool Program is provided through Proposition 98 education funds in the state budget, because it is considered to be primarily an education program. Other state subsidies are provided through other State General Fund and federal Child Care and Development Fund resources. Total funding for CDE early care and education programs in 2011-12 was \$2 billion, including about \$375 million for State Preschool, and about \$425 million more was included in the California Department of Social Services budget (Brown, 2012). During the recent state budget crises, state subsidies to Child Care and Development Programs were reduced by a significant amount, with lower family income eligibility cutoffs established and concurrent reductions in the number of children served through state subsidies.

Prior research indicates that low-income children participating in center-based care may experience greater gains in school readiness skills than those in home-based settings or parent-only care (Magnuson, Meyers, & Waldfogel, 2004). As we will show, our research supports this finding among linguistically isolated children, and in California these children are participating in publicly funded preschool at fairly high rates. However, it is uncertain what effect current budgetary pressures will have on early care and education subsidies for these children and their ability to access the center-based programs from which they are likely to benefit.

Characteristics of Linguistically Isolated Children and Their Use of Early Care and Education Arrangements

Previous studies of immigrants' children have revealed distinct differences in these children's background characteristics such as race/ethnicity, income, and maternal education compared to backgrounds of children of U.S.-born parents, as well as lower rates of center-based care use (Karoly & Gonzalez, 2011). Our analysis examines a host of child, family, and early care and education characteristics primarily to provide a portrait of how California children in the Isolated subgroup compare to other subgroups of immigrant children and to children of U.S.-born parents. Secondarily, we compare California patterns to those found nationally. The discussion below focuses on several key characteristics and differences, and data on additional characteristics can be found in the [Technical Appendices](#). Overall, we find that California's linguistically isolated four-year-olds are more likely to participate in center-based care than might be expected based on previous literature and based on their high levels of economic disadvantage and large share of mothers who are not employed. In addition, linguistically isolated children in California are demographically similar to linguistically isolated children nationally but are more likely to participate in center-based care than are their national counterparts.

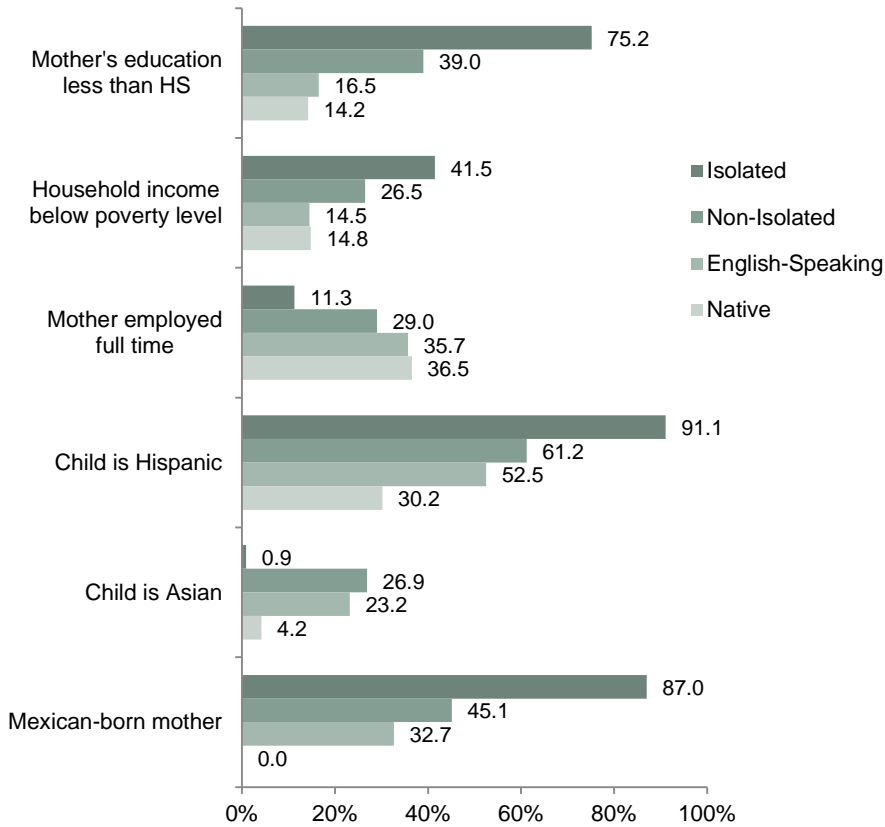
Child and Family Characteristics

California four-year-olds in the Isolated subgroup are significantly more disadvantaged than other subgroups of children as measured by maternal education and household income (Figure 2).⁸ In California, these children are significantly more likely than children in other subgroups to have mothers who do not have a high school diploma (for example, 75.2% Isolated, 14.2% Native). They are also more likely to have a family income at or below the federal poverty level (41.5% Isolated, 14.8% Native). At the same time, they are less likely to have a household income greater than 185 percent of the poverty level (6.7% Isolated, 69.7% Native).⁹ These income findings demonstrate that the vast majority of Isolated four-year-olds are eligible for publicly subsidized early care and education programs. They are also less likely (11.3%) than Native (36.5%) and English-Speaking immigrant (35.7%) children to have a mother who is employed full time, which indicates a lesser need for full-day custodial care as a work support. Additionally, Isolated children are predominantly Hispanic (91.1% Isolated, 30.2% Native) and are more likely than other immigrant subgroups to have mothers born in Mexico (for example, 87% Isolated, 45.1% Non-Isolated).

⁸ See [Technical Appendix Table A1](#) for a complete listing of child and family characteristics.

⁹ 185% of poverty level is the cutoff point for eligibility for reduced-price school meals.

Figure 2.
Isolated California four-year-olds differ on many key child and family characteristics



SOURCE: RAND California Preschool Study household survey data.

NOTES: All percentages are weighted. Unweighted sample size is 1,000 with 93 Isolated children, 199 Non-Isolated children, 129 English-Speaking children, and 579 Native children.

In all immigrant subgroups the majority of four-year-olds are Hispanic, although the proportion is much higher in the Isolated subgroup. Asians are more common in the two other immigrant subgroups. Less than 1 percent of Isolated children are Asian, whereas the percentage is 26.9 in the Non-Isolated subgroup where the home language is non-English but at least one parent speaks English well, and it is 23.2 in the English-Speaking subgroup. By comparison, less than one-third (30.2%) of children in the Native subgroup are Hispanic and 4.2 percent are Asian.

