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Food Security Among Hispanic Adults in the United States, 2011-2014

Matthew P. Rabbitt, Michael D. Smith, and Alisha Coleman-Jensen

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Abstract

This report estimates the extent and severity of food insecurity across diverse groups of Hispanic households using 2011-2014 data from the Current Population Survey's Food Security Supplement. Food-insecure households have difficulty at some time during the year in providing enough food for all their members due to a lack of resources. In 2014, 14.0 percent of all U.S. households were food insecure, versus 22.4 percent of Hispanic households. Data also demonstrate how food insecurity varies among Hispanic subpopulations by origin, immigration status, household composition, State of residence, and metropolitan status. Food insecurity was more prevalent among Hispanics identifying as Mexican (20.8 percent), Central/South American (20.7 percent), and Puerto Rican (25.3 percent) than among those identifying as Cuban (12.1 percent) over 2011-14. Food insecurity was more prevalent among Hispanic adults who were noncitizens (24.4 percent) than among those who were U.S. citizens (18.9 percent), and more prevalent among Hispanic citizens who were born in the United States (19.1 percent) than among immigrants who became naturalized citizens (16.6 percent). Trends in food insecurity from 2000 to 2014 among Hispanic households appear to be closely related to trends in the U.S. labor market.

Keywords: food security, food insecurity, hunger, Hispanics, immigrants

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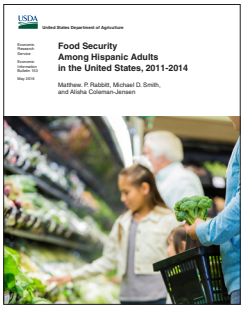
A report summary from the Economic Research Service May 2016



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Food Security Among Hispanic Adults in the United States, 2011-2014

Matthew P. Rabbitt, Michael D. Smith, and Alisha Coleman-Jensen

What Is the Issue?

The U.S. Department of Agriculture (USDA) monitors the extent and severity of food security—access at all times to enough food for an active, healthy life—in all U.S. households through an annual, nationally representative survey. Households classified as food insecure have difficulty during the year providing adequate food for all household members due to a lack of resources. Hispanics represent one of the most diverse and fastest growing ethnic groups in the United States. According to the Census Bureau, Hispanics made up 17 percent of the U.S. population, or some 55 million people, in 2014. Yet, little is known about the food security conditions among Hispanic subpopulations as distinguished by origin, immigration status, time in the United States, household composition, income, metropolitan residence, and region.

What Did the Study Find?

In 2014, 14.0 percent of all U.S. households were food-insecure and 5.6 percent suffered very low food security. Food insecurity was about twice as prevalent among ***Hispanic households*** (22.4 percent) as among non-Hispanic ***White*** households (10.5 percent) but less prevalent than among non-Hispanic ***Black*** households (26.1 percent). The prevalence of very low food security—when the food intake of some household members is reduced and normal eating patterns disrupted at times during the year due to limited resources—followed a similar pattern: 6.9 percent for Hispanic households versus 4.5 percent for White households and 10.4 percent for Black households.

Trends in food insecurity from 2000 to 2014 among Hispanic households appear to be closely related to trends in the U.S. labor market.

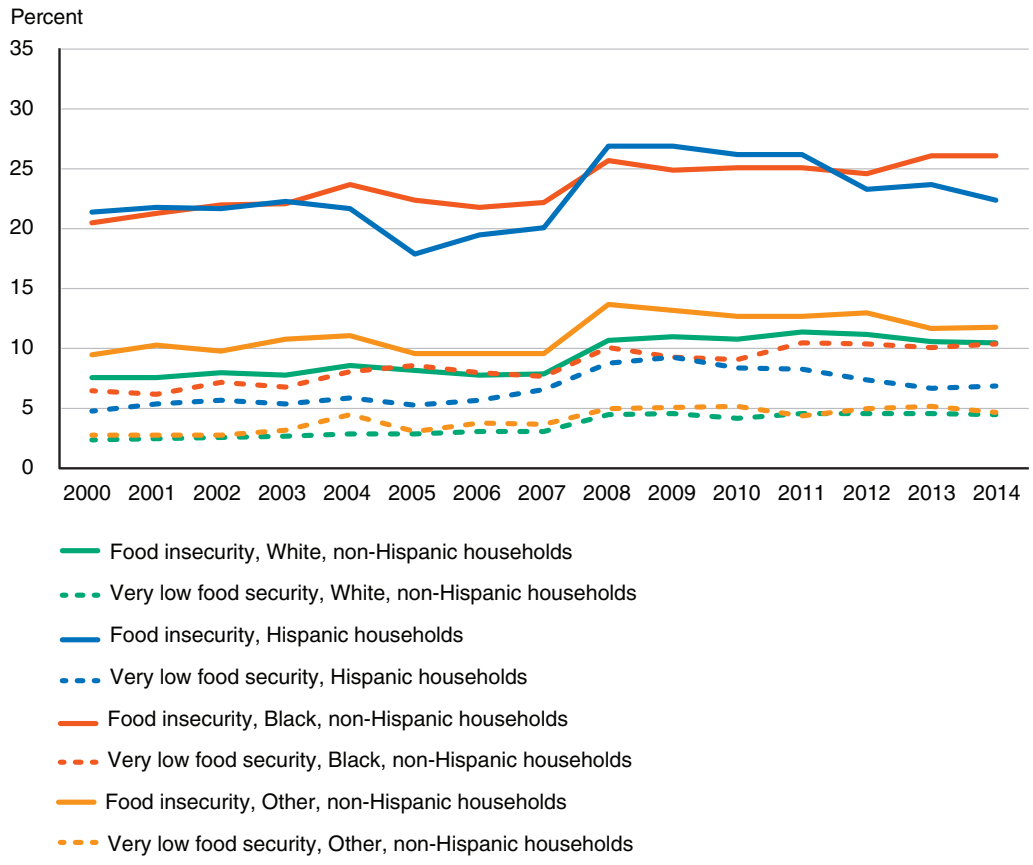
Food insecurity for U.S. Hispanic ***adults*** living in food-insecure households during 2011-2014 differs by Hispanic origin, immigration status, household composition, and metropolitan status, but differs little by State of residence.

- Food insecurity was less prevalent among Hispanic adults identifying themselves as originating from Cuba (12.1 percent) versus those from Mexico, Central and South America, or Puerto Rico (20.8, 20.7, and 25.3 percent, respectively).
- Food insecurity was less prevalent among Hispanic adults who are U.S. citizens (18.9 percent) than among noncitizens (24.4 percent).

ERS is a primary source of economic research and analysis from the U.S. Department of Agriculture, providing timely information on economic and policy issues related to agriculture, food, the environment, and rural America.

- The food insecurity of Hispanic adults declined with the length of time they lived in the United States. This reflects the higher naturalization rate of those who have lived in the United States longer.
- The prevalence of food insecurity was higher for Hispanic adults living in households headed by single women with children (30.7 percent) and with incomes below the Federal poverty line (37.3 percent) than for all Hispanic adults (20.6 percent). Prevalence rates were lower for Hispanic adults living in households with no children (18.1 percent), households with elderly members (18.1 percent), and households with incomes above 185 percent of the Federal poverty line (9.4 percent).
- Food insecurity was more prevalent among Hispanic adults living in households in principal cities (21.3 percent) than for those in suburban and other outlying parts of metropolitan areas (18.8 percent).
- The prevalence of food insecurity among Hispanic adults differs little across States and groups of States.

Trends in food insecurity and very low food security by race and ethnicity, 2000-2014



Source: Calculated by USDA, Economic Research Service using Current Population Survey Food Security Supplement data.

How Was the Study Conducted?

We use 4 years of data from the annual Food Security Supplement conducted by the U.S. Census Bureau as a supplement to the Current Population Survey. Data from 4 years, 2011-2014, were combined to provide reliable food security prevalence statistics for Hispanic adult subpopulations by economic, demographic, origin, immigration status, and geographic characteristics. The food security of each household was measured by responses to a series of questions about the experiences and behaviors of household members related to their ability to obtain adequate food for a healthy and active life using the identical procedures and classifications as used by USDA to produce food security statistics for the United States.

