

Methodological Brief: An Alternative Approach to Measuring Student Immigrant Generation



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Student immigrant generation can be estimated using an alternative method when data to calculate a traditional indicator are not available. An alternative method to determine immigrant generation may be helpful to school districts as they support and plan services for immigrant students and their families. Traditionally, child and parent birthplace are used to calculate an indicator of immigrant generation, with children classified as first generation if they and their parent(s) are born outside the United States, second generation if they are born in the United States and their parent(s) are foreign-born, and third (or higher) generation if both they and their parent(s) are born in the United States.

The Texas Education Agency (TEA) relies on a definition provided by the federal government that describes an immigrant student as one who is not born in the United States and has not attended U.S. schools for more than three years, essentially creating an indicator that only identifies recently-arrived first generation students (2015). Because of this narrow definition, local education agencies may miss opportunities to provide important resources to second generation students who are also children of immigrants. The data needed to calculate immigrant generation using traditional approaches are often not available to school districts – specifically, parent birthplace. Using parent language as a proxy for parent birthplace provides a means of approximating student immigrant generation in the face of these data limitations. An indicator of generation that extends goes beyond federal and state definitions of “immigrant” may be helpful to districts when planning services and outreach to students and their families, particularly when considering culturally-appropriate strategies for communication.

Key Terms

Traditional measure of immigrant generation: utilized **child** and **parent birthplace** to determine first, second, and third (or higher) generation status

Alternative measure of immigrant generation: utilized **child birthplace** and **parent language** to determine first, second, and third (or higher) generation status

Key Findings

- When comparing a traditional measure of immigrant generation to an alternative measure, the rates of match between measures was about 88 to 89 percent. As many school districts might not have the data necessary to understand student immigrant generation using the traditional approach, the alternative measure proposed in this research might serve as an adequate proxy.
- The alternative measure might overestimate the proportion of students who are second generation vs. third generation, with Hispanic and Asian students experiencing highest rates of mismatch.
- About 9 percent of students in the Houston Independent School District (HISD) were identified as first generation. This aligned with nearby geographic units (county, metropolitan area) that showed about 9 to 10 percent of the population was identified as first generation.

Measuring immigrant generation

Background

Identifying students' immigrant generation may be useful to educational policymakers and practitioners as they decide how to support students in pre-Kindergarten-12 education. While understanding the support families may need as it relates to language is one way to consider the needs of immigrant students, it is also important HISD staff, in offices such as Multilingual Education and Wraparound Services, consider generation as a more holistic way to understand student and family experiences. Mental and physical health, social and emotional, legal, and food and housing support needs from local community organizations may be more closely tied to generation than language (Colorín Colorado, 2019; Crosnoe & Turley, 2011; McDonnell & Hill, 1993). Additionally, a deeper understanding of the experiences of immigrant students of different generations may help teachers and staff better connect with students and families. Children of immigrants make up a growing proportion of the population of school-aged children, with 26 percent of all children under the age of 18 coming from an immigrant family in 2018, up from 13 percent in 1990 (Migration Policy Institute, 2020). These statistics indicate children of immigrants are not only a growing population, but a growing proportion of the overall student population. Understanding the experiences of children of immigrants may have implications for how districts serve students and inform assumptions about the overall student population moving forward.

However, not all school districts are able to identify which students are first, second, or third (or higher) generation. As student-level demographic data collected by school districts is often limited, not all districts have access to information about students' immigrant generation status. In particular, in the absence of parent-reported information about student or parent country of origin, determining the generational status of a student in a given school district is nearly impossible. Instead, districts must rely on other demographic information they have to understand student experiences and to provide support services needed by students and their families.

The goal of this methodological study is to evaluate the efficacy of an innovative approach to create a proxy indicator of immigrant generation for school districts to use when data on immigrant generation or parent birthplace are unavailable. While the use of child birthplace explains whether a child is U.S.-born or foreign-born (i.e., first generation or not), it does not tell us whether a U.S.-born child is the child of an immigrant, preventing differentiation between second and third (or higher) generations. The approach proposed by this study creates a proxy indicator of students' immigrant generation with information from the student enrollment forms. Specifically, items on the birthplace of a child and parental language preferences (i.e., parents' preferred language of contact by the school district, whether they need a translator when being contacted by the district) are used.

