Variation in Parental Time: Does Parents' Immigration Status Matter?

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Abstract

Children of immigrants have been outperforming native-born children in academic achievements. Immigrant parenting styles have been the center of discussion around immigrant children's academic outperformance. One factor, parental time, has been less studied than other components of immigrant parenting styles, yet immigrant parents with different legal status and duration of residence can spend substantially different time on child education. The current study helps to expand prior research of immigrant parenting by focusing on parental time and its variation by parents' immigration status. The study draws a sample of 77,337 observations from American Time Use Survey (ATUS) to compare the parental time of naturalized, nonnaturalized, and native-born parents. Only naturalized parents invest more time in education-related primary childcare than native-born parents. By contrast, nonnaturalized parents spend more time on cultural enrichment activities while caring for at least one child under 13, compared to native-born parents. From May to December 2020, both groups of immigrant parents have experienced more substantial increases in educational parental time than native-born parents. Results indicate the importance of childcare-related social supports for nonnaturalized parents.

Keywords

parental time, immigrant parents, primary childcare, secondary childcare, COVID

INTRODUCTION

In 2018, the foreign-born population accounted for almost 14% of the total U.S. population. Among the foreign-born population, 45% of them (or 21 million immigrants) were naturalized American citizens (Baker 2021; Budiman 2020), with an additional 11 million undocumented immigrants as of 2013 (Warren 2015). An important finding of recent foreign-born population indicates that their children have outperformed the children of native-born parents in academic achievements (Lee and Zhou 2015; Portes and Rumbaut 2001). Scholars have debated whether this outperformance is related to self-selectivity, authoritative parenting, and mainstream assimilation of foreign-born parents (Marks, Ejessi, and García Coll 2014; Suárez-Orozco, Rhodes, and Milburn 2009; Zhou and Lee 2017). Following prior debates, this study will examine whether an understudied factor – parental time – can help to explain why children of immigrants have outperformed children of native-born parents in academic achievements. Furthermore, the study asks whether this outperformance changes as immigrant parents reside longer in the U.S.

There are different mechanisms that can generate newcomers' advantages and disadvantages in social and economic mobility. On the one hand, cultural mechanisms, such as the value of success in prestigious education and high-income occupations, can explain higher amounts of parental resources invested in children's education among Asian parents than native-born or other immigrant parents (Ho 2014; Zhou and Lee 2017). On the other hand, structural mechanisms, such as discrimination and poverty, can also impact immigrant parents' ability to invest in their children (Graves Jr and Brown Wright 2011; Suárez-Orozco et al. 2009). Prior migration literature has shifted emphasis from cultural orientations to structural mechanisms to explain immigrant children's academic advantages over native-born children (Desmond and López Turley 2009; Menjivar 2010; Pinto and Coltrane 2009). The current study follows this trend to examine a structural mechanism specified by immigration status and the relationship between the mechanism and the academic advantages of immigrant children over native-born children.

Prior family and education literature has found variations in parental time. Specifically, the amount and quality of parental time can vary by parents' socioeconomic status (Bassok et al. 2016; Guryan, Hurst, and Kearney 2008; Ramey and Ramey 2010), family size, birth order, and mother's education (Phillips 2011; Powell and Steelman 1993; Price 2008). Yet, few have asked whether these variations can result from parents' immigration status in the U.S. This gap can be problematic because immigrant parents are a diverse population embedded in the structural inequalities of current American society (Kofman and Bianchi 2012; Ribar 2013). To help fix this gap, the study will compare the parental time of naturalized versus non-naturalized parents and ask whether the immigration status can create an academic achievement gradient among children of immigrants.

BACKGROUND

Parental Time and Children's Developmental Outcomes.

Parental time is associated with children's later developmental outcomes, such as their academic achievements and future socioeconomic status (Duncan, Morris, and Rodrigues 2011; Nock and Kingston 1988; Phillips 2011). Despite the increased time pressures on today's parents compared to parents 40 years ago (Gauthier, Smeeding, and Furstenberg Jr 2004), today's fathers and mothers of all social strata are more aware to spend more time with their children because they on average have fewer children and more education than those four decades ago (Bianchi,

Robinson, and Milke 2006; Kornrich and Furstenberg 2013; Sayer, Bianchi, and Robinson 2004; Yeung et al. 2001). However, on average, more educated parents spend longer time with children because they are better aware of the benefits of parental time investments than less educated parents (Bassok et al. 2016; Price 2008; Ramey and Ramey 2010). It is also easier for highly educated parents to contribute parental time because of more flexible jobs and a greater ability to purchase household services other than childcare services (Bianchi et al. 2004).

The Current Study

Past research has shown variation in parental time investments by parents' education. Less is known about variation by parents' immigrant experience (i.e., years of residence in the host country and the attainment of citizenship) and there has been an unsolved puzzle on parenting of recent immigrant parents. Do immigrant parents keep to their traditional culture and values on how much time they should spend with children? Do immigrant parents and native-born parents become more alike or more distinguished in their parental time as immigrant parents reside longer in the host country? Admittedly, one can infer immigrant parents' time investments from their educational attainment as the above research suggests, and parents' immigrant experience is presumably related to their own education attainment and skill levels (Massey et al. 1993; Portes and Zhou 1993). However, a direct look at parents' immigrant experience can further clarify variation in parental time by immigrant experience as well as between immigrants and native-born Americans.

Theoretical Relationships between Immigrant Experience and Parental Time.

