Mother's Nativity and Children's Transition into Non-Parental Childcare

By

Laquitta Smith

Center for Population Dynamics
(CePoD)

School of Social and Family Dynamics

Arizona State University

Abstract

Past studies have highlighted a variety of factors that affect mothers' transition into various child care contexts for their children. Factors such as employment status, family income and nativity status can play a role in these transitions. Most of the past research focuses on the transition to Head Start or center-based care, but to my knowledge, there is a paucity of studies that uncover the relationship between mother's nativity status/ age at arrival and non-parental care, in general. The current study uses nationally representative data from the Early Childhood Longitudinal Study, Birth Cohort (ECLS-B) to predict the effect of mother's nativity on the timing of children's first transition into non-parental care. This work is one of few studies that incorporate a nationally representative sample to examine the transition to early childhood care using an event-history approach. The findings suggest differential patterns regarding the first transition to non-parental child care for native-born versus foreign born mothers.

Introduction

The children of immigrants are one of the fastest growing populations in the United States (Brandon 2004). This population can include children that migrate to the United States from international contexts or children with at least one parent born outside the United States (Brandon 2004; Matthews & Ewen 2006; Rumbaut 2004). As this population grows it will continue to be faced with challenges such as cultural dissonance by way of family norms, language barriers, discrimination and educational challenges (Fuller 1996; Brandon 2004; Obeng 2006). Each of these conditions depends upon a variety of factors, including the sending context, the social environment of the receiving context, and even physical attributes of families such as phenotype (Glick & White 2003; Zhou 1997; Portes & Zhou 1993). Using nationally representative data, this paper examines the relationship between mother's nativity status and children's first transition into non-parental child care. The first transition to non-parental care has important implications for both children's socialization cognitive development, and preparedness for formal schooling (Takanishi 2004; Caughy, DiPietro & Strobino 2004; Singer, Keiley Fuller, & Wolf 1998; Glick and White 2003).

This study will contribute to the growing body of research examining the effects of the relationship between the immigration process and children's development and adaptation in the receiving context. Using the Early Childhood Longitudinal Study, Birth Cohort (ECLS-B), a nationally representative sample of approximately 10, 650 children, I hypothesize that on average, children with foreign-born mothers will transition to the use of non-parental care later than mothers born in the United States.

Background

Types of Non-parental care. American women's participation in the labor market has grown substantially over the past 50 years. For many families, this reality has had an effect on the necessity of child care before the onset of formal schooling (Crosnoe 2007; Takanishi 2004). Nearly 73 percent of children 5 years old and younger, and with employed parents, have made the first transition into non-parental child care (Sonenstein, Gates, Schmidt, & Bolshun 2002).

There is a substantial body of literature that focuses on a variety of aspects pertaining to non-parental care, especially center-based care. Center-based care and care from relatives are the most prevalent types of non-parental childcare. The most important indicators that are linked to the selection of non-parental care, are the economic characteristics of the household and the demographic characteristics of the family (Singer, Keiley, Fuller & Wolf 1998). In the case of two parent families, income or poverty status is an important predictor of families' decisions to use non-parental care (including the type), while in single parent families center-based care was more prevalent, regardless of income level (Sonenstein et al. 2002; Brandon 2004). In terms of income, results have been mixed. High-income families often select center-based care in alignment with their greater access to information and financial resources. For families in poverty, subsidies and programs such as Head Start can offset the costs to center-based care, increasing the number of children from poor families that are in center-based care (National Institute on Child Health and Human Development [NICHD], Early Child Care Research Network, 1997). Other research shows that for children of preschool age, families with incomes

over $75,000 were twice as likely to have their children enrolled in center-based care when compared to children from less affluent families (annual incomes between $10,000 and $20,000) (West, Wright, & Hausken, 1995). In a 1995 publication from the NICHD Early Childcare Research Network, earlier transitions to non-parental care are associated with employed African American mothers that were single with lower levels of formal education (NICHD 1995 as detailed in Singer et al 1998). Other studies show that African Americans consistently have the highest rates in center-based care participation, regardless of income level (Hofferth, West, & Henke 1994 as cited in Liang, Fuller & Singer 2000).

