

The Double Burden of Food Insecurity and Obesity Among Latino Youth: Understanding the Role of Generational Status

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Abstract:

Background: Obesity is linked to food insecurity and generational status; however, little is known about how both impact obesity risk among Latino youth.

Objective: To investigate the joint effect of generational status and food insecurity on obesity prevalence among Latino youth.

Methods: We pooled data from the 2011 to 2017 waves of the National Health Interview Survey to derive a sample Latino youth aged 12 to 17 ($N = 7532$). Four generational categories were constructed: first generation (foreign-born children); second generation (US-born child; foreign-born parent[s]); 2.5 generation (US-born child; one foreign-born parent and one US-born parent); third generation (US-born child; U.S.-born parent[s]). Food insecurity was defined by monthly instances of food scarcity over the past year. Obesity was measured using age- and sex-specific body mass index percentile cut-offs. Log-binomial multivariable regression models estimated the association between generational status and food insecurity categories on obesity.

Results: Obesity percentages among food-insecure households ranged from 12.8% in the first generation, 15.8% in the second, 24.3% in the 2.5, and 19.2% in the third. In fully adjusted models, 2.5 generation food secure youth had the highest prevalence of obesity (aPR: 1.53; 95% CI, 1.09-2.16) when compared with first generation food secure youth, followed by third generation food insecure youth (aPR: 1.49; 95% CI, 1.01-2.20).

Conclusions: Food security status is associated with increased obesity prevalence among Latino youth across the generations. Given that obesity is a risk factor for top causes of mortality and morbidity, growing rates among this population is of public health and clinical importance.

Keywords: Childhood obesity | food insecurity | generational status | Latinos

Article:

1 INTRODUCTION

Food insecurity is closely associated with overweight/obesity, likely because of the limited time and resources low food secure populations have to engage in healthy eating, diet, or exercise.¹ Previous research has found an association between lower food security and higher body mass index (BMI) or overweight/obesity among US adults; particularly women.² However, studies of food insecurity and obesity among children and adolescents have had far less consistent results.^{3,4} Adolescence is a particularly critical period for the development of overweight/obesity, as the body experiences rapid changes in growth and metabolism. These biological changes, coupled with food scarcity or inconsistent eating patterns, may contribute to disordered eating behaviours, which contribute to fat storage and weight gain.³ National survey data have found that adolescents from low food security households were close to 1.5 times more likely to have central obesity than those from food-secure households,^{3,5} and population-based studies have found a significant relationship between maternal stress and adolescent food insecurity and higher rates of overweight/obesity.^{3,6} Other studies conducted among youth have found no or only marginal associations between food security and obesity after controlling for additional risk factors within the population.⁷

Obesity is a growing public health concern among Latinos, who are both more likely to experience bouts of low food security and be chronically food insecure relative to US households overall.⁸ Cumulative food insecurity among Latino mothers (during childhood and adulthood) is associated with their children's elevated waist circumference and body fat composition,⁹ suggesting that the presence of food insecure environments can have long ranging effects on weight among families. Ethnographic studies of Latino and other immigrant populations have additionally shed light on how generational or intergenerational status (ie, country of nativity between parents and their children) independently affect individual or family BMI, although these results have not been consistent. Bates and colleagues,¹⁰ for example, noted increased adulthood BMI for later US generations among most Latinos. Another study of Latino children, however, found the opposite. Compared with third generation children (US-born children and parents), those of the first or second generation (foreign or US-born children of foreign-born parents, respectively) had twice the risk of obesity.¹¹ A recent systematic review of the literature¹² found conflicting accounts of the relationship between acculturation and obesity, depending on the age of the Latino youth sample, population characteristics, and measures used to assess acculturation.