Food Security Among Hispanic Adults in the United States, 2011-2014

Introduction

Food security—access by all household members at all times to enough food for an active, healthy life—is an important public health issue. The U.S. Department of Agriculture (USDA) monitors the food security of U.S. households using data from an annual survey conducted for USDA by the U.S. Census Bureau. USDA's annual food security reports provide statistics on the prevalence and severity of food insecurity at the national and State levels and for select populations. This report provides a more detailed look at food insecurity among Hispanics, a group that is growing, diverse, and beset by relatively high food insecurity rates.

The share of Hispanic households that is food insecure—unable to consistently put adequate food on the table—is about twice that of non-Hispanic White households. In 2014, 22.4 percent of Hispanic households were food insecure, compared to 10.5 percent of non-Hispanic White households (Coleman-Jensen et al., 2015). Poverty rates are also higher for Hispanic households than for non-Hispanic households. From 2007 to 2011, the Hispanic poverty rate (23.3 percent) was about 9 percentage points higher than the overall U.S. poverty rate and nearly twice the rate for White (non-Hispanic) households, at 9.9 percent (Macartney et al., 2013).

Hispanics are one of the most diverse and fastest growing ethnic groups in the United States. In 2014, there were over 55 million Hispanics living in the United States, making up 17 percent of the U.S. population (U.S. Census Bureau, 2015). The Hispanic population of the United States is made up of many different origins (see box, "Defining Hispanic Ethnicity and Origin"). In 2014, 64 percent of U.S. Hispanics reported being of Mexican descent. Another 9.5 percent reported being of Puerto Rican descent, 3.8 percent Salvadoran, 3.7 percent Cuban, 3.2 percent Dominican, and 2.4 percent Guatemalan. The remainder reported being of some other Central American, South American, or other Hispanic/Latino origin (U.S. Census Bureau, 2015). Among the Hispanic origin groups, poverty rates ranged from 16.2 percent for Cubans to 26.3 percent for Dominicans. Salvadorans had a poverty rate of 18.9 percent, and poverty rates were around 25 percent for Mexicans, Guatemalans, and Puerto Ricans (Macartney et al., 2013). Income levels and poverty rates also vary considerably among Hispanics due to immigration status and length of time living in the United States (Ennis et al., 2011; Lopez and Velasco, 2011; Macartney et al., 2013). These factors may also relate to differences in the incidence and severity of food insecurity across Hispanic origin groups.

Research has identified a number of factors—including low income, unemployment, disabilities, physical and mental health, and household composition—related to a higher likelihood of food insecurity (Gundersen and Ziliak, 2014). Prior research on food insecurity among Hispanics points to the influence of household income, immigration status, education/English proficiency, community characteristics, and eligibility for food assistance programs (see appendix B). Hispanic origin groups are affected differently by these risk factors and so differ in their level of food insecurity.

To date, most research on food insecurity at the national level has examined Hispanics altogether and not delved deeper into subgroups. Here we describe food security conditions among Hispanic subgroups and consider how factors such as origin, immigration status, State of residence, and time in the United States contribute to food insecurity among Hispanics. In so doing, we identify characteristics that may increase the risk of food insecurity. Multivariate logistic regression models examining the associations of employment and other characteristics with food insecurity among Hispanics are presented in the appendix.

Defining Hispanic Ethnicity and Origin

Hispanic ethnicity or origin is based on self-reported race, ethnicity, and heritage or country of origin of the respondent. Hispanics are sometimes referred to as "Latino" or "Latina." According to the U.S. Census Bureau, "Hispanic origin can be viewed as the heritage, nationality group, lineage, or country of birth of the person or the person's parents or ancestors before their arrival in the United States. 'Hispanic or Latino' refers to a person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin regardless of race" (Ennis et al., 2011, pp.1-2).

In this report, "origin" is used to refer to different Hispanic groups based on the individual's place of birth or that of their parents or ancestors.

These Hispanic origin categories are used:

- Central/South American (Central and South Americans are necessarily grouped here because they are aggregated in the underlying survey data),
- Cuban,
- Mexican,
- Puerto Rican, and
- Other Hispanic (includes all other Hispanic groups not specified above).

Data and Methods

Data are from the Current Population Survey's Food Security Supplement (CPS-FSS) conducted in December 2011, 2012, 2013, and 2014. The CPS-FSS includes about 44,000 households each year and is representative of the civilian, noninstitutionalized population in the United States.[1] The combined 2011-14 surveys include 37,192 Hispanic adults living in 19,902 households. Hispanic ethnicity was self-reported or reported by another household member in response to the question: "Are you (or is he/she) Spanish, Hispanic, or Latino?" For household-level analyses, households are classified as Hispanic or non-Hispanic based on the ethnicity of the household reference person—a household member in whose name the residence is owned or rented. If respondents do not speak English, multi-lingual Census interviewers interview the respondents in Spanish.[2]

Most USDA food security statistics are for the household. This report focuses mainly on individuals,[3] more specifically adults age 18 and older, because many relevant characteristics of the Hispanic population are measured at the individual level. For example, one household member may be a citizen while another is not, or two immigrant adults may have been in the United States for different lengths of time. It is difficult to classify a household if members differ on these characteristics.

Our goal is to highlight differences and similarities in food security by immigration status, Hispanic origin group, or other characteristics, and this requires person-level rather than household-level data. Data on Hispanic adults are averaged over 4 years, 2011-2014, to ensure large enough sample sizes for analyses of population subgroups.

This report focuses on the adult population and not children; detailed information on food security among children in immigrant families is available elsewhere (Koball et al., 2013). Also, the adult and child segments of Hispanic populations differ on immigration status and other characteristics—in some households, parents are immigrants while children are not immigrants.

Food security is measured by responses to a series of questions about food conditions and behaviors that characterize households when they are having difficulty acquiring adequate food.[4] Each question asks whether the condition or behavior occurred at any time during the previous 12 months and specifies a lack

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[1]Households in the survey in 2 successive years were counted only once in computing the number of households.

[2]We do not include language of the interview in the analysis since there were changes over time in how Spanish-language interviews were conducted. In 2011 and earlier years, multilingual census interviewers would translate the English-language questions for Spanish-speaking respondents "on the fly." In 2012, ERS instituted an official Spanish translation of the household food security survey module. In 2012 and 2013, census interviewers used a paper copy of the Spanish-language version of the food security module alongside the computer interview instrument in English. In 2014, the Spanish-language version of the survey was fully instrumented in the computer software. The potential impact of the interview's language on food security is being investigated (Rabbitt and Coleman-Jensen, 2015).

[3]The food security survey is designed to measure food security status at the household level. While it is informative to examine persons living in food-insecure households, these statistics should be interpreted carefully. Within a food-insecure household, each household member may be affected differently by the household's food insecurity. Some members (mainly young children) may experience only mild effects or none at all, while adults are more severely affected. It is more precise to describe these statistics as representing "persons living in food-insecure households" rather than as representing "food-insecure persons."

[4]The methods used to measure the extent and severity of food insecurity have been described in several places (Hamilton et al., 1997a, 1997b; Andrews et al., 1998; Bickel et al., 1998; Carlson et al., 1999; Bickel et al., 2000; Nord and Bickel, 2002). See also the assessment of the measurement methods by a panel of the Committee on National Statistics (National Research Council, 2006). Further details on the development of the measure are provided on the ERS website at http://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/history-background.aspx.

of money and other resources to obtain food as the reason. The series includes 10 questions about food conditions of the household as a whole and about food intake of adults in the household. An additional eight questions about children's intake and eating patterns are included if children are present (see box, "Questions Used To Assess the Food Security of Adults in the CPS Food Security Survey").

The food security status of each interviewed household is determined by the number of food-insecure conditions and behaviors the household reports. Households are classified as *food secure* if they report no affirmative responses or if they report only one or two affirmative responses (affirmative responses to the food security questions are "often," "sometimes," "almost every month," "some months but not every month," or "yes"). Households are classified as *food insecure* if they report three or more affirmative responses to food-insecure conditions and are classified as having food-insecure children if they report two or more affirmative responses about food insecurity among the children—that is, in response to questions 11-18.

