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Documentation Status and Parental Concerns About Development in Young US Children of Mexican Origin

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Objective.—To examine parent concerns about development, learning, and behavior for young children of Mexican origin, and to identify whether these reports differ by families' citizenship/documentation status.

Methods.—Data come from the 2005 California Health Interview Survey, a population-based random-digit dial telephone survey of California's noninstitutionalized population. California Health Interview Survey (CHIS) investigators completed interviews of 43 020 households with a total of 5856 children under age 6 years, of whom 1786 were reported being of Mexican origin. Developmental risk was measured by parent concerns elicited by the Parents' Evaluation of Developmental Status. We used bivariate and multivariate analyses to examine associations between developmental risk and family citizenship/documentation status (parents are undocumented, at least one documented noncitizen parent, or both parents are US citizens) among children of Mexican origin and US-born non-Latino white children, after adjusting for age, income, parental education, and predominant household language.

Results.—In multivariate analyses, children of Mexican origin did not differ significantly from US-born white children in developmental risk (odds ratio 1.12, 95% confidence interval 0.88–1.42). In subgroup analyses, children of Mexican origin with undocumented parents had higher odds of developmental risk (odds ratio 1.53, 95% confidence interval 1.00–2.33) than non-Latino white children whose parents were citizens, after adjusting for confounders.

Conclusions.—Mexican children with undocumented parents have greater parent-reported developmental risk than Mexican and white children whose parents are US citizens or otherwise legally documented. More research is needed to understand the roles of immigration stress and home environments on the developmental risks of children in households with undocumented parents.

KEY WORDS: children; development; families; health; health disparities; Hispanic Americans; immigrants; Latino; undocumented; well-being

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In the United States, nearly 4.9 million, or 25%, of children younger than 5 years are Latino, making them the largest group of young minority children.¹ With Mexicans as the majority (64%), understanding the health, well-being, and development of Mexican children is critical, given the projected US demographic changes. Few studies have examined the health and development of young Mexican children. A recent study² observed that of Latino children, Mexicans were the least likely to

have very good or excellent parent-reported health and had more barriers to and less use of health care than other groups of Latinos.

Assessing parental reports of developmental concerns is particularly important among Latino subgroups because few studies have examined the effect of immigration on children's development and behavior. Studies have identified that immigrant children tend to have more behavioral problems and learning difficulties in school, which may be attributable to immigration stress.^{3,4} A qualitative study found that most Mexican immigrant mothers perceived their children as having significant communication delays.⁵ These studies suggest that children who have immigrated, as well as US-born children whose parents have immigrated, may have greater risk in early childhood, but few data are available on how parent perceptions of developmental risk vary with immigration status.

The California Health Interview Survey (CHIS) provides timely and unique data from a large population-based study that includes Latino children and families with information on parental legal status. CHIS also includes the Parents' Evaluation of Developmental

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Status measure, which provides information on parents' perceptions of their children's development. Consequently, the CHIS analyses reported here allow us to examine the associations of family documentation and citizenship status on parents' reports of their children's development, after adjusting for important confounding factors.

METHODS

Data

We used 2005 CHIS data. CHIS is a population-based study of households drawn from every county in California. A sample of 5856 children under age 6 years included 1786 with Mexican ancestry. Data were collected in English and Spanish. Of households sampled, 49.8% completed the screener, and 75.2% of parents selected through the screener completed the questionnaire. The response rate using the American Association for Public Opinion Research—RR4 method was 25.2%, which is consistent with those of general telephone surveys and similar to other recent major telephone health surveys in California.^{6,7} An earlier survey of California's undocumented residents found that 94% have a telephone, a rate only slightly lower than the overall state rate.⁸ Once the sample was weighted, the total number of undocumented residents was consistent with independent estimates of the undocumented in California.⁹ The translation and cultural adaptation process is detailed elsewhere, as are the data collection methods.^{10,11}

Measures

We recoded key variables into ordinal variables due to skewed distributions and to facilitate interpretation. The resulting variables are child age in months (9–18, 19–36, 37–54, and 55–72), federal poverty level (0%–99%, 100%–199%, and $\geq 200\%$), parent education (less than high school, high school graduate, and more than high school), and language spoken at home (English only, English and Spanish, and Spanish only).

Race, Ethnicity, and National Origin

Our analysis grouped children by family citizenship/documentation status and race/ethnicity by using available items from CHIS. We categorized participants who were neither naturalized nor held a green card as undocumented, with the caveat that a small number of individuals with special visa status may have been misclassified. Any potential bias that the legally authorized immigrants pose on the undocumented group is assumed to be negative (ie, fewer developmental problems), thus resulting in more conservative comparisons.

Participants who identified themselves as Hispanic or Latino were asked about their national origin (eg, Mexican, Puerto Rican). Because of limited sample sizes of the other Latino groups, we limited our analyses to those whose family origin was Mexico and excluded approximately 20% of Latinos who do not have Mexican origins.