The “dual burden” of obesity exposures among Latinos in the United States can be explained by their lower food security levels coupled with their elevated obesity as a result of their retention and/or adoption of foreign or US-based norms in diet, exercise, and other obesity-related health

behaviours. Few studies, however, have examined the convergence of generational status and household food insecurity factors on weight outcomes among Latino youth. A study conducted among predominantly Latino preschool-aged children found no association between food insecurity and obesity. However, this study did not examine the role of generational status of either the child or their caregivers.¹³ The joint or interactive effect of intergenerational status and food insecurity on obesity among Latino youth has yet to be examined, despite evidence that parental generation in the United States impacts the weight of their children and is also closely related to socioeconomic factors such as food insecurity status.¹⁴

Using a large, nationally representative sample of Latino youth and employing a novel methodological approach by linking children to their parent(s)' nativity, our study examines the joint effect of household food security and generational status on the prevalence of obesity during adolescence.

2 METHODS

2.1 Data source

Data were obtained from the National Health Interview Survey (NHIS), a nationally representative survey that tracks the health of the noninstitutionalized US population.¹⁵ The NHIS is an annual cross-sectional household interview survey consisting of four major components: household, family, sample adult, and sample child. The household and family components collect demographic information from each member of the household and family-level indicators of health status, health care access and utilization, insurance, income, and assets, which can be applied to all individuals within a particular family. From each family with children, one randomly sampled child is selected as the “sample child,” and more detailed information regarding health status, health care services, and health behaviors is collected from this individual.¹⁵

2.2 Study sample

We merged NHIS sample child respondents from the 2011 to 2017 waves of data collection. Nearly 30 000 youth aged 12 to 17 were identified, 7992 of whom reported being of Latino origin.* Sample children were linked to parents residing in the household with them through the family and household files. Parents were defined as mothers and/or fathers who identified as the sample child's parent, through a biological, adoptive, step, in-law, or another kind of relationship. Analyses were conducted among youth for whom parent nativity information was collected on at least one parent residing in the family with them. Our sample was then limited to 7827 Latino youth aged 12 to 17 with nonmissing BMI values, 7532 of whom resided with at least one parent and whose parent nativity status could be ascertained. Our analytic sample was comparable with the larger population of Latino youth in the NHIS during the study period across all measured variables but was more overweight/obese, less food secure, had lower household income and parental education levels, and were more likely to receive Supplemental Nutrition Assistance

* Latino origin included multiple Hispanic, Puerto Rican, Mexican, Mexican American, Cuban/Cuban American, Dominican (Republic), Central or South American, Other Latin American, and Other Spanish backgrounds

Program (SNAP) benefits than the larger population of NHIS youth throughout the study period. (Table S1).

3 MEASURES

3.1 Dependent variable

Our primary outcome variable was obesity. Self-reported weight and height were used to calculate age and sex-specific BMI percentiles according to Centers of Disease Control (CDC) reference guidelines,¹⁶ and age and sex-specific extreme BMI values were removed prior to outcome categorization.¹⁶ Obesity was defined as being greater than or equal to the 95th percentile for weight for age and sex per clinically established criteria.¹⁷ Overweight (85th-94th percentile) and normal/under weight (<85th percentile) were collapsed into a single category.

3.2 Independent variables

Our primary exposure variables were food security status and generational status of youth.

3.3 Food security status

The USDA 10-item US Adult Food Security questionnaire was used to determine the food-security status of households. The Food Security questionnaire consists of 10 items on the scarcity and availability of food within the past 12-month period and asks respondents to assess whether certain statements were always true, sometimes true, or never true. The 10-item adult module is comparable for households with and without children present¹⁸ and has been consistently administered as part of the NHIS family component since 2011. In this way, sample children were linked to their food security status through family-level adult respondents. To construct the binary food security status variable, raw scores of 0 (high food security) were combined with raw scores of 1 or 2 (marginal food security) to indicate food security, and low food security (scores 3-5) was combined with very low food security values (scores 6-10) to indicate food insecurity.¹⁸

3.4 Generational status

Similar to the approach of other generational research,¹⁹ our coding of generational status was informed by segmented assimilation theory as put forth by Portes,^{20, 21} whereby youth of subsequent generations in the United States may experience differential health outcomes depending on their nativity status and background determinants (eg, family composition).^{19, 20} The generational status variable was coded into four mutually exclusive categories, which described the generational status of all Latino youth respondents:

1. First generation: a foreign-born child or a child not born in the continental United States. Those born in Puerto Rico were considered foreign-born and were coded as part of the first generation.
2. Second generation: a US-born child with at least one foreign-born parent. This category consists of single-parent households where the only parent is foreign-born, as well as

dual-parent households where both parents are foreign-born. Second-generation individuals with two foreign-born parents may experience protection against certain adverse health outcomes given that both parents carry over native customs, diet, and health practices.

3. 2.5 generation: a US-born child with one foreign-born and one US-born parent. By definition, this category was comprised exclusively of dual-parent households. The literature has found that the so-called “2.5 generation”²² may “diverge with respect to socioeconomic and health outcomes” when compared with second-generation individuals of two foreign-born parents.¹⁹
4. Third generation: a US-born child with at least one US-born parent, which included single-parent households where the parent is US-born, or dual-parent households, where both parents are US-born.

Because we hypothesized a potential interactive effect between food security status and generational status on obesity, we constructed a generational/food security status joint effects variable as proposed by Knol and VanderWeele.²³ This was an eight-category variable indicating food security or insecurity at each of the four generational status groups defined above.

Covariates: Socioeconomic and other covariates associated with obesity at the child and household levels were also examined.

3.5 Child level

3.5.1 Mexican origin or background

Respondents who reported their background was Mexican or Mexican American (as opposed to any other Latino background) were categorized separately. Studies of NHIS and other population-based surveys of youth have found a high rate of increase in overweight among Mexican-American youth in particular when compared with non-Hispanic Whites during the past 30 years.^{24, 25} The final variable consisted of two levels: Mexican or Mexican-American origin versus all other Latino backgrounds.[†]

3.5.2 Mental health indicator

A single-item queried child respondents on whether being unhappy/depressed/tearful in the past 6 months was certainly true, somewhat true, or not true.²⁶ The resulting variable consisted of three levels.

Models with only child-level covariates were also adjusted for sex and age of youth, as well as survey year.

3.6 Household-level and parental characteristics

3.6.1 Family structure

[†] All other Latino backgrounds were composed of multiple Hispanic, Puerto Rican, Cuban/Cuban American, Dominican (Republic), Central or South American, Other Latin American, and Other Spanish backgrounds.

Family structure was defined as being either a single-adult household with one or more children under the age of 18 or a household with more than one adult and one or more children under 18.

3.6.2 Mother in household and mother's age

Consistent with family health research, each youth respondent was given a yes or no value for whether their mother resided in the household with them. Age of mother was also included.

3.6.3 Immigration status

Immigration status was measured by the US citizenship status of the child's parent(s), as the child's citizenship status was captured by their generational status. This was coded as at least one parent is a US citizen or no parent(s) is a US citizen.

3.6.4 SNAP receipt

Family-level adult respondents were asked whether at any time during the past calendar year they or any family members living in the household received food stamp benefits.

3.6.5 Federal poverty level

The ratio of family income to the poverty level was collected in the family questionnaire component. Families were either at or below 200% of the federal poverty level or above this threshold.

3.6.6 Highest educational level of household adult

The highest educational level of adult parent(s) in the household was coded as being less than a high school degree, high school graduate/degree, some college or associates degree, or having a college degree or more.

3.6.7 Yearly household income

Income was measured with a single question (“What was your total household income in the past year?”), and it was coded as 0-\$34,999; \$35,000-\$74,999; \$75,000-\$99,999; \$100,00+.

4 STATISTICAL ANALYSES

Weighted percentages and standard errors (SEs) were used to describe categorical variables, and the mean and SE were used to describe the distribution of continuous variables in descriptive statistics. Log-binomial regression models were fit to assess the association between the joint effect of food security and generational status and the prevalence of obesity. We fit unadjusted models, where the joint food security/generational status variable was the only predictor, child-level models (which adjusted for child-level covariates only), and fully adjusted (multivariable) models, which accounted for all other covariates at both the parent and household levels.