Nativity Status. Past research consistently finds a relationship between nativity and child care outcomes, though the types of child care outcomes vary across studies (Singer, Keiley, Fuller & Wolf 1998). Early care outside the home can be beneficial for children. Outside care can promote socialization and assist with language development. In the specific context of center-based care, it can promote educational growth and school readiness (Matthews & Ewen, 2006; Obeng 2006; Thompson, Reynolds & Temple 2001).

Obenga's (2006) study of African immigrants finds that while they would prefer to leave their children with another family member, African parents find that center-based care helps to socialize and educate their children (2006). In terms of this type of child care arrangement, cultural practices can be a factor in this decision to use a center, as well as issues of poverty, restrictive federal policies, or fear of government (Obenga 2006; Matthews and Ewen 2006). Past work has shown that differences in ethnicity can have an effect on participation rates in Head Start programs, net of other social factors, because of differential proximity to centers and language barriers (Liang, Fuller & Singer 2000). Home language environments can have an effect on both access and usage of center-based child care as well as children's school readiness

(Oropesa & Landale 1997). But few studies have examined whether those who do enter non-parental care do so at an earlier stage of development, and thus do not focus centrally on the timing of this transition.

There are additional factors that are related to mothers' nativity status and transitions to early child care, including the racial/ethnic group of the family (Crosnoe 2007; Singer, Keiley, Fuller & Wolf 1998). Using longitudinal data, Crosnoe's (2007) study of Mexican immigrant families found that this group was overrepresented in relative care and underrepresented in formal childcare settings. It is important to note that there is evidence to support that in these cases, it is not necessarily an immigration factor, as there are indications that part of the delay or lack of participation in center-based programs is characteristic of Mexican families in general, regardless of nativity status (Crosnoe 2007; Brandon 2004). Enrollment rates of Latinos in centers and preschools lagged behind the rates of Black and Anglo children, even after taking household factors into account (Liang, Fuller & Singer 2000). Previous research has found that immigrants are less likely to put their kids into certain types of non-parental care than natives (Magnuson & Waldfoel 2005; Brandon 2004; Matthews & Ewen 2006; Crosnoe 2007).

Theoretical Perspective. Because many studies are interested in the effects of income, employment, or other economic factors associated with child care use, a portion of the literature related to the area of child care employ a social capital or household economic perspective (Singer et al. 1998; Fuller et al. 2000). General assimilation theory suggests that the longer immigrants are in the United States and the more exposure they have to American culture and values, the more likely they and their children will mirror the dominant native population (Alba & Nee 2003; Glick, Bates, & Yabiku 2009). A second perspective of assimilation, the segmented assimilation model, posits that assimilation and adaptation of the immigrant population and the

second generation differs based on the receiving context and certain socio-demographic aspects of the immigrant group including education segregation or ethnic, racial, or religious segregation (Glick, Bates & Yabiku 2009; Zhou 1997). Based on the segmented assimilation perspective, we can expect differential outcomes for children of immigrants when compared to their native born counterparts.

Further complicating the differential behavior and outcomes of the immigrant population when compared to those who are native born is the individual's age at arrival (Glick, Bates, Yabiku 2009; Rumbaut 2004; Oropesa & Landale 1997). Both Oropesa and Landale (1997) and Rumbaut (2004) demonstrate that it is not only the foreign-born status of the subjects, but also the age at which they migrate to a new context that is associated with various outcomes. Those that arrive in the United States at younger ages are more likely to assimilate to aspects of receiving context than those that migrate in adolescence or adulthood. Rumbaut suggests the acknowledgement of immigrants' age at arrival in receiving contexts based on a developmental and educational perspective, as dichotomous indicators risk supressing important information regarding differing levels of acculturation and adaptation to receiving contexts. His suggestions for age categories will be incorporated into this research to test whether these effects have a relationship with the decision to transition into non-parental care for immigrant mothers when compared to native-born mothers.

This paper contributes to a growing body of research looking at the role of immigration on children's development and adaptation in the receiving context. With one in five children having at least one foreign-born parent, this population will continue to be of interest as these children will eventually go on to be adults in American society (Hernandez 2004). This work is

one of few studies that incorporate a nationally representative sample to examine the transition to early non-parental care using an event-history analysis.

Hypotheses

Considering the aforementioned literature and theoretical frameworks, I form three hypotheses:

H1: Children with foreign-born mothers will experience a lower rate of transition to non-parental care than children with U.S. born mothers.