Immigrant Authorization Categories and Citizenship

We defined 3 family citizenship/documentation categories: 1) the child is a citizen and both parents are US-born or US citizens ("US-born" category), 2) the child is a citizen and at least one parent is naturalized or has a green card ("documented" category), and 3) the child is a citizen or noncitizen but neither parent is naturalized nor has a green card ("undocumented" category). Non-Latino white ("white") children in the US-born category were used for the reference group.

Parents' Evaluation of Developmental Status (PEDS)

PEDS is a validated and standardized 10-item measure developed to identify developmental and behavioral-emotional problems in children. The measure is associated with diagnostic tests of cognition, language, academic achievement, and adaptive behavior skills, and the measure has high sensitivity (74%–80%) and specificity (70%–80%) for detecting developmental problems across the 0- to 8-year age range.^{12–16} The instrument has been normed in ethnically and sociodemographically mixed samples. We used a scoring scheme developed by the PEDS author to assign children to 1 of 4 categories (no risk, low risk, moderate risk, and high risk) using the child's age, the developmental domain, and the level of concern. We then constructed a dichotomous variable of developmental risk (high, moderate, or low vs no developmental risk).

Statistical Analysis

First, we ran χ^2 tests to analyze the sample population by age, federal poverty level, parental education, and languages spoken at home by parents. Second, we performed χ^2 and Cochran-Armitage trend tests to compare the PEDS score for each of the racial, ethnic, and family citizenship/documentation categories. We computed the unadjusted odds ratio of having any developmental risk for each Mexican subgroup compared with US-born whites. Third, we used multivariate logistic regression to examine the association between the total Mexican-origin sample versus US-born white children and the dependent variable of developmental risk. Fourth, we replicated this model replacing the total Mexican sample with our 3 category variables of Mexican origin and family citizenship/documentation status. The multivariate models were adjusted for child's age, federal poverty level, parental education, and language or languages spoken at home.

RESULTS

Table 1 provides descriptive statistics on the sample. Mexican children were more likely to be in families under the federal poverty level, with 56% of Mexican children with undocumented parents, 27% of Mexican children with a documented noncitizen parent, and 15% of US-born Mexican children with both US citizen parents living in households with incomes below the federal poverty level, compared with only 5% of non-Latino white children. Parental education is highest for US-born Mexican

Table 1. Descriptive Statistics by Race, Ethnicity, and Citizen/Documentation Status: California Health Interview Survey, 2005

Variables	Mexican			White	P value*
	Undocumented	Documented	US-born	US-born	
Sample size	268	463	353	1515	
Age (mo), %					
9–18	18	16	17	17	.06
19–36	32	30	31	26	
37–54	25	22	22	28	
55–72	24	32	30	29	
Federal poverty level, %					
0%–99%	56	27	15	5	<.01
100%–199	39	38	23	11	
≥ 200%	5	35	62	83	
Parent education, %					
Less than high school	66	38	10	3	<.01
High school graduate	22	29	36	17	
More than high school	12	33	54	79	
Language spoken at home by parent, %					
English only	4	9	59	94	<.01
English and Spanish	39	60	41	6	
Spanish only	57	31	1	0	

* χ^2 test.

children whose parents were both US citizens compared with Mexican children with parents who were undocumented or documented.

Table 2 shows the association between level of developmental risk and the different Mexican family citizenship/documentation statuses, as well as with US-born white children. The Cochran-Armitage trend test shows a higher percentage of developmental risk in children in the undocumented Mexican and documented Mexican categories compared with white children. The trend test does not support that US-born Mexican children with both parents having US citizenship and white children are statistically different in having any PEDS risk ($P = .82$).

Table 2 also shows that Mexican children in both the undocumented and the documented categories had greater odds of having any developmental risk compared with white children, and there was no difference between US-born Mexican children with both parents being US citizens and white children.

Table 3 shows that the difference in odds of any developmental risk for all Mexican children compared with white children does not reach the level of statistical significance set for this study (odds ratio 1.12, 95% confidence interval 0.88–1.42), after adjusting for age, federal poverty level, parental education, and language spoken at home. Among these independent variables, only the child's age is associated with having any developmental risk, with no independent association found between developmental risk and independent variables of household income level, parent education, and language or languages spoken in the household.

Table 3 also shows the results of the multivariate comparisons in developmental risk using the subcategories of Mexican children. Mexican children with undocumented parents have higher developmental risk than white children (odds ratio 1.53, 95% confidence interval 1.00–1.23). We did not find other statistically significant differences between Mexican children with documented or US citizen parents and white children.

Table 2. Parents' Evaluation of Developmental Status (PEDS) Scores by Race, Ethnicity, and Citizen/Documentation Status

Variable	Mexican			White	P Value*
	Undocumented	Documented	US-born	US-born	
Sample size	268	463	353	1515	
PEDS score, %					
High risk	3	2	2	1	<.01
Moderate risk	12	10	4	6	
Low risk	49	47	48	46	
No risk	37	41	46	46	
P value of Cochran-Armitage trend test, %†	<.01	<.01	.82		
Unadjusted Odds Ratio (95% Confidence Interval)‡	1.47 (1.13,1.92)	1.23 (1.00,1.52)	0.99 (0.79,1.25)	1.00	

* χ^2 test.