Prevalence ratios (PR) and 95% confidence intervals at each level of food security and generational status were reported, where first-generation food secure youth were the referent group. For all analyses, variance estimation for pooled analyses was applied per NHIS survey criteria given that the included study waves fell into different sample design periods. Sample probability weights for person-level analyses provided by NHIS were divided by 7, the total number of study waves.²⁷ *P* values of less than 0.05 were considered statistically significant, and all tests were two-tailed. Analyses were conducted with SAS Version 9.4 (Cary, North Carolina) and SAS-callable SUDAAN Version 11.0.1. Institutional Review Board approval to conduct this study was not required by the City University of New York.

Table 1. Participant characteristics overall and by food security status among Latino youth 12-17 years old (NHIS, 20112017)

Characteristic	Total (N = 7532) 100.0 Mean (SE) or % (SE)^a	Food Secure (N = 6076) 81.1 (0.65) Mean (SE) or % (SE)^a	Food Insecure (N = 1453) 18.9 (0.65) Mean (SE) or % (SE)^a
Child-level characteristics			
Generational status, %			
First generation	15.4 (0.56)	15.2 (0.61)	16.1 (1.28)
Second generation	42.4 (0.80)	41.8 (0.83)	45.2 (1.82)
2.5 generation	11.1 (0.51)	12.0 (0.57)	7.0 (1.05)
Third generation	31.1 (0.79)	30.9 (0.79)	31.7 (1.97)
Mexican/Mexican-American background, %	66.3 (0.94)	66.6 (0.97)	64.9 (1.92)
BMI for age percentile, Mean (SE)	66.3 (0.47)	66.0 (0.50)	67.7 (1.16)
BMI category			
<85th percentile, normal, %	69.3 (0.67)	69.8 (0.74)	67.2 (1.54)
85-94 percentile, overweight, %	15.8 (0.52)	15.8 (0.60)	15.8 (1.23)
95th percentile, obese, %	14.9 (0.53)	14.4 (0.56)	17.0 (1.26)
Demographics			
Age, years, mean	14.5 (0.01)	14.4 (0.03)	14.5 (0.05)
Female, %	48.8 (0.78)	49.2 (0.86)	47.2 (1.79)
Mental health Indicator			
Yes	3.8 (0.27)	3.6 (0.29)	4.9 (0.69)
Sometimes	9.9 (0.45)	7.7 (0.43)	19.5 (1.42)
No	86.2 (0.52)	88.7 (0.51)	75.6 (1.55)
Household-level and parental characteristics			
Family structure:			
1 adult, 1+ children	15.9 (0.55)	14.0 (0.56)	24.4 (1.61)
>1 adult, 1+ children	84.0 (0.55)	86.0 (0.56)	75.5 (1.61)
Mother living in household	95.6 (0.29)	95.9 (0.31)	95.7 (0.64)
Age of resident mother, Mean (SE)	40.8 (0.10)	40.9 (0.11)	40.4 (0.23)
Immigration status of parent(s):			
At least one parent US citizen	66.1 (0.80)	67.1 (0.88)	61.8 (1.99)
Only parent or both parents not citizens	33.9 (0.80)	32.9 (0.88)	38.1 (1.99)
SNAP receipt, (yes), %	30.1 (0.80)	24.7 (0.80)	53.1 (1.79)
Federal Poverty Level:			
<200%	62.8 (0.79)	57.4 (0.90)	86.2 (1.16)
≥200%	37.2 (0.79)	42.6 (0.90)	13.8 (1.16)
Highest educational level of HH adult			
Less than HS, %	24.0 (0.72)	21.9 (0.71)	32.9 (1.77)
HS degree, %	23.7 (0.67)	23.4 (0.73)	24.9 (1.50)
Some college/associate degree, %	32.8 (0.79)	32.8 (0.84)	32.9 (1.58)
College degree or more, %	19.6 (0.68)	21.9 (0.76)	9.3 (1.15)
Yearly household income			