Food-insecure households are further classified as having either *low food security* or *very low food security*. The category *very low food security* identifies households in which food intake of one or more members was reduced and eating patterns were disrupted because of insufficient money and other resources for food. Households without children are classified as having *very low food security* if they report six or more affirmative responses. Households with children age 0-17 are classified as having *very low food security* if they report eight or more food-insecure conditions among adults and/or children. They are further classified as having *very low food security among children* if they report five or more food-insecure conditions among the children (households with *low food security among children* affirm two to four food-insecure conditions among children).

The definitions of household food security described above are used for all household-level food security statistics in this report (figures 1-4). Adult food security is assessed using the same method as for households without children (three or more affirmative responses to questions 1-10 indicates *food insecurity* and six or more affirmative responses indicates *very low food security*). Analyses of food insecurity of Hispanic adults in this report are based on the adult food security measure (statistics in table 1 and figures 5-14). All adults in a household have the same food security status.

Survey sample weights were calculated by the U.S. Census Bureau to indicate how many households were represented by each household that responded to the survey. All statistics in this report were calculated by applying the food security supplement weights to responses by the surveyed households—so the statistics are nationally representative. Unless otherwise noted, statistical differences described in the text are significant at the 90-percent confidence level.[5]

Data limitations may affect our estimates. Noncitizen immigrants are difficult to sample and some Hispanic subgroups may be underrepresented in demographic surveys (Jensen et al., 2015). However, the extent to which sampling underrepresents certain immigrant populations is unknown. The CPS-FSS is the best data source available for analysis of food insecurity by race/ethnicity and immigration status.

[5]Standard errors of household statistics were calculated using balanced repeated replication (BRR) methods based on replicate weights computed for the CPS Food Security Supplement by the U.S. Census Bureau (see http://www.ers.usda.gov/data-products/food-security-in-the-united-states/documentation.aspx#cps and http://thedataweb.rm.census.gov/ftp/cps_ftp_html#cpsrepwgt). Standard errors of the adult statistics were calculated as p*q*deff / N, where p is the estimated percentage, q is (100-p), deff is an assumed design effect of 1.6, and N is the unweighted number of households represented by the adults in the denominator of the percentage. This calculation of sample size accounts for the fact that food security is measured at the household level and, in the data, is the same for all household members.

Questions Used To Assess the Food Security of Adults in the CPS Food Security Survey

USDA English Adult Household Food Security Scale Module	USDA Standardized Spanish Adult Household Food Security Scale Module
"We worried whether our food would run out before we got money to buy more." Was that **often, sometimes**, or never true in the last 12 months?	The La primera situación es "(Me preocupó / Nos preocupamos) que la comida se podía acabar antes de tener dinero para comprar más." (Para Ud. / En su hogar), ¿ésto ocurrió **frecuentemente, a veces**, o nunca en los últimos 12 meses?
"The food that we bought just didn't last and we didn't have money to get more." Was that **often, sometimes,** or never true for you in the last 12 months?	La comida que (compré / compramos) no rindió lo suficiente, y (no tenía / no teníamos) dinero para comprar más." (Para Ud. / En su hogar), ¿ésto ocurrió **frecuentemente, a veces,** o nunca en los últimos 12 meses?
"We couldn't afford to eat balanced meals." Was that **often, sometimes,** or never true for you in the last 12 months?	"(No tenía / No teníamos) recursos suficientes para comer comida variada y nutritiva." (Para Ud. / En su hogar), ¿ésto ocurrió **frecuentemente, a veces,** o nunca en los últimos 12 meses?
"In the last 12 months, did you or other adults in the household ever cut the size of your meals or skip meals because there wasn't enough money for food? (**Yes**/No)	En los últimos 12 meses, ¿(Ud. / Ud. u otro adulto del hogar) redujo alguna vez la cantidad de sus comidas o dejó de desayunar, almorzar o cenar porque le faltaba dinero para alimentos? (**Sí**,No)
[If yes above, ask] How often did this happen—**almost every month, some months but not every month,** or in only 1 or 2 months?	[If SÍ above, ask] ¿Con qué frecuencia sucedió esto? **Casi todos los meses, algunos meses pero no todos,** o solamente en 1 ó 2 meses?
In the last 12 months, did you ever eat less than you felt you should because there wasn't enough money for food? (**Yes**/No)	En los últimos 12 meses, ¿comió Ud. alguna vez menos de lo que pensaba que debía comer porque le faltaba dinero para alimentos? (**Sí**,No)
In the last 12 months, were you ever hungry, but didn't eat because there wasn't enough money for food? (**Yes**/No)	En los últimos 12 meses, ¿Tuvo Ud. hambre alguna vez pero no comió porque le faltaba dinero para alimentos? (**Sí**,No)
In the last 12 months, did you lose weight because there wasn't enough money for food? (**Yes/** No)	En los últimos 12 meses, ¿Perdió Ud. peso porque no comió los alimentos suficientes por falta de dinero para comida? (**Sí**,No)
In the last 12 months, did you or other adults in your household ever not eat for a whole day because there wasn't enough money for food? (**Yes**/No)	En los últimos 12 meses, ¿alguna vez no comió (Ud. / Ud. u otro adulto del hogar) en todo el día porque le faltaba dinero para comida? (**Sí**,No)
[If yes above, ask] How often did this happen—**almost every month, some months but not every month**, or in 1 or 2 months?	[If SÍ above, ask] ¿Con qué frecuencia sucedió esto? **Casi todos los meses, algunos meses pero no todos**, o solamente en 1 ó 2 meses?

Note: "Affirmative" responses indicated in bold (Bickel et al., 2000).

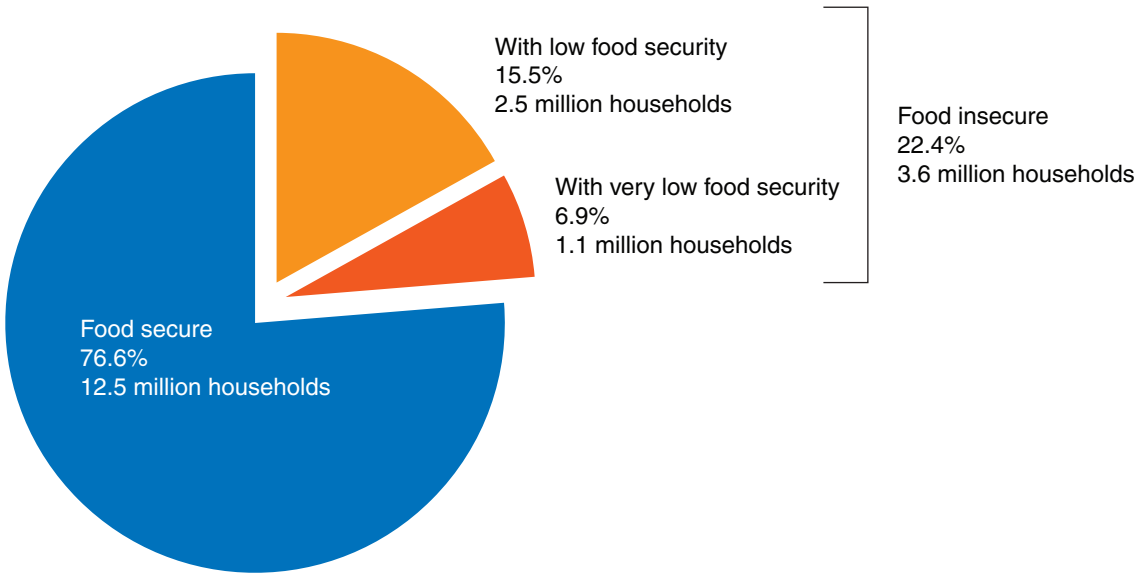
Food Security of Hispanic Households in the United States

In 2014, 77.6 percent of Hispanic households (12.5 million households) were food secure throughout the year (figure 1), meaning that they were consistently able to provide adequate food for active healthy lives for all household members. The remaining 22.4 percent (3.6 million households) were food insecure at some time during the year. A majority of food-insecure households avoided substantial reductions or disruptions in food intake, in many cases by relying on a few basic foods and reducing dietary variety. But 6.9 percent of Hispanic households (1.1 million households) had very low food security in 2014—that is, eating patterns of one or more household members were disrupted and their food intake reduced, at least some time during the year, because they could not afford enough food (Coleman-Jensen et al., 2015).

