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The Home Environments of Infants from Immigrant Families in the United States:
Findings from the New Immigrant Survey

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Abstract

Data from the New Immigrant Survey were used to describe the home environments of 638 children ages birth to three whose parents legally immigrated to the United States. Thirty-two indicators of home conditions were clustered into 4 domains: discipline and socioemotional support, learning materials, enriching experiences, and family activities. Results revealed variation in how frequently infants from every country (Mexico, El Salvador, India, Philippines) and region (East Asia, Europe, Caribbean, Africa) studied experienced each home environmental condition. There were differences between countries and regions on many indicators as well as differences based on parents' level of education. The experiences documented for children of recent legal immigrants were similar to those documented for children of native-born families in other studies.

Keywords: immigration, home environment, parenting, learning materials, discipline, parental expectations, socioemotional support, family activities

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Providing a supportive home environment for infants can be challenging, especially for parents who no longer reside in their country of origin. Such families often lack the supportive structure of a network of kith and kin and may struggle with goals and ways of doing things that are quite unfamiliar. According to the 2010 census, 1 in 4 children living in America has at least one foreign-born parent (Federal Interagency Forum on Child and Family Statistics, 2011), and that is likely an underestimate given the difficulty in accurately tracking unauthorized immigrants (Pew Hispanic Center, 2013). Little is known about the home environments of children of legal (much less illegal) immigrants in the US, even though a world-wide literature points to the importance of children's experience at home (Bradley & Corwyn, 2005). In their policy focused review of challenges that face those who wish to provide services to support infant mental health, Cohen, Oser, and Quigley (2012) specifically identified the special needs of immigrant families and made the observation that programs should "respond to their unique health and developmental needs (p. 8)". Although the literature on parenting among immigrants is growing, much remains undocumented as regards how different life at home is for U.S. children being reared by native-born and foreign-born parents. Most studies focus on a small segment of the immigrant population living in a single location or on a narrow band of parenting practices, with very little on infancy. The lack of basic information about the experiences and surroundings of children of recent immigrants in their own home environments is problematic in a number of ways; but it poses particular challenges for service providers who might assist such families in the transition to parenthood. Programs such as Early Head Start and the Maternal, Infant, and Early Childhood Home Visitation Program in the United States come to mind as examples; but there is an established history of government-run home health visitation programs in many developed countries as well, almost all of which have immigrant families as participants (Bilukha, Hahn, Crosby, Fullilove, Liberman, et al., 2005).

Some adults enter the U.S. with a strong desire to fully assimilate into the American way of life, whereas others come with a desire to maintain some of the values and ways of doing things from their countries of origin (Zhou, 1997). Formulating goals for child rearing and designing environments to support those goals becomes part of the larger panoply of actions newcomer parents engage in as part of their acculturation process (Berry, 2007). According to Nesteruk and Marks (2011) there is a general tendency for immigrants to adopt some of the values of the country of destination or to meld country-of-origin practices with those present in the country of destination. For example, Kim and Wong (2002) found that Chinese parents who immigrated to America professed more "Westernized" beliefs pertaining to parental control than Chinese parents who immigrated to Taiwan. Even so, precisely how this plays into the routines of daily life, the physical affordances of the place of residence, and the interplay among family members is difficult to forecast. Moreover, how it affects interactions between parent and child is also a function of how parents cope with the transition to America, with the stresses that often entails (Garcia-Coll & Magnusson, 1997; Pumariega, Roghe, & Pumariega, 2005). Indeed, a recent national study found high levels of aggravation among immigrant parents, leading to calls for "outreach efforts by clinicians, mental

health professionals, school systems, and social workers...that will help improve the parenting experience of immigrant households (p. 2107)" (Yu, & Singh, 2012). Kim and Hong (2007) argued for the importance of becoming more aware of distinct cultural proclivities of various immigrant communities for nurses, as nurses are often called upon to assist families with issues related to parenting.

The goal of this study is to more fully document some of the actions, objects, events and conditions research suggests are implicated in children's competence and adaptive functioning as they are experienced by young children whose parents migrated to the United States. Research shows that developmentally supportive environments include provisions for safety, a variety of stimulating materials and social encounters, warm and sensitive behavior on the part of major caregivers, the absence of harsh treatment, consistent organization of routines and physical features in a child's primary settings, and careful monitoring of children's behavior and circumstances (Bradley, 2009). In a review of world literature involving use of measures of the home environment, we found that children's development was associated with the variety of materials and opportunities for stimulation afforded them at home, the level of warmth and responsiveness displayed by parents, and the amount of physical discipline parents administered to them (Bradley & Corwyn, 2005). Even so, there are cultural variations as regards how important parents consider particular actions, objects and activities are for children (2010). The New Immigrant Survey (NIS; Jasso, Massey, Rosenweig, & Smith, 2000) affords an opportunity to more fully characterize the experiences and household conditions present for infants whose parents are legal immigrants and to determine whether those experiences connect to parental education in ways similar to those observed for others in the US. This study documents the frequency with which infants whose parents legally migrated to the US are exposed to various types of stimulating materials and enriching activities, the tendency of parents to provide various forms of socio-emotional support during normal encounters with the child, how often the infant spends time with key family members, and the degree of safety in the home environment. We provide breakdowns according to countries and regions of origin and breakdowns by parents' level of education, as there is reason to believe that both may be implicated in what an infant experiences.

Culture, Modernization, and the Process of Immigration

According to the Migration Policy Institute (2013), immigration patterns into the United States during the final two decades of the 20th Century and the first decade of the 21st Century were considerably different from those seen in prior generations, especially as regards legal immigration. There has been a dramatic upsurge of immigrants from Latin America (other than Mexico), Asia, Africa as well as the former Soviet Union (Capps, McCade, & Fix, 2011; Greico, 2010; U.S. Census Bureau, 2013). The reasons for migration to the United States vary both within and across regions and countries.

