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and Stephen Favasuli¹

Abstract

Recent literature has noted that in some cases, less acculturation may be protective against adverse outcomes. This study sought to clarify the relationships between acculturation, food insecurity, and child outcomes. A sample of 339 low-income participants, comprised of non-Hispanic Whites ($n = 171$), English-speaking Hispanics ($n = 89$), and Spanish-speaking Hispanics ($n = 79$) were surveyed on food security and parental reports of child behavior problems. Results showed that Spanish-speaking Hispanics were at a social and economic disadvantage in comparison to non-Hispanic Whites and to English-speaking Hispanics. Spanish-speaking Hispanics reported significantly more concern and the least satisfaction with their children's physical health and had the highest rates of food insecurity. In contrast, on parental reports of child behavior, non-Hispanic Whites were significantly more likely to report problem behavior than either Hispanic group. Overall, the findings do not support the protective role of lower acculturation for Hispanic households. Implications of these findings in light of current research are discussed.

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Keywords

food security, low-income working households, acculturation, child problem behaviors

The challenges faced by ethnic minorities and their families in general are well-documented both for immigrants and subsequent generations, with Hispanics showing elevated risks on a wide range of outcomes (Camarota, 2007; DeNavas-Walt, Proctor, & Smith, 2008; Goel, McCarthy, Phillips, & Wee, 2004; Mazur, Marquis, & Jensen, 2003). Recent data indicate that 21.5% of all Hispanics live at or below the poverty level, with close to 30% of Hispanic youth (under the age of 18) living in poverty as compared to 18% of all U. S. children (DeNavas-Walt et al., 2008). In addition, while Hispanics currently make up 17.3% of U.S. population, they are the fastest growing population in the United States, having increased at over seven times the rate of the non-Hispanic population since 2000 (DeNavas-Walt et al., 2008). Despite general increase in population, the latest available census data show Hispanics to be the only formally recognized ethnic group to be decreasing in median household income (DeNavas-Walt et al., 2008).

Numerous studies have reported the elevated risks associated with children growing up in low-income households, and in particular, for Hispanic youth (Evans, 2004; Kaufman, Alt, & Chapman, 2004; Kieffer, 2008; Nyamathi & Vasquez, 1989; Ryan, Franzetta, & Manlove, 2005). Compared to non-Hispanic Whites and African Americans, Hispanic children and teens have higher school dropout rates and lower high school completion rates (Kaufman et al., 2004), are more likely to carry a weapon, attempt suicide, use alcohol, cigarettes, and marijuana before the age of 13 (Eaton, Davis, Barrios, Brener, & Noonan, 2007), and have higher rates of teenage pregnancies (Ryan et al., 2005). Further, 22% of Hispanics and their children lack health insurance, as compared to 11% of non-Hispanic Whites (Camarota, 2007) while 26.9% of Hispanic households report food insecurity as compared to the national average of 14.7% (Nord, Coleman-Jensen, Andrews, & Carlson, 2010).

Elevated risks among low-income, language minority populations can be interpreted through a lens of cumulative risk (Evans, 2004). That is, as the number of risk factors to which individuals or populations are exposed increases, the likelihood of adverse outcomes increases as well. Among immigrants and children of immigrants, acculturation is often believed to be a factor in moderating the degree of risk (Mazur et al., 2003). That is, the more acculturated people are, the more likely they have acquired language, behavior, and cultural norms

that allow them access to mainstream society (Lara, Gamboa, Kahramanian, Morales, & Hayes Bautista, 2005).