There is reason to believe language, in combination with other measures like child birthplace, race, and ethnicity, may be related to immigrant generation. An analysis by the Pew Research Center notes "differences in primary language among Latinos are substantially consistent with generational differences, and thus generation can act as a useful demographic proxy for language in analyzing the Hispanic population" (2004). Given the large Hispanic population in HISD, this analysis examines whether it also works in the opposite direction, with language serving as a proxy for generation.

Methodology

Data and Sample

Both nationally-representative and local administrative datasets were used in this analysis. To test the definition proposed in this study, three nationally-representative datasets were used: the National Household Education Survey - Early Childhood Program Participation Survey, 2016 (NHES-ECPP; N=5,844), the National Survey of Early Care and Education, 2012 (NSECE; N=11,624), and the Early Childhood Longitudinal Study - Kindergarten Cohort 2011 (ECLS-K: 2011; N=18,170).¹ Student-level administrative data for the 2015-2016 school year came from HISD (N=215,590).² The researchers also used 2011-2015 American Community Survey (ACS) five-year estimates data at the metropolitan and county levels, limiting the sample to individuals under 18 years old (N=84,352).³

Variables

Child is U.S.-born. Children who were U.S.-born were coded 1. Children who were born in another country were coded 0.

Both parents are U.S.-born. If either parent was classified as foreign-born (i.e., not born in the U.S.), this variable was coded as 0. If both parents were U.S.-born—or if data were available for only one parent who was U.S.-born—this variable was coded as 1.

Parent speaks a non-English language. This variable was measured slightly differently in each data source (see Appendix). The indicators used in the HISD administrative data asked parents and guardians to report their preferred language.

Analytic Strategy

Using the nationally-representative datasets which contained indicators of both parent birthplace and parent language, traditional and alternative measures of immigrant generation were created. These traditional and alternative measures were compared to one another in order to determine agreement between measures. This allowed the researchers to assess whether the alternative measure was an accurate representation of the traditional immigrant generation measure, which was based on child and parent birthplace. If the traditional and alternative generation measures did not align for a given individual, it was considered to be a mismatch. The researchers further examined the characteristics of mismatch between traditional and alternative immigrant generation measures, including which generations were most likely to mismatch and the demographic characteristics of students most likely to mismatch. Finally, the alternative measure was calculated for HISD students. To evaluate whether these estimates reflect local demographics, the researchers used ACS data to calculate traditional estimates of immigrant generation for the Houston metropolitan area and Harris County.

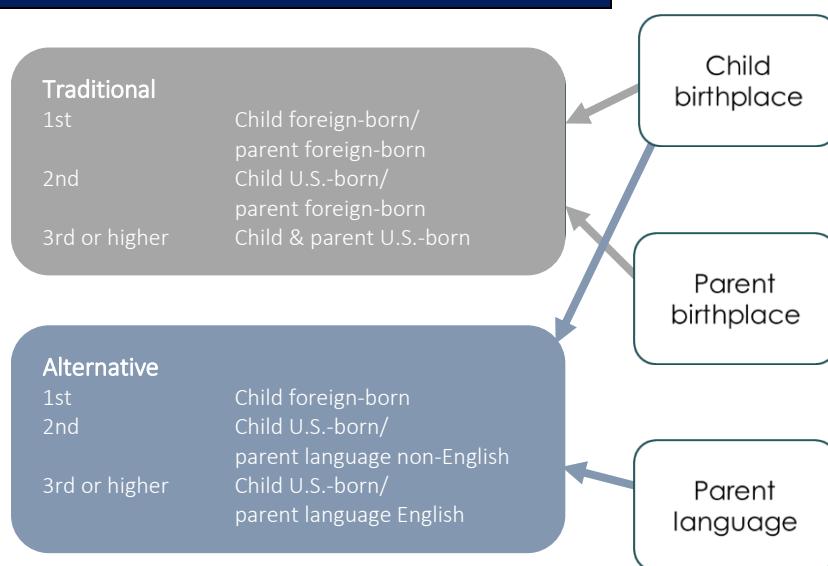
¹ The purpose of using multiple datasets ensured any patterns observed were not an artifact of the dataset used, but of the concept tested.

² The HISD analysis used data from the 2015-2016 school year in order to align with the comparison datasets.

³ Data for the analyses involving ECLS-K: 2011, NSECE, and NHES-ECPP used imputed data. In the case of ECLS-K: 2011, missing data were imputed using the SAS program IVEWare, while for NSECE and NHES-ECPP, variables imputed by the respective questionnaire developers were used. Analytic weights were not used.