Receipt of other public assistance is an indicator of parents' knowledge of, access to, or willingness to use subsidies, which may relate to their children's participation in early care and education programs. Although Isolated four-year-olds are more likely to live in poor families, they do not significantly differ from the other California subgroups in their receipt of welfare or food stamps (results not shown). This may be due in part to the requirement for proof of legal immigrant status for these programs. Although most immigrant children under age five are U.S. citizens, their parents may hesitate to participate in programs such as these if they themselves are not authorized immigrants. This is further suggested by the fact that children in the Isolated subgroup are much more likely than the other subgroups to live in households receiving services from the Special Supplemental Nutrition

Program for Women, Infants, and Children (WIC), which has no eligibility restrictions for either unauthorized or authorized immigrants.

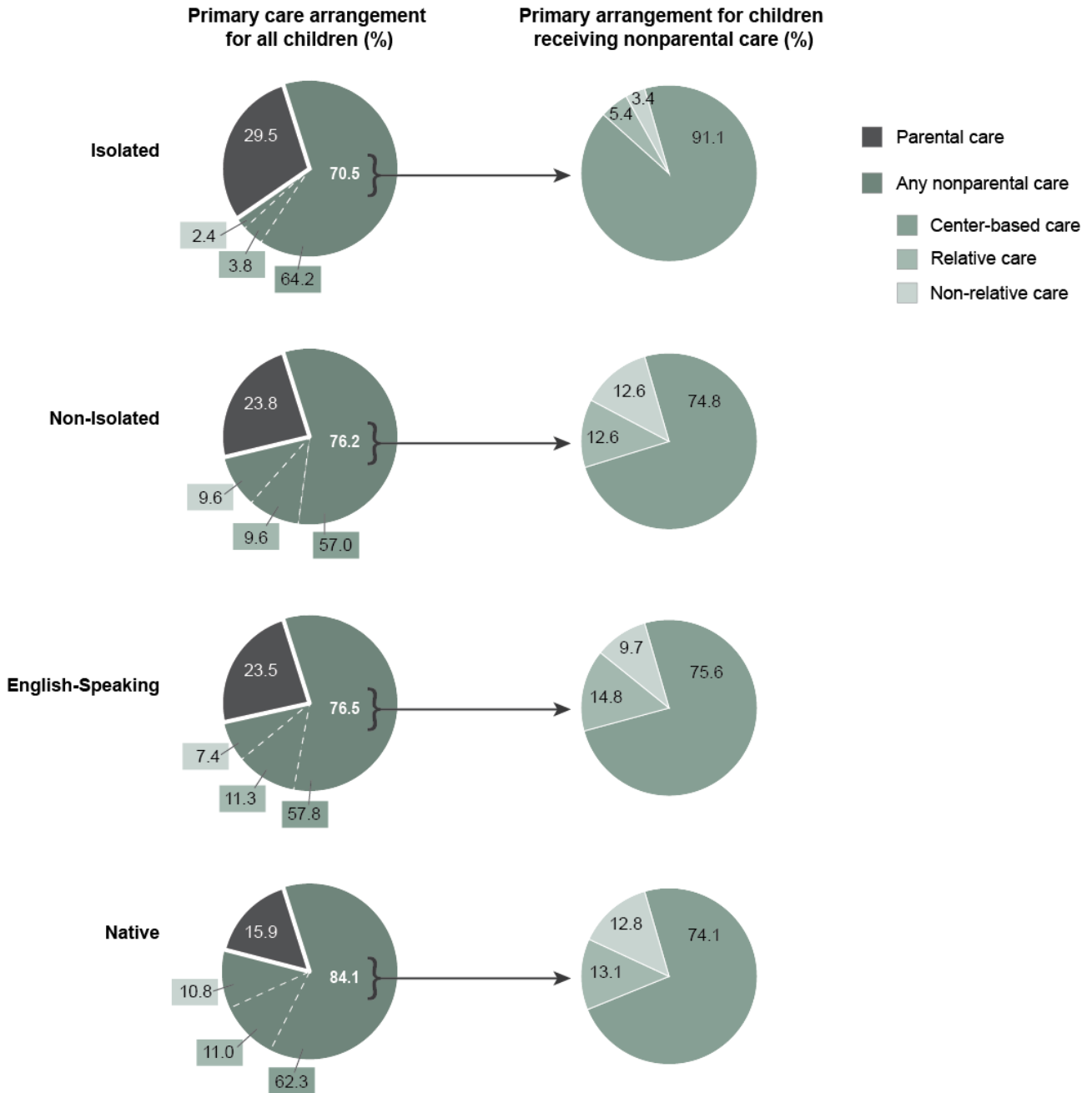
Use of Nonparental Care

California four-year-olds in the Isolated subgroup use nonparental early care and education arrangements at lower rates than other children, but those who use nonparental care have relatively high rates of center-based participation. We find that 70.5 percent of Isolated children use regular nonparental care compared to 84.1 percent of Native children, though this difference is not statistically significant (Figure 3).¹⁰ Furthermore, Isolated children are statistically significantly less likely than children in the English-Speaking immigrant and Native subgroups to participate full time (30 or more hours per week) when using regular nonparental care (Figure 4). This mirrors Isolated children’s low rates of full-time maternal employment (Figure 2).

The type of nonparental care most commonly used among all four-year-olds is center-based care, which includes Head Start programs, State Preschool Programs, public school prekindergartens, nursery schools, and other privately operated centers. Remarkably, Isolated four-year-olds participate at rates similar to Native children in center-based care as their primary (i.e., where they spend the most hours) care arrangement (64.2% and 62.3%, respectively). Although Isolated children are less likely to use nonparental care, when they do it is predominantly center-based care. For example, in Figure 3, 91.1 percent of Isolated children receiving nonparental care use center-based care as their primary nonparental care arrangement, compared to about 75 percent in each of the other subgroups of children. This is notable because previous research suggests we should expect them to have lower center participation rates. Even among Isolated families where the mother does not work, about 70 percent of four-year-olds in care participate in some form of center-based care, which is also similar to the percent of Natives. Smaller fractions of Isolated children participate in home-based nonparental care as their primary arrangement—including relative care, non-relative care in the child’s home, and non-relative care in another home.

¹⁰ This lack of significance may be due to low sample sizes. See [Technical Appendix A](#) for a discussion of power to detect statistically significant differences. In the ECLS-B data with larger sample sizes and very similar proportions of children using nonparental care, differences between Isolated and Native are significant.