However, a small but growing body of literature has suggested that in some cases, acculturation may be negatively associated with outcomes. In particular, in relation to health outcomes, less acculturated Hispanics may actually be at less risk than their more acculturated peers. For example, in a review of acculturation and health among Latinos, the authors provide evidence showing that less acculturation is associated with more nutritious dietary patterns, less likelihood to engage in substance abuse, and fewer negative birth outcomes and teenage pregnancies (Lara et al., 2005). Similarly, one study of dietary intake has shown that poor, less acculturated Latino households (as measured by language spoken) experience better diets and greater food security than more acculturated groups (Mazur, et al., 2003) despite other evidence suggesting that low acculturation is associated with less knowledge of nutrition and the diet-disease connection (Aldrich & Variyam, 2000). Also, within the context of poverty, higher levels of maternal acculturation among Latinas (as measured here using language spoken at home, birthplace, and age at arrival in the United States) have been related to increased rates of food insecurity and poor diet (Marquis, Jensen, & Mazur, 2002), less cognitive stimulation in the home as children age (Schmitz, 2005), and higher levels of antisocial behavior in teens (Eamon & Mulder, 2005).

The purpose of this study is to further examine the role of acculturation in relation to food security status and behavioral outcomes among a sample of low-income working poor families. To date, most of the existing studies reporting associations between hunger, food insecurity, and a range of health, behavioral, and psychosocial outcomes have controlled for ethnicity rather than examine variations within groups (e.g., Alaimo, Packnett, Miles, & Kruger, 2008; Ashiabi & O'Neal, 2008; Lyons, Park, & Nelson, 2008). In this study, we compare levels of acculturation of Hispanic households (by language preference) in relation to food security status and parental perceptions of child health and behavioral outcomes.

Method

Participants

Data for the analyses came from a study on Food Stamp Program (FSP) participation among low-income working families in the state of Rhode Island (Gorman, Horton, & Houser, 2006). The participants were from

418 households with incomes between 100% and 130% of the 2005 federal poverty level (US\$18,400 - US\$23,920 for a family of four).¹ These households were originally identified through the RI Department of Human Services database of families receiving state supported child care assistance, approximately half of whom were participating in the FSP. For a more detailed description of the methods, see Gorman et al. (2006).

The sample reported here is comprised of 339 of these participants: 79 Spanish-speaking Hispanics, 89 English-speaking Hispanics, and 171 non-Hispanic White households. Consistent with the use of language as a measure of acculturation (Aldrich & Variyam, 2000; Mazur et al., 2003), for purposes of this study, respondents choosing to respond to the interview in Spanish are considered to be less acculturated than Hispanic respondents interviewed in English.

Procedure

Participants were contacted by phone and asked to participate in the study. A minimum of 10 days prior to telephone contact, participants were mailed a letter explaining the purpose of the study. Those who agreed to participate were surveyed via phone by trained and certified interviewers at the Survey Research Center at the University of Rhode Island. Interviewers were provided with both written instructions and verbal training to ensure the consistency of survey presentation and response recording. The survey was available in both English and Spanish, and several interviewers were bilingual; however, only households who identified themselves as Spanish speaking only received the survey in Spanish.

Every effort was made to speak with the head of the household, and verbal consent was received prior to participation. Surveys were not completed with those who either refused, were unable to participate, were not 18 years of age or older, or were not living with their children at the time. All households that successfully completed the survey were subsequently mailed a written consent form and a US\$10 gift card to a local supermarket.

Measures

Participants were asked questions ranging from demographic and income information to issues of food security, food assistance program utilization, food access and purchasing habits, and concerns about their children's behavior and health.

Demographic Variables. Respondent and household information collected included the following: Age, race/ethnicity, household size, household composition, marital status, educational level, and employment history. Detailed information was collected on household income and expenditures.

Food Acquisition

Food security. Food security and hunger status were assessed using the core food security module developed by the United States Department of Agriculture (Bickel, Nord, Price, Hamilton, & Cook, 2000), which has been widely used and validated with low-income populations in the United States. Participants were asked the six questions on the abbreviated version and then coded as food secure, food insecure, and food insecure with hunger.² In addition, follow-up questions included types of strategies those suffering hardship used when money was not available to purchase food.

Food access and selection. Participants were asked questions about their grocery shopping habits including where they shopped, distance to the nearest grocery store, transportation to the grocery store, and availability of help. They were also asked about the types of foods they bought (fresh, frozen, or canned), and whether they regularly purchased fruits, vegetables, and dairy products.