H2a: Mother's age at arrival will be negatively associated with the timing of first transition into non-parental care. The relationship will be strongest for mothers who arrive at age 18 or older, with the association weakening for each age grouping below age 18. The mothers that arrived at the earliest ages should have the smallest distinction from native born mothers regarding the timing of the children's first transition into non-parental care.

H2b: Mother's employment during the 9 month data collection will act a mediator to timing of transition to non-parental care across all nativity groups. Put differently, there will be a reduction of the importance of age at arrival and nativity status, once the mothers work status is taken into account.

H3: For Mexican-origin families, the timing to the first transition to non-parental care should not significantly differ for the native born population when compared to the foreign born population.

In other words, children whose mothers arrived in the United States as young children will make transitions in a similar manner as children of U.S. born mothers. But, children whose

mothers arrived as adolescents or adults will experience slower transitions to non-parental care, consistent with Rumbaut's framework. Children of immigrant parents experience differences in participation in types of non-parental care and that the length of residence in the United States can have an effect on whether immigrants are more similar to their native born counterparts in the receiving contexts. If mothers are more recent arrivals, then they could be more socially isolated or weary of non-parental care due to social network limitations, or lack of information about childcare options (Matthews & Ewen 2006). For Mexican-origin families, these patterns should not persist because of their relatively strong patterns of family integration (Crosnoe 2007; Liang et al. 2000).

Data and Methods

The data are from the Early Childhood Longitudinal Study-9 Month-Preschool (ECLS-B) available from the National Center for Educational Statistics. The ECLS-B uses a complex, stratified sample design in order to follow a group of approximately 10,650 children from infancy through first grade providing assessments on a variety of measures. The ECLS-B is appropriate in that it is nationally representative longitudinal study of children born in the United States in the year 2001.

The ECLS-B contains substantial birth certificate information about mothers including country of origin, the age of the mother upon arrival in the United States (when applicable), childcare arrangements, and other factors useful for this analysis. For the purposes of this work, data from the birth certificate file, as well as information from waves 1 and 3 are used to develop the analysis. Information from wave 1 was used in lieu of items that were unavailable from the birth certificate file as this information is limited to information required by the state in which

the birth occurred. Information used from wave 1 is limited to basic demographic information collected from the Parent Computer-Aided Interview Portion (CAPI) and the composite variables derived from this information when applicable. The wave 1 variables include race/ethnicity of the mother, income, nativity status (foreign born or U.S. born), and number of children in the household. The remainder of the information used in this analysis is derived directly from the birth certificate file or, in the case of the outcome variable, wave 3.

Information for all applicable cases of the dependent variable (duration to the first transition to non-parental childcare) and the main independent categorical variables, nativity status (age at arrival for foreign-born mothers), are retrospective. The remaining variables refer to current information at the time of the data collection. Because of the primacy of birth certificate information, the sub-sample in this study will only include mothers. The birth certificate portion of the ECLS-B contains only information about the mother and the infant child. The final sample size for this analysis is approximately 8200 cases. Wave 3 data collection occurred when the children remaining in the sample were approximately pre-school age (44 – 65.3 months).

Dependent Variable. The dependent variable is the duration to the first transition to non-parental child care where the event indicator is coded as 1 if non-parental child care has occurred and 0 if it had not. The duration to this transition captures the earliest age in months at which the child first began to receive any type of non-parental care on a regular basis (Snow et al., 2007)

Responses range from 0 to 60 months, in which 18.6% of the responses indicate the transition had not occurred (censored cases). All children within the analytic subsample are at risk for this transition. Risk begins (T=0) at the birth of the child and ends when children experience first non-parental child care. Children that have not experienced the event by 60

months are right-censored. A response time of 0 indicates that non-parental child care began before he or she reached one month old (Snow et al. 2007). For the purposes of the analysis, these cases are treated as entering care in the first month, otherwise these '0' cases would have been excluded.

Independent Variables. The focal independent variables for this analysis are the indicators for mother's nativity status and for the foreign-born, mother's age at arrival.

Nativity Status. Mothers' nativity status was derived from the response to the following question from the Parent CAPI instrument: In what country were you born? Responses were coded as U.S. born if the mother was born in any of the 50 states. Mothers born abroad, in U.S. territories (i.e. Guam, U.S. Virgin Islands, American Samoa, etc.) or Puerto Rico were coded as foreign born. The decision to place mothers born in Puerto Rico or U.S. territories in the foreign born category was based on the assumption that the socialization processes and norms may vary from the U.S. mainland in a variety of ways, due to cultural and linguistic differences as well as proximity to the conterminous United States. Because one of the goals of this work is to understand how these differences affect mother's decisions about when non-parental care will begin, placing these mothers in the foreign born category is substantively logical[1].