Theory of the Immigrant Achievement Paradox

By examining variation in parental time between foreign-born parents and their native-born counterparts, this study furthers in the discussion of the immigrant achievement paradox observed among the immigrant population in the past decades. Past immigrant research has consistently observed that children of the newest immigrants, mostly labeled as non-European, on average face challenges such as racial/ethnic discrimination, unwelcoming contexts, violence, and poverty, yet they can often excel in academic outcomes compared to children of non-immigrant parents (Crosnoe and Turley 2011; Marks et al. 2014; Suárez-Orozco et al. 2009), incorporate into the mainstream U.S. society, and achieve a level of socioeconomic mobility that is "comparable to the earlier waves of European immigrants" (Tienda and Haskins 2011; Zhou and Lee 2007). Specifically, children of East Asian immigrants have outperformed academically than children of native minorities and Whites (Jerrim 2015; Kasinitz et al. 2009; Warikoo and Carter 2009). Children of Mexican immigrants have achieved smaller gap in education and income with children of Whites, as well as notable intergenerational mobility (Bean, Brown, and Rumbaut 2006; Brown and Patel 2005; Zhou and Lee 2007). A possible reason for the immigrant achievement paradox is that immigrant parents have expressed higher educational expectations than native-born parents and more deeply invested in children's schooling than native-born parents (Altschul 2011; Goyette and Xie 1999; Yamamoto and Holloway 2010).

In general, children of the newest immigrants have been outperforming their native-born counterparts in academic achievements. By comparing the parental time of immigrants versus native-born parents, this study can advance the evaluation of immigrant achievement paradox by highlighting how the time investments differ between immigrant parents and native-born parents.

Consequently, the current study hypothesizes that *both naturalized and non-naturalized parents are expected to report **similarly longer** parental time invested in daily childcare and educational activities than native-born parents* (Hypothesis 1A). However, although children of immigrants have been outperforming native-born children academically, immigrant parents may not be a driving force for their children's outperformance. Instead, due to language barriers or unstable employment conditions, immigrant parents may not spend as much time on child education as native-born parents. In this case, the study proposes an alternative hypothesis that *both naturalized and non-naturalized parents are expected to report **similarly shorter** parental time invested in daily childcare and educational activities than native-born parents* (Hypothesis 1B).

Theory of Immigrant Integration and Assimilation

Besides the heterogeneity in parental time between immigrant and native-born parents, parental time can also differ within the immigrant population. There has been significant heterogeneity in social mobility within the immigrant populations that has to do with the newest immigrant parents' legal status and duration of residence, which could help explain differences in parental time investments among immigrants in the U.S. Both mechanisms can reflect the degree of immigrant integration into the host country's mainstream society, the level of socioeconomic status, and immigrant family cohesion, which can influence the amount of time immigrants spend with their children. The current study will propose a series of models that link to these mechanisms of integration. First, longer residence in the U.S. may bring immigrants a higher degree of social integration and thus a larger likelihood of wage growth, which may raise parental investments of time and resources in child education and development (Akresh, Massey, and Frank 2014; Portes and Hao 2004). Second, naturalization may bring immigrants more privileged socioeconomic resources, such as higher income per job and more favorable leave policies. With these privileges, naturalized immigrants can adjust work schedules more flexibly and win more time for childcare, compared to non-naturalized immigrant parents (Bianchi et al. 2004; Bratsberg, Ragan, and Nasir 2002; Catron 2019; Lindstrom 2019).

Besides suggesting a higher level of immigrant integration, longer residence and naturalized citizenship in the host country also suggest potential achievement of "upward assimilation" in its mainstream society rather than "downward assimilation". By achieving "upward assimilation", children of recent immigrants rapidly integrate and gain acceptance into the U.S. mainstream society after their arrival, as opposed to "downward assimilation", like dropping out of school or joining in the drug subculture (Alba, Kasinitz, and Waters 2011; Haller, Portes, and Lynch 2011; Portes and Zhou 1993; Waters and Jiménez 2005; Zhou 1997). Among many factors that distinguish upwardly-assimilated second-generation children from those downwardly-assimilated, parental resources powerfully help children confront the cultural and economic barriers faced in their quest for successful adaptation (Portes and Rumbaut 2001). Few prior studies have highlighted parental time from the plethora of parental resources or discussed differences in parents' ability to spend time on children education by their immigrant status. Thus, the current study hypothesizes that *naturalized parents spend more time on child education than both native-born parents and non-naturalized immigrant. With a legal status "penalty", non-naturalized parents spend less time parenting than naturalized parents, they but still maintain an immigrant advantage in parental time compared to native-born parents* (Hypothesis 2A).

In this study, both duration of residence and the legal status (i.e., naturalized and nonnaturalized) presumably influence immigrant parents' capacity to allocate time for children. Legal status is not the sole indicator of immigrant privileges because the line between citizens and noncitizens has become less clear-cut (Brown and Bean 2016). Nonnaturalized immigrants with longer residence in the U.S. can live similar lives as naturalized immigrants, by accessing social security and healthcare, quality education, middle-class incomes, and limited political rights, as well as potential negatives related to long residence (Castles, de Haas, and Miller 2014). Therefore, long-term residence can potentially increase the transmission of citizen privileges and bring nonnaturalized immigrants similar citizenship privileges as those naturalized. The ongoing discussions of such "quasi-citizenship" suggests a potential bias of studying immigrant parents solely by their legal status. Consequently, this study believes that both the duration of residence and legal status can influence immigrant parents' time investment on child education.

Theory of Family Cohesion

The current study admits the possibility that immigrant families with longer duration of residence and/or naturalized status may create a context where children can experience a higher degree of social integration than those from families with shorter residence and/or non-naturalized status. Children going through more integration may form weaker ties with their parents, and those parents are thus less able to help their children earn high grades at school, despite having high family socioeconomic statuses (Portes and Hao 2004). That said, the weakened cohesion between immigrant parents and their children may reduce naturalized immigrants' parental time spent with their children, and the reasons vary. For example, naturalized parents may be more accustomed to the host country language and spend less parental time teaching children their home language, compared to newly arriving, non-naturalized parents who may spend more time speaking their home language and training children to speak their home language as well (Lee and Zhou 2004; Lindstrom 2019; Portes and Rumbaut 2001; White and Glick 2000). Newly arriving parents' knowledge of children's whereabouts and the number of times parents monitor schoolwork have outperformed native-born parents and parents who have resided longer in the U.S. (Glick and White 2004; White and Glick 2000). Therefore, contrary to Hypothesis 2A, an alternative hypothesis proposes that *despite their legal status advantages, naturalized parents who on average have longer residence in the U.S. may experience a "penalty" of longer residence and spend less time on child education than non-naturalized immigrant parents, but even with "penalty", naturalized parents may still report more parental time than native-born parents* (Hypothesis 2B).