Many things determine what children experience at home; cultural beliefs, parental education, and economic conditions being among the most widely cited (Bradley & Corwyn, 2003; Conger & Donnellan, 2007; Rogoff, 2003). While there is an emerging consensus in countries throughout the world regarding the value of stimulation and education for children, there is less uniformity of opinion regarding other socialization goals. Parents from different societies have different goals and different means of achieving goals for their children (Gauvin, 2000; Rogoff, 2003). Even basic parenting

tasks (e.g., soothing a fretful infant, developing communicative skills, promoting psychomotor skills) can take different forms or can be emphasized earlier in different societies. As an example, in some African societies mothers use soothing language to calm a crying infant less often than is the case in many Western societies, preferring to comfort by means of strokes and caresses (Bradley, 2009; Kilbride & Kilbride, 1983). Likewise, there tends to be less verbal communication directed to infants and more emphasis on developing early psychomotor skills, the latter connected to the emphasis on “functionalism” (Adeyemi & Adeyinka, 2002; Werner, 1972). In many Asian societies there is an emphasis on character development and living up to social expectations, sometimes leading to more assertive forms of discipline and greater monitoring of child behavior (Chao & Kanatsu, 2008; Lehrer, 1988; Tajima & Harachi, 2010); albeit, it is not clear precisely how this might effect parenting of infants. Although such cultural proclivities might lead to more controlling behavior on the part of parents, it does not mean that parents who migrate from Asia would tend to be less warm. Values such as *chiao shun* and *guan* could also lead to using parenting practices generally considered “good” (e.g., praise) toward different ends than is typical for Western parents (i.e., as a means of reinforcing children’s efforts to do the expected thing rather than acting in a self-directed manner) (Wang, Wiley, & Chiu, 2008). Somewhat by distinction, Asian families steeped in Buddhist values tend not to get personally involved in their children’s academic efforts (Garcia Coll, Akiba, Palacios, Bailey, Silver, DiMartino, & Chin, 2002) – albeit, it is not altogether clear how this might impact their early education efforts. In many African societies, respect of authority figures is generally considered important, often leading to lower expressions of warmth toward children and more frequent use of physical forms of discipline (Jackson, 2012). The strong sense of “familism” that characterizes most Latin American societies means that family members tend to engage in many joint activities together (Estrada-Martinez, Padilla, Caldwell, & Schulz, 2011). Broad notions such as individualism-collectivism and autonomy-embeddedness have been used to characterize cultural tendencies that favor a more adult/authority versus a more child/autonomy set of values pertaining to parenting practices and the kinds of experiences afforded offspring (Kwak, 2003). Cultural proclivities like those described are likely to influence the experiences of infants whose parents migrate from particular countries. However, the connections are not always straightforward, as there are multiple dimensions of culture and variations within societies as regards how values are enacted (Estrada-Martinez et al., 2011; Warikoo & Carter, 2009).

Although cultural traditions help determine how parents care for children and organize the home environment, there is not always a tight connection between traditional cultural practices and parenting behavior, especially for parents who immigrate (Chao & Kanatsu, 2008). There has been movement toward “Western” styles of parenting in many countries, a trend that may be more pronounced in people who decide to immigrate to countries like the US (Camarota, 2012; Driscoll, Russell, & Crockett, 2008; Kwok, 2003; Tajima & Harachi, 2010). That said, if parents are anxious or feel uncertain about matters pertaining to their child’s well-being, they may choose to maintain greater control over the children’s activities and whereabouts (Driscoll et al., 2009). In effect, it remains unclear just how the movement towards “Western” styles may have influenced each of the varied household conditions and parenting practices deemed salient for infant development (Zhou, 1997).

Parental education appears to play a strong role in determining how parents approach child rearing (Walker, Wachs, Grantham-McGregor, Nelson, Hoffman, et al., 2011). There is a world-wide literature showing that parents with higher levels of education provide more social and material stimulation to their children, stimulation that includes a variety of potentially enriching activities and excursions (Bradley & Corwyn, 2005; Bradley, Corwyn, MacAduo, & Garcia Coll, 2001; Carneiro, Meghir, & Parey, 2013; Linver, Brooks-Gunn, & Kohen, 2002). Research has consistently shown that parents with higher levels of education also tend to manifest higher levels of social and emotional support for their offspring (Bradley et al., 2001; Carneiro, et al., 2013; Yaman, Mesman, van IJzendoorn, Bakermans-Kranenburg, & Linting, 2010; Zhang, 2012). In a particularly revealing study, Mistry, Beisanz, Chien, Howes, and Benner (2008) found that family SES (based on a combination of maternal education and family income) predicted maternal language stimulation and maternal supportiveness for both native-born and immigrant mothers whose children were enrolled in Early Head Start. Better educated parents tend to have more “modern” beliefs about what children need and how they can be effective in their children’s behalf (Palacios, Gonzalez, & Moreno, 1992). Studies done throughout the world have shown that maternal education is related to many decisions pertaining to children’s care (Abuya, Ciera, & Kimani-Murage, 2012; Emina, Kandala, Inungu, & Ye, 2011; Hug & Tasnim, 2008; Miller & Rodgers, 2009), decisions about how best to interact with children and what kinds of opportunities they require to support their health and competence (Bradley, 2009).

As families are exposed to values and practices in the country of destination, there is a tendency for them to adopt some of those values or to meld country-of-origin values and practices with those prevalent in the country of destination (Nesteruk & Marks, 2003). As Kwok (2003) notes, there has been a discernible transformation in Chinese families toward the autonomy side of the autonomy-embeddedness continuum. That said, studies of Japanese and Latin American immigrants suggest that the transformation of parenting styles among immigrants is an uneven one, with a tendency to see behavioral adjustments in parenting practice prior to changes in parenting beliefs (Bornstein & Cote, 2001, 2004; Cote & Bornstein, 2001). The general movement toward autonomy-oriented values granted, if parents are anxious or feel uncertain about matters pertaining to their child’s well-being, they may choose to maintain greater control over the children’s activities and whereabouts (Driscoll et al., 2009). Factors such as parental education, neighborhood of residence, and family wealth help determine the patterns of parent-child interaction likely to occur and the kinds of materials and activities children with foreign-born parents are likely to be exposed to (Garcia Coll et al., 2002).