Age at arrival. For foreign born mothers, age at arrival was derived from the response to the following question: "How old were you when you first moved to the United States?" The responses ranged from 0 (infancy) to age 53 with the mean age of arrival at 4 years old. Next, I created dummy variables to categorize the mother's age at arrival: U.S. born, arrived between ages 0 and 5, 6-12, 13-17, and 18 or older. Separation of these age categories allows us to see if

[1] Respondents that reported place of birth in U.S. territories consistent of only .2% of the total sample. Therefore, placing these responses in the foreign-born category should not bias results (Snow et al. 2007).

early childhood arrival versus adolescent or adulthood arrival have an effect on the transition to non-parental care (Glick, Bates, and Yabiku 2009).

Control Variables. Consistent with past research, I include a variety of variables that control for the mother's self-reported socio-demographic characteristics (Brandon 2004; Glick, Bates and Yabiku 2009). These include mother's race, educational attainment, age at childbirth and poverty status. I have coded each of these measures as time-fixed as the ECLS-B does not contain sufficient information (i.e. month or week) about the timing of many of the mothers' or children's characteristics.

Race/ethnicity. I created dummy variables for the five race/ethnicity categories: non-Hispanic white, non-Hispanic black, Hispanic (any race), Asian and Other. The respondents that failed to respond to the question about race/ethnicity were collapsed into the "other" category, though the number that failed to respond was not substantial (less than 1%). The mother's race/ethnicity was determined from the Parent CAPI instrument from the 9-month data collection since racial/ethnic information is not provided in the birth certificate data. For this analysis, I will assume that the racial/ethnic identity for mothers does not change.

Work Status. I have included a dichotomous measure for whether or not the mother was working at the time of the 9 month data collection (1=not working, 0= working). In order to be considered working, the mother must be working at least part-time outside of the home. Mothers that reported working from home as homemakers or other occupations are considered not working for the purposes of this analysis.

Educational Attainment. The birth certificate instrument provides the mother's educational attainment at childbirth. I have coded this as a series of four dummy variables with

the following values: 'less than high school'=8 years or less of formal schooling, 'some high school'=9 to 11 years of schooling, 'high school'=four years of high school, and 'college'=more than 12 years of schooling. Only the number of years of school the mother completed by childbirth is included in the birth certificate file; information about diploma attainment is not available.

Mother's Age. The mother's age when the child was born is available from the birth certificate and is left as a continuous measure in that provides maximum information about its relationship to non-parental childcare transition and is easily interpreted.

Income. Mother's income is derived from responses to a question that asked the mother's income bracket for the preceding 12 months. Information about either the mother's individual or household income was not available in the birth certificate file and therefore, I use the responses from the 9 month data collection. This income indicator is optimal in that it captures the 12 month period during which the childbirth occurred. I then created a series of dummy variables based on the quartiles of the income distribution in the analytic sample (Quartile 1 = $20,000 or less, Quartile 2 = $20,001 - $35,000, Quartile 3 = $35,001 - $75,000 and Quartile 4 = $75,001 or above). The inclusion of household income is important as a control because past work has demonstrated a relationship between income and differential participation in programs such as Head Start and other forms of center-based care (Matthews & Ewen 2006; Brandon 2004; Sonenstein et al. 2002).

Other Characteristics. I have included controls for the mother's marital status, the number of children under 18 living in the household and the child's birth weight. Each of these measures

can have an effect on the rate of transition and thus are included as control measures. Each of these variables is time-fixed.

Marital Status. The birth certificate data provides the mother's marital status at the time of birth. Possible responses include married, single, divorced, separated, or widowed. I created a dichotomous measure that indicate whether or not the mother was married at childbirth where 1=married and 0=not married. The inclusion of marital status is important because single status can mediate when mother's choose to transition into non-parental child-care.

Number of children in household. The number of other children in the household under 18 years is included in that there may be other children who can provide care for the child. Mothers may not consider care from siblings and/or other dependent children living within the household as non-parental childcare since the child remains in the home. This is not clear, but I control for this in case mothers answered the questions pertaining to transition to non-parental childcare following this logic.