In 2014, the national food insecurity rate was 14.0 percent and the very low food security rate was 5.6 percent. The incidence of food insecurity was lower among non-Hispanic White households (10.5 percent) and higher among non-Hispanic Black households (26.1 percent). Likewise, very low food security among Whites (4.5 percent) was lower than the national average and among Blacks (10.4 percent) higher (Coleman-Jensen et al., 2015).

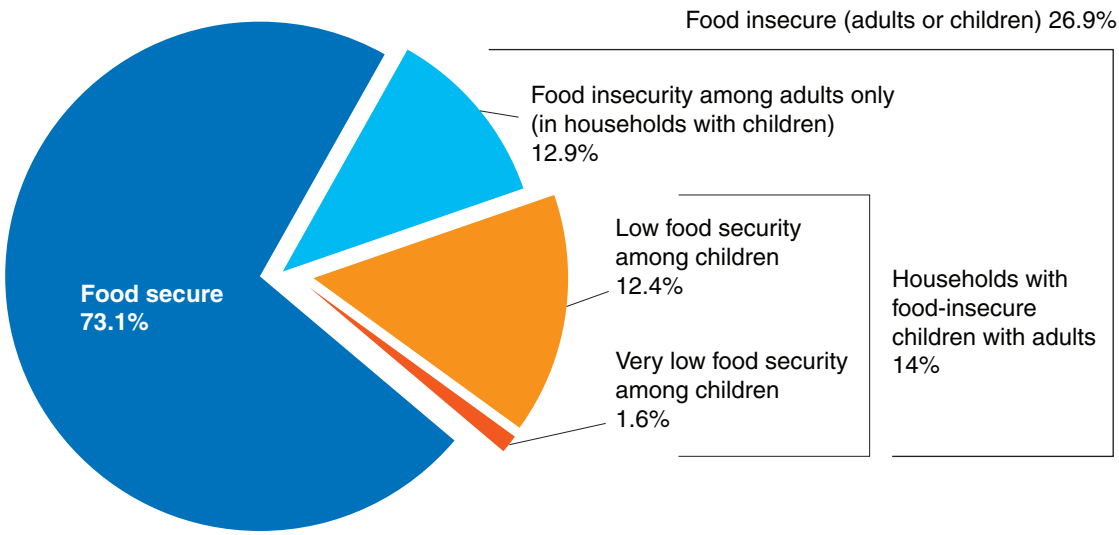
Among Hispanic households with children younger than 18, 73.1 percent (5.8 million households) were food secure in 2014 (figure 2), leaving 26.9 percent (2.1 million households) food insecure. To the extent possible, parents shield children from food insecurity even when they themselves are food insecure. In 12.9 percent (1.0 million households) of Hispanic households with children, only adults

Figure 1
Hispanic households in the United States by food security status, 2014



Source: Source: Calculated by USDA, Economic Research Service using data from the December 2014 Current Population Survey Food Security Supplement. Coleman-Jensen et al. (2015).

Figure 2
Hispanic households with children by food security status of adults and children, 2014



Source: Calculated by USDA, Economic Research Service using data from the December 2014 Current Population Survey Food Security Supplement. Coleman-Jensen et al. (2015)

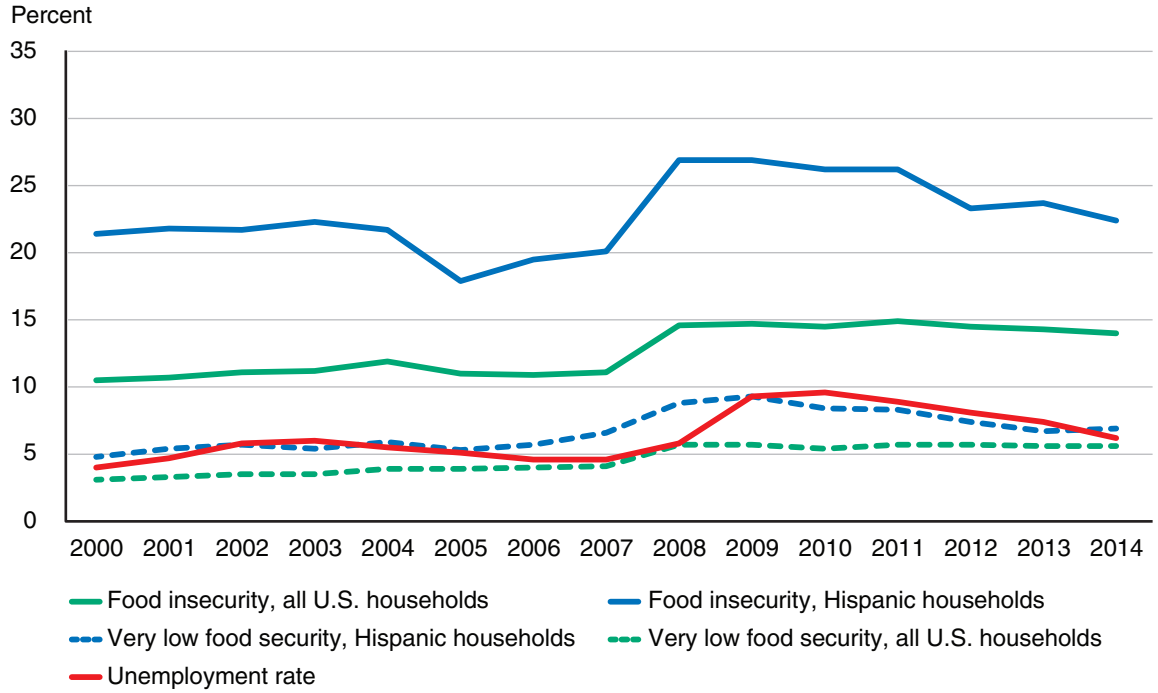
were food insecure. Both children and adults were food insecure in 14 percent of Hispanic households with children (1.1 million households), and in 1.6 percent (128,000 households), one or more children were also subject to reduced food intake and disrupted eating patterns at some time during the year (very low food security). In some households with very low food security among children, only older children are exposed to the more severe effects of food insecurity while younger children are more insulated (Coleman-Jensen et al., 2013; Nord, 2009)

The prevalence of food insecurity in Hispanic households generally followed national trends from 2000 to 2014 (figure 3). Food insecurity for Hispanics followed U.S. labor market trends more strongly than did food insecurity for the Nation as a whole. The prevalence among Hispanic households dropped more sharply than the national prevalence in 2005, when unemployment declined after the 2001 recession, and increased more sharply than the national prevalence rate in 2008, with the onset of the most recent recession. Food insecurity and very low food security among Hispanics declined with the unemployment rate from 2011 to 2014, while food insecurity for all U.S. households changed little. Food insecurity declined less than 1 percentage point among all households from 2011 (14.9 percent) to 2014 (14.0 percent), whereas the prevalence of food insecurity among Hispanic households dropped from 26.2 percent in 2011 to 22.4 percent in 2014. The prevalence of very low food security for Hispanic households was also above the national average throughout 2000-2014.

Over this same period (2000-2014), the prevalence of food insecurity (and very low food security) was consistently higher in Hispanic and Black (non-Hispanic) households than in White (non-Hispanic) and other non-Hispanic households (figure 4). While food insecurity in Black (non-Hispanic) households trended upward between 2000 and 2014, food insecurity rates among