Methodology

Figure 1. Conceptual figure of immigrant generation measurement



Steps for creating a traditional measure of immigrant generation

Consider birthplaces of a student and their parent(s) (U.S.-born or foreign-born)

1. If a student and their parent(s) were both foreign-born, a student was classified as first generation
2. If a student was U.S.-born and their parent(s) were foreign-born, a student was classified as second generation
3. If both a student and their parent(s) were both U.S.-born, a student was classified as third or higher generation

Steps for creating a proposed alternative measure of immigrant generation

Consider the birthplace of a student (U.S.-born or foreign-born) and the language preferences or usages of their parent(s)

1. If a student was foreign-born, a student was classified as first generation
2. If a student was U.S.-born and their parent(s) did not speak English, a student was classified as second generation
3. If a student was U.S.-born and their parent(s) did speak English, a student was classified as third or higher generation

Recommendations

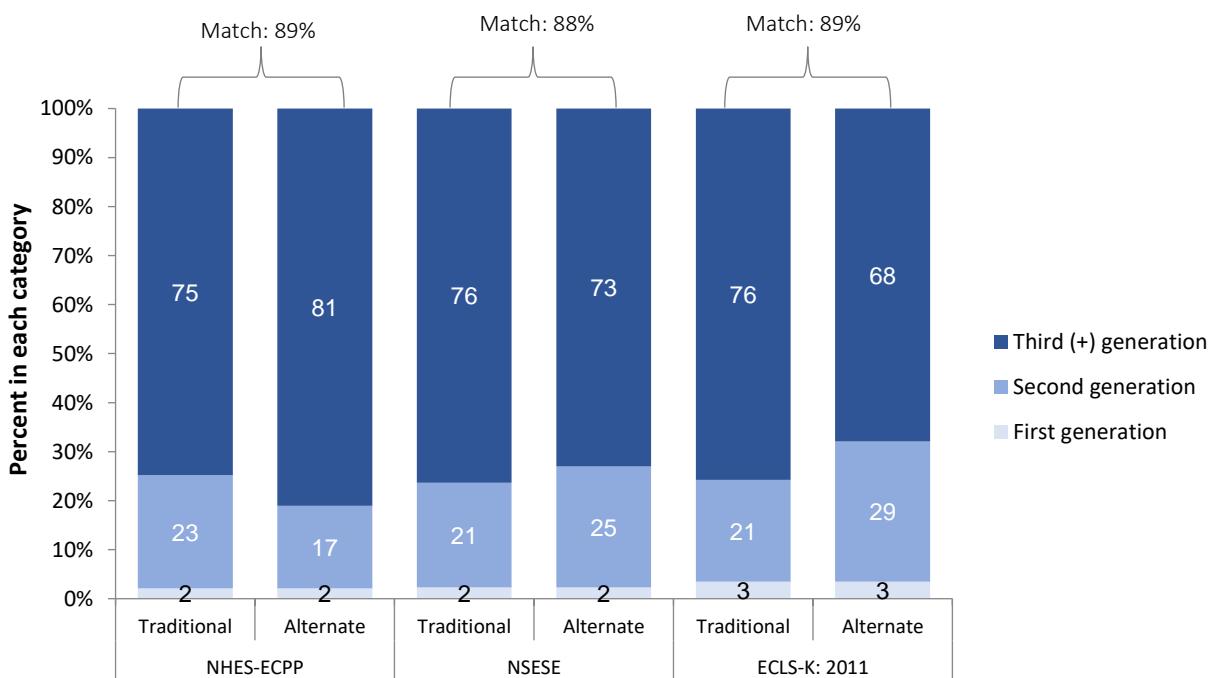
1

Rates of match between traditional and alternative measures of immigrant generation are approximately 88 to 89 percent.

When using three nationally-representative datasets to compare traditional and alternative methods of measuring immigrant generation, findings indicated the match rates across methods ranged from 88 to 89 percent (Figure 2). Using the first set of bars as an example (data from the study NHES-ECPP), when calculating a student's likely immigrant status using a traditional measure of generation, the alternative measure of immigrant generation showed very similar results – with nearly 90 percent of students in the sample identified as the same generation in both measures.

Across the examples presented here, consistently, students who were identified as a particular immigrant generation using the traditional method were very likely to be identified as the same immigrant generation using the alternative method. In other words, if a school district only had the data to calculate the alternative indicator of immigrant generation, there would be a high probability that they would be accurately identifying the population of students they are serving.