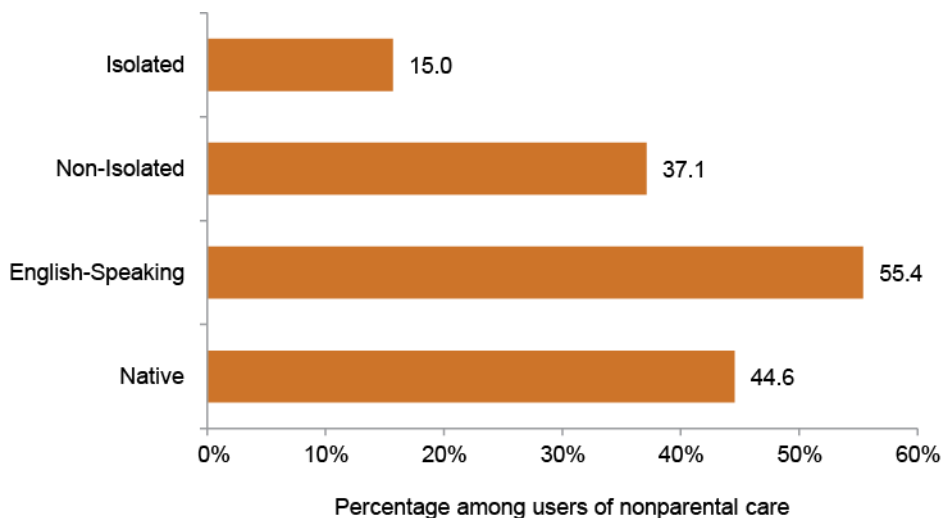
Figure 3.
In California, use of nonparental care and type of care varies by subgroup



SOURCE: RAND California Preschool Study household survey.

NOTES: All percentages are weighted. The unweighted sample size is 1,000 four-year-olds. Some figures do not sum to 100% owing to rounding.

Figure 4.
In California, Isolated four-year-olds are least likely to receive full-time nonparental care



SOURCE: RAND California Preschool Study household survey.

NOTES: All percentages are weighted. The unweighted sample size is 840 and includes only children using regular nonparental care. Full time is defined as 30 or more hours per week.

Comparison of California Child and Family Characteristics and Care Use to Characteristics of All U.S. Children

Four-year-old children nationwide have patterns of child and family characteristics similar to those described above for California children.¹¹ Moreover, the percentages of Isolated and Native children using regular nonparental care are very similar to those in California, and, in the national data with larger sample sizes, the differences between these two subgroups' use of nonparental care are now statistically significant, indicating Isolated children are less likely to use nonparental care. Where California and national patterns notably differ is in the use of early care and education programs among four-year-olds in nonparental care. Nationally, Isolated children are significantly less likely to participate in center-based care as their primary care arrangement than children in the other subgroups (55.1% compared to approximately 66% in all other subgroups). This suggests that a greater proportion of Isolated children are participating in center-based care as their primary care type in California than do so nationally. Center-based care is the most commonly used nonparental care type for all subgroups of four-year-olds, both in California and for the country as a whole. However, a larger share of Isolated children nationally than in California use home-based care as their primary source of care. One other difference is that children in both Non-Isolated and English-Speaking immigrant subgroups nationwide are somewhat more likely to use center-based care as their primary care type than their counterparts in California.

In addition to characteristics available in the California survey, we note two other questions asked only in the ECLS-B that are related to school readiness. Nationally, children in the Isolated subgroup are significantly less likely, as of age two, to have had their parents read to them on a daily basis in any language (16.2% compared to a third to half among other subgroups). They are also more likely than other children to

¹¹ See Technical Appendix Table B1 for a complete listing of child and family characteristics studied in the ECLS-B sample.

have had parents who did not read to them at all as of age two (13% compared to 2% to 2.9% in other subgroups). This may indicate lower parental investment in pre-reading skills in Isolated families or more limited access to reading material. At the same time, over 82 percent of children in all subgroups have parents who report they believe that knowing English is an important skill for school readiness, and the parents of Isolated children do not significantly differ from those of other subgroups in this regard.

Parental Opinions about Nonparental Care

Parental responses indicate that California families in the Isolated subgroup care strongly about the characteristics of their children’s early care and education arrangements and feel they have the ability to find the care type that matches their preferences. Most California parents indicated that all early care and education characteristics such as cost, location, and learning activities were very or somewhat important to them (see [Technical Appendix Table A2](#)). Where there are significant differences among subgroups, more members of immigrant subgroups state that a care characteristic is important than in the Native subgroup. For example, 97.1 percent of parents in the Isolated subgroup in California consider cost very or somewhat important compared to 78 percent in the Native subgroup. Nationwide, the patterns of parental opinions are similar to those in California, although the opinions about the importance of cost of care are not significantly different between subgroups nationally.

In addition, the ECLS-B survey included several questions about the importance of characteristics that are of particular note for Isolated families. Isolated parents nationally are more likely than other subgroups to report that caregiver race (61.8%) and knowing the caregiver (65.9%) is very or somewhat important in their choice of care arrangements. They are also more likely than parents in the Non-Isolated subgroup—which also includes dual-language learners—to report that it is important for the caregiver to speak the same native language as their child (81.1% compared to 51.5%). Assuming that parents mean they wish the caregiver’s race/ethnicity to match the child’s race/ethnicity, this would suggest that if similar patterns held in California, most parents of California’s Isolated four-year-olds would prefer Spanish-speaking, Hispanic caregivers when possible, characteristics that are discussed further below.

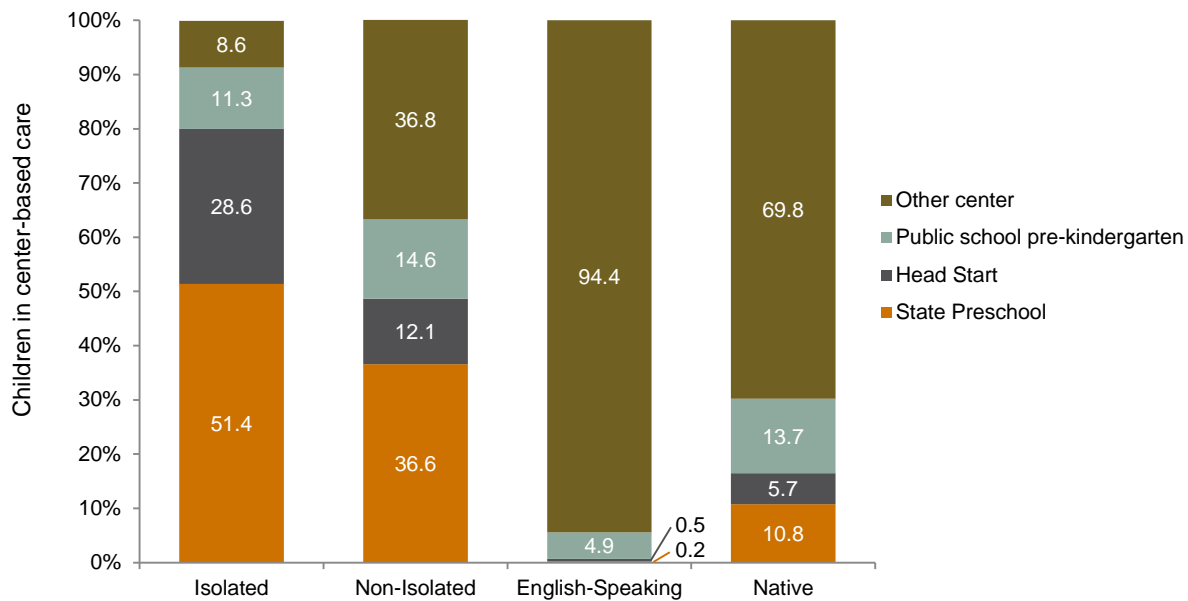
Furthermore, parents of Isolated four-year-olds in California report less difficulty finding care they like than do parents in other subgroups. The majority of parents in the Isolated subgroup (63.4%) report no difficulty finding the care arrangement they wanted, which is significantly higher than the Native subgroup (39.3%). Isolated children also have higher percentages (85.8%) than Native children (73.3%) of parents who report there are good choices available for child care. Although parents in the Isolated subgroup also report more need for nontraditional hours of care than do other subgroups, the differences between subgroups are not statistically significant. Notably, most California parents of Isolated children report having good choices, which is starkly different from parental reports in the United States sample. Nationally, less than half (47.9%) of parents in the Isolated subgroup who looked for care report there are good choices where they live, compared to 72.1% of Native parents.¹² This suggests California early care and education choices may be better suited to Isolated family needs than those found nationally.