Figure 3

Trends in food insecurity, very low food security, and unemployment, 2000-2014

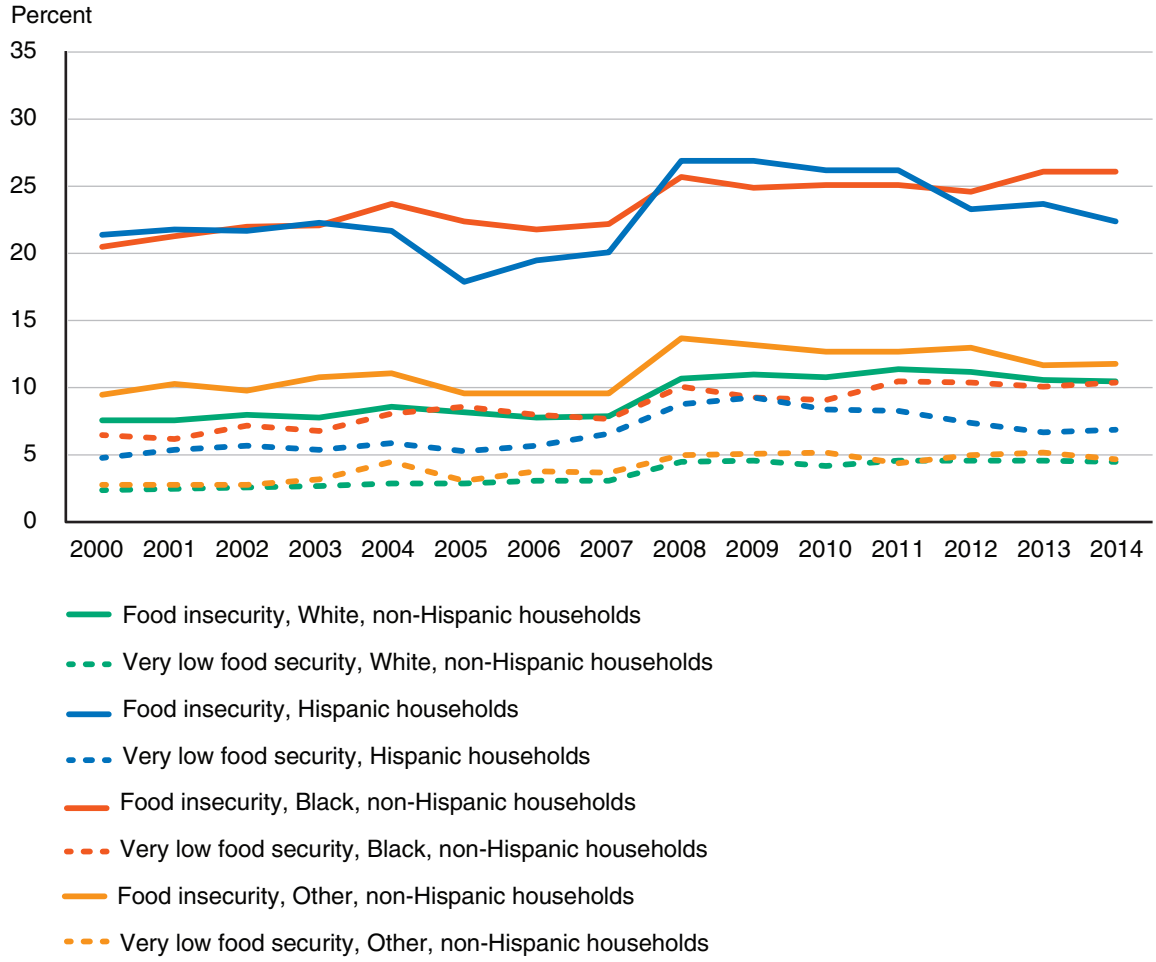


Source: Calculated by USDA, Economic Research Service using Current Population Survey Food Security Supplement data.

Hispanics more closely followed the U.S. labor market. Between 2000 and 2003, Hispanic and Black (non-Hispanic) households had similar levels of food insecurity, whereas food insecurity dropped lower for Hispanic households in 2004-05. In 2008, the prevalence of food insecurity increased more sharply for Hispanics than for any other race, peaking at 26.9 percent of households. Beginning in 2011, food insecurity in Hispanic households declined.

Figure 4

Trends in food insecurity and very low food security by race and ethnicity, 2000-2014



Source: Calculated by USDA, Economic Research Service using Current Population Survey Food Security Supplement data.

Food Insecurity Among Hispanic Adults by Selected Characteristics

Data from four survey years, 2011-2014, were combined to provide adequate sample sizes for Hispanic adult subpopulations (table 1).[6] As for all U.S. households (Coleman-Jensen et al., 2015), the prevalence of food insecurity was higher for adults living in households headed by single women with children (30.7 percent) and with incomes below the Federal poverty line (37.3 percent) than for all Hispanic adults (20.6 percent) Prevalence rates were lower (than the all adult-Hispanic rate) for adults living in households with no children (18.1 percent), households with elderly[7] members (18.1 percent), and households with incomes above 185 percent of the poverty line (9.4 percent). Food insecurity was more prevalent among Hispanic adults living in households in principal cities of metropolitan areas (21.3 percent) and in nonmetropolitan areas (24.3 percent) than for those in suburban and other outlying parts of metropolitan areas (18.8 percent).

Compared to the prevalence of very low food security for all adult-Hispanic households (7 percent), rates were higher for adults living in households composed of single mothers with children (10.1 percent), men living alone (9.6 percent), and households with incomes below 185 percent of the poverty line (10.7 percent). Very low food security was less prevalent (below the all adult-Hispanic rate) for adults living in households with elderly members (6.1 percent) and households with incomes above 185 percent of the poverty line (3 percent). Again, these patterns are similar to those for U.S. households.

Very low food security was less prevalent among Hispanic adults living in suburban (and other outlying) households (6.6 percent) than for those in principal cities (6.9 percent) or nonmetro areas (8.0 percent). However, regional patterns of very low food security differ from those for U.S. households generally. Very low food security was most prevalent for Hispanic adults living in Northeast (8.6 percent) and least prevalent for Hispanic adults living in the South (6.6 percent).

[6]For comparison, food insecurity prevalence rates among adults are 10.0 percent for non-Hispanic Whites, 23.0 percent for non-Hispanic Blacks, 11.5 percent for other non-Hispanics, and 11.8 percent for all non-Hispanics. Very low food security rates among adults are 4.4 percent for Whites, 10.1 percent for Blacks, 5.0 percent for other non-Hispanics, and 5.2 percent for all non-Hispanics. Prevalence rates among adults in food-insecure households are lower than household food insecurity rates because the adult food security rates are based on the adult food security module. Food insecurity measured with the adult module tends to be lower than food insecurity measured with the household module because child-referenced items are excluded from the scale.

[7]In this report, "elderly" refers to individuals age 65 and older.

Table 1

Hispanic adults by food security status and selected household characteristics, 2011-14

Category	Total[1]	Food secure		Food Insecure					
				All		With low food security		With very low food security	
	1,000	*1,000*	*Percent*	*1,000*	*Percent*	*1,000*	*Percent*	*1,000*	*Percent*
All Hispanic adults[1]	35,263	27,983	79.4	7,280	20.6	4,829	13.7	2,451	7.0
Household composition									
With children < 18 years	19,304	14,907	77.2	4,397	22.8	3,089	16.0	1,308	6.8
With children < 6 years	9,507	7,236	76.1	2,271	23.9	1,603	16.9	668	7.0
Married-couple families	12,569	10,050	80.0	2,519	20.0	1,825	14.5	694	5.5
Female head, no spouse	4,577	3,174	69.3	1,403	30.7	942	20.6	461	10.1
Male head, no spouse	1,825	1,436	78.7	389	21.3	274	15.0	115	6.3
Other household with child[2]	332	245	73.8	87	26.2	49	14.8	38	11.4
With no children < 18 years	15,958	13,074	81.9	2,884	18.1	1,740	10.9	1,144	7.2
More than one adult	13,259	10,967	82.7	2,292	17.3	1,399	10.6	893	6.7
Women living alone	1,265	972	76.8	293	23.2	179	14.2	114	9.0
Men living alone	1,434	1,135	79.1	299	20.9	162	11.3	137	9.6
With elderly	5,920	4,847	81.9	1,073	18.1	712	12.0	361	6.1
Elderly living alone	638	524	82.1	114	17.9	67	10.5	47	7.4
Household income-to-poverty ratio									
Under 1.00	7,856	4,924	62.7	2,932	37.3	1,895	24.1	1,037	13.2
Under 1.30	10,718	7,029	65.6	3,689	34.4	2,362	22.0	1,327	12.4
Under 1.85	15,297	10,525	68.8	4,772	31.2	3,135	20.5	1,637	10.7
1.85 and over	12,486	11,308	90.6	1,178	9.4	802	6.4	376	3.0
Income unknown	7,479	6,148	82.2	1,331	17.8	893	11.9	438	5.9
Area of residence[3]									
Inside metropolitan area	32,806	26,122	79.6	6,684	20.4	4,430	13.5	2,254	6.9
In principal cities[4]	14,991	11,792	78.7	3,199	21.3	2,171	14.5	1,028	6.9
Not in principal cities	14,615	11,861	81.2	2,754	18.8	1,785	12.2	969	6.6
Outside metropolitan area	2,456	1,860	75.7	596	24.3	399	16.2	197	8.0
Census region									
Northeast	5,040	3,866	76.7	1,174	23.3	743	14.7	431	8.6
Midwest	2,893	2,299	79.5	594	20.5	401	13.9	193	6.7
South	13,023	10,373	79.7	2,650	20.3	1,790	13.7	860	6.6
West	14,306	11,443	80.0	2,863	20.0	1,896	13.3	967	6.8

[1]Totals exclude Hispanic adults for which food security status is unknown because they did not give a valid response to any of the questions in the food security scale. On average during the study period, these exclusions represented 197,000 Hispanic adults (0.6 percent of all Hispanic adults). [2]Adults living in households with children in complex living arrangements, e.g., children of other relatives or unrelated roommate or boarder. [3]Metropolitan area residence is based on 2003 and 2013 Office of Management and Budget delineations for the years 2011-2013 and 2014, respectively. As a result, prevalence rates for 2014 by area of residence are not precisely comparable with those of 2011-2013. [4]Hispanic adults living in households within incorporated areas of the largest cities in each metropolitan area. Residence inside or outside of principal cities is not identified for about 10 percent of Hispanic households in metropolitan statistical areas.