Characteristic	Total (N = 7532) 100.0 Mean (SE) or % (SE)^a	Food Secure (N = 6076) 81.1 (0.65) Mean (SE) or % (SE)^a	Food Insecure (N = 1453) 18.9 (0.65) Mean (SE) or % (SE)^a
0-\$34,999	43.2 (0.91)	37.6 (0.96)	66.4 (1.80)
\$35 000-\$74 999	33.4 (0.78)	34.7 (0.85)	28.0 (1.70)
\$75 000-\$99 999	9.2 (0.45)	10.4 (0.52)	4.0 (0.72)
\$100 000 +	14.2 (0.61)	17.2 (0.74)	1.6 (0.46)

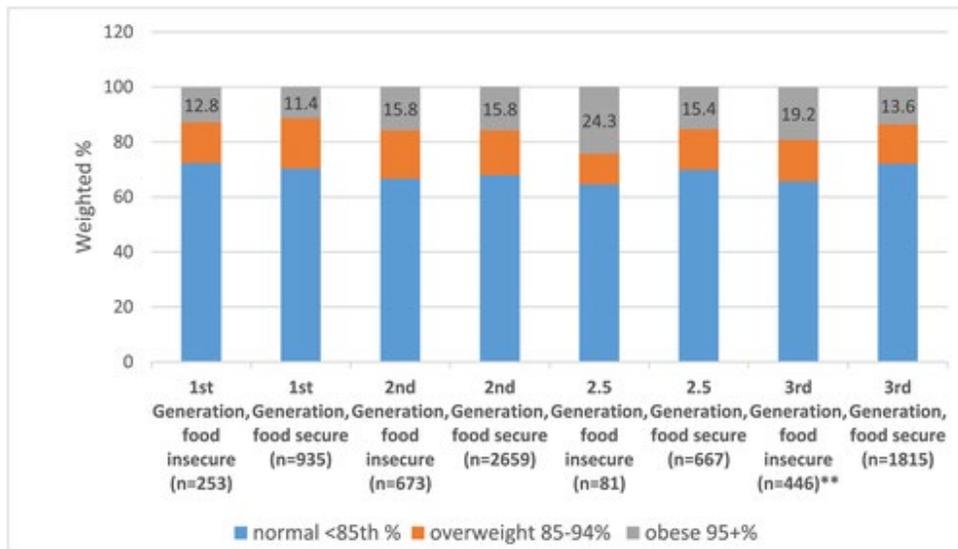
^a SE = Standard error.

5 RESULTS

Participant characteristics are outlined in Table 1. Latino youth participants were 49% female, predominantly second generation (42%), mostly of Mexican or Mexican-American background (66%), lived with their mother in the household (96%); and, on average, 14 years old. A total of 19% were from food insecure households, and 15% met the cut-off for obesity (eg, BMI greater than or equal to the 95th percentile for age and sex). Most Latino youth (63%) were below 200% of the federal poverty level, ranging from 57% among food secure to 86% among food insecure households. Nearly a third of participants (30%) reported receiving SNAP benefits (ranging from 25% among food secure to 53% among food insecure households). Proportionately more youth from food insecure households had parents with lower educational attainment and lower household income than those from food secure households. Youth from food insecure households also reported more mental distress, lived in families with smaller structures and had one or both parents who were not US citizens.

The distribution of categories of BMI percentiles by food security and generational status is graphically depicted in Figure 1. Proportionately more first (70%) and third generation (72%) food secure youth were of normal weight than were second (68%) generation youth (68%). Obesity percentages among food-insecure households (ie, low food security) ranged from 12.8% in the first generation, to 15.8% in the second generation, to 24.3% in the 2.5 generation, and 19.2% in the third generation. Among the third generation only, food insecure youth were significantly more likely to be obese and significantly less likely to be of normal weight than were food secure youth ($p = 0.0367$).