Child health and well-being. In the original study, participants were asked a series of questions about the target child in the household, defined as the oldest child for whom the parent was receiving child care assistance. Questions addressed issues such as physical health satisfaction and concerns, doctor and hospital visits, overall quality of life, mental health, learning and developmental disabilities, behavioral and academic issues. Participants were also asked an additional set of questions concerning any/all children in the household.

For purposes of this study, four variables were used in the analyses: A composite measure of child problem behavior based on parental reports for the target child (sum of the presence of a learning disability, a developmental disability, and the presence of an emotional or behavioral problem), parental concern about target child's physical health (coded as yes, no), parent's satisfaction with target child's physical health (scale 1-5, ranging from *very dissatisfied* to *very satisfied*), and a composite measure of problem behavior for all children in the household (sum of mental health issues, short-term health issues, chronic illness, learning disability, developmental disability, behavioral problems, academic issues, school attendance issues, criminal or juvenile justice issues, substance use, or any other significant problem). A more detailed description of these variables is reported elsewhere (Gorman et al., 2006).

Results

Participant Demographics

Respondents in the overall sample were predominantly female (97%), with a mean age of 31 years (Table 1). On average, respondents had completed 12 years of school and worked an average of 33 hours a week.

Comparisons between groups on demographics indicate that as compared to English-speaking Hispanics and non-Hispanic Whites, Spanish-speaking Hispanics were often at a disadvantage: they had completed fewer years of education, were paid significantly lower hourly wages, and lived in smaller homes (Table 2). Furthermore, while Hispanic participants worked significantly more hours than non-Hispanic participants ($F = 10.12, p < .01$), Spanish-speaking Hispanics were significantly more likely than either group to report working more than 40 hours per week (Table 3). All participants were working and/or in some combination of education and work training in order to qualify for child care with the majority (82%) in work only activities.

While respondents reported a wide range of occupations, almost 80% of Spanish speaking households reported working in just one occupation, factory work (data not reported). In addition, Spanish-speaking respondents had twice the rate of uninsured household members as compared to English-speaking Hispanics, and more than five times the rate of non-Hispanic White households (Table 3). Hispanics, as compared to non-Hispanic White households worked significantly more hours per week, used public transportation more frequently, and were less likely to report living in a safe neighborhood. There were no differences in overall monthly income between groups even after adjusting for household size.

Food Acquisition

Food insecurity. When examining the relationship between food insecurity and acculturation, significant differences emerged. While levels of food insecurity were elevated among the entire population, Spanish-speaking households were significantly more likely (70%) than either English-speaking Hispanics (53%) and non-Hispanic Whites (52%) to be food insecure with or without hunger ($\chi^2 = 7.746, p < .05$; Table 4). Additionally, among all food insecure households, English-speaking Hispanics were less likely (11.2%) than either Spanish-speaking households (21.5%) or non-Hispanic White households (21.6%) to experience food insecurity with hunger.

When asked about what individuals do when they didn't have enough money for food, non-Hispanic White respondents reported significantly more strategies

Table 1. Respondent Characteristics

Variable	N	% of survey population	M
Entire sample	339		
Gender of respondent			
Female	329	97.1	
Single parent	324	95.6	
Acculturation group			
Spanish-speaking Hispanic	79	23.3	
English-speaking Hispanic	89	26.3	
Non-Hispanic White	171	50.4	
Age			31.3
18-24	55	16.2	
25-34	179	52.8	
35-44	86	25.4	
45+	15	4.4	
Highest level of education			12.3
Less than high school	62	18.3	
High school or equivalent	145	42.8	
Some college or postsecondary	107	31.6	
College degree or beyond	25	7.4	
Hours worked/week			33.1
Less than 20 hr/week	4	1.2	
20-29 hr/week	70	20.6	
30-39 hr/week	125	36.9	
40-49 hr/week	117	34.5	
50+ hr/week	11	3.2	

than Hispanic respondents. Specifically, non-Hispanic Whites were significantly more likely to receive meals or money from friends or relatives than either Hispanic group ($\chi^2 = 12.892, p < .01$; Table 4).