Primary Language. In order to yield the effects of mothers' foreign born status and age of arrival in the United States net of language differences, I include a dichotomous measure (coded as 0 for English and 1 for Non=English) to control for the primary language spoken in the home. This measure is derived from the 9 month data collection under the assumption that household language use has not shifted substantially from childbirth to the 9 month data collection.

Birth weight. Finally, I include a control measure for the child's birth weight as provided as composite variables in the ECLS-B. I created dummy variables for normal birth weight (above 2,500 grams), low birth weight (1,500-2,500 grams), and very low birth weight (less than 1,500 grams). Below normal birth weights may indicate developmental issues or illness with the child

and thus, may influence the rate of transition to non-parental care (Bradley, Whiteside, Munfrom, Casey, Kellher & Pope 1994).

Methods. In order to test the effect of age at arrival/ nativity status on rate of transition to non-parental childcare, I will use a discrete-time hazard model. The discrete-time hazard model requires the creation of person-year files that allow for multiple observations per person. This approach has been successfully implemented in other studies of immigrant children's entrance to childcare (Brandon 2004; Hofferth 1999; Liang, Fuller, & Singer 2004).

Missing data. The original number of children in the ECLS-B 9-month-Preschool wave is approximately 10,700. During the programming process, I recoded missing values as system missing. Next, the system missing values for each variable were deleted (list-wise deletion). This resulted in a final sample of approximately of approximately 8,200 cases. Though not optimal, list-wise deletion allows for the consistency in sample size across statistical models. The analyses are weighted to account for the complex, stratified sampling design of the ECLS-B.

Analysis

In order to test the effect of age at arrival/ nativity status on rate of transition to non-parental childcare, I will use a discrete-time hazard model. Discrete-time event history analysis provides the probability that an individual *i* has an event time at *t* given that the event has not already occurred. It also provides an estimate of the baseline hazard and assumes that time is discrete.

The discrete-time hazard model requires the creation of person-year files that allow for multiple observations per person. The PROCSURVEY LOGISTIC procedure in SAS is used and provides a logistic regression that models the effects of the independent variables on the log-

odds of non-parental childcare. The survey aspect of this procedure allows for the use of sample weights, which account for the differences in likelihood of selection into the sample for certain groups, and reduces the inflation of standard errors, which could affect the substantive conclusions drawn from this analysis. Other studies that examine the outcomes of immigrants versus non-immigrants and childcare have also incorporated discrete-time hazard models (Brandon 2004; Hofferth 1999; Singer, Keiley, Fuller & Wolf).

The baseline hazard is parameterized for each time unit (interval) of exposure. To accomplish this, I created a series of time-interval dummy variables coded as follows: interval 1= 0 to 11 months, interval 2= 12-23 months, interval 3= 24-35 months and interval 5= 48 months or more. The creation of intervals is optimal over baseline parameters such as time and time-squared in that the use of such parameters can force the fit of the hazard into a linear or quadratic function. Time and time-squared assume smooth (perfect) linear or quadratic relationships. The creation of intervals yield more useful information and allows me to avoid the assumption of a perfect linear or quadratic relationship.

Descriptive Results

[Table 1 about here]

The unweighted means of the analytic sample show the average age of mothers at childbirth was approximately 28 years. The majority of mothers have completed at least 12 years of formal schooling (80 percent) and just over half were working at least part time during the 9 month data collection. The table also shows that approximately 23 percent of the sample are mothers born outside of the United States. Finally, the mean age that children in the sample began non-parental childcare is just under 13.5 months of age.

[Table 2 about here]

Table 2 shows the mean timing of the first transition to non-parental care by nativity status. These preliminary results show that, partially consistent with Hypothesis 2a, there are later transitions to non-parental care for foreign-born mothers that arrived in the United States as adults. Also, the foreign-born mothers that arrived at the earliest ages look nearly identical to the native born mothers in terms of the timing of this transition. I will now turn to the multivariate analyses to extensively test these hypotheses.

[Table 3 about here]

Discrete-time hazard models of transition to non-parental childcare

The discrete-time hazard model captures the rate of transition to non-parental childcare, given that it has not already occurred. The results of the analyses are presented in Table 3 as exponentiated coefficients (odds ratios), for ease of interpretation.