Source: Calculated by USDA, Economic Research Service using data from the December 2011, 2012, 2013, and 2014 Current Population Survey Food Security Supplement.

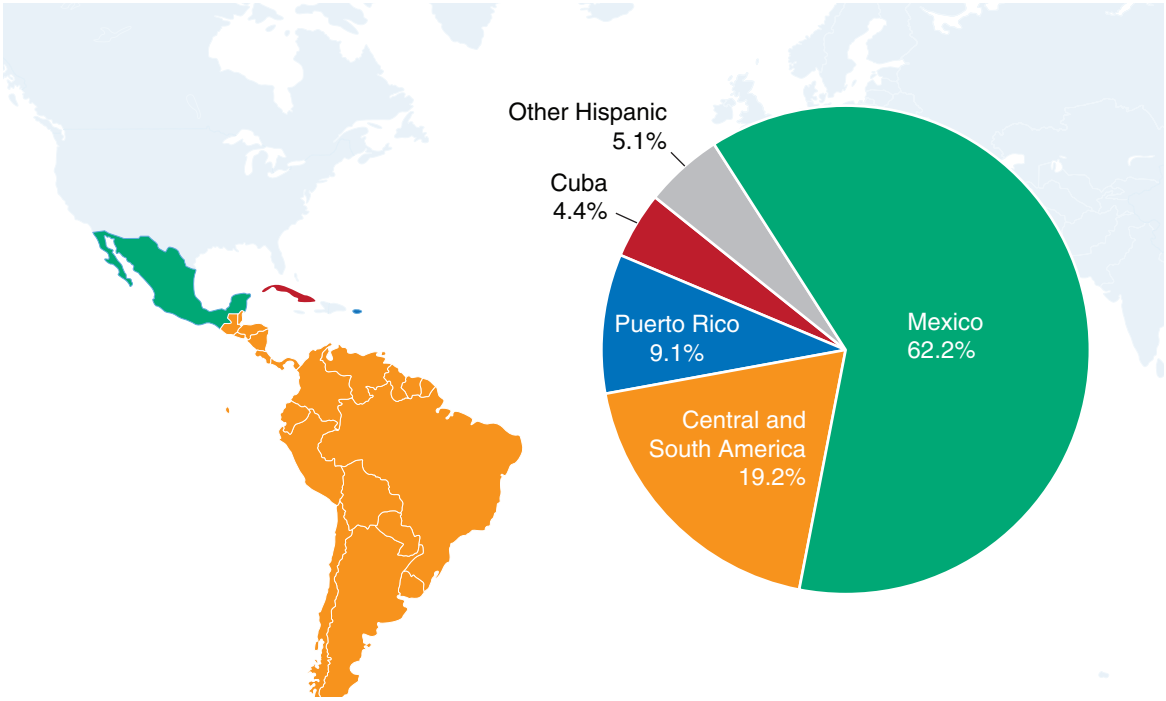
Food Security of Hispanic Adults by Hispanic Origin and Immigration Status[8]

The CPS collects information on Hispanic origin for all individuals who report to be Spanish, Hispanic, or Latino, phrased as "(Is <name>/Are you) Mexican, Mexican American, Chicano, Puerto Rican, Cuban, Cuban American, or some other Spanish, Hispanic, or Latino group?" Instructions for CPS interviewers clarify that national origin is intended to elicit, "…the heritage, nationality, lineage, or country of birth of the person, his/her parents, or his/her ancestors before they came to the United States." Thus, in 2011-2014, almost all Hispanics reported origin outside of the United States, even though many were born in the United States.

Most U.S. Hispanic adults in 2011-2014 were of Mexican origin (62.2 percent), followed by Central and South American (19.2 percent), Puerto Rican (9.1 percent), and Cuban (4.4 percent) (figure 5). Almost all of the 5.1 percent who reported "other" were born in the United States, likely with forebears who have been in the United States for many generations.[9]

The prevalence of food insecurity was higher among Hispanics with origins in Puerto Rico than Mexico and Central/South America, and higher for each of those groups than for Hispanics from

Figure 5
National origin of Hispanic adults in the United States, 2011-14



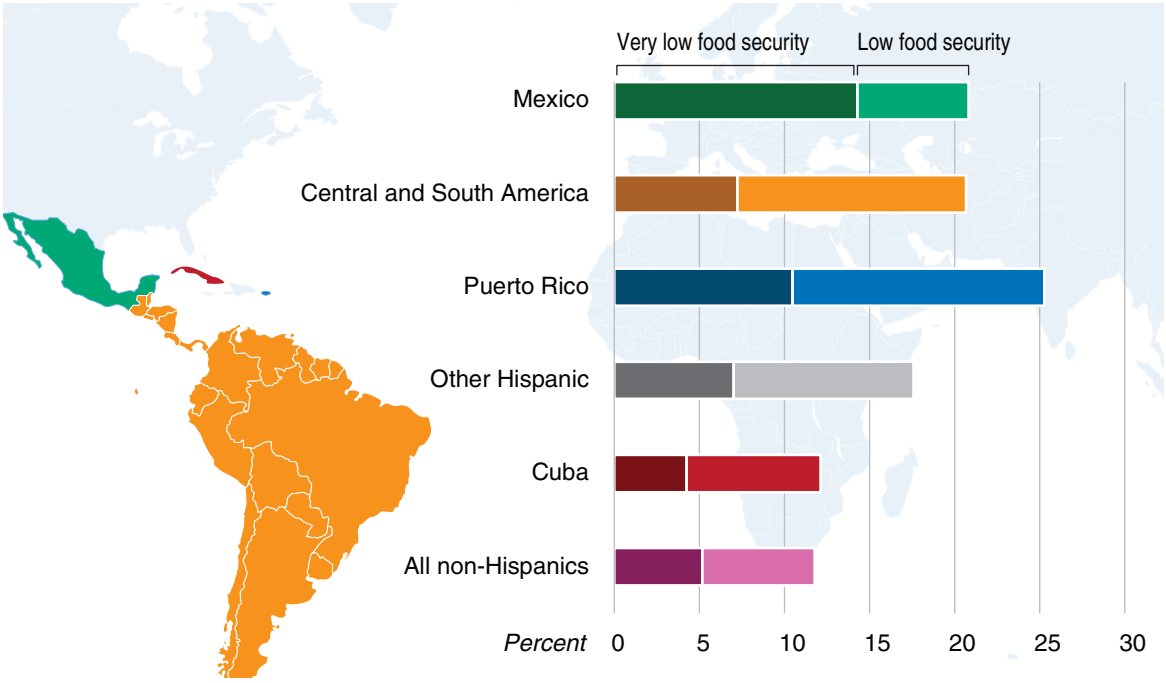
Source: Calculated by USDA, Economic Research Service using data from the December 2011, 2012, 2013, and 2014 Current Population Survey Food Security Supplement.

[8]In this section, statistics are presented only for adults (age 18 and older). Information on food security of children in immigrant families is available elsewhere (Koball et al., 2013).

[9]A substantial majority of Hispanics reporting "other" origin who were born in the United States lived in New Mexico and surrounding States.