Figure 2. Rates of immigrant generation match within and between nationally-representative data sources



Recommendations

2

The alternative measure slightly overestimates the proportion of second generation students.

Most generational mismatch occurred when students who were identified as third or higher generation using the traditional measure were classified as second generation using the alternative measure. This might reflect how the alternative measure captured households in which parents retained the language of their ethnic or cultural background, regardless of their place of birth.

Some groups experienced higher rates of mismatch

Some racial and ethnic groups were more likely to experience mismatch between the traditional and alternative measures than others. Hispanic and Asian students had the lowest rates of match between the measures, while white and Black students had the highest rates of match (Table 1). This finding was not entirely surprising given the significantly higher rates of non-English speaking among Hispanic and Asian families than among white and Black families (author calculation using Ruggles et al. (2020)).⁴

Table 1: Rates of match between traditional and alternative measures, by data source and race/ethnicity

Data Source	White	Black	Hispanic	Asian	Other
NHES-ECPP	94%	88%	80%	78%	79%
NSECE	96%	91%	78%	NA	85%
ECLS-K: 2011	85%	74%	64%	71%	NA

3

About 9 percent of HISD students are identified as first generation using the alternative measure.

The current measure of immigration status used by HISD relies on state and federal definitions of immigrant, as described in the Every Student Succeeds Act of 2015. This definition requires a student be born outside the United States and be enrolled in U.S. schools for less than three years. Therefore, the definition captures only recent immigrants instead of all foreign-born students, regardless of the time of arrival. According to this definition, 5 percent of HISD students during the 2015-2016 school year were classified as recent immigrants.

⁴ The variation in match among racial/ethnic groups may affect how different districts use the alternative measure. For example, in a district like HISD, which has higher Hispanic and Asian populations, practitioners may want to exercise caution to not assume that non-English-speaking parents are immigrants. For these districts, identifying complementary measures of immigrant generation may be important, if the potential inaccuracies of the alternative measure are a concern.

Recommendations

Using HISD student background data and the alternative strategy for immigrant generation classification, estimates indicated approximately 9 percent of students would be classified as first generation, 33 percent classified as second generation, and 58 percent classified as third generation (Table 2).⁵

Table 2. Rates of immigrant generation identification for HISD, the Houston Metropolitan Statistical Area (MSA), and Harris County

Generation	HISD (alternative measure)	Houston MSA (traditional measure)	Harris County (traditional measure)
First	9%	9%	10%
Second	33%	37%	41%
Third (+)	57%	54%	49%

To evaluate whether the alternative measure of immigrant generation provided an accurate estimate of the percentage of students in each generation, HISD estimates were compared to traditional immigrant generation estimates from the ACS for individuals under 18 years old living in the Houston Metropolitan Statistical Area (MSA) and Harris County. The alternative measure used in HISD was relatively similar to the traditional measure in these two jurisdictions. See Appendix for maps of each of these three areas.

Conclusion

The purpose of this analysis was to determine whether an alternative strategy for measuring immigrant generation when data on parents' birthplace were unavailable might serve as a proxy for a more traditional measure of generation. Identifying students' immigrant generation may help schools and districts better understand the experiences of first- and second-generation immigrants, as well as make decisions on how to connect students and their families to language and social support services within and external to the district. The analysis showed the alternative measure closely aligned with the traditional method for measuring immigrant generation overall, although there were some variations by racial and ethnic group. In particular, the alternative and traditional measures aligned the least for Hispanic students. This suggested that, regardless of birthplace, Hispanic families might retain their native language across generations more so than families from other ethnicities (Alba, Logan, Lutz, & Stults, 2002). It also suggested the alternative measure calculated here might more accurately reflect a measure of immigrant integration, rather than a strict reflection of generational status based on place of birth.

Although the alternative measure may result in the overidentification of second generation students, it may be better to overidentify rather than miss an opportunity to provide support to students who may need it. Another way to consider the alternative measure is as a proxy of immigrant integration. If a third generation student is classified as likely second generation using the alternative measure, it may serve as an indicator of how the family has integrated in the United States and the local schooling system.

⁵ The share of first generation immigrants in HISD reported here came from the enrollment form, specifically an item on child birthplace; details on this item are available upon request. The item captured all foreign births, regardless of time of arrival. This information might not be available in districts outside HISD since it was not required by the state.