Model 1 includes the control for mothers' characteristics and other factors associated with the timing to non-parental care. Consistent with the literature (Liang et al. 2000), Black mothers transition to non-parental care at a rate 74 percent higher than white mothers ($p<.0001$). However, the Black mothers are the exception in this model as no other racial/ethnic groups timing to this transition differ significantly from one another. It should also be noted that the number of children in the household is significant. This means that with each increase in the number of children in the household, the transition to non-parental care is 11 percent lower. Also

noteworthy is the relationship between mothers' education and transition timing: mothers at both the lowest and highest educational levels differ significantly from the mothers with 12 years of education (the reference category), albeit in different but expected directions.

Model 2 includes a dichotomous indicator for foreign versus U.S. born along with the controls. Each of the controls maintain significance at the previous levels. Foreign born is significant ($p<.001$) with foreign born mothers making the transition to non-parental care at a rate that is approximately 21.6 percent lower than the rate for native born mothers.

Model 3 tests the second hypothesis that mothers arriving in adulthood would have the slowest transition rate, while those who arrived in early childhood would closely resemble the native born group. Therefore this model includes the controls but also includes age at arrival categories for the foreign born mothers. Though there seems to be an overall linear effect, the only group that is statistically significant ($p<.0001$) is of the mothers that arrived in adulthood. For these mothers, the transition to non-parental care occurs at a rate 33 percent lower than the rate of the native born mothers.

Model 4 tests the effect of mother's age at arrival, net of her employment status at 9 months. This will allow us to see how important mother's age at arrival is, even when controlling for employment status. The results show that for both the mothers that arrived in early childhood (ages 0- 5) as well as for the mothers that arrived as adults, age at arrival is significant. For mothers that arrive as adults, the rate is reduced to 23 percent below the rate of native born mothers ($p<.01$). The minimal reduction in the significance and effect size from Model 3 demonstrates the importance of the age at arrival for later arrival foreign-born mothers.

[Table 5 about here]

Discrete-time hazard models of transition to non-parental childcare for Mexican-origin mothers

Model 5 tests the effects of mother's age at arrival for the approximately 1,000 Mexican origin mothers included the analytic sample. This will allow us to test the hypothesis that being of Mexican-origin is a more important characteristic on the timing of the transition into non-parental childcare, than whether or not a mother is foreign-born (Crosnoe 2007). Controlling again for employment status, the results show that of foreign-born Mexican-origin mothers, those who arrive between ages 6 and 12 transition their children into non-parental care at a rate that is 44.9 percent lower than the rate of native-born Mexican origin mothers ($p<.05$). For mothers who arrive in adulthood, this rate is approximately 40 percent lower than their native born counterparts ($p<.01$).

Discussion

The results of the analyses show that age at arrival in particular, and whether or not mothers are foreign born, in general, are important factors to be considered in the debate surrounding parents' childcare decisions for their children.. In terms of the hypotheses of this analysis, the following conclusions can be drawn. Foreign-born mothers do in fact make slower transitions to non-parental care, consistent with Hypothesis 1, net of other important factors such as income, age, education, and marital status.

However, within the foreign-born group, age at arrival only seems to be a critical factor for mothers arriving in adulthood. Overall, this is consistent with the theories put forth by

Rumbaut (2004) and others regarding to immigrants' age at arrival and adaptation trajectories. Therefore, we can partially accept Hypothesis 2a. The second part of this hypothesis is that once we include employment into the model, the importance of the age at arrival will be reduced. Again, this is partially accepted: the effect of age at arrival is partially reduced for mothers arriving at age 18 or older, and in fact, the effect for mothers arriving at the earliest ages (0 – 5) becomes stronger once employment is added raising the significance beyond a marginal level (from $p<.10$ to $p<.01$). This could mean that there could be other factors that explain the similarities between these two arrival groups that make them different from the groups that arrive in the middle childhood years (age 6-17).

Finally, when testing the Mexican-origin hypothesis that aspects of Mexican culture have an effect on the timing of transition to non-parental care, regardless of whether or not the mother is U.S. born yields interesting results. Mexican-origin mothers that arrive between ages 6 and 12 or in adulthood still make slower transitions to the use of non-parental childcare when compared to their U.S. born counterparts. This is evidence to reject the hypothesis of an overarching Mexican-origin effect net of other major factors such as employment status, income levels and educational attainment. This model offers additional support of the hypothesis that there are differences across groups depending upon foreign-born status as well as how long mothers have been exposed to and have lived among United States culture.