The proposed hypotheses are summarized in Figure 1. The y-axis displays expected estimates of parental time in minutes per day. The x-axis exhibits four sets of bar graphs, each corresponding to one hypothesis. Each set of bar graphs depicts one type of hypothesized variation in time investments from native-born parents, naturalized parents, and non-naturalized parents.

[Figure 1 About Here]

DATA AND METHODS

Data

This study draws a sample of 77,337 observations from the American Time Use Survey (ATUS), a nationally representative cross-sectional sample of individuals who received interviews from 2003-2020 on how, where, and with whom they spend their time. The analytic dataset draws information from three types of data files of ATUS. The respondent file is rectangular, one entry per respondent. It provides outcome variables of interest – primary and secondary parental time – and other indicators of interest, such as immigrant legal status and year of immigration. By contrast, both the “activity” file and the “who” file are hierarchical. The “activity” file reports each respondent’s activities and the duration of each activity. The “who” file collects the relationship to the respondents of the individual with whom each activity was performed, such as with one’s own household children or foster children. The “who” file and “activity” file together describe parental time spent on *specific* categories of both primary and secondary activities and are ultimately reshaped and combined with the respondent file.

In the analytic dataset, every respondent has at least one child of their own under 18 in the household and reports detailed information on his or her activities during a designated 24-hour period. Therefore, the unit of analysis is the parent. By legal status, a parent is either native-born ($N = 63,159$), foreign-born naturalized ($N = 5,291$), or foreign-born non-naturalized ($N = 8,887$). This study estimates the relationship between immigrant experience (i.e., legal status and length of residence) and the amount of parental time, using Ordinary Least Square (OLS) models. The study pays special attention to secondary childcare time, the time spent doing childcare as a secondary activity, such as talking to a child while cooking a meal (Allard et al. 2007). Leaving out secondary childcare time may underestimate the total amount of parental time because parental company and childcare when parents work from home, take care of children who may not go to school or stay only after a day in school (Zick and Bryant 1996).

These data provided a few substantial benefits for highlighting the effects of immigrant status and length of residence. First, the respondent file includes detailed categories of immigrant status and year of immigration from a decent size of immigrant population. Second, by combining the “who” file with activity file, the dataset can report parental time on both primary and secondary childcare activities (ATUS 2020). If the respondent practices a primary activity while a child is present, but the activity is not directly related or unrelated to childcare, such as working out or shopping, the respondent may treat childcare as a secondary activity. Otherwise, if the primary activity is clearly childcare, for example, quizzing children, attending a PTA meeting, home schooling, or waiting to meet with child’s teachers, the respondent practices primary childcare. The study not only highlights primary educational activities between parents and children but also more properly estimates secondary parental time related to childcare.

Methods

To examine four hypotheses, the study uses the Ordinary Least Square (OLS) models and seeks to solve puzzles on immigrant parents’ time commitment on childcare and education for all respondents and especially for females. Equation (1) and (2) depict the OLS estimates and

coefficients of interest. Equation (1) is used to model hypothesis 1A and 1B, or the effect of being foreign-born versus native-born on parental time allocated to child's education. Equation (2) is used to model hypothesis 2A and 2B, or the effect of being foreign-born versus being native-born on parental time, influenced by the length of residence. Table 1 summarizes the use of equation and posited directions of coefficients that correspond to each hypothesis.

$$\textbf{Equation (1): Parental Time}_i = \alpha + \beta_N \text{Naturalized}_i + \beta_{NN} \text{Non-naturalized}_i + \beta_C X_i + \varepsilon_i$$

$$\textbf{Equation (2): Parental Time}_i = \alpha + \beta_N \text{Naturalized}_i + \beta_{NN} \text{Non-naturalized}_i + \beta_{NR} \text{Naturalized}_i * \text{ResidenceLength}_i + \beta_{NNR} \text{Non-naturalized}_i * \text{ResidenceLength}_i + \beta_C X_i + \varepsilon_i$$

[Table 1 About Here]

By adding in β_{NR} and β_{NNR} in Equation (2), the study interacts a parent's immigrant status with his or her length of residence in the host country and further examine if the effects of β_N and β_{NN} on parental time vary by a parent's length of residence in the U.S., under the theoretical assumption that on average, naturalized and non-naturalized immigrants have substantially different histories of residence. The coefficient β_C estimates the effect of a matrix of potential factors X_i that may have significant but confounding influence on parental time.

Key Measures:

Dependent variables: *Time spent on education-related primary childcare activities for household children (mins/day)* is the measure for primary parental time on activities related to household children's education¹. These activities can be homework-related (e.g., helping child with a school project, quizzing child for a test), meeting-related (e.g., attending a PTA meeting, talking with teachers of child), home schooling, or waiting-related (e.g., waiting to meet teachers of child). This study weights this measure by both the 2006 and 2020 standards for the OLS regression models, as advised by ATUS. The sampling weights adjust the average time per day spent by each group of parents engaging in a certain activity, so the weighted means of time is the same for every parent within each group. These weights can reduce potential overestimation of time spent on weekends and underestimation of time spent in weekdays (ATUS 2020). With sampling weights, each demographic group can be better represented in the population.