¹² See [Technical Appendix Table B2](#) for further information on parental opinions.

Features of Center-Based Care Arrangements

California Isolated and Native four-year-olds who participate in center-based care tend to enroll in very different types of centers, with Isolated children much more likely to be enrolled in State Preschool or Head Start. Nine out of ten Isolated children in center-based care participate in one of three publicly supported center-based care programs—State Preschool, Head Start, or a public school prekindergarten—with more than half (51.4%) in State Preschool (Figure 5). Notably, these center-based programs are developmentally oriented, with a primary focus on preparing children for school.¹³ By comparison, the majority (63.3%) of children in the Non-Isolated subgroup also participate in one of these programs, but merely 5.6 percent of children in the English-Speaking subgroup and 30.2 percent of children in the Native subgroup participate. These differences are likely driven primarily by income cutoffs for these publicly supported programs. The vast majority of Isolated children reside in families that fall below the income cutoff levels, whereas most English-speaking and Native children do not.

Figure 5.
Isolated California four-year-olds have highest participation rates in State Preschool and Head Start



SOURCE: RAND California Preschool Study provider survey.

NOTES: All means are weighted. The unweighted sample size is 365 children using any center-based care. Some figures do not sum to 100% owing to rounding.

Moreover, Isolated and Native children experience different amounts of center-based care. Isolated children are significantly more likely than Native children to participate daily in center-based care but to participate

¹³ Though other center-based care programs may also be developmentally oriented, it is more difficult to identify them because they do not have the same state or federal requirements as these three specific programs.

for fewer hours per day (3.5 hours per day and 4.8 days per week, on average, compared to 5.1 hours and 4.1 days). This may be because the three programs Isolated children are most likely to participate in often offer daily part-day schedules, or because few mothers of Isolated children work full time. Other types of center-based care are more likely to offer full-day schedules, and parent scheduling needs may differ for other subgroups because more mothers work full time.

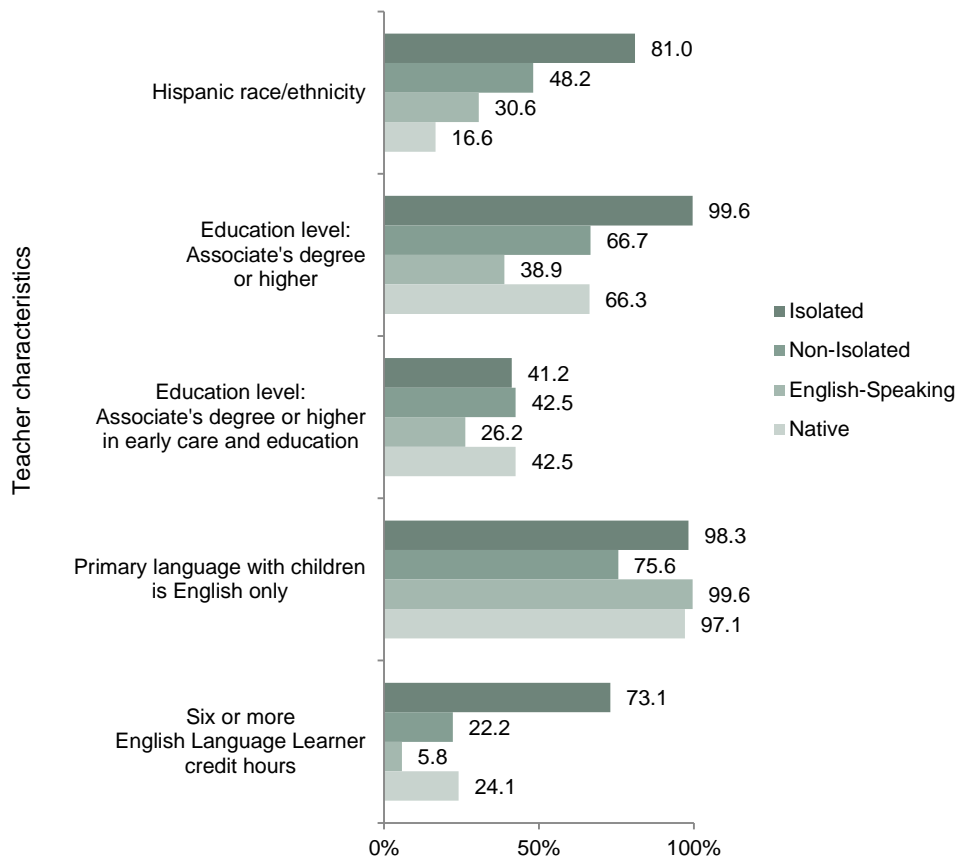
In the United States data, we do not have provider reports on center type that specifically identifies state preschool programs; only Head Start or public school pre-kindergarten are specifically identified in the ECLS-B provider survey.¹⁴ In addition, reports on care type from center-based providers are not available if the child has home-based care as the primary arrangement. For these reasons, we cannot examine the distribution of center types in the United States in precisely the same manner as we do for California. That said, at least 55.3 percent of Isolated children in the United States participate in public school pre-kindergarten or Head Start as their primary care arrangement, which is a high rate of publicly supported center-based care.