Table 2 presents PR for the joint association between generational status and food security level on obesity among the sample. At each generational status category, living in a household of low food security increased the prevalence of child obesity relative to residing in a food secure household. In unadjusted and partially adjusted models, 2.5 and third generation food insecure youth had the highest prevalence of adolescent obesity when compared with first generation food secure youth (PR: 2.12; 95% CI, 1.15-3.89 and PR: 1.73; 95% CI, 1.24-2.40 and partially adjusted PR (aPR): 1.84; 95% CI, 1.02-3.32 and (aPR): 1.61; 95% CI, 1.16-2.23; respectively).



**Chi-square p-value: 0.0367

Figure 1. Distribution of categories of BMI percentiles by generation and food security status among Latino youth ($N = 7532$). Note: Weighted percent reported

Table 2. Joint association between generational status, food security, and obesity among Latino youth, $N = 7529$ (NHIS, 2011-2017)

	% obese (% obese vs normal/overweight BMI)		
	Unadjusted Model PR (95% CI) ^c	Model 1 ^a PR (95% CI) ^c	Model 2 ^b aPR (95% CI) ^c
Joint effect of Generational Status and Food Security			
Third generation, food insecure ($n = 446$)	1.73 (1.24-2.40)	1.61 (1.16-2.23)	1.49 (1.01-2.20)
Third generation, food secure ($n = 1815$)	1.22 (0.93-1.59)	1.14 (0.87-1.49)	1.27 (0.93-1.73)
2.5 generation, food insecure ($n = 81$)	2.12 (1.15-3.89)	1.84 (1.02-3.32)	1.60 (0.84-3.08)
2.5 generation, food secure ($n = 667$)	1.41 (1.04-1.92)	1.33 (0.98-1.80)	1.53 (1.09-2.16)
Second generation, food insecure ($n = 673$)	1.42 (1.04-1.94)	1.29 (0.95-1.76)	1.32 (0.97-1.82)
Second generation, food secure ($n = 2659$)	1.41 (1.10-1.82)	1.28 (1.01-1.64)	1.25 (0.97-1.61)
First generation, food insecure ($n = 253$)	1.16 (0.73-1.84)	1.14 (0.71-1.83)	1.23 (0.75-2.00)
First generation, food secure ($n = 935$)	1.00	1.00	1.00

Significant results **in bold font**

^a Model 1 is adjusted for child-level factors: age, sex, Mexican origin, mental health indicator, and survey year.

^b Model 2 is additionally adjusted for these family, household, and parent-level variables: poverty threshold, SNAP receipt, highest educational level of household adult(s), citizenship status of parents, family structure, mother in the household, and (resident) mother's age.

^c PR/aPR = prevalence ratio/adjusted prevalence ratio, 95% CI = 95 confidence interval.

In fully adjusted models, however, 2.5 generation food secure youth had the highest prevalence of child obesity (aPR: 1.53; 95% CI, 1.09-2.16) when compared with first generation food secure youth, followed by third generation food insecure youth (aPR: 1.49; 95% CI, 1.01-2.20). Barring the first generation, second generation food secure youth had the lowest increase in obesity prevalence relative to subsequent generations when compared with first-generation food secure youth, but the result was not significant (aPR: 1.25, 95% CI, 0.97-1.61).

6 DISCUSSION

This study found that the simultaneous effect of generational status and food security status is associated with obesity prevalence among Latino adolescents. When compared with foreign-born food secure Latino youth, all subsequent generations of US-born children living in households of low food security had a higher prevalence of obesity. After adjustment for child-level and household-level factors, the prevalence of obesity in food insecure households was only significantly higher for third generation youth when compared with first generation youth. However, the highest prevalence of obesity among food secure households occurred for 2.5 generation youth, whereas second and third generation food secure youth experienced smaller increases in obesity prevalence when compared with their first-generation food secure counterparts.