Figure 6

Prevalence of food insecurity by severity and, for Hispanics, by national origin for U.S. adult population, 2011-14



Source: Calculated by USDA, Economic Research Service using data from the December 2011, 2012, 2013, and 2014 Current Population Survey Food Security Supplement.

Cuba and all non-Hispanics (figure 6). These patterns generally hold even after accounting for household income (figure 7). For example, food insecurity is less prevalent among Hispanics from Cuba than Hispanics with other national origins, regardless of household income. However, these differences are less pronounced in the higher income groups. The pattern for very low food security is similar. The prevalence of food insecurity and very low food security for Hispanics of Cuban origin and non-Hispanics are similar, with the exception of the high-income group (household income greater than 2.5 times the Federal poverty line[10]), where non-Hispanics are more likely to be food insecure.

About two-thirds of U.S. Hispanic adults in 2011-2014 were U.S. citizens; 47.4 percent were born in the United States and 16.9 percent were naturalized citizens (figure 8). Naturalized citizens are those who were foreign citizens or nationals, applied for and fulfilled the requirements of U.S. citizenship, and were granted U.S. citizenship through the naturalization process. Food insecurity and very low food security were more prevalent among Hispanics who were not citizens or were born in Puerto Rico[11] than among Hispanic citizens and all non-Hispanics (figure 9).[12]

Hispanics who were naturalized citizens had lower rates of food insecurity and very low food security than other U.S. Hispanics, lower even than among those who were born in the United States.

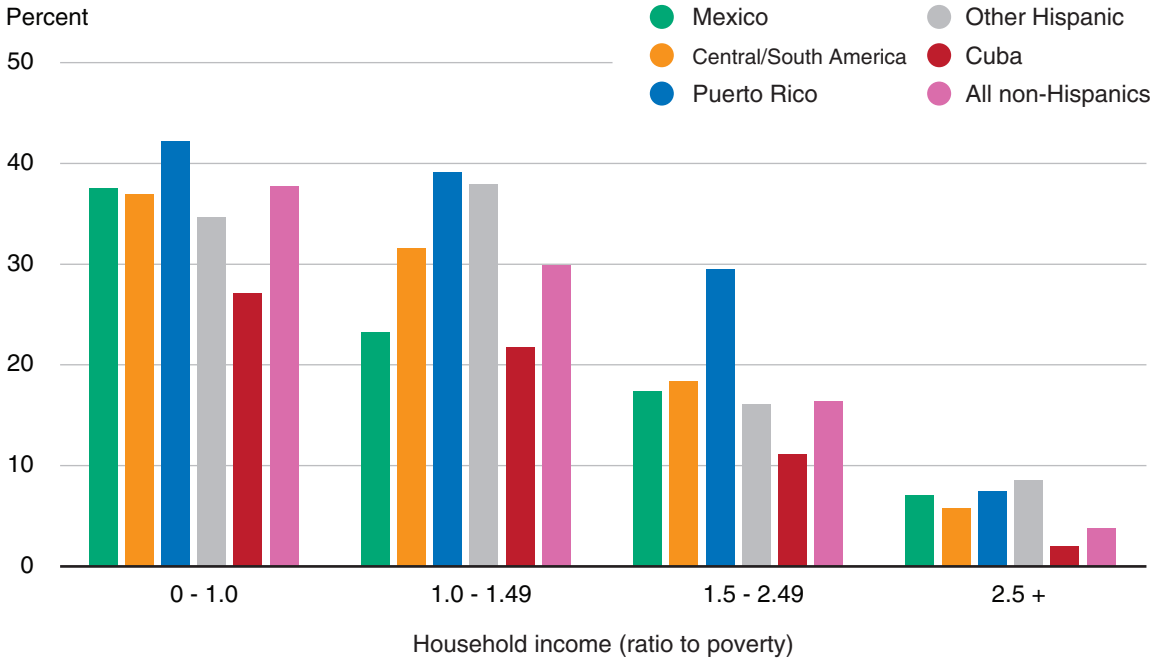
[10]The Federal poverty line was $24,008 for a family of four (two adults and two children) in 2014.

[11]The CPS groups all individuals born in a U.S. territory into a single category. Of the Hispanic adults who reported being born in a U.S. territory, 96 percent also reported being of Puerto Rican descent.

[12]Noncitizen Hispanics include both documented and undocumented individuals. Documentation status is not collected by the CPS.

Figure 7

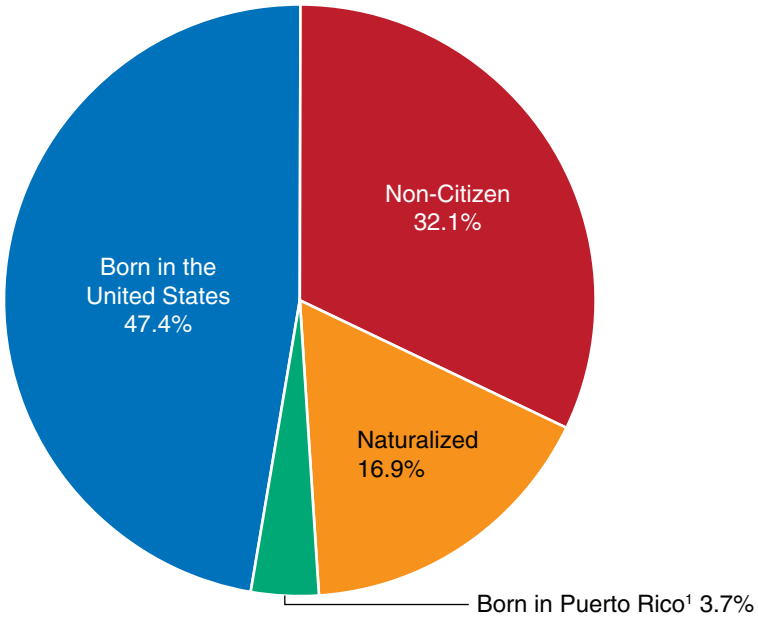
Prevalence of food insecurity by national origin and household income for U.S. adult population, 2011-14



Source: Calculated by USDA, Economic Research Service using data from the December 2011, 2012, 2013, and 2014 Current Population Survey Food Security Supplement.

Figure 8

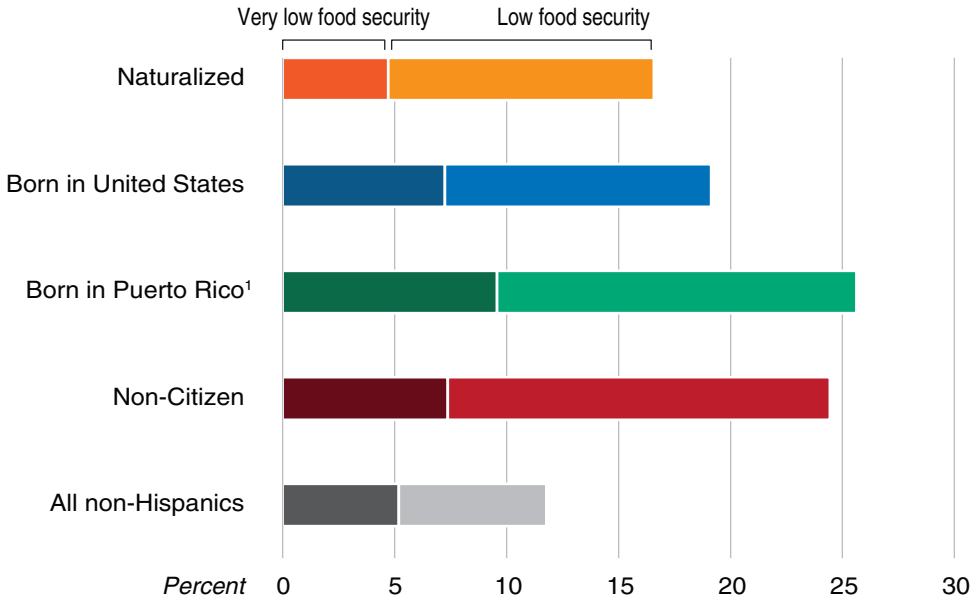
Immigration and citizenship status of Hispanic adults, 2011-14



[1]The Current Population Survey groups all individuals born in a U.S. territory into a single category. Of the Hispanic adults who reported being born in a U.S. territory, 96 percent also reported being of Puerto Rican descent.
Source: Calculated by USDA, Economic Research Service using data from the December 2011, 2012, 2013, and 2014 Current Population Survey Food Security Supplement.