In overview, cultural values, historical trends, parents’ level of education, and the process of immigration blend in intricate ways to determine how immigrant parents in the U.S. enact the role of parenting, how they organize home life, what activities they involve their children in, and what materials they acquire to assist their children in the process of development. The notion of segmented assimilation suggests that adoption of American ways could very well be different depending on one’s place of origin and the context of reception at destination (Zhou, 1997); but this also means it is hard to predict just how often children with foreign-born parents will have access to particular materials or particular experiences often considered beneficial for development. In the very small number of studies done comparing parenting behaviors of immigrant parents to those of

native born parents, few significant differences emerged in parenting behaviors such as reading to children, spanking them, or displaying warmth (Jackson, 2012). However, those studies generally used relatively small samples and analyses were done on only a small number of home conditions and parenting behaviors.

Using data from NIS, our primary goal is to simply document how frequently infants from various countries and regions of the world are exposed to particular types of materials and experiences connected with their home life, with a view that such information can be helpful in guiding future research pertaining to environment-development relations for immigrant children and for working with immigrant families (Titzmann, 2013). To aid with interpretation, items are organized into three broad groupings that the literature suggests are associated with children's development (Bradley, 2009): (a) socio-emotional support; (b) household learning materials; and (c) activities and encounters at home. The groupings are broad and some items do not neatly fit into the assigned category; but since no summary scores were calculated within categories, this small number of groupings seemed, nonetheless, useful. A similar approach was used in presenting data from a large U.S. sample (Bradley et al, 2001).

Methods

Sample

NIS is a nationally representative longitudinal study of new legal immigrants to the U.S. It is based on representative samples of the administrative records, compiled by the U.S. Immigration and Naturalization Service. The baseline survey was conducted in 2003-04; the follow-up in 2007-09 (Jasso, Massey, Rosenweig, & Smith, 2005). A focal adult was the identified participant in the study and initial interviews were completed on 8573 immigrants. Two children living with the focal adult were considered for inclusion on a selective basis. First preference was given to a child between 8 and 12 years old, second preference for children between 5 and 17, and last preference for children under age 5. Data from 638 children ages birth to three were analyzed for purposes of this study, as those were the children on whom key markers of the home environment were available. The 638 children were clustered into 4 country (Mexico, El Salvador, India, Philippines) and 4 regional (East Asia, Europe, Caribbean, Africa) groups for purposes of analysis, as those were the only groups for which there was a sufficient sample size. Information was available on the education level of the focal adult. Breakdowns were made according to the focal adult's years of education (0-8, 9-13, 14+). We used a similar approach in analyzing data from the National Longitudinal Survey of Youth, a nationally representative survey of American families (Bradley et al., 2001).

Measures

Each focal adult was interviewed using a battery of assessments in 2003-2004. The interview included a series of structured questionnaires dealing with family demographics, pre-immigrant experience, employment, health, income, assets, and social variables (see nis.princeton.edu/nis_2003_questinnaires.html). When children were present in the home, an assessment of the home environment of the selected children was performed using items from the Home Observation for Measurement of the Environment Inventory (HOME; Caldwell & Bradley, 2003). Specifically, NIS used the HOME – short form that was implemented as part of the National Longitudinal Survey of Youth study (HOME-SF - NLSY79; www.nlsinfo.org/content/cohorts/nlsy79-children/topical-guide/assessments/home-home-observation-measurement). There are specific age-related

versions of the HOME-SF and each entails a series of standardized questions with multiple options. As part of the broader NIS battery, the focal adult also provided information on several other family events and materials present in the household that resembled the kinds of items contained in the HOME-SF. For purposes of the analyses presented herein, there were 23 items for which data were gathered using structured interview and 8 items for which data were obtained using observation during the time of the visit. Abbreviated versions of each item are contained in Tables 1 and 2. Each of the items was dichotomized (0, 1) to correspond to the original scoring of the HOME Inventory. A total score was computed by summing scores from the 28 dichotomous items contained in standard HOME-SF, consistent with practice on the original HOME Inventory (Caldwell & Bradley, 2003).

Given that the aim of this study was to document how frequently children are exposed to particular objects, actions and events at home and not to make comparisons between families from particular countries or regions, no demographic adjustments were made to the data. Because of the very large amount of data collected from participants in NIS, it was common to have missing data on some components in the NIS protocol. It was particularly common to have missing data on the observation items from HOME-SF as those required that the target infant be awake and with the primary respondent during that part of the visit used to collect data from NIS participants. By contrast, the amount of missing data on the interview items from HOME-SF was generally modest. Accordingly, we decided to impute missing data for the interview items. We chose not to impute missing data for the observation items because the observation data were available on very small samples from some countries, leaving unclear how accurate the imputed values would be. (NOTE: the content of observation items is quite different from the content of interview items.) .

Multiple imputation is regarded as a particularly useful way of handling missing data for data like those used in this study. It was used to deal with missing data on all non-observation HOME variables (Enders, 2010; Schafer & Graham, 2002). Multiple imputation is a regression based procedure that generates multiple data sets, each with different estimates for missing values. Using the data augmentation algorithm in the SAS MI procedure (SAS v 9.3), we generated 20 imputed data sets. In total, the item-level imputation process included 23 of the 31 HOME variables, and 3 auxiliary variables (parent education, parent sex, parent country/region of origin). Missing data proportions on these 23 variables ranged between 1% and 48%. The HOME total score was computed from the 20 pooled data sets. Analyses were computed on each of the 20 data sets, and results were pooled to produce final estimates. Note that although the standard is to impute 20 or more data sets (Graham, Olchowski, & Gilreath, 2007), only a single imputed data set is necessary for statistical tests not requiring standard errors (Enders, 2010). Therefore, a single imputed data set was generated for all frequency analyses.