Our findings of differential obesity risks given food security status among the third generation is supported by Portes' theory of divergent "paths of mobility" as a result of acculturation.²⁰ That is, among the third generation, or subsequently more acculturated groups in the United States, the pattern can be one of "upward" or "downward" mobility. It can thus be argued that third generation Latino youth from households of low food security experience disadvantage typified by the downward pattern of acculturation, reflected in their significantly elevated rates of obesity. This is in contrast to the non-significant increase in obesity rates among third generation food secure Latino adolescents. It can likewise be hypothesized that this latter group of third generation Latino youth typifies the upward pattern, which may occur in the adaptation of healthier habits and increased understanding of preventative factors that can help mitigate their risk of obesity. Prior research has also indirectly supported these findings, in that higher acculturation among Latinos was associated with better disease management behaviours.^{28, 29}

Our findings also show that 2.5 generation Latino youth have a higher prevalence of obesity compared with their food secure, first generation counterparts, a result consistent with other research.^{19, 22, 30} In fact, the collective 2.5 generation had the highest prevalence of obesity relative to the first generation, a result that remained significant among food secure households in fully adjusted models. This is noteworthy, given that the 2.5 generation consisted exclusively of dual parent households, which tend to be both more food secure and less predisposed to the food challenges single-parent households may face. This may be explained by acculturative patterning or the processes by which second-generation youth simultaneously adapt to the values and norms of the host culture while retaining key elements of the parental culture.²⁰ Portes and others³¹⁻³³ have noted that the ability for youth and their families' to successfully deploy the social and economic resources against adaptation barriers is shaped by whether youth exhibit a dissonant acculturation pattern (whereby children reject the values and language of parents) or "consonance" (the joint accommodation of children and parents to the values and language of the new culture) or "selectivity" (preservation of key elements of the parental culture while learning language and values of host culture).³⁴ The study of these acculturative typologies may be particularly useful in future work that explores why US-born Latino youth with at least one foreign-born parent appear to be at higher risk of obesity than their generational status might otherwise suggest.

There are some limitations in our study that deserve mention. First, the NHIS collects information on the adult (10-item) food security questionnaire rather than the more

comprehensive 18-item household module. While the shorter questionnaire is less burdensome than the 18-item version, it does not provide specific information on the food security of children in the household.¹⁸ This is important, because youth may experience different dimensions of household-level food insecurity than adults do. Second, despite controlling for family structure in our models, our finding of a uniformly higher obesity prevalence among food insecure youth across generations may at least be partially explained by our inclusion of single as well as dual-parent households into the second and third generational status categories but not for the 2.5 generation. Single-parent family structures are not only more likely to be of low food security than families with more than one parent, but they also carry the highest obesity risks as a result of food insecurity.³⁵ We were unable to completely control for parental marital status, which may predispose children to obesity or overweight,⁹ and we also did not measure diet either among parents or their children, which has been cited as a significant factor in increased rates of overweight/obesity among the Latino young adult population in recent research.³⁶ We were unable to control for obesity-related health information of parents, and the impact of family and community-level measures and the larger food context were also not thoroughly explored given the constraints of our data.³⁷ Lastly, acculturation processes are as important, if not more important, than country of nativity in preventing and counteracting childhood obesity through the adoption of dietary change and other health behaviours and norms at the family level.^{12, 30, 38}

Despite these limitations, this is one of the first studies to use a nationally representative sample of Latino children to examine youth obesity while taking into account the joint effect of generational status and food security. Our study contributes to a growing body of literature examining the effect of acculturative factors, such as generational status, on the relationship between food security and obesity among Latino youth. Given that obesity is a key risk factor for many of the top causes of mortality and morbidity in the United States, coupled with a growing population of second-generation Latino immigrants, makes rising obesity prevalence among these youth a matter of urgent public health concern. Clearly outlining key acculturative and sociodemographic risk factors can have important implications for the tailoring of clinical care in pediatric obesity. Future studies should examine the overlapping context of family diet and community food environments as well as acculturation processes in order to more accurately convey the impact of generational differences on weight outcomes among Latinos.

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CONFLICT OF INTEREST

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