Figure 9

Prevalence of food insecurity by severity and, for Hispanics, by immigration status, U.S. adult population in 2011-14



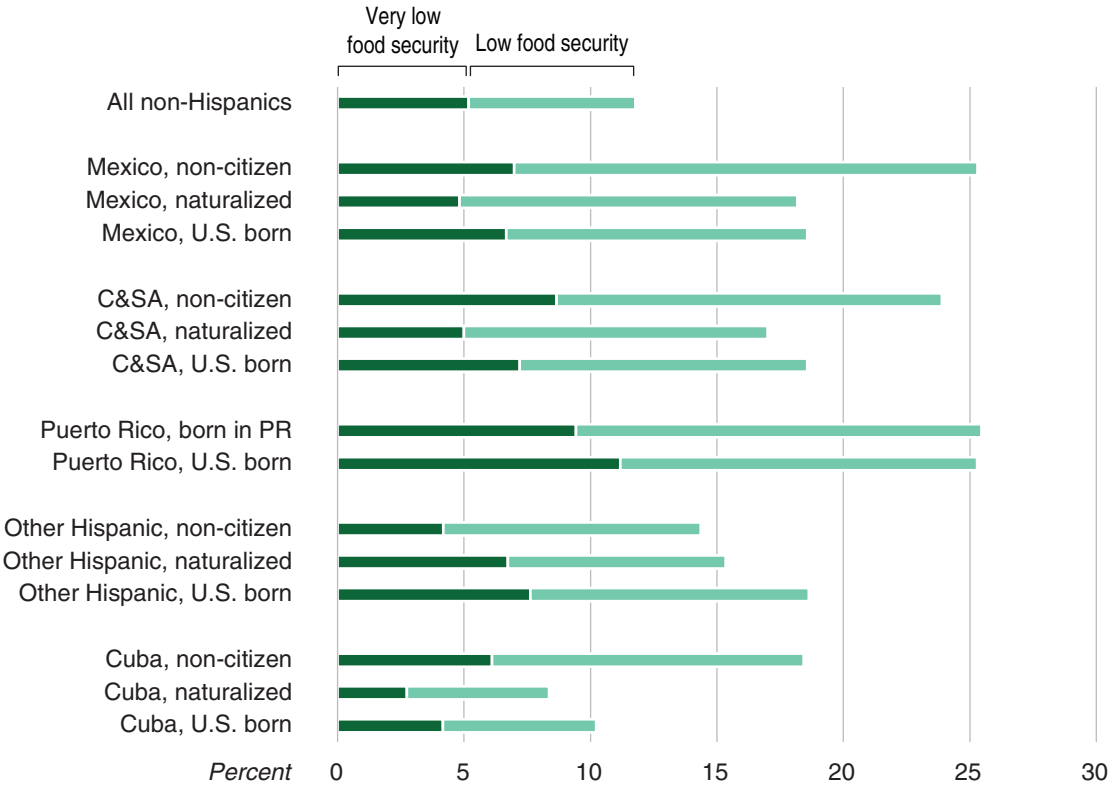
[1]The Current Population Survey groups all individuals born in a U.S. territory into a single category. Of the Hispanic adults who reported being born in a U.S. territory, 96 percent also reported being of Puerto Rican descent.
Source: Calculated by USDA, Economic Research Service using data from the December 2011, 2012, 2013, and 2014 Current Population Survey Food Security Supplement.

However, these differences may be accounted for by characteristics such as household income, employment status, education, and household structure. Hispanic households headed by naturalized citizens had higher mean income, were more likely to include adults who were employed full-time, less likely to have adults with a high school diploma or less, more likely to include a married couple (if children are present), more likely to have children ages 10-17, and less likely to live in principal cities (analyses not shown). Still, food insecurity was more prevalent among naturalized Hispanics (16.6 percent) than among all non-Hispanics (11.8 percent) in 2011-14. Hispanics who were born in Puerto Rico, but living in the United States, had higher food-insecurity rates than U.S.-born Hispanics.

Rates of food insecurity and very low food security were highest for Hispanics who were not citizens, and were similar for those with origins in Mexico, Central/South America, and Cuba (figure 10). Within each Hispanic-origin group, differences in food insecurity between those born in the United States and those naturalized were not statistically significant. That is, differences were in a range that could have resulted from the CPS samples not being perfectly representative of the population groups. However, very low food security was more prevalent for U.S.-born Hispanics with origins in Mexico and Central/South America than for naturalized immigrants from those regions. Among Hispanics who were U.S.-born or naturalized, those with roots in Cuba were less likely to be food insecure and less likely to have very low food security than those with roots in Mexico or Central/South America. Puerto Ricans living in the United States had higher food insecurity and very low food security rates than most other Hispanics in the United States—except for noncitizen Hispanics, where differences in food-insecurity rates were statistically insignificant.

Figure 10

Prevalence of food insecurity by severity and, for Hispanics, by national origin and migration status, U.S. adult population in 2011-14

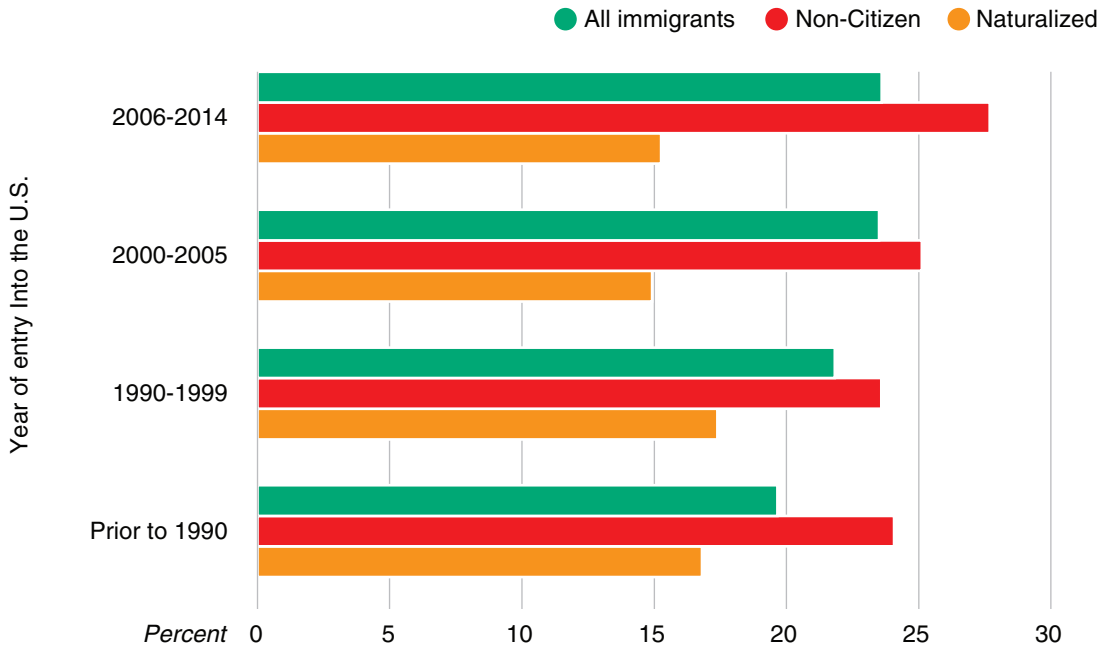


C&SA = Central and South America
Source: Calculated by USDA, Economic Research Service using data from the December 2011, 2012, 2013, and 2014 Current Population Survey Food Security Supplement.

The food security of Hispanic immigrants was better for those who had been in the country longer (figure 11). Among all those who arrived prior to 1990, 19.7 percent were food insecure in 2011-2014, compared with about 24 percent of those who arrived since 2000. Across all year-of-entry categories, naturalized citizens had lower food-insecurity rates than non-citizens. Becoming a U.S. citizen appears to protect against food insecurity. The proportion of immigrants who have become naturalized increases with time spent in the United States, from around 10 percent for recent immigrants to 80 percent for those who have been in the country since 1960 or before (figure 12).

Figure