Results

Findings pertaining to the home environments are presented first by country/region of origin of the focal parent. Then they are then presented by level of education. Finally, there is a consideration of country/regional and educational differences on the HOME-SF total score.

Country/Regional Variation

There were marked variations in how frequently children had certain materials available or had certain experiences (e.g., 92% saw father every day, 75% had 3 or more children's books, 56% had a DVD player, and < 7% had been spanked more than once during the prior week). Table 1 shows the percentage of households in the 4 countries and 4 regions who received credit (i.e., scored yes) for each of the 31 items analyzed.

Socio-emotional support and discipline. Few children in any of the eight countries/regions had been spanked more than once during the past week (2% - 11%), with India and the Caribbean showing the highest percentage. Somewhat by contrast, there was close to a bimodal distribution as regards the likelihood visitors would observe a child being struck while they were present. It very rarely happened in homes of immigrants from Mexico, El Salvador, India, or Europe; whereas it happened about 10% of the time in households with immigrants from East Asia, the Caribbean and Africa. There were also marked variations in how likely parents would interfere with the child's actions while the visitor was present, with parents from Mexico manifesting the highest likelihood (36%) and parents from India and Europe manifesting the lowest incidence (0%). Although the majority of parents from most regions demonstrated some form of physical affection to their children during the visit, there were notable variations across countries, with parents from India the least likely (77%) and parents from East Asia and Africa the most likely (> 93%). There was also considerable variability as regards the likelihood parents would spontaneously speak to the child (from 73% among European immigrants to 95% among immigrants from the Caribbean) and the likelihood they would respond to a child's vocalization (from 77% among immigrants from El Salvador to 92% among families from India). Finally, there was considerable variation in how likely it was that the parents would provide the child a toy to play with during the visit (from 56% among immigrants from El Salvador to 81% among families from East Asia) and how consistently the parent kept the child in view during the visit (from 69% among Indian families to over 90% among families from East Asia, the Philippines and the Caribbean).

Household learning materials. There were wide country/regional variations in the likelihood homes would get a daily newspaper (17% El Salvador to 73% East Asia) or subscribe to a magazine (25% Mexico to 68% Africa). There were also wide variations in the likelihood homes would have encyclopedias, dictionaries, VCRs, calculators, and DVD players. The majority of households of families from every country or region had at least 50 books, the primary exception being Mexico (39%). Computers were also fairly common, ranging from 46% in Mexican households to more than 80% among immigrants from Africa and the Philippines. Families from Mexico, El Salvador and the Caribbean tended to have fewer printed forms of learning materials than was the case of families from other countries.. The patterns for electronic forms were less clear.

Learning materials for children. More than 70% of children from all countries/regions had at least 3 developmentally appropriate books, the exception being children whose parents came from Africa. More than 85% of children from all societies had cuddly or role playing toys, the highest percentage being children whose families migrated from Europe (96%). More than 68% had some type of push or pull toy as well. In general, children's play environments were safe, with rates ranging from 74% in the case of immigrants from Europe to nearly 85% of households of Mexican immigrants.

Activities and encounters at home. Roughly 90% of children from every region except the Caribbean saw their father daily, and even 83% of those children did. More

than 55% of children whose parents immigrated from East Asia, the Philippines and Africa ate at least 2 meals a day with both mother and father, with roughly 40% of children whose parents immigrated from elsewhere doing so. In $\frac{3}{4}$ of European immigrant households the TV was on less than 5 hours per day. By contrast, having the TV on more than 5 hours per day was particularly common among immigrants from the Philippines and Africa ($> 50\%$). In homes of Europeans it was particularly rare for children to watch more than 1 hour of TV on weekdays or weekends (about 15%). From $\frac{1}{3}$ to $\frac{1}{2}$ of children whose parents originated from other areas watched more than an hour per day. In more than 85% of households from every society, parents tended to speak to their children while doing ordinary household chores. There was more regional diversity in the likelihood parents would read to their children at least once a week, with rates being highest in households with immigrants from India and Europe ($>90\%$) and lowest in households with immigrants from Mexico, El Salvador, the Caribbean, and Africa ($<75\%$). Similarly, there was considerable diversity in the propensity of parents to teach children about a new toy versus leave their children to investigate a new toy on their own. Parents from India were the most likely to spend time teaching children about a new toy (60%); by contrast, parents from Mexico, the Philippines and the Caribbean were least likely ($<26\%$). From 74% to 90% of children were taken outside for an excursion each week as well, with European immigrants showing the highest propensity to do so. Likewise, taking children to the grocery store at least once a week was common, with Indian origin households having the lowest frequency (80%).

Variations by Years of Parent Education

Just as there were country/regional variations in the percentage of children who had each type of home experience examined, so were there differences by parents' level of education (see Table 2). It is important to note that there was a small number of cases for which respondents reported 0 years of education. In most cases 0 was recorded when the focal adult stated that they had received no formal education. In a few instances, it was recorded when the focal adult was unable to fully specify what education they had received.. For purposes of analysis, we separated respondents into 3 broad education ranges (0 to 8 years, 9 to 13 years, and 14 or more years).

Socio-emotional support and discipline. Relatively few infants had received a spanking during the past week, with children of parents recorded as having 0 to 8 years of education being the most likely (about 9%). There were also few observed instances of children being slapped or hit during the home visit. Interestingly, the highest percentage of slapping or hitting was observed in homes of parents with the highest levels of education (about 7%). By contrast, about $\frac{1}{4}$ of parents in all three education groups disrupted or interfered with the child's activities during the visit. There was little variation in the likelihood visitors would observe a parent speaking to a child or responding when a child spoke or vocalized by education group (84% to 91%). Roughly 90% of parents in all three education groups demonstrated some form of physical affection to the child during the visit. Parents in the lowest education group were slightly less likely to keep the child in view throughout the visit (82% versus about 89% in the other two groups). However, there was more variation in the likelihood they would provide a toy for the child to play with during the visit (from 59% of parents with 0-8 years of education to almost 89% in the highest education group).