Limitations

There are limitations to this study. The first is that the use of an event-history approach requires specific information about the timing of other variables that could have an effect on dependent variable (Singer & Willett 1993). In this case, I did not have information on mother's

work status at the time of the child's birth, when (at what month) did her marital status change or other specific information that would have allowed the creation of efficient time-varying variables. The use of 9-month variables would have possibly created endogeneity concerns. Another issue is that the missing data in theses analyses are dropped via list-wise deletion. For future work, I will consider the employment of alternative methods to overcome this issue such as means substitution or multiple imputation.

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Appendix

Table 1. Descriptive Results of Analytic Sample

	Mean (%)	SD	Range
Age at first transition to non-parental care (in months)	13.5	16.36	0 - 1
Mother's Characteristics			
Race/Ethnicity			
White (Non-Hispanic)	48.8	0.499	0 - 1
Black (Non-Hispanic)	15.5	0.362	0 - 1
Hispanic	16.9	0.375	0 - 1
Asian	12.2	0.327	0 - 1
Other	6.4	0.246	0 - 1
Mother's Age at child's birth	27.7	6.351	
Education			
Less than High School	4.3	0.204	0 - 1
Some High School	14.4	0.351	0 - 1
Four years of High School	30	0.458	0 - 1
Some College or Beyond	51	0.499	0 - 1
Employment Status			
Working	51.1	0.499	0 - 1
Not Working	48.9	0.499	0 - 1
Marital Status			
Married	68.2	0.465	0 - 1
Not Married	31.7	0.535	0 - 1
Normal Birth weight	72.3	0.447	0 - 1
Low Birth weight	15.5	0.361	0 - 1
Very Low weight	12.1	0.327	0 - 1
U.S. Born	76.1	0.426	0 - 1
Foreign Born	23.9	0.426	0 - 1
Age at arrival less than 5 years old	2.5	0.155	0 - 1
Age at arrival 6-12 years old	2.6	0.159	0 - 1
Age at arrival 13-17 years old	3.2	0.176	0 - 1
Age at arrival 18 years and older	15.3	0.360	0 - 1
Household characteristics			
Number of Children in Household	2.26	1.22	1 - 11
Primary Language Spoken in Home			
English	84.99	0.357	0 - 1
Non-English	15.01	0.357	0 - 1
Income			
Quartile 1 ($20,000 or less)	24.8	0.432	0 - 1
Quartile 2 ($20,001 - $35,000)	22.9	0.420	0 - 1
Quarite 3 ($35,001 - $75,000)	30.7	0.461	0 - 1
Quartile 4 (over $75,000)	21.6	0.411	0 - 1

Source: Early Childhood Longitudinal Survey, Birth Cohort 1-3

Table 2. Child's Age at First Transition to Non-Parental Care by Mother's Age at Arrival*

Nativity Status	
U.S. born	12.89
0-7 years old	12.35
8-12 years old	11.5
13-17 years old	13.5
18 years or older	16.75

Source: Early Childhood Longitudinal Survey, Birth Cohort Waves 1-3

*Child's age in months

Table 3. Discrete-Time Hazard Models Predicting Children's First Transition into Non-Parental Care