Total time spent on secondary childcare for own household children is the measure for secondary parental time in total. Secondary childcare estimates are derived by summing the durations of activities during which parents have at least one child under age 13 in their care while doing main activities. The estimates are restricted to the time the parent is awake, and to the time between when the first child wakes up and the last child goes to bed. The study disentangles three sub-categories of secondary childcare activities that differ from primary educational activities but can strength children's education and future outcomes. First, parents do personal interest and leisure activities with children, for example, checking social media, watching TV, playing games, reading, and doing arts/crafts. Second, parents attend food and socializing events with children,

¹ "Household children" may be both related to the respondent, such as their own children, their sibling's children, or their siblings, and unrelated to the respondents, such as their foster children and home stay children. Records of primary parental time on education do not distinguish "household child" from "own household children".

for example, taking a lunch break and attending parties or events for personal interests. Third, parents exercise, watch sports events, and do recreational activities with children. Likewise, the time for all secondary childcare categories is weighted by both the 2006 and 2020 standards.

Primary independent variables: *The person's immigrant status* was identified as belonging to one of three socially constructed categories: (1) native and born in the U.S., in Puerto Rico and other U.S. outlying areas, or born abroad to American parents; (2) naturalized citizens; or (3) non-naturalized persons. Information of citizenship status comes from the final Current Population Survey (CPS) interview conducted 2-5 months before the ATUS interview. Missing data (i.e., not in the universe) are unavailable for citizenship status. Therefore, every respondent in the analyzed sample reports a certain citizenship status. In regression analyses, the study treats the first category (native-born) as the reference category and treats the second (naturalized) and third (nonnaturalized) as treatment categories.

The length of residence in the U.S. was identified by subtracting the year of immigration from the year of survey (2003-2020), plus one. The original data report the year of immigration as an interval in which a person born outside the U.S. entered the country. The study recodes the intervals to single years, by selecting the mid-year of a five-year interval or the lower bound of a two-year interval. The recoded year of immigration has a maximum of 2019 and is set to 0 for native-born respondents for analytical purposes. Subtracting the recoded year of immigration from the year of survey gives the length of residence. Again, native-born respondents' length of residence is set to 0.

Interactions between immigrant status and length of residence was identified by (a) naturalized status times the length of residence; and (b) non-naturalized status times the length of residence. Interaction term (a) ranges from 0-59 and tests whether the parental time of naturalized parents is also affected by how long they have stayed in the U.S. Similarly, interaction term (b) ranges from 0-54 and tests whether the parental time of non-naturalized parents is also affected by how long they have stayed in the U.S. The interaction terms only intervene in Model 2 and 3 as primary predictors.

Other variables in Equation (1) and (2). To help further understand differences in parental time, native-born, naturalized, and non-naturalized respondents should be as comparable as possible on their household demographics, individual demographics, socioeconomic status (education and occupation). These factors are described in Table 2 and analyzed by each model of this study in Table 3.

RESULTS:

Descriptive Differences by Respondent's Legal Status in the United States.

To understand the structural inequalities of parental time in this sample, Table 2 displays descriptive statistics for all analyzed variables and covariates by socially constructed categories of legal status. The time parents invest on child education significantly differ by their legal status in the U.S. and show distinct patterns by types of childcare activities. On education-related primary childcare, foreign-born immigrant parents on average spend 3 more minutes per day than native-born parents. On secondary childcare, nonnaturalized parents spend nearly one more *hour*/day than both naturalized parents and native-born parents. For example, on doing leisure and socializing

activities with children, nonnaturalized parents outperform naturalized and native-born parents by 20 minutes and 15 minutes per day, respectively. Native-born parents, by contrast, outperform the other two groups in sports activities with children by nearly 3 minutes a day. As a takeaway, for primary children, naturalized parents maintain a better time balance between work and childcare than both native-born and nonnaturalized parents, even though naturalized parents work longer each week than nonnaturalized parents. By contrast, nonnaturalized parents outperform the other two groups in cultural enrichment-related secondary childcare. Nonnaturalized parents are more likely to care for at least one child during daily leisure activities or socializing events.

[Table 2 About Here]

Consistent with prior research (Catron 2019; Patler 2018), parents' ability to offer primary education-related childcare and outsource secondary childcare may vary by their socioeconomic resources. The accumulation of resources is tied to their legal status and residence history. First, compared to the other two groups, nonnaturalized parents are less educated, less likely to be employed for themselves and their spouses/partners, and have significantly lower family income (50% lower than naturalized parents' average income). They have more young children under 12 living in the households who need more attention from adults than elder children. Therefore, nonnaturalized parents may have less time and resources to spare for each child's education as the other two groups of parents. Finally, compared to naturalized parents, they are younger and fare 10 years shorter in the duration of residence. Due to the non-citizen status and short residence, nonnaturalized parents may be less able to afford childcare services but take care of children themselves while doing daily activities.

The Effects of Legal Status on Education-related Primary Childcare

Give this study's theoretical emphasis on the moderating effects of legal status, Model 1 of Table 3 presents predicted effects of parents being naturalized and non-naturalized on parental education time (minutes per day). After parental time being weighted, the result is consistent with hypothesis 1A and 2A that foreign-born parents spend more time on education-related primary childcare, but only for naturalized parents. Specifically, naturalized parents spend 1.44 significantly more minutes a day on child education than native-born parents. Foreign- and native-born females spend comparable amount of time per day on child education. Enriching prior findings on the immigrant achievement paradox, Model 1 finds more time commitment from naturalized parents who may experience higher degrees of social integration with the host society than nonnaturalized parents. Model 1, however, contradicts prior research about the child caregiving role that falls more heavily on females than males (Lahaie, Earle, and Heymann 2013; Pinquart and Sörensen 2006; Spitzer et al. 2003; Valenzuela Jr 1999).

[Table 3 About Here]

Effects of Residence Moderating the Effects of Legal Status

To further examine hypothesis 2B on potential heterogeneity within the immigrant population on daily education activities, Models 2 and 3 of Table 3 consider immigrants' duration of residence in addition to their legal status, reducing potential bias of overlooking residence in

past research (Brown and Bean 2016; Castles et al. 2014). Overall, after parental time being weighted, the results from Models 2-3 are inconsistent with the residence “penalty” posited in hypothesis 2B. Naturalized parents still spend more time on child education than native-born parents regardless of their residence histories, and again no difference exists between nonnaturalized and native-born parents. Compared to naturalized parents in Model 1, naturalized parents in Model 2 spend even more time than native-born parents, by 2.33 minutes per day. When family situations (i.e., family, income, spouse’s work hours, child age) are controlled in Model 3, the naturalized-native gap continues to rise to 2.42 minutes per day. For females, foreign- and native-born females are comparable, again, in Models 2 and 3. Consequently, duration of residence has little moderating effect on immigrant parents’ time commitment on child education. Naturalized parents hold time-consistent advantages in education-related primary childcare compared to native-born parents, rejecting the hypothesized residence “penalty”.

Despite no residence “penalty” observed in the sample, Models 1-3 highlight another potential “penalty” on parental time that may have confounded with the effect of residence -- parents’ age. Parents’ age grows in parallel to their residence. Across Models 1-3, the variable “Age” is statistically significant, meaning that elder parents are likely to contribute more minutes per day than younger parents, especially among female parents. However, the quadratic term of “Age” has significantly negative coefficients, indicating first increasing and then decreasing trend of parental time as parents (and their children) age. This result suggests that children need more education-related parental time as they grow up. Passing a certain age, they tend to need lesser time from parents for their homework, quizzes, and educational activities. The result is also reinforced by a series of binary variables exhibiting the effects of children’s ages on the parental time spent on child education. In this sample, for children aged 1-12, their parents’ time on education grows as the children grow up. From 13 years old and on, parents’ time on education begins to decline. Therefore, the variables with regards to parents’ and children’s age help check the reliability of parental time data from Models 1-3 and illustrate the negative effects of parents’ age on education-related primary childcare.

Primary Childcare and Parents’ Education, Race/Ethnicity, and Work Hours

The study finds that parents spend more time on education-related primary childcare when they are college-educated, Asian, and work fewer hours per week. Consistent with prior research, the current study finds more education-related primary childcare among parents who are more educated and may pay more attention to their children’s education (Bianchi et al. 2004). Asian parents also spend more time on child education, as previous studies found that Asian immigrants proactively manage their children’s journeys through schools and seek for educational resources for their children (Crosnoe and Turley 2011; Lee and Zhou 2004). White, Black, or Hispanic parents do not invest significantly more time than their non-White, non-Black, or non-Hispanic counterparts. Additionally, following what prior research found on the work-parenting balance (Pinto and Coltrane 2009), the study confirmed that a parent’s usual work hours per week are negatively related to their education-related primary childcare. Female parents lose more primary childcare time than males when they work more hours per week. Interestingly, if the spouse/partner works one more hour/week, the parent may take over a little education-related childcare (by 0.05 mins/day, or 0.04 mins/day for females) from their hardworking spouse/partner.

Not surprisingly, based on the above results, nonnaturalized parents seem to practice less education-related primary childcare than the other two groups, since they are less likely to be college-educated and to be Asian-identified than the other two groups (See Table 1). Nonnaturalized parents are more likely to work more shifts or have low-income jobs which require more labor to earn an adequate income (Hall, Greenman, and Farkas 2010), they may lose more time on education-related primary childcare than the other two groups. Nonnaturalized parents may be selective in other types of childcares, which will be discussed later in the results.

Sensitivity Test Using Natural Experiment of the Pandemic Lockdown

The pandemic lockdown since March 2020 has “forced” parents to work from home and meanwhile care for their school-aged children. This “forced” lockdown formed a natural experiment when parents nationwide (except for essential workers) stayed home with their children and had very limited daily activities. However, some parents might still spend significantly more time on child education than others, even though most parents in the U.S. had few choices for daily activities. Therefore, this natural experiment of lockdown can single out factors that could hardly be influenced by the lockdown, such as parents’ legal status, and their effects on parental time. The study uses ATUS data collected during the lockdown (May-December in 2020²) as a natural experiment to test how much more parental time has changed with the lockdown for immigrant parents compared to native-born parents. In other words, the natural experiment tests the “difference in difference”, or in this case, “difference in time change” (see Figure 2). To do this natural experiment, the study interacts parents’ legal status with an indicator of whether the respondent was interviewed during the lockdown. Then, this interaction term becomes the main predictor in the same regression model as Model 3.

Not surprisingly, with the lockdown, immigrant parents had a significantly larger change in their parental time on education-related primary childcare than native-born parents. Specifically, the change in naturalized parents’ parental time outweighs the change in native-born parents’ parental time by 15 minutes a day. The change in nonnaturalized parents’ parental time outweighs the change in native-born parents’ parental time by 9 minutes per day. The difference in time change is marginal between naturalized and nonnaturalized parents.

Consequently, when parents are “forced” to spend all day every day with their children, immigrant parents have seen a more substantial increase in their parental time than native-born parents. Future research can investigate potential effects of the pandemic lockdown. For example, based on the theory of immigrant achievement paradox, the lockdown may further strengthen the academic outperformance among children of immigrants relative to their native-born age counterparts. However, for the third generation and above, the same strengthening effect of lockdown may not be as significant as it is for the second generation and below, due to an overall declining trend observed in the academic advantages among the third generation and above (Tienda and Haskins 2011).

[Figure 2 About Here]

The Effects of Legal Status and Residence on Cultural Enrichment Secondary Childcare

² Due to the pandemic, ATUS suspended data collection from mid-March to mid-May. New data releases start from May 10th through December 31st. For the sensitivity test, the study uses data collected from May-December 2020.

Models 4-6 of Table 3 predict parents' time spent on three types of cultural enrichment activities by the set of covariates analyzed by Model 3. These secondary childcare activities are cultural enrichments for children since they develop children's personal hobbies, interpersonal skills, and sports-related personalities (e.g., perseverance, cooperation). Overall, nonnaturalized parents (but not naturalized parents) outperform native-born parents in time spent cultivating children's personal interests and interpersonal skills. Specifically, nonnaturalized parents outperform native-born parents in leisure activities and socializing events with children, by 10 and 5 minutes per day, respectively. Surprisingly, as they reside longer in the U.S., nonnaturalized parents may slowly reduce the time they care for children while doing leisure activities, even with potential confounders controlled (e.g., parents' age). In terms of sports activities with children, time does not differ between immigrant parents and native-born parents. Consequently, although nonnaturalized parents are less able to provide education-related primary childcare, they let their children participate in adults' socializing events and cultural enrichment activities, ultimately making their children culturally competitive.

In addition to the effects of legal status and residence history, parents' race/ethnicity, marital status, education, work hours, and family-related factors also influence parents' time spent on secondary childcare. First, Hispanic parents spend significantly more time on leisure and socializing activities (but not sports) than non-Hispanic parents. Black parents spend substantially less time on socializing and sports activities while their children are present than non-Black identifies parents. Second, married parents spend notably more time on socializing events with children than those not married. College-educated parents spend more time on socializing and sports activities with children, but less time on leisure activities, compared to less educated parents. Not surprisingly, a parent's work hours are reversely related to all three types of secondary childcare. If the spouse/partner works more hours per week, the time for leisure activities with children notably decline, due to the absence of a family member. Lastly, secondary childcare activities are more popular among parents with younger children under 12 than among those with adolescents aged 13-17. As is an important factor for primary childcare, child age substantially predicts the amount of time children receive in cultural enrichment activities with parents.

DISCUSSION

This study shifts our understanding of the relationship between structural inequalities represented by immigrant status and their impacts on education-related childcare of immigrant parents. The study supports the immigrant achievement paradox theory and further helps to explain this paradox by comparing the educational parental time of immigrants versus native-born parents. Overall, consistent with prior findings about citizenship advantages (Catron 2019), the study concludes that naturalized parents (but not nonnaturalized) outperform native-born parents in education-related primary childcare. The results reveal a potential factor that generates the immigrant achievement paradox. Being self-selective in income and education, naturalized parents can proactively manage their children's education and comminute the value of academic excellence with children. In this process, naturalized parents contribute more time on education-related primary childcare per day than native-born parents, but this phenomenon does not seem to prevail among nonnaturalized parents. Other than the legal status factor, parents who are college-educated, work few hours weekly, and identify as Asian contribute more primary childcare, which

are all consistent with prior research (Bianchi et al. 2006; Zhou and Lee 2017). These factors offer potential explanations for relatively less primary childcare from nonnaturalized parents compared to the other group, such as poorer educational attainment, a lower average family income, and a lower likelihood to identify as Asian.

However, nonnaturalized parents have their own strength in parenting. Compared to native-born parents, nonnaturalized parents spend more time on secondary childcare. By accompanying children in activities that cultivate personal interests and interpersonal skills, nonnaturalized parents can help their children accumulate cultural capital. For this phenomenon, the study offers three potential interpretations. First, compared to native-born and naturalized parents, nonnaturalized parents are less able to afford childcare services. They need to constantly care for children by themselves in daily activities, ultimately creating a concentration of secondary childcare. Furthermore, because caring for children while doing leisure, socializing, and sports activities are more popular among parents with young children than those with elder adolescents, and nonnaturalized parents tend to have significantly younger children in their households than naturalized and native-born parents, nonnaturalized parents may report more secondary childcare in daily cultural enrichment activities. Lastly, more than half of the nonnaturalized parents identify as Hispanic. In immigrant Hispanic families, strong familism prevails, which also helps bond parents and their children through daily activities (Ackert and Wikle 2021; Desmond and López Turley 2009; Portes and Rumbaut 2001). Future research can conduct robust causal analyses for the heightened involvement of nonnaturalized parents in secondary childcare and its potential consequences for the future outcomes of their children, compared to the future outcomes of children raised by comparable naturalized and native-born parents.

Some may question the hypothesis about the negative effect of longer residence. Despite longer residence, some immigrant parents, especially Asian parents, still intensively invest in their children and emphasize on achievements (Lee and Zhou 2004; Lin and Fu 1990). Traditional cultural values can have a long-term influence on immigrants' parental contribution, despite long residence in the host country (Altschul 2011; Goldenberg et al. 2001). Immigrant families with longer residence do not necessarily spend less time on child education than those with shorter residence. However, the study's result suggests that longer residence can potentially reduce secondary childcare in leisure, socializing, and sports activities for both naturalized and nonnaturalized parents, with parents' age, children's age, and race/ethnicity controlled. Future research can investigate if this chronic deterioration of secondary childcare can negatively impact immigrant children's relationship with family adults and their ability to communicate, negotiate, and compete with others in the society beyond school.

Some may disagree with the immigrant achievement paradox because there may have been a decline in the achievement advantages among the third generation and above (Gans 2007). The third generation has shown downward mobility compared to their second-generation, well-performing parents (Pong, Hao, and Gardner 2005). The second-generation parents are less likely to follow traditional, authoritative parenting styles. However, prior studies have admitted that third generation decline cannot be explained by parental styles or social capital measures (Pong et al. 2005). The third-generation children still receive great social capital and authoritative parenting from their parents (Chao 2001; Warikoo 2020). Moreover, there has been difficulty observing "the

third plus” generation due to the self-identifying problems among them (Perlmann and Waldinger 1997). Although the third generation may exhibit poorer achievement than their parents’ generation, it is difficult to measure the extent of individual “downward mobility” relative to their ancestry if an individual cannot clearly identify an ancestry. The third-generation decline cannot significantly deny the hypothesis based on immigrant achievement paradox.

Migration literature has shifted emphasis from cultural orientations to structural mechanisms to explain the newest immigrant children’s socioeconomic outcomes than outperform native-born children (Desmond and López Turley 2009; Menjívar 2010; Pinto and Coltrane 2009). Following this trend, the current study reveals a structural mechanism – legal status and residence history -- for children’s educational outcomes. Although the study does not know if nonnaturalized parents’ contribution of secondary childcare can balance out the lack of education-related primary childcare for nonnaturalized children, the author suggests potential policies to benefit children of immigrants, especially those nonnaturalized. First, communities and school districts concentrated with nonnaturalized, non-English-speaking families can offer school-family programs to improve parents’ knowledge about and participation in the American education systems. Second, as nonnaturalized parents are most involved in secondary childcare than the other two groups, they may have the least access to affordable childcare services due to lower family income or poorer social networks. Future research can examine socioeconomic reasons related to heavy secondary childcare among nonnaturalized parents and propose possible policies that help address nonnaturalized parents’ childcare burden. Finally, this study is limited for not including undocumented immigrant parents in the dataset. Future research should include this groups of parents to depict a less biased picture of heterogenous parental involvement by immigrant status.

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TABLES AND FIGURES

Figure 1. Summary of Hypotheses: Posited Time Estimates of Education-related Primary Childcare (Mins/Day), by Parents' Legal Status in America, ATUS 2003-2020

Table 1: Posited Estimates of Coefficient Directions for Four Hypotheses

	Equation	β_N	β_{NN}	β_{NR}	β_{NNR}
Hypothesis 1A	(1)	Positive	Positive	-	-
Hypothesis 1B	(1)	Negative	Negative	-	-
Hypothesis 2A	(2)	Positive	Less Positive	Positive	Less Positive
Hypothesis 2B	(2)	Positive	Less Positive	Negative	Less Negative

Table 2: Means and Standard Deviations (SD) or Proportions (Prop.) Used in the Main Text (N = 77,337)

	Native-born (N=63,159)		Naturalized (N=5,291)		Non-naturalized (N=8,887)		Min	Max
	Mean/Prop.	SD	Mean/Prop.	SD	Mean/Prop.	SD		
Outcomes								
Time Spent on Education-Related Primary Childcare Activities (Mins/Day)	5.99 ^{a, c}	26.12	8.72 ^c	30.56	8.22 ^a	29.94	0	640
Total Time Spent on Secondary Childcare Activities (Mins /Day)	317.91 ^{a, c}	285.58	301.52 ^{b, c}	288.53	366.07 ^{a, b}	289.8	0	1,290
Personal Interest and Leisure Activities	77.81 ^a	116.80	75.51 ^b	114.83	95.62 ^{a, b}	123.85	0	1,239
Food and Socializing Events	70.98 ^{a, c}	89.95	78.76 ^{b, c}	95.55	85.71 ^{a, b}	99.09	0	1,123
Sports and Exercise	9.16 ^{a, c}	43.31	6.08 ^{b, c}	29.56	7.29 ^{a, b}	35.73	0	870
Household Demographics								
Number of Own Household Children	1.86 ^{a, c}	0.92	1.89 ^{b, c}	0.89	1.97 ^{a, b}	0.96	1	11
Have Own Household Child Age 13-17	0.35		0.41		0.31		0	1
Have Own Household Child Age 6-12	0.55		0.59		0.59		0	1
Have Own Household Child Age 3-5	0.29		0.28		0.35		0	1
Have Own Household Child Age 1-2	0.20		0.15		0.25		0	1
Have Own Household Child Under 1	0.09		0.07		0.11		0	1
Age of the Youngest Household Child	6.84 ^{a, c}	5.06	7.34 ^{b, c}	4.99	5.48 ^{a, b}	4.61	0	17
Median Family Income in 1,000	69.54 ^{a, c}	45.70	71.61 ^{b, c}	48.12	48.82 ^{a, b}	42.39	5	150
Individual Demographics								
Age	38.83 ^{a, c}	8.59	42.02 ^{b, c}	8.04	37.17 ^{a, b}	7.87	15	85
Year of Residence Until Year of Survey			23.41 ^b	9.82	14.09 ^b	8.23	0	59
Married	0.75		0.84		0.81		0	1
White	0.87		0.56		0.72		0	1
Black	0.10		0.11		0.07		0	1
Asian	0.01		0.31		0.19		0	1
Hispanic	0.07		0.37		0.61		0	1
Female	0.59		0.55		0.59		0	1
Educational Attainment								
Less than High School	0.05		0.13		0.35		0	1
College or Advanced	0.41		0.45		0.30		0	1

Employment Status

Employed ¹	0.80		0.80		0.67		0	1
Spouse ² Employed	0.64		0.63		0.59		0	1
Weekly Work Hours	31.56 ^a	20.81	31.50 ^b	20.81	25.27 ^{a, b}	21.04	0	160
Spouse ² Weekly Work Hours	25.65 ^{a, c}	22.51	25.06 ^{b, c}	22.59	23.07 ^{a, b}	22.20	0	99

^a Statistically significant differences between Nonnaturalized and Native-born Parents at p<0.05

^b Statistically significant differences between Nonnaturalized and Naturalized Parents at p<0.05

^c Statistically significant differences between Naturalized and Native-born Parents at p<0.05

¹ Respondents not included in this category are either unemployed or not in the labor force

² Spouse or partner

Table 3: Predicted Effects of Analyzed Covariates on Education-related Primary Childcare Time (Models 1-3) and Cultural Enrichment Secondary Childcare Time by Activities (Models 4-6), ATUS 2003-2020, OLS Models

	(1) Model 1		(2) Model 2		(3) Model 3		(4) Model 4		(5) Model 5		(6) Model 6	
Outcomes	Education-related Primary Childcare						Cultural Enrichment-related Secondary Childcare					
							Leisure Activities		Socializing Activities		Sports Activities	
	All	Female	All	Female	All	Female	All	Female	All	Female	All	Female
Predictors												
Naturalized	1.44*	1.15	2.33*	2.49	2.42*	2.50	-5.34	-7.33	3.01	6.37	-1.01	-0.01
	(0.78)	(1.26)	(1.33)	(1.88)	(1.31)	(1.85)	(4.66)	(6.04)	(3.40)	(3.96)	(0.89)	(1.25)
Nonnaturalized	0.70	0.71	0.52	-1.05	1.37	0.02	10.02***	4.82	5.30**	3.68	0.72	0.07
	(0.58)	(0.94)	(0.86)	(1.41)	(0.85)	(1.37)	(3.39)	(4.60)	(2.27)	(3.15)	(0.70)	(0.90)
Naturalized x Residence			-0.04	-0.06	-0.04	-0.06	0.05	-0.05	-0.07	-0.26*	-0.02	-0.04
			(0.06)	(0.09)	(0.05)	(0.08)	(0.17)	(0.24)	(0.13)	(0.15)	(0.03)	(0.04)
Nonnaturalized x Residence			0.01	0.13	-0.03	0.06	-0.33*	-0.20	-0.20	-0.05	-0.07**	-0.01
			(0.05)	(0.09)	(0.05)	(0.09)	(0.19)	(0.28)	(0.12)	(0.18)	(0.0)	(0.05)
Age	1.41***	1.99***	1.40***	1.97***	0.48***	0.52***	-2.38***	-3.58***	-0.36	-0.82*	0.05	0.12
	(0.09)	(0.15)	(0.09)	(0.15)	(0.09)	(0.15)	(0.46)	(0.64)	(0.32)	(0.49)	(0.14)	(0.167)
Age x Age	-0.02***	-0.02***	-0.02***	-0.02***	-0.01***	-0.01***	0.02***	0.03***	-0.00	0.00	-0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.00)	(0.01)	(0.00)	(0.00)
Asian	2.73**	3.77*	2.74**	3.91*	3.07**	4.29**	-5.91	-3.69	3.98	5.43	-1.53	-2.68**
	(1.28)	(2.01)	(1.29)	(2.011)	(1.27)	(1.98)	(4.11)	(5.40)	(2.99)	(4.11)	(1.01)	(1.21)
Black	0.24	-0.08	0.23	-0.07	0.11	-0.17	-2.06	-1.50	-12.17***	-11.21***	-2.92***	-2.64**
	(1.02)	(1.50)	(1.03)	(1.51)	(1.02)	(1.50)	(4.01)	(5.15)	(2.70)	(3.76)	(0.88)	(1.10)
White	-0.53	-0.29	-0.53	-0.30	-0.50	-0.24	-4.70	-5.06	0.66	0.09	0.91	0.76
	(0.92)	(1.40)	(0.92)	(1.40)	(0.90)	(1.37)	(3.50)	(4.60)	(2.45)	(3.47)	(0.84)	(1.07)
Hispanic	-0.24	-0.30	-0.24	-0.37	-0.60	-0.85	8.30***	6.50***	5.40***	7.55***	-1.37***	-1.24**
	(0.53)	(0.84)	(0.54)	(0.85)	(0.53)	(0.83)	(1.79)	(2.18)	(1.26)	(1.62)	(0.43)	(0.55)
Married	0.04	0.46	0.03	0.49	-1.47***	-0.90	-0.61	-3.09	9.87***	8.83***	0.96**	0.58
	(0.35)	(0.50)	(0.36)	(0.51)	(0.36)	(0.58)	(1.62)	(2.11)	(1.04)	(1.46)	(0.38)	(0.53)
College or Advanced	0.89***	0.52	0.89***	0.58	1.10***	0.98*	-14.64***	-12.15***	8.20***	7.14***	1.02***	1.17***
	(0.32)	(0.52)	(0.32)	(0.52)	(0.36)	(0.58)	(1.05)	(1.33)	(0.79)	(1.04)	(0.35)	(0.42)
Usual Work Hours Per Week	-0.19***	-0.22***	-0.19***	-0.22***	-0.18***	-0.21***	-0.53***	-0.64***	-0.41***	-0.46***	-0.03***	-0.04***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.03)	(0.03)	(0.02)	(0.03)	(0.01)	(0.01)
Own Household Child 1-2					-0.97***	-1.17*	3.15**	-1.74	8.05***	7.17***	-0.72*	-1.37***
					(0.38)	(0.62)	(1.52)	(2.02)	(1.12)	(1.49)	(0.39)	(0.45)
Own					1.13***	1.92***	0.77	-1.10	6.30***	5.71***	1.18***	0.38

Household					(0.38)	(0.62)	(1.25)	(1.64)	(0.81)	(1.18)	(0.36)	(0.41)
Child 3-5												
Own					8.12***	10.80***	8.99***	6.88***	2.74***	1.61	2.22***	1.14***
Household					(0.33)	(0.53)	(1.14)	(1.51)	(0.76)	(0.99)	(0.32)	(0.39)
Child 6-12												
Own					1.18***	1.70**	2.58*	2.71	-6.81***	-9.02***	0.512	-0.30
Household					(0.45)	(0.75)	(1.33)	(1.68)	(0.88)	(1.13)	(0.39)	(0.47)
Child 13-17												
Median Family					0.01	0.01	-0.12***	-0.12***	0.02***	0.00	0.02***	0.02***
Income in					(0.00)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.00)	(0.01)
1,000												
Spouse's Work					0.05***	0.04***	-0.12***	-0.08**	-0.01	0.05*	-0.01	0.02*
Hours Per					(0.01)	(0.01)	(0.03)	(0.04)	(0.03)	(0.03)	(0.01)	(0.01)
Week												
Constant	-15.28***	-24.58***	-15.21***	-24.15***	-2.36	-4.06	159.00***	190.00***	75.45***	88.37***	4.30	4.10
	(1.84)	(2.98)	(1.84)	(2.99)	(1.86)	(2.95)	(9.71)	(13.27)	(6.96)	(10.27)	(2.67)	(3.30)
Observations	77,337	45,520	77,337	45,520	77,337	45,520	77,337	45,520	77,337	45,520	77,337	45,520
R-squared	0.022	0.021	0.022	0.021	0.041	0.043	0.039	0.049	0.035	0.043	0.005	0.006

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Figure 2. Sensitivity Test for the Effects of Parents' Legal Status on Education-related Primary Childcare During the Pandemic Lockdown (May – Dec 2020). Baseline Group: Native-born Parents Before the Lockdown.