Food access and selection. When asked where they regularly shopped for food, all respondents reported shopping at supermarkets much more frequently than at warehouse stores, specialty shops, or neighborhood markets (Table 5). Spanish-speaking households traveled significantly further to their regular grocery stores than either English-speaking Hispanics or non-Hispanic Whites, $F(2, 279) = 5.134, p < .01$. In addition, there were significant differences in how respondents got to the grocery store, with Hispanics significantly less likely to go in their own car ($\chi^2 = 12.86, p = .01$) and significantly more likely

Table 2. Mean Comparison of Demographic Variables Between Spanish-Speaking Hispanic, English-Speaking Hispanic, and Non-Hispanic White Respondents

Variable (M)	Spanish-speaking Hispanics	English-speaking Hispanics	Non-Hispanic Whites	F value
Respondent age	34.4 _a	30.7 _b	30.3 _b	11.318****
Years of education	11.0 _a	12.6 _b	12.7 _b	14.773****
Hourly wage	7.66 _a	9.30 _b	9.48 _b	15.290****
Hours worked/week	36.6 _a	34.3 _a	30.9 _b	10.121****
Number of bedrooms	2.37 _a	2.71 _b	2.72 _b	5.536****

Mean differences between groups, * $p < .10$. ** $p < .05$. *** $p < .01$. **** $p < .001$.
a, b Means with different subscripts differ significantly.

to receive a ride from someone else ($\chi^2 = 24.998, p < .001$). There were no differences between groups on the amount of money spent while regularly shopping at the grocery store.

All participants reported very high rates of purchasing fresh fruits and vegetables, however, Spanish-speaking Hispanics were significantly more likely to buy fresh vegetables ($\chi^2 = 13.033, p < .001$) than the other two groups (data not reported). Conversely, Spanish-speaking Hispanics were least likely to buy canned fruits ($\chi^2 = 26.651, p < .001$), canned vegetables ($\chi^2 = 95.272, p < .001$), and frozen vegetables ($\chi^2 = 17.721, p < .001$).

Child outcomes. Non-Hispanic White respondents reported a significantly higher number of problem behaviors among the household's children than did either English-speaking and Spanish-speaking Hispanics, as evidenced by both the composite measuring parental perception of problem behavior for the target child, $F(2,336) = 7.754, p < .01$, as well as for the composite representing all children in the household, $F(2, 336) = 10.745, p < .001$ (Table 6).

In addition, Spanish-speaking Hispanics were significantly less satisfied with their target children's physical health than were English-speaking Hispanics, $F(2,338) = 3.995, p < .05$, and voiced significantly more concern over the physical health of their target children than either group ($\chi^2 = 12.824, p < .05$; data not reported). While the overall number of health concerns was small, a higher percentage of Spanish-speaking Hispanics reported greater concern about chronic illness (11%) and underweight (5%) while non-Hispanic Whites reported concerns about overweight (5%) and chronic illness (4%). English-speaking Hispanics voiced the fewest concerns with chronic illness being rated the highest (3%).

Table 3. Comparisons Between Spanish-Speaking Hispanic, English-Speaking Hispanic, and Non-Hispanic White Respondents on Economic Indicators

Variable	Spanish-speaking Hispanics (%)	English-speaking Hispanics (%)	Non-Hispanic Whites (%)	Pearson's chi-square
Respondent years of education				65.330****
Less than high school	43.0	7.9	12.3	
High school degree or GED	26.6	57.3	42.7	
Some college/postsecondary	15.2	32.6	38.6	
College degree or beyond	15.2	2.2	6.4	
Total hours working per week				86.747****
Less than 20 hr/week	1.3	0.0	1.8	
20-29 hr/week	3.8	19.1	29.2	
30-39 hr/week	15.2	41.6	44.4	
40+ hr/week	76.0	37.1	20.5	
Primary job satisfaction				30.775****
Very satisfied	19.5	42.4	40.2	
Somewhat satisfied	37.7	16.5	29.6	
Not satisfied/dissatisfied	32.5	21.2	14.2	
Somewhat dissatisfied	6.5	9.4	6.5	
Very dissatisfied	3.9	10.6	9.5	
Household w/o health insurance	26.6	11.2	4.7	25.473****
Live in a safe neighborhood	70.5	72.4	92.9	27.995****
Public transportation				65.378****
Always	13.9	13.5	2.3	
Sometimes	35.4	43.8	10.5	
Never	50.6	42.7	87.1	

Chi-square differences between groups, * $p < .10$. ** $p < .05$. *** $p < .01$. **** $p < .001$.