Center Teacher Characteristics

For California four-year-olds in any center-based settings, the characteristics of teachers differ for Isolated children compared to other subgroups in several ways that may be related to parental preferences or may be factors in the effectiveness of instruction for this subgroup of children. Teachers of Isolated children are more likely to be Hispanic (81%), similar to the children they teach, which indicates a good match with reported parental preference for caregivers of the same race/ethnicity (Figure 6). These teachers are more likely than teachers of other children to have at least an Associate's degree (99.6%), although importantly, the rate of degrees specifically in early care and education is lower (41.2%), similar to that of teachers of Non-Isolated and Native children (42.5%). Teachers of Isolated children are significantly more likely (73.1%) than teachers of other children to have six or more credit hours in working with English language learners. However, 98.3 percent of teachers of Isolated children report using English as the primary language with children (97.3 percent of teachers' own primary language is English), despite having classes that on average include over two-thirds (69.9%) of children speaking a language other than English. These findings indicate that California's Isolated children are exposed primarily to English in center classes, and they have teachers with some specialized training in working with children whose primary language is not English.

¹⁴ The other types of care reported are private school prekindergarten, child care center, preschool/nursery school, or other. It is unclear whether state preschool programs would be reported as public school prekindergarten or one of the other types of centers.

Figure 6.
Center teacher characteristics for California four-year-olds vary in several important ways



SOURCE: RAND California Preschool Study provider survey.

NOTES: All percentages are weighted. The unweighted sample size ranges from 297 to 310 depending on characteristic.

By comparison, in the United States sample, our caregiver information refers to the primary nonparental arrangement, whether care is center based or home based, which means we are not making exact comparisons to the California center teacher characteristics reported. As noted earlier, most children in nonparental care use center-based care primarily, so percentages in the United States sample are weighted heavily toward center-based teachers. With that understood, we can report that U.S. children in the Isolated subgroup are more likely than Native children to have Hispanic caregivers, but this rate is 52.9 percent, much lower than California’s 81 percent. This suggests a mismatch between Isolated child race/ethnicity and caregiver race/ethnicity, despite parental preferences for providers of the same race/ethnicity. As in California, most caregivers use English as their primary language with children, though the proportion is significantly lower among Isolated children than Native children nationally.

Center Quality

The quality of its care setting is an important factor in how well a preschool center prepares children for kindergarten. In descriptively examining the quality of care for California and U.S. children, we find no

significant differences between the quality of care experienced by Isolated children and by other subgroups on any quality measures available in the data.

For California, we rely on two commonly used measures to assess the quality of preschool centers: the Early Childhood Environment Rating Scale-Revised (ECERS-R) and the Classroom Assessment Scoring System (CLASS). Both measures use a scale ranging from a low of 1 to a high of 7, with a score of 5 or above generally considered an indicator of achieving “good” quality for the ECERS-R and moderate to high for the CLASS.¹⁵ For the national sample, we rely solely on the ECERS-R because the CLASS was not administered in the ECLS-B survey.

All California subgroups have mean ECERS-R scores below 5 on the two subscales administered for space and furnishings and activities, indicating minimal quality on average. At the same time, all subgroups have a mean score above 5 on the CLASS domains for emotional support, classroom organization, and student engagement, indicating a moderate to high level of quality for these dimensions. However, on the CLASS instructional support for learning (ISL) domain, by comparison, the subgroups have a mean score lower than 3, indicating low levels of quality for this dimension among California children. The ISL domain is one of the strongest predictors of center care associated with school readiness and later school achievement (Hamre & Pianta, 2005; Howes et al., 2008). Thus, low quality scores on this measure are of particular concern because this indicates that the average California center-based care is not successfully promoting higher-order thinking skills and children’s language development, a common finding in other studies that have used the CLASS to assess quality (Karloly, 2009).

By comparison, all U.S. subgroups of children have mean scores below 5 for the ECERS-R total score, but they have mean scores above 5 on the Teaching and Interactions subscale, which may be a somewhat better indicator of quality associated with gains in children’s skills. Again, differences between subgroups are not statistically significant, but results of these measures indicate that California has room for improvement in the quality of centers that Isolated children attend.

¹⁵ A more detailed description of the ECERS-R and CLASS are provided in [Technical Appendices A and B](#). Full quality score results are presented in [Technical Appendix Tables A3 and B3](#).

Explaining Differences in Nonparental Care Use

We have demonstrated that children in the Isolated subgroup differ from those in other subgroups in several important ways such as household income and mother’s education level and work status. It may be that it is child and family characteristics, rather than immigrant and English language status, that explain differences between subgroups in use of nonparental care. In further analyses, we held constant many of these other child and family characteristics to determine whether immigrant and English language status of parents are independently significant factors in the early care and education arrangements that parents choose.¹⁶

In both California and the United States, Isolated children are as likely as children in the Native subgroup to use nonparental care on a regular basis or to use center-based care compared to home-based nonparental care, all else equal. Additionally, among children in the United States, Isolated children are not significantly different from Native children in their use of Head Start compared to other center-based care or in their use of center-based care with a higher ECERS-R total or Teaching and Interactions score.¹⁷ This suggests that observed differences in the use of nonparental care arrangements for Isolated children can be explained by child and family characteristics that are highly correlated with being Isolated, such as low income or low maternal education levels, rather than parental nativity and English language fluency specifically.

¹⁶ See [Technical Appendix C](#) for a description of regression methods and Tables D1 through D5 for regression results.

¹⁷ We also explored subgroup differences in the use of care with higher CLASS scores among California children and found no significant differences. Due to small sample sizes for these analyses, they include a limited set of control variables, and we do not report full results.

Center-Based Care Use and School Entry Academic Skills

A major reason for both parents' and policymakers' interest in center-based preschool programs is a belief that it will help children develop skills in preparation for formal schooling. One measure of the effectiveness of center-based care is whether children demonstrate higher early reading and mathematics skills than if they had not participated in such care. Note that we examine average center-based care and do not look specifically at developmentally-oriented center-based settings in these analyses.¹⁸ Our analysis of the national data reveals that use of center-based care as the primary nonparental care arrangement in the year before entering school is associated with improved early reading skills at kindergarten entry for Isolated children compared to Isolated children not using center-based care. However, we do not find a similar significant relationship with mathematics skills.

We examined this issue with the sample of children in the United States because the California data do not include kindergarten assessments. However, these analyses are informative for the California context as well, because of the similarities between California and the United States in Isolated children's characteristics and patterns of use of nonparental care.