Household learning materials. There were variations in the likelihood homes would get a daily newspaper (36% when parents had 0 to 8 years of education to 57% when parents had 14 or more years) or subscribe to a magazine (30% when parents reported 0-8 years of education to 59% for 14+ years). There were also wide variations in the likelihood homes would have encyclopedias, dictionaries, VCRs, calculators, and DVD players. In only about 40% of households where parents had low levels of education (< 9 years) were 50 or more books observed. This compares to almost 72% of households where parents reported 14+ years. Likewise, computers were much more common in households where parents had 14 or more years of education (>76%) versus households where parents had 0-8 years (48%).

Learning materials for children. There was marked variation in the likelihood infants would have at least 3 developmentally appropriate books at home. The percentage was especially low in households where parents were recorded as having 0-8 years education (60%). The percentage was about 70% in households with parents having between 9 and 13 years, and above 80% in the highest group. There was considerably less variability in the likelihood children would have 3 or more cuddly or role play toys (85% in the lowest education group to 93% in the highest education group) or 2 or more push/pull toys (67% in the lowest education group to 79% in the 14+ years of education group). For the most part, the play environments in most households appeared safe, with households in the group with 9-13 years being more often judged as unsafe (about 23%).

Activities and encounters at home. About 9 out of every 10 children saw their fathers regularly in their households irrespective of parental education level. About ½ ate at least two meals a day with both parents (a figure a little difficult to interpret given that some children were less than 1 year old). However, children whose parents had the lowest level of education were about 10% more likely to eat at least two meals with both parents than was the case for children in the other two education groups. Around 90% of parents in all groups reported talking to the child while engaged in common everyday household routines.. Over 86% of parents with 14 or more years of education reported reading to their children at least once a week, compared to only about 58% with less than nine years of education. By contrast, less than one in four parents from the lowest education group reported spending time teaching their children how to use a new toy versus 43% of parents with 14 or more years of education. About 50% of children in the lowest education group watched an hour or less TV per day; closer to 60% watched an hour or less in the next two groups. The time watching TV did not vary much from week days to weekend days. In roughly 60% of homes in all education groups the TV was reported as being on less than 5 hours per day. In roughly 90% households children were taken to the grocery store at least once a week, with little evidence the parental education was a factor. This pattern contrasts to the pattern related to taking children outside for some type of outing each week. The parents with little education reported doing it with the least frequency (67%), parents in the top two groups being more inclined to take children on an outing (about 80%). Reading to children at least once a week was also much more likely in the higher education groups (75% to 86%).

Variations on HOME-SF Total Score

The overall mean scores for HOME-SF did not vary greatly from one country/region to another (18.4 to 21.7), with households from India, Europe and East

Asia having the highest means. As expected there were variations in mean HOME-SF scores by parent level of education ranging from 17.9 for homes where parents had less than 9 years education to 20.9 for homes where parents had 14 or more years of education. As Table 3 shows, the correlation between parent level of education and total HOME-SF were non-significant for immigrants from six of the eight countries/regions examined; but were significant associations emerged for East Asia ($r = .31, p < .01$) and Africa ($r = .30, p < .05$). The overall correlation between parental education and the total HOME-SF score was $r = .29 (p < .001)$. As an adjunct to these analyses we looked at correlations between parental education and the subset of observation items designed to assess the social and emotional support provided by parents. The correlations were non-significant in every country as well as across the full sample.

Discussion

Using data from the National Longitudinal Survey of Youth, Bradley and colleagues (2001) found marked differences in what US children experience at home as measured by the HOME-SF: differences in the likelihood certain learning materials would be available, differences in the kinds of activities they were involved in, differences in the ways parents treated them, differences in family routines, and differences in the physical affordances of the residence. When we analyzed data on the broad spectrum of U.S. children involved in NLSY, we observed strong relations between variations in home experiences and several markers of children's development (Bradley, Corwyn, Burchinal, McAdoo, & Garia Coll, 2001). In the current study, using data from NIS, we found variations in all these areas for children of legal U.S. immigrants as well. That said, it is not easy to precisely characterize the experiences of children who have a foreign-born parent or how such experiences derive from immigrants' experiences in the early years of life based on data from NIS because there appears to be interplay with many other aspects of family context (Cardona, Nicholson, & Fox, 2000).

Because theory and research suggest complexity in how various personal and contextual factors come together to influence parenting and because there were not large numbers of immigrants from most countries who had infants, we decided only to analyze data for the individual countries and world regions where there appeared to be sufficient cases to allow for meaningful estimates pertaining to the aspects of the environment assessed by HOME-SF. It also led to our decision not to make statistical comparisons between regions and countries. Rather, we offer general observations regarding the findings in hopes they will be useful for scholars and practitioners interested in immigrant families. It would seem that having information on general patterns of parenting behaviors and home conditions for various subgroups of immigrants could enable practitioners to more effectively engage immigrant parents as regards meeting the needs of their children. Despite limitations imposed by the data, the data from NIS provide documentation of many aspects of home life for infants born to recent legal immigrants to the US that are not found elsewhere. Thus, documenting these experiences should lead to a better understanding of the lives of recent immigrants and should help establish a foundation for several lines of inquiry pertaining to the development of immigrant children.