Table 4. Differences Between Spanish-Speaking Hispanic, English-Speaking Hispanic, and Non-Hispanic White Respondents on Food Security and Hunger

Variable	Spanish-speaking Hispanics (%)	English-speaking Hispanics (%)	Non-Hispanic Whites (%)	Total (%)	Pearson's chi-square
Food secure	30.4	47.2	48.5	44.0	13.563****
Food insecure					
Without hunger	48.1	41.6	29.8	37.2	
With hunger	21.5	11.2	21.6	18.9	
Strategies used when you did not have enough money for food					
Went hungry	1.3	3.4	5.8	4.1	7.901
Shelter/Soup kitchen	2.5	0.0	4.1	2.7	10.513**
Church/Food pantry	2.5	4.5	8.8	6.2	7.928
Meals or money from friends/relatives	3.8	7.9	17.6	11.8	12.892**
Other	6.3	3.4	5.8	5.3	12.565**

Chi-Square differences between groups, * $p < .10$. ** $p < .05$. *** $p < .01$. **** $p < .001$.

Relationship between acculturation, food security, and child outcomes. The bivariate analyses demonstrate a significant disadvantage to the Spanish-speaking participants on most outcomes. In order to assess whether the differences between groups in food security status, parental reports of behavior problems in their children, and parental satisfaction regarding child health may actually be related to other factors, analyses were run controlling for potential confounding factors including household size, hourly wage, and maternal education (in years).

Results are presented in Table 7. Acculturation was significantly associated with the outcomes in each analysis with different covariates accounting for variation in the outcomes. Logistic regression analyses of food security status (food secure vs. food insecure), showed that acculturation and maternal education were significantly related to food security status even after controlling for household size and hourly wage. Both English-speaking Hispanics and non-Hispanic Whites were significantly less likely (estimates = -0.67 ,

Table 5. Comparisons Between Spanish-Speaking Hispanic, English-Speaking Hispanic, and Non-Hispanic White Respondents on Food Access

	Spanish-speaking Hispanics (%)	English-speaking Hispanics (%)	Non-Hispanic Whites (%)	Total (%)	Pearson's chi-square
Source of groceries					10.654
Supermarket/grocery	82.3	84.3	91.2	87.3	4.919
Warehouse clubs	2.5	3.4	2.3	2.7	0.247
Specialty stores	1.3	0.0	0.0	0.3	3.301
Neighborhood market	10.1	7.9	4.7	6.8	2.759
Other	3.8	4.5	1.2	2.7	3.024
Transportation					34.910 ^{*****}
Own car	64.6	69.7	83.6	75.5	12.863 ^{****}
RIPTA	0.0	1.1	1.2	0.9	0.921
Taxi	1.3	1.1	0.6	0.9	0.364
Someone else's car	7.6	13.5	11.1	10.9	1.506
Someone else drives	22.8	10.1	2.9	9.4	24.998 ^{*****}
Walks	3.8	3.4	0.6	2.1	3.776
Other	0.0	1.1	0.0	0.3	2.817
					F value
Miles from grocery store (M)	5.89	3.11	3.78	3.79	5.134 ^{****}
Amount spent on groceries (M)	US\$100.10	US\$92.06	US\$106.38	US\$101.19	1.557

Note: Chi-Square differences between groups. * $p < .10$. ** $p < .05$. *** $p < .01$. **** $p < .001$.