Controlling for children's background characteristics, we isolate the effect of having participated in center-based care on a child's standardized reading and mathematics skills as measured early in the kindergarten year.¹⁹ We look at the effects of having center-based care as the primary care arrangement in two ways: 1) compared to using non-center-based care (including parent-only care and home-based care), and 2) compared to using nonparental home-based care only.²⁰ We examine the full sample of children as a baseline, and then separately examine subgroups of children based on parental nativity and language status.

Although we control for a rich set of factors related to cognitive skills and preschool use, we recognize that parents choose to enroll their children in center-based care. We may not be able to fully account for all factors that would affect which children participate in center care and may also affect their development. For example, some parents may be more motivated than others to help their children gain academic skills before kindergarten, and we cannot directly observe this. If this is the case, we may incorrectly attribute some of the effect of parental motivation to an effect of preschool on child development and thereby overestimate the effect of participating in preschool. Alternatively, parents who have lower motivation to provide learning opportunities at home or who feel their children have social or emotional problems that may be improved in preschool might be more likely to enroll their child in center-based care. In this case, we could underestimate the effect of preschool participation on child development. In general, these unobserved factors related to the parent or child could bias the estimated effect of participation in center-based care on reading and math skills. For this reason, our results should not be viewed as estimates of a causal relationship, but evidence of

¹⁸ We do not analyze specific care types because that requires more complex choice modeling that goes beyond our scope.

¹⁹ Most children in the ECLS-B were assessed before January of their kindergarten year. To control for differences in exposure to kindergarten curricula, which may affect results, we include a variable for time since start of school year when assessed. See [Technical Appendix C](#) for a discussion of how skills are measured in the ECLS-B data. All groups of children in the ECLS-B sample are assessed in English.

²⁰ See [Technical Appendix C](#) for a discussion of our methods.

a correlation between preschool and cognitive skills. For stronger estimates of correlations, we control for a set of observable child and family characteristics.²¹

We use a measure of standard deviation units known as effect sizes to capture the influence of preschool participation on mathematics and reading skills. These measures can be used to compare the size of effects across different outcomes, both within this study and in others.²² We focus on differences we find that are statistically significant at the 5 percent level, though we note that our sample sizes for the immigrant subgroups are relatively small, and this may limit our ability to detect statistically significant differences. Thus, we also more broadly describe the pattern of findings and magnitude of effects.

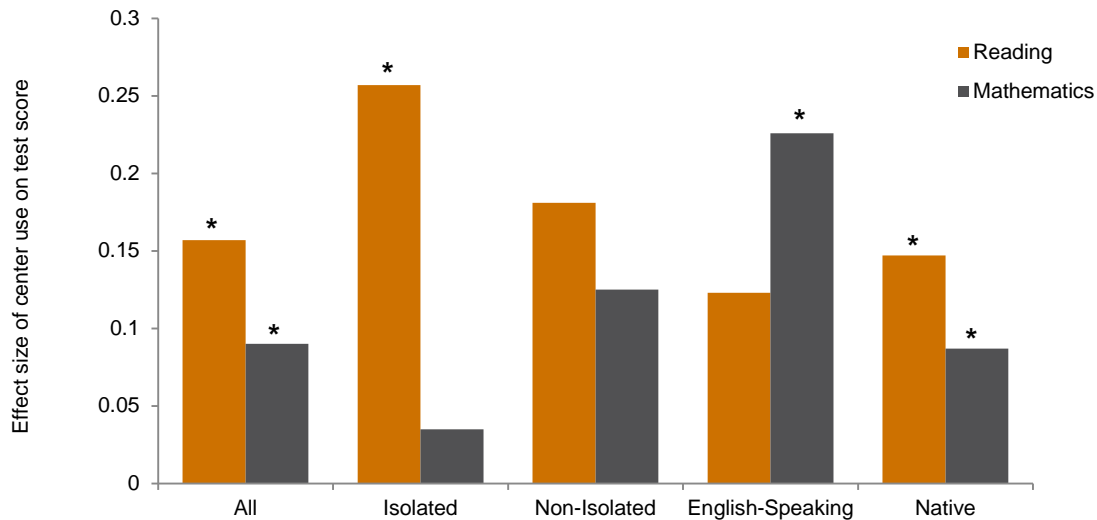
Our analysis shows a positive association between participation in center-based care and early reading scores after controlling for child and family factors (Figure 7). Four-year-old children using center-based care as their primary care arrangement in the year before kindergarten scored significantly higher (by 0.157 standard deviations) than children who used either parent-only care or primarily home-based nonparental care. Significant associations for center care are found separately among Isolated (0.257 standard deviations) and Native (0.147 standard deviations) children, as well. The effect size for Isolated children (0.257) is somewhat higher than that found for the other three subgroups, although differences between subgroups are not statistically significant. This suggests that there may be a somewhat larger positive relationship for Isolated children than for other subgroups of children. However, because of our limited sample size and the fact that both subgroups have positive effects, it is unclear from these analyses whether this finding would be associated with narrowing school readiness gaps between Isolated and Native children if students attend center-based care at similar rates.

For mathematics scores, results suggest a different story for the Isolated subgroup. Isolated children do not appear to have meaningful positive associations between participation in center-based care and mathematics scores. In contrast, we find significant positive associations for students overall and for the Native and English-Speaking subgroups (0.090, 0.087 and 0.226, respectively). Differences in the size of effects between subgroups are not statistically significant, however.

²¹ In a separate working paper (Cannon, Jackowitz, & Karoly, 2012), we explore the use of several state-level instruments in instrumental variables models to control for selection bias. Our results suggest that there may be negative selection bias, which indicates that the results presented here may be underestimates of the effects of center participation. Still, we did not find evidence that Isolated and Native effect sizes are significantly different from each other.

²² Another way to think about standard deviations is in percentage terms. Under a standard normal distribution of scores, if users of center-based care on average were to have an effect size of 1.0 standard deviation units, it would imply their mean outcome is better than the outcomes of 84 percent of non-center-using peers. If the effect size were 0.25, it would imply their outcome is better than 60 percent of non-center-using peers. If the two groups were not statistically different, the mean of center users would be better than 50 percent of non-center users.