	Model 1			Model 2			Model 3			Model 4		
	Odds Ratio		SE	Odds Ratio		SE	Odds Ratio		SE	Odds Ratio		SE
Nativity/Age at arrival (ref=U.S. born)												
Foreign Born				0.784	**	0.0728						
Age at arrival 5 years and younger							1.228	†	0.1159	1.380	**	0.1089
Age at arrival 6-12 years old							0.916		0.1581	0.891		0.1408
Age at arrival 13-17 years old							0.823		0.1285	0.878		0.1115
Age at arrival 18 years and older							0.663	***	0.0817	0.764	**	0.0829
Time intervals (in months)												
0 - 11 (omitted)												
12 - 23	0.224	***	0.066	0.224	***	0.0662	0.224	***	0.0661	0.282	***	0.0615
24 - 35	0.230	***	0.071	0.230	***	0.0715	0.231	***	0.0716	0.298	***	0.0732
36 - 47	0.530	***	0.052	0.531	***	0.0525	0.533	***	0.0522	0.686	***	0.0539
48+	1.254	**	0.079	1.258	**	0.2292	1.259	**	0.0788	1.619	***	0.0932
Mother's Characteristics												
Race/Ethnicity (ref=White [Non-Hispanic])												
Black (Non-Hispanic)	1.741	***	0.059	1.767	***	0.0600	1.784	***	0.0609	1.574	***	0.0656
Hispanic	0.996		0.061	1.088		0.0674	1.083		0.0676	1.051		0.0668
Asian	0.976		0.0600	1.121		0.0732	1.121		0.0761	1.201	*	0.0766
Other	1.118		0.079	1.122		0.0797	1.124		0.0801	1.123		0.0845
Mother's Age at child's birth	0.993		0.004	0.994		0.00405				0.990	*	0.00416
Education (ref= 4 years of high school)												
Less than High School	0.563	***	0.093	0.600	***	0.0987	0.632	***	0.1004	0.661	**	0.1106
Some High School	0.902	†	0.06	0.908		0.0603	0.9100		0.0609	1.003		0.0664
Some College or Beyond	1.215	***	0.048	1.205	***	0.0472	1.195	**	0.0475	1.130	**	0.0465
Employment Status (ref=working)												
Not Working										0.309	***	0.0408
Marital Status (ref=married)												
Not Married	1.467	***	0.048	1.447	***	0.0478	1.439	***	0.0493	1.375	***	0.0474
Child's birth weight (ref=normal)												
Low Birth weight	1.056		0.046	1.059		0.0470	1.058		0.0471	1.066		0.0533
Very Low weight	1.1		0.076	1.097		0.0771	1.091		0.0763	1.134	†	0.069
Household characteristics												
Number of Children in Household	0.886	***	0.017	0.883	***		0.878	***	0.0175	0.927	***	0.0163
Primary Language Spoken in Home (ref=English)												
Non-English	1.017		0.067	1.135			1.182	*	0.0759	1.202	**	0.0711
Income (ref= Quartile 2)												
Quartile 1 ($20,000 or less)	0.936		0.055	0.934			0.937		0.0569	1.039		0.0568
Quaritle 3 ($35,001 - $75,000)	1.162		0.052	1.153	*		1.143	*	0.0526	1.085		0.0608
Quartile 4 (over $75,000)	1.584		0.065	1.565	***		1.552	***	0.0668	1.490	***	0.0722
Number of Person-Years	146612			146612			146612			146612		
- 2 LOG L	22736989			22726120			22705476			24371448		

Note: Results presented as Odds-Ratios

Source: Early Childhood Longitudinal Study, Birth Cohort, 1-3.

† p<.10, *p<.05, **p<.01,***p<.001

Table 4. Discrete-Time Hazard Model Predicting the Children's First Transition into Non-Parental Care for Mexican-Origin Mothers

	Model 5		
	Odds Ratios		SE
Nativity/Age at arrival (ref=U.S. born)			
Age at arrival 5 years and younger	1.001		0.2243
Age at arrival 6-12 years old	0.551	*	0.2957
Age at arrival 13-17 years old	0.909		0.1809
Age at arrival 18 years and older	0.601	**	0.172
Time intervals (in months)			
0 - 11 (omitted)			
12 - 23	0.301	***	0.1847
24 - 35	0.27	***	0.219
36 - 47	0.799	†	0.1259
48+	1.585	†	0.2226
Mother's Age at child's birth	0.961	**	0.0128
Education (ref= 4 years of high school)			
Less than High School	0.694	*	0.1788
Some High School	0.983		0.169
Some College or Beyond	1.029		0.1992
Employment Status (ref=working)			
Not Working	0.256	***	0.1384
Marital Status (ref=married)			
Not Married	1.149		0.1307
Child's birth weight (ref=normal)			
Low Birth weight	1.117		0.1879
Very Low weight	1.11		0.1815
Household characteristics			
Number of Children in Household	1.003		0.0559
Primary Language Spoken in Home (ref=English)			
Non-English	1.229	†	0.1187
Income (ref= Quartile 2)			
Quartile 1	0.909		0.1338
Quaritle 3	1.221		0.1454
Quartile 4	1.772	†	0.2941
Number of Person-Years	19517		
- 2 LOG L	2744485.6		

Note: Results presented as Odds-Ratios

Source: Early Childhood Longitudinal Study, Birth Cohort, 1-3.

† p<.10, *p<.05, **p<.01,***p<.001