Table 6. Comparisons Between Spanish-Speaking Hispanic, English-Speaking Hispanic, and Non-Hispanic White Respondents on Health Satisfaction

	Spanish-speaking Hispanics	English-speaking Hispanics	Non-Hispanic Whites	Total	F value
Satisfaction with child's physical health (range 1-5)	3.56 _a	3.82 _b	3.77 _b	3.73	3.995**
Satisfaction with child's overall quality of life (range 1-5)	3.59	3.66	3.67	3.65	.290
Target child problem behavior	0.21 _a	0.17 _a	0.61 _b	0.35	7.754***
Household children problem behavior	0.59 _a	0.69 _a	1.42 _b	1.03	10.745***

Note: Satisfaction scale 1 = *very dissatisfied* to 5 = *very satisfied*. Mean differences between groups, * $p < .10$. ** $p < .05$. *** $p < .01$. **** $p < .001$.
 a, b Means with different subscripts differ significantly.

Table 7. Effects of Acculturation on Dependent Measures Controlling for Household Size, Hourly Wages and Maternal Education

	Food security ^a	Satisfaction with physical health	Problem behavior: All children	Problem behavior: Target child
Acculturation		3.39**	10.07****	7.71****
Hispanic English	3.89**			
Non-Hispanic White	3.96**			
Household size	0.14	0.36	10.60****	1.61
Hourly wage	1.99	4.68**	3.57*	0.22
Maternal education	4.44**	0.00	0.01	0.27
Maximum likelihood	12.966**			
F ratio		2.14*	8.30****	3.67***

a. Logistic regression analyses, chi-squares reported. Acculturation variable contrast with Spanish-speaking Hispanics. Mean differences between groups, * $p < .10$. ** $p < .05$. *** $p < .01$. **** $p < .001$.

$p < .05$ and $-0.62, p < .05$, respectively) than Spanish-speaking Hispanics to be food insecure. Mothers with more education were significantly less likely to be food insecure (estimate = $-0.11, p < .05$).

Linear regression analyses of behavior problems among all children in the household yielded a significant model ($F = 8.30, p < .0001$) accounting for 11% of the variance in parental reports of child behavior. Acculturation and household size entered significantly. Hispanic households (both Spanish- and English-speaking) were significantly less likely to report problem behaviors in their children while larger households reported significantly more problem behavior among their children. Wages were positively, although not statistically significantly, related to child behavior problems. Similarly, when examining problem behavior for the target child only, Hispanic households, as compared to non-Hispanic White, reported fewer child behavior problems after controlling for household size, wages, and maternal education ($F = 3.67, p < .001$).

Finally, parental satisfaction with their child's health was related to both acculturation status and income. Spanish-speaking Hispanics were significantly less satisfied than English-speaking Hispanics with their children's health. Lower hourly wages were also associated with higher reported levels of satisfaction.

Discussion

The purpose of this study was to examine variations within a population of low-income working poor households as a function of acculturation. In general, we were interested in examining whether acculturation differences among a group of low-income Hispanics might account for variation in household food security status and indicators of child well-being. Based on an emerging body of literature suggesting that in some instances less acculturation might actually protect against factors traditionally considered to put one at risk, we compared two groups of low-income Hispanic households based on language preference with a comparable group of low-income non-Hispanic White households.

The findings indicate in general that Spanish-speaking households are at greater economic and social disadvantage and experience greater rates of food insecurity and hunger not only as compared to non-Hispanic households but also as compared to more acculturated (English-speaking) Hispanic households. Analyses controlling for potential covariates, such as wages, maternal education, and household size did not eliminate these differences, suggesting

that Spanish-speaking Hispanics experience disadvantages that extend beyond common socioeconomic factors.