†Cochran-Armitage trend tests between whites and one Mexican subgroup: US-born white vs undocumented Mexicans; US-born white vs documented Mexicans; US-born white vs US-born Mexicans.

‡Model predicts having any PEDS risk vs no risk; US-born white children are the reference.

Table 3. Multivariate Logistic Regressions Predicting Having Any Parents' Evaluation of Developmental Status (PEDS) Risk Versus No Risk*

Variable	Model 1†		Model 2‡	
	OR	95% CI	OR	95% CI
White US-born		Reference		Reference
Mexican	1.12	(0.88–1.42)		
Undocumented	NA	NA	1.53	(1.00–2.33)
Documented	NA	NA	1.32	(0.95–1.84)
US-born	NA	NA	1.03	(0.80–1.33)
Control variables				
Age (mo)				
9–18		Reference		Reference
19–36	1.29	(1.01–1.64)	1.29	(1.01–1.63)
37–54	1.30	(1.02–1.67)	1.30	(1.02–1.66)
55–72	1.50	(1.18–1.91)	1.50	(1.19–1.91)
Federal poverty level				
0%–99%		Reference		Reference
100%–199%	0.91	(0.69–1.19)	0.92	(0.70–1.21)
≥ 200%	0.88	(0.67–1.15)	0.92	(0.70–1.21)
Parent education				
Less than high school		Reference		Reference
High school graduate	0.90	(0.67–1.20)	0.94	(0.70–1.25)
More than high school	0.84	(0.63–1.13)	0.88	(0.66–1.18)
Language spoken at home by parent				
English only		Reference		Reference
English and Spanish	0.91	(0.70–1.16)	0.83	(0.63–1.08)
Spanish only	1.03	(0.72–1.48)	0.85	(0.57–1.29)

*The dependent variable is a dichotomous variable of having any PEDS risks (high/moderate/low) vs no risk. OR = odds ratio; 95% CI = 95% confidence interval; N/A = not applicable.

†Model 1 compared all Mexican children with US-born white children.

‡Model 2 separated Mexican children into 3 groups: undocumented, documented, and US-born, and compared them with US-born white children.

DISCUSSION

Previous studies have demonstrated that Mexican parents report lower health status ratings and worse health care access and utilization for their children than other Latino and non-Latino white parents.^{2,17} We found that Mexican children with undocumented parents have higher odds of parent-reported developmental risk compared with white children and to Mexican children with parents who are citizens or otherwise legally authorized. It does not appear that characteristics commonly associated with parent-reported developmental risk such as household income, parent education, and household language fully explain the association between documentation status and developmental risk for Mexican children in the CHIS sample.

Previous studies have shown that immigrant children and their families face a number of stressors related to their entry to a new host society, which include poor economic, linguistic, and educational resources as well as challenges in family functioning that are associated with acculturation stressors. These stressors, in turn, have been associated with mental health problems in children.^{5,18–20} Raffaelli and colleagues²¹ note the dearth of child developmental research that specifically focuses on Latinos and offer a framework for studying potential influences including immigration stress, school contexts, and child, family, and peer characteristics. Greater developmental risk in families lacking documentation may be due to the additional stress within the family associated with the increased marginalization from having an undocumented status or the threat of deportation, as well as a result of lower rates

of positive-development-promoting activities in the family among parents born outside the United States. Given the difficulty of accessing children with undocumented parents, we know little about the specific characteristics within these households that may be influencing parental reports of developmental risk.

It is also difficult to know the extent to which increased reports of developmental problems for children in families with undocumented parents are due to actual differences in development versus the unmet needs of parents for reassurance about typical development and/or due to parental expectations of development and how these expectations shape their reported concerns. Previous studies have shown significant health care access problems for both undocumented children and adults (who may have young children themselves).^{22–24} Timely access to primary care for young children can ameliorate parental concerns and/or provide guidance on development-promoting activities. The process of listening and responding to parent concerns is a major component of prevention within pediatrics, as documented in national professional recommendations (ie, Bright Futures). Parents who are not receiving this regular reassurance may have more concerns about their children's development. Although California has public insurance programs for children in families up to 200% of the federal poverty level regardless of documentation status, differences in quality of care may lead to some parents having their concerns unaddressed.

A limitation of this study is relying on parental perception of risk with no objective measures of developmental

problems. The PEDS was designed to facilitate clinical decision making about risk and appropriate interventions by eliciting parental concerns. The PEDS is used by the National Center for Health Statistics' surveys of young children as the best possible measure of early childhood health and development, although information about its properties is limited. Further research is needed to understand which factors are contributing to the observed associations.¹⁶ Unmet physical and mental health needs among undocumented parents themselves may shape their perceptions of concerns in their children.

Conclusion

This study demonstrates that Mexican children with undocumented parents have greater parent-reported developmental risk than Mexican and white children whose parents are documented or who are US citizens. This reported high need, coupled with the problems of access to health care experienced by children with undocumented parents, suggests that there may be many children with developmental risks who may be missed by the health care system.

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