Data from NIS showed that most children in immigrant households live with two parents; sometimes that means that they live with two parents who are from the same

country of origin, at other times it means they live with one foreign-born parent and one American-born parent. As stated earlier, it is also the case that different social, economic, political and geographic circumstances tend to help determine why parents from particular countries migrate to the United States (Camarota, 2012) and the kind of reception they are afforded upon arrival (Garcia Coll & Marks, 2011). Moreover, as the findings indicate, children's experiences at home also reflect the parent's level of education; but education was more strongly implicated in household conditions for immigrants from some countries than others. As findings from this study showed, parental level of education had little relation to the level of social and emotional support manifest to children during the visits used to collect data. Rather, educational status was more strongly connected to the types of material possessions families had and the kinds of activities they engaged in. Similarly, in a study done with immigrant families whose children attended Early Head Start, Mistry and colleagues (2008) found that family SES was more strongly associated with maternal language stimulation than with maternal supportiveness – albeit, the paths to both parenting behaviors was significant. Bradley and Corwyn (2003) found that household SES was more strongly implicated in the amount of stimulating materials and activities U.S. children generally were exposed to than how warm and nurturing parents were – albeit, there were significant associations with the latter as well.

Material Possessions

Children live in a world dense with actions, objects, people, and events. Over time these phenomena provide the ingredients and the structure that help determine developmental course (Bradley, 2009). It has long been recognized that children's environments are complex entities that include a diversity of resources arranged in a multiplicity of ways, with children gradually gaining more power (Heft, 1988). The homes of children whose families migrated from different regions varied widely with respect to the likelihood they would contain various forms of print materials. Households whose members came from Latin America were least likely to have magazines, newspapers or encyclopedias than households whose members migrated from other regions. Households where parents migrated from other countries and regions varied with respect to particulars (e.g., European and Indian households had the highest likelihood of containing an encyclopedia and African households were least likely to contain a dictionary, while East Asian and Filipino households were most likely to get a newspaper). Latin American households were also less likely to have at least 50 books. Although the findings pertaining to written materials for adults in the household are not surprising, they should not be interpreted as suggesting simple cultural differences among immigrants as immigrant groups differed by level of education and likely other factors that also have implications for using various forms of written materials. It is also not fully clear what some of the differences might imply for infant development; particularly as access to information via electronic devices is rapidly changing the patterns of how adults obtain information.

To that last point, findings pertaining to the availability of electronic devices varied widely across world regions. For example, homes of immigrants from Mexico were the only ones where it was less than 50% likely one would observe a computer; whereas, homes of immigrants from India and East Asia were the only ones where there was more than 70% likelihood one would find a DVD player. More than 75% of homes

from all countries except the Philippines had a VCR, with European homes the least likely (72%) and homes of Salvadoran, Indian and African immigrants the most likely (>93%).

To some degree, the likelihood children would have at least 3 developmentally appropriate books mirrored the likelihood the household would contain more than 50 books, but only to some degree. Specifically, households whose members arrived from East Asia, India and Europe had high rates of both. In some respects, these findings would seem to connect to findings pertaining to enrollment of children in pre-kindergarten programs, as all suggest commitment to learning and to education. Hernandez and Napierala (2012) reported that more than 60% of children whose parents immigrated from Western Europe, India and Africa attended pre-K, whereas less than 50% of parents who migrated from other regions enrolled their children in pre-K. On the other hand, perhaps because only 3 children's books were required to receive credit for the item, the pattern was not consistent across all regions. For example, although households of African immigrants were quite likely to have 50 or more books (64%), they were the least likely to have 3 or more children's books (57%). With respect to having access to other types of learning/play materials in the home, no obvious regional pattern emerged. Children in more than 85% of households from every country had at least 3 cuddly or role play toys; and 70% of homes in every country had 2 or more push or pull toys. The difference in the two percentages likely reflects the age of children studied, with push and pull toys less likely in the first year of life.

Not surprisingly, when parents had higher levels of education (likely a stand-in for SES more broadly), it was more likely the household would have books, computers, calculators, and other print materials. It was also more likely that infants would have more books and would be read to more often. The patterns obtained regarding parental education in the NIS were also like the patterns obtained for household income in the NLSY (Bradley et al, 2001) and household SES using data from the Early Head Start Research and Evaluation study (Mistry et al., 2008). Indeed, variations in parent SES for immigrants from different countries likely contributes to the regional/country differences in materials present in immigrant households. For example from $\frac{1}{5}$ to $\frac{1}{3}$ of respondents that came from Mexico, El Salvador and the Caribbean had less than a 9th grade education. This contrasts to less than 5% from most other countries. Likewise, less than 20% of immigrants from Latin America had 14 or more years of education, whereas from 54% to 83% of immigrants from India, East Asia, Europe, and Africa had 14 or more years of schooling. That does not mean that family SES was strongly associated with having all types of material possessions. For example, the likelihood a child would have a role play toy or a push/pull toy or that the family would have a VCR did not show as pronounced an SES (parental education) pattern. In general, the findings corroborate the broader notion that better resourced families tend to invest in offspring well-being via providing them more opportunities for productive encounters with potentially enriching materials and events (Conger & Donnellan, 2007).

Child and Family Activities

Culture is often strongly implicated in the kinds of activities people undertake as children and as adults (Rogoff, 2003); and there is evidence that immigrants bring certain cultural proclivities with them into the nation of destination (Garcia Coll & Marks, 2011). NIS contained relatively few indicators of child and adult activities, but for most there

were indications of variation by region or country of origin – granted, we did not do statistical tests due to the limited group sizes available. For example, 9 out of 10 children of European immigrants left the house to go on some type of outing at least once a week. This compares to only about 75% of children whose parents came from El Salvador, East Asia, the Caribbean or Africa. The pattern of taking children to the grocery store every week was quite different, with families from El Salvador the most likely (98%) and families from India the least likely (78%). Children whose parents arrived from Europe were also least likely to watch more than one hour of TV per day (about 15%), compared to children whose parents came from the Philippines, Mexico or El Salvador (about 40% - 50%). There was also considerable variability in the likelihood children would be with both mother and father during mealtime at least twice a day (more than 55% for East Asia, Philippines and Africa compared to about 40% from elsewhere). It is likely that some of the variation observed in family mealtimes reflects parents' working conditions. It is important to further delineate such issues as there is evidence that joint activities such as having meals together is implicated in a variety of child developmental outcomes, including obesity (Rollins, BeLue, & Francis, 2010).