In contrast, non-Hispanic White households were much more likely to report having children with a variety of learning and behavior problems as compared to Hispanic households. While this may initially seem to indicate that assimilation toward this group (non-Hispanic Whites) would likely result in increasing problem behavior, it is notable that English-speaking Hispanics did not report significantly more problem behavior than Spanish-speaking Hispanics. In other words, all Hispanic parents reported that their children had fewer learning, emotional, or behavioral problems than did non-Hispanic Whites. The problems captured in the two outcomes included learning and behavioral problems for the target child as well as a wide range of mental and physical health issues combined with behavioral problems for children in the entire household. Given that the data were based on parental reports, we are unable to verify whether they accurately reflect the true incidence of problems among the children in the study and there is no obvious reason why the non-Hispanic White children would have increased rates of problem behavior as compared to Hispanic. In fact, in some cases, researchers have found that Hispanic children, as compared to non-Hispanic children are at increased risk of problem behavior, such as school dropout (Kaufman et al., 2004), incarceration (Gallegos-Castillo & Patiño, 2006), earlier and unprotected sex (Centers for Disease Control and Prevention, 2007), and substance abuse (De La Rosa, Holleran, Rugh, & MacMaster, 2005; Johnston, O'Malley, Bachman, & Schulenberg, 2007). Alternatively, it may be that Hispanic parents are less likely to report problem behavior in their children because they are less aware of their children's school behavior in general due to cultural disconnect between schools and families which has been reported elsewhere (Lara et al., 2005). Even after controlling for indicators of socioeconomic status (maternal education and hourly wage), the between-group differences remained. Future research will benefit from including actual measures of child behavior in addition to the parental report.

Our results provide limited support for the hypothesis that lower levels of acculturation may be protective. In terms of food insecurity and hunger, and in contrast to work by Marquis, Jensen and Mazur, we found the less acculturated, Spanish-speaking respondents to be more likely food insecure and experience hunger, even after controlling for income. Analyses to control for other potential economic mediators (e.g., hourly wages, household size), did not modify the results significantly. It may be that the economic disadvantages among this Hispanic population were so powerful that any potential protective effect of lower acculturation was overshadowed. It should be noted, however,

that while all households reported relatively high levels of purchases of fruits and vegetables, Spanish-speaking households were significantly more likely to report buying fresh foods as compared to canned or frozen. Current discussions around healthy eating and obesity initiatives will need to keep cultural preference and habits in mind as they consider the relative merits of cost and nutritional quality.

One of the limitations of this study was that it was not designed specifically to examine acculturation. Measures of acculturation often include length of time in country, proximity of extended family members, as well as language preference and cultural practices. In this case, we had only language preference as an indicator. Notably, language appeared to capture a number of differences between groups. Not surprisingly, Spanish-speaking Hispanics were most different from non-Hispanic Whites. Of particular interest were the English-speaking Hispanics and their level of similarity to the other two groups. English-speaking Hispanics responded much more similarly to their non-Hispanic peers on a number of outcomes including proximity to grocery stores, types of food purchased, satisfaction with children's physical health, and concern with children's physical health. In contrast, in terms of child-behavioral outcomes, English-speaking Hispanics rated their children's behavior much more similar to other Hispanics rather than non-Hispanics. The data seem to suggest that the use of language is capturing a real difference in the process of acculturation; the continued focus on the process of acculturation as having variable effects over time seems to be particularly important.

In the area of physical health, Spanish-speaking Hispanics reported the least satisfaction with their children's physical health, significantly less than either English-speaking Hispanics or non-Hispanic Whites. Unfortunately, the absence of health data precludes our ability to address whether this lack of satisfaction is related to actual health outcomes. As Spanish-speaking Hispanics were also less likely to have health insurance, it may be that lower satisfaction reflects in part the parent's concern about their actual capacity to respond to health concerns. Post hoc analysis suggest this low satisfaction to be in part a function of the interaction between acculturation and the number of times children received medical treatment (of which Spanish-speaking Hispanics typically received the least). It may well be that low satisfaction with the child's physical health may not actually be a result of poor physical health, but rather a byproduct of a lack of access to health care, so that the parent's concern about children's health reflects their actual capacity to respond to health concerns. As such, Spanish-speaking Hispanics may be least satisfied with their children's physical health and more concerned because they have the fewest resources to do anything about it. Future research would

benefit from including actual measures of health in addition to those included here which focus primarily on perceptions (e.g., concern, satisfaction).

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Notes

1. Because the original study was designed to examine behaviors related to FSP participation, the sample excluded participants at or below 100% FPL as these households would automatically be enrolled in FSP with their TANF benefits.
2. The terms *food insecure with hunger* and *food insecure without hunger* are used in the current manuscript and reflect accepted terminology at the time the data were collected.

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