Recommendations

Applications of this measure

Despite these variations, the alternative immigrant generation measure may provide information for additional targeted outreach by school district departments like Multilingual Education and Wraparound Services. Other school district departments which rely on parents and guardians to access opportunities, such as School Choice, Early Childhood Education, and Gifted and Talented (as examples in HISD), may also benefit from having a greater understanding of the composition of students and families across the district for outreach purposes.

As the demographic context of school districts across the United States continue to evolve, the needs of students and families served may also be evolving (Pew, 2018). Using strategies to better understand the communities and populations within a school district's boundaries, such as through the alternative immigrant generation measure presented here, will allow districts to better identify not only students' experiences and needs, but the experiences and needs of their families, as well.

Recommendations

Based on the findings discussed above, HISD may consider the following recommendations⁶:

Consider calculating the alternative measure of immigrant generation described here, in addition to the required state indicator. As the state indicator requires students to have arrived within the last three years, it may underestimate the proportion of immigrant students and the children of immigrants in a school district. This has significant implications for the needs of students and their families, as well as the services that can support them.

Understand that immigrant generation and linguistic need are both important to understand when communicating with families. Student and family experiences, knowledge, and understanding of schools may vary by generational exposure to the U.S. educational system. Combining information on immigrant generation with preferred language may increase the capacity for schools and districts to develop a deeper understanding of culture when communicating with students and their families. It may also acknowledge that the needs of immigrant students and children of immigrants extend beyond language and encompass a host of physical and mental health, food, housing, legal, and economic needs (Colorín Colorado, 2019; Crosnoe & Turley, 2011; McDonnell & Hill, 1993). There is also evidence that first- and second-generation immigrants may need additional support or information regarding processes that may have differed in their home countries, such as applying for post-secondary education and eligibility for financial aid (Gonzales, 2010; Murillo, 2017). Understanding the scope of potential need in a school district may help administrators better target resources around post-secondary opportunities to campuses and communities serving large proportions of these families.

⁶ These recommendations may also be beneficial to other school districts, policymakers, and education researchers.

Appendix

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Appendix

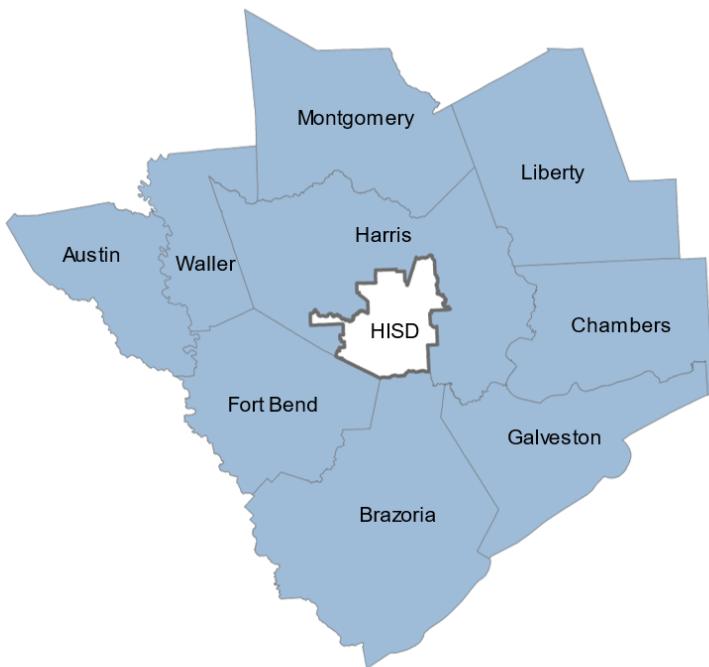
Appendix Table 1. Parent language variables by data source

A parent was classified as non-English speaking if:

- **ECLS-K: 2011:** parent reported that a language other than English was regularly spoken in the home and identified a non-English language as their primary language spoken in the home
- **NHES-ECPP:** parent/guardian first language was non-English or the language they spoke most often at home was non-English
- **NSECE:** the language usually spoken in the household was non-English
- **HISD Enrollment Form:** parent reported preferred language^a

^a Parents/guardians were also asked whether a translator was needed. In analyses, the inclusion of whether a translator was needed did not substantively change the conclusions presented in this brief and were omitted for brevity.

Appendix Table 2. Map of HISD, Harris County, and Houston MSA Borders



Note: Outline of Harris County shown in center of map. Entire map represents Houston MSA.

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