The extent to which regional variations observed in patterns of family activities and encounters may actually reflect family SES is not fully clear. Fewer of the family activities had the clear SES gradient present for most of the learning materials examined. For example, it was far more likely for children whose parents had less than a 9th grade education to eat two meals together than for children of better educated parents. Children of more highly educated parents were also less likely to watch more than 1 hour of TV a day or to go every week to the grocery store with a parent. The small number of indicators in NIS that addressed activities connected with home life make it difficult to draw conclusions about the broader connection of activity patterns to country of origin. For the most part, the findings pertaining to parental education were similar to those observed in analyses of data from the National Longitudinal Survey of Youth (Bradley et al., 2001), suggesting that parent education and family SES likely play a similar role for new immigrant parents as they do for native born parents as regards in-home and out-of-home activities involving children. They also likely reflect more “modern” views of parenting and what children require for optimal development (Palacios et al., 1997).

Interactions between Parents and Children

Consistent, positive interaction with adult caregivers is considered the *sine qua non* of high quality parenting. The vast majority of children studied lived with both parents and had daily involvement with their fathers. Previous data collected by the U. S. Bureau of the Census (2013) also showed that most children of immigrants live with both parents. It was only in families from the Caribbean that the percent fell to less than 90%; but it was still quite high (87%). The same pattern emerged with respect to parental education. This level of engagement with fathers exceeds what is typical for American families at large (Bradley et al, 2001; Yeung, Sandberg, Davis-Kean, & Hofferth, 2001)

There is broad agreement that children benefit from caregivers who are warm and responsive to their needs (Bretherton & Waters, 1985; Rohner, 1986). About 80% of parents from East Asia and Africa provided their child something to play with during the visit; but only about 60% of families from El Salvador and the Caribbean did. It is hard to interpret these differences given the age of the children (some were less than a year

old); but findings suggest that parent education likely played a role.. Overall, findings are consistent with those reported by Cardona and colleagues (2000) for older children.

There were notable regional differences in the percentage of parents who spent time teaching their infants how to play with a new toy. In households of immigrants from Mexico, El Salvador, the Philippines and the Caribbean less than $\frac{1}{3}$ of parents showed children how to play with a new toy, choosing instead to allow the child to investigate the toy on his or her own. This contrasts to more than 60% of Indian parents. The same general pattern was observed with respect to reading to children. It was less likely among families that immigrated from Mexico, El Salvador and the Caribbean than among immigrants from India, Africa, East Asia or Europe. To what extent this reflects cultural proclivities is difficult to determine from NIS, given that there was a pronounced difference in the likelihood parents with 14 or more years of education would spend time teaching the child (44%) versus the likelihood parents with less than 8 years of education would (21%). Relatedly, parents with more than 14 years of education were more likely to read to their children every week (86%) compared to parents with less than 9 years of education (58%). However, the observed regional/country differences are consistent with previously observed cultural proclivities among parents in America (Bradley et al., 2001b), even with family income controlled. As well, they are consistent with findings from anthropologists pertaining to cultural differences in beliefs about children's developmental needs. For example, Latin American and Caribbean families generally view children as developing at a somewhat slower pace than do European parents and they are less likely to engage in formal, structured patterns of teaching when children are young (Durbrow, 1999; Pachter & Dworkin, 1997; Super & Harkness, 2002). Interesting in this regard are findings reported by Jackson (2012); specifically, immigrant Latino mothers were about as likely to read to their 5-year-olds as were native-born Latino mothers. This latter finding corroborates arguments proffered by Fuller and Garcia Coll (2010) about the problems connected with making broad generalizations concerning Latino families. Their point is that, while a cultural proclivity to privilege parental actions aimed at helping children develop good manners and proper comportment (*bien educado*) could reduce the likelihood parents would spend lots of time directly teaching skills needed for school success, many Latino parents blend old cultural traditions with more modern views in rearing their children. Thus, it becomes incumbent upon those working with Latino parents to find out what individual parents actually do.

Analysis of data from NLSY and the Panel Study of Income Dynamics reveals that the large majority of American parents express affection to their offspring quite often, albeit there were some small ethnic and SES variations (Bradley et al., 2001; Yeung et al., 2001). In this study we observed variations in how likely an immigrant parent would express physical affection to a child, with lower rates observed in families from India, as expected (Chao & Kanatsu, 2008). Even so, the general level of affection was similar to that observed in American families overall. The findings are reminiscent of those reported by Jackson (2012), who also found that Black and Hispanic immigrant mothers were about as likely to get prenatal care and to breastfeed as their native counterparts. The findings are also generally consistent with findings reported by Wang and colleagues (2008). In their study Chinese immigrant parents manifested generally high levels of praise for their young children, rates that were similar to US parents generally. There were also differences in the likelihood parents from different

countries/regions tended to speak to the child or to respond verbally when the child vocalized. Parents from Africa and the Caribbean were particularly likely to speak to their children during the visit (about 90-95% %) whereas parents from the Philippines and El Salvador were least likely to respond when the child vocalized. Parents from the Caribbean were also among the most likely to report speaking to the child while engaged in everyday tasks (95%), as were parents from Europe (95%). That said, most parents from every region reported speaking to the child while doing routine tasks (> 85%). To some extent the proclivity of African immigrant parents to speak to their children is at odds with what has been observed in Africa itself (Adeyemi & Adeyinka, 2002), but this may be connected to the level of education of those who tend to immigrate and their intentions upon arrival (Nesteruk & Marks, 2003). One of the most remarkable findings in this study was how little parent education had to do with the quality of parents' social and emotional support manifested to children during the visit. Although there were small variations in the percentage of parents from the three education groups who spoke to the child, responded verbally to the child, showed physical affection to the child, hit the child or interfered with a child's activities, the variations were small and there was no discernible pattern. When we correlated parent education to the scores families received on an index composed of these behaviors, there was not a significant correlation in any region or across regions. It is not easy to compare these patterns to those observed in NLSY given variations in study design and the relatively modest number of families in each subgroup analyzed, particularly since there were few if any immigrants from some countries that had less than 9 years of education. In the NLSY sample, there was somewhat greater likelihood high SES parents will respond to infants' vocalizations (Bradley et al., 2001). Such a finding is consistent with the idea that more highly educated parents would have more "modern" values as regards engaging in dialogic communication with offspring (Palacios et al., 1997). Although findings using NIS partially support such a proclivity (i.e., parents with 14 or more years of education showed the highest propensity to respond to a child's verbalization), current findings only partially support such an hypothesis (i.e., parents with less than 9 years of education were at least as likely as parents with 9 to 13 years to respond verbally to their children. Broader cultural proclivities derived from country of origin or parental personality factors that were not measured may well loom larger than parental education broadly speaking.