Figure 7.
Significant gains in reading for Isolated four-year-olds nationwide, center- vs. non-center care



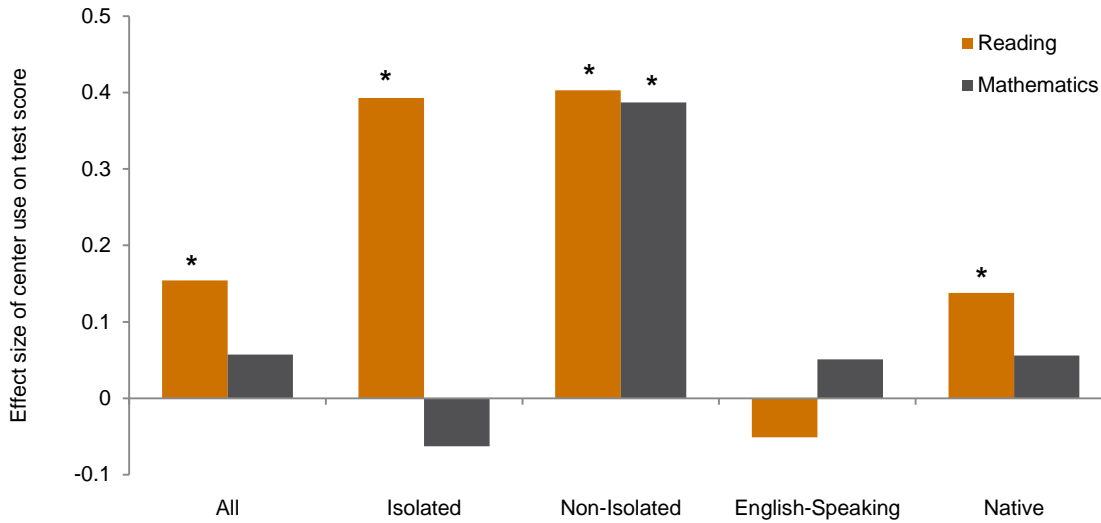
SOURCE: ECLS-B

NOTES: Coefficients reported are standard deviation units from OLS regression models. Children in center-based care are compared to children in non-center care (including parent-only care and home-based care as primary arrangement) within each group and subject. Regressions are weighted. See [Technical Appendix Tables D6 and D9](#) for full results.

* Denotes effect size within each group and subject is statistically significant at the 5 percent level in a two-tailed test.

Parents who need regular nonparental care arrangements have a choice between home-based care and center-based care. We directly compare those two primary nonparental care arrangements (Figure 8). We find larger associations with reading scores for Isolated (0.393) and Non-Isolated children (0.403) using center-based care compared to home-based care. Native children have a similar positive effect size (0.138) for reading as in Figure 7. Only for the Non-Isolated subgroup of children is there a significant and sizeable association with mathematics scores (0.387) when using center-based care compared to home-based care. These results and additional analyses (not shown) provide suggestive evidence that for Isolated and Non-Isolated children the positive relationship between center participation and kindergarten skills may be driven more by differences between center-based and home-based care than by differences between center-based and parent-only care. It is unclear whether this is related to the types of families that select home-based care or the specific type and quality of home-based care they are choosing.

Figure 8.
Significant gains in reading for Isolated four-year-olds nationwide,
center- vs. home-based care



SOURCE: ECLS-B

NOTES: Coefficients reported are standard deviation units from OLS regression models. Children in center-based care are compared to children in home-based care as primary arrangement within each group and subject. Regressions are weighted. See [Technical Appendix Table D7](#) for full results.

* Denotes effect size within each group and subject is statistically significant at the 5 percent level in a two-tailed test.

Overall, center-based care for four-year-olds is associated with significant and meaningful effects for reading skills of Isolated children—specifically, reading skills as assessed in the English language. However, we do not find similar associations between center-based care and mathematics skills for Isolated children, though there may be associations for other four-year-olds in some circumstances. Though reading skills are of particular importance for children from non-English-Speaking households, mathematics skills are also important predictors of children’s school success (Duncan et al., 2007).

The effect sizes we find are similar to those found in studies that have applied similar methodological approaches. Our findings for reading are consistent with previous research suggesting that effects for children of immigrants can be at least comparable to effects for native children (Gormley, 2008; Gormley et al., 2005; Magnuson, Lahaie, & Waldfogel, 2006). However, we do not find that the effects are significantly different from those of Native children within our sample of children. Moreover, the lack of significant mathematics associations differs from findings of previous research on preschool, which suggest that benefits for disadvantaged children extend to mathematics skills (Károly, 2009). The only evidence of this we find is that children in the Non-Isolated subgroup may receive positive mathematics benefits from center care compared to home-based nonparental care, but Isolated children, who are on average more disadvantaged, do not receive similar benefits. These findings may result from the limitation of examining center-based care as a single construct and not being able to parse out effects of developmentally oriented care or otherwise “high-quality” care. One area for future research would be to examine in more detail the specific nature of the center-based settings for Isolated children that may be associated with mathematics gains or even greater reading gains than we observe.

Effects of Center Quality

We also examine skills assessed at kindergarten entry in the context of the quality of center-based care received by U.S. children, because the quality of care may affect how much children's school readiness skills improve. In the national data, we are limited to ratings of quality from the ECERS-R assessment, and we focus on both the ECERS-R total score and the Teaching and Interactions subscale score. Our results are also viewed as correlational given the potential for parent selection bias in choice of care. Our analyses show no evidence of a relationship between quality as measured by the ECERS-R and reading or math assessment scores at kindergarten entry, whether we look at all children or separately by subgroup. However, this may be due to the limitations of the ECERS-R assessment measure rather than being an indication that quality does not matter, *per se*.²³ One explanation for this finding is that the ECERS-R score may not capture variation in program quality that is relevant for child developmental outcomes, a finding that is consistent with other research (Burchinal, Kainz, & Cai, 2011; Sabol, Bassok, & Pianta, 2011; Zaslow et al., 2006). This potential limitation of the ECERS-R suggests a need for a better measure of quality to assess how quality is related to outcomes such as gains in cognitive skills.

Though the analyses in this section rely on national data, we would expect similar results among California's children. Our analyses show that Isolated children in California have patterns of child and family characteristics similar to those of children nationally, and they are likely to participate in the types of center-based care that have higher standards and a developmental rather than custodial focus. This is likely to be associated with positive effects from center participation. In addition, California's Isolated children have somewhat higher proportions of poverty and low maternal education, risk factors that center-based care might help mitigate.

²³ It is also the case that we have very small sample sizes for our immigrant group analyses, so that may affect the ability to detect significant differences. However, for the full sample of children and the Native subgroup, which have much larger sample sizes, we do not detect significant differences by quality of care. The relationship between quality and school readiness skills would have to operate differently for the immigrant subgroups than the Native children for us to expect there might be significant differences were we to have larger sample sizes.

Policy Implications

Center-based preschool is often considered a promising strategy for helping at-risk children prepare for formal schooling, and this is of particular interest for students who are likely to be classified as English learners when starting kindergarten. We find evidence supporting center-based care participation in the year before kindergarten entry as a means to improve early reading skills for Isolated children. The effect sizes are large, suggesting that Isolated children can appreciably improve their reading skills if they attend preschool. Preschool attendance alone will not narrow the school readiness gap between Isolated and Native children, because Native children also increase their reading skills if they attend preschool. That said, there are also advantages to ensuring that Isolated children enter school with higher skills, regardless of the skills of their peers, because higher skills position them to take better advantage of the learning material in kindergarten. Further research should explore whether preschool attendance can also help them exit English learner status at faster rates.

At the same time, our results suggest that preschool centers serving Isolated children may be missing an opportunity to improve mathematics skills, which are also key predictors of later achievement (Duncan et al., 2007). Policymakers have an opportunity to improve gains at a relatively low cost for children already attending publicly funded preschool by focusing efforts on improving existing mathematics instruction through improved professional development in this area. Mathematics instruction may also be an important consideration when policymakers design curriculum and teacher training for the California Transitional Kindergarten program that will provide a two-year kindergarten program for children with autumn birthdates. Transitional Kindergarten and the California Preschool Learning Foundations provide opportunities to tie preschool mathematics skills expectations to classroom practices and align them with early elementary school standards.

Many Isolated children in California use some center-based care in the year before they enter kindergarten, and they do so at higher rates than Isolated children nationally. Importantly, Isolated children regularly use center-based care at rates similar to Native children, despite having household characteristics that we might expect would otherwise be associated with reduced rates of center-based care use—characteristics such as lower shares of mother’s employment, higher shares of two-parent and low-income households, and low maternal education levels. It appears that California is doing a reasonable job of enrolling these vulnerable children in preschool programs, particularly developmentally oriented programs. Our study cannot say if this is achieved by making families aware of the benefits of preschool or by providing an accessible supply of publicly funded spaces, though it is likely a combination. We have suggestive evidence that availability of funded spaces is key because cost and location are important considerations for Isolated families, and they use publicly subsidized preschool programs at very high rates. Half of Isolated children using center-based care are enrolled in State Preschool. We also know that even among Isolated children whose parents do not work, the majority of children use center care, suggesting that parents believe in the value of preschool even if they do not need the care to support their work. It appears that using low-income status as a targeting mechanism for subsidies successfully engages Isolated children and families. However, one important caveat to our findings on rates of center-based participation is that these data were collected in 2007 before the recession and subsequent budget cuts to early care and education subsidies. It may be that currently there is increased competition for limited center spaces and we do not know how this would affect Isolated children’s participation.

Despite high enrollment, a third of Isolated children are not participating in any center-based care in the year before they enter kindergarten. State policymakers might consider targeting this subgroup for preschool enrollment to help improve school entry reading skills among California's English learners (Cannon & Karoly, 2007). Increased state funding would be necessary if the shortfall in enrollment is due to the lack of sufficient subsidized center spaces for families that could not otherwise afford center care. Local programs such as First 5 commissions or school districts may also be able to target this subgroup for further enrollment. In the current California fiscal context, policymakers should at a minimum consider the merits of center-based programs for Isolated children when weighing potential cuts to child care or preschool subsidies.

If the reason parents are not enrolling their children is a lack of demand for center-based care rather than its cost or availability, then a different strategy is necessary to increase public awareness of its benefits. The California early care and education system is not funded to serve all children who are eligible (Karoly, 2009), which suggests room for improvement in the supply side. However, even in high-participation preschool programs such as Oklahoma's universal preschool and New Jersey's geographically targeted Abbott program, enrollment does not exceed 80 percent. It seems that some families choose not to enroll in preschool even when it is readily accessible, and further study of the demand side for Isolated children would prove useful when additional funds for preschool become available.

Beyond access, quality is another important consideration for preschool policy. California currently has efforts under way through the federal Early Learning Challenge grant to implement locally driven quality rating and improvement systems (QRIS) for center-based care.²⁴ In this study, we find that the ECERS-R, a commonly used center quality measure and one included in discussions of quality rating systems in California (California Early Learning Quality Improvement System Advisory Committee, 2010), may be insufficient to assess which settings improve early reading and mathematics skills. This is a significant finding for policymakers, who may wish to reexamine their reliance on ECERS-R scores to determine quality levels as they finalize the QRIS criteria and begin implementation. Moreover, it remains for future research to determine whether and by how much any improvements in center quality in California will increase Isolated children's reading and mathematics skills. At a minimum, it seems that the average center-based care in the United States is currently sufficient to improve early reading skills, and most Isolated children in California are in the center-based programs more likely to focus on kindergarten preparation.

In addition to quality, another consideration is the amount of center-based care the children experience. Isolated children are more likely to be enrolled in part-day preschool programs, and many publicly supported programs offer services for one year prior to school. An area worth further exploration is whether full-day center-based care for these children, or two years compared to one year, would provide larger cognitive gains and potentially narrow school readiness gaps.

One limitation to this study is that we examine short-term gains, and we cannot say whether children who do not use center-based care will catch up to center users once they start receiving formal schooling. Some research points to fading effects of early childhood interventions on academic success, although nonacademic long-term benefits are also noted (Deming, 2009; Karoly, Kilburn, & Cannon, 2005). Further research examining longer-term school trajectories for Isolated children is necessary to assess fully the

²⁴ This is a one-time, time-limited effort that involves 17 California regions through Regional Leadership Consortia that will each implement their own QRIS.

benefits of center-based care. Furthermore, preschool may improve children's noncognitive socio-emotional skills, such as task persistence and impulse control, and the benefits of these skills may manifest later. In this study, we focus on cognitive skills, which constitute only one aspect of potential benefits to consider for Isolated children. Another important outcome is the English-language fluency of Isolated children upon school entry, which would require research using different data sources. This line of research could also include an in-depth focus on dual language instruction and skills gained in a child's primary language. Finally, the samples of Isolated children in this study are primarily Hispanic and Spanish-speaking, so much of the analysis is driven by this particular population and not, for instance, linguistically isolated children from Asian-language households.

Overall, California has made good progress enrolling Isolated children in the type of care they stand to benefit from, especially compared to national enrollment levels. However, the state also has opportunities to improve efforts going forward. Specifically, the state can consider increasing enrollment of Isolated children in the State Preschool Program; enrollment targeting low-income children will include most Isolated children according to our analyses. The state should also continue efforts to evaluate what aspects of center-based care are associated with improved school entry skills and how quality of care specifically affects children from Isolated families. California's Transitional Kindergarten program may present an opportunity to learn about aligning preschool and elementary school efforts to improve early educational performance. Finally, preschool is not a panacea for closing school readiness and achievement gaps, and, based on other research, policymakers should consider funding preschool in conjunction with other evidence-based early intervention strategies for disadvantaged children, such as home visiting or programs that combine parent education with preschool participation (Karloly, Kilburn, & Cannon, 2005).

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