Even though somewhere around 30% of families in the US report spanking children under age three 3 or more times per week, only about 5% were observed hitting or slapping a child during visits made to obtain data for the National Longitudinal Survey of Youth (Bradley et al., 2001b). The overall rates for spanking children reported by immigrants were a little lower than those reported in the NLSY, but the overall observed rates for hitting and slapping children during the visit were about the same. Such findings are consistent with those reported by Jackson (2012). Interestingly, there were some country/regional variations with respect to the latter indicator. Children from East Asia, the Caribbean and Africa were about 10% more likely to be hit during the visit, a difference that coincides with cultural practices in the countries of origin (Bradley, 2009; Durbrow, 1999; Harkness & Super, 2002; Pachter & Dworkin, 1997). In these societies respect for elders is highly valued and there is little tolerance for interrupting adults. When Tajima and Harachi (2010) studied 11-15 year old offspring whose parents were immigrants from Vietnam and Cambodia, they found that over 40% admitted to spanking

their child at some point in the past. However, in their interviews with first generation Korean American mothers, Kim and Hong (2007) found that spanking was generally considered a kind of last resort when trying to control undesirable behavior in children. The degree of acculturation was a factor in how frequently spanking occurred but there was not a simple relation between acculturation and parenting beliefs observed.

Data from NIS also showed that it was more common for parents from Africa, East Asia, and the Caribbean to interfere with a child's actions, but interference was also common in households of families from Mexico and El Salvador as well. The latter speaks to some of the nuances connected to cultural influences on parental behavior pertaining to young children. Interestingly there were limited variations in how children were disciplined or controlled as a function of parental level of education. This stands a bit in contrast to the findings that emerged in the NLSY, where children from poor families were more often hit, spanked and interfered with – irrespective of race or ethnicity (Bradley et al., 2001). However, Cardona and colleagues (2000) found that highly educated Hispanic mothers actually used stricter control for their preschool age children than Hispanic mothers with lower levels of education. Their argument was that these mothers may have had more concerns about preparing their children to deal with the dominant culture. Unfortunately, there were insufficient cases in some educational subgroups in the NIS data set to allow for a more precise determination of how strongly country of origin was implicated in particular home experiences net of parent education.

The variations in country/regional tendencies with respect to communicating with a child, teaching a child, controlling a child, and expressing physical affection to a child speak to the complexities and nuances related to cultural influences on parenting (Fuller & Garcia Coll, 2010; Harkness & Super, 2002; Rogoff, 2003). In some respects, the patterns that emerged resemble accounts of parenting practices done in societies of origin. In other respects, they mirror what is generally observed in American families. As Garcia Coll and Marks (2011) note, the blend can sometimes reflect the general tensions present during the process of immigration and acculturation. It is unfortunate that the NIS contains so little by way of developmental outcomes for children, since it would be useful to better understand how these blends of parenting practices and household affordances play into children's developmental course.

The data in NIS, although useful for examining experiences of children of legal immigrants, does not capture the full array of children's experiences. First, the dataset provides rather limited measurement of family routines, the kinds of regulations parents impose, how parents monitor their offspring, or parental efforts to teach their children or engage them in enriching activities. Second, the data in NIS also do not make clear how variations in the experiences that are documented may matter for children's health, competence or adaptive behavior. Third, immigrants from most countries did not represent the full geographic or SES distributions from their countries of origin – multiple selection factors are operative in migration. Thus, the education distribution from various countries in NIS tended to be restricted (e.g., few highly education parents from Mexico and El Salvador, few parents with low educational attainment from India, Europe, Africa and the Philippines). This lack of good distribution could partially account for the observed low correlations between parent education and the total score on HOME. Fourth, it is also important to bear in mind that legal immigrants are in various respects different from undocumented immigrants (much more often having higher levels

of education and occupational status; and much less often facing the turmoil that surrounds being undocumented; Gonzales & Chavez, 2012). Thus, even though the data from NIS helps to fill a gap in knowledge about the experiences of children whose parents are immigrants, it does not tell the story of all immigrants. What is perhaps most revealing about the findings presented in this study is how much the home lives of children of legal immigrants resembles the home lives of children whose parents were born in America -- at least as reported by their parents. It seems consistent with the contention by Nesteruk and Marks (2011) that immigrants tend to gravitate toward American ways as they acculturate to the US; but the general move toward Western styles of parenting could be operative as well. Finally, it is important to reiterate that the purpose of this study was to document children's experiences in their home environments (essentially an exercise in descriptive science). As stated earlier, we did not statistically test for differences between regions or countries of origin and we did not statistically test for differences in levels of parent education. Thus, even though our language suggests differences, any interpretations must be made with full understanding that it was not our intent to test any hypotheses pertaining to country of origin or parent education.

The current wave of immigrants entering the US is huge, with little sign of abatement as regards legal immigration. However, like every prior wave of immigrants, the new wave contains a different mix than in times past. Knowing more about the lives of children whose parents have recently migrated to the US should enable various agencies and groups more effectively engage those families in their role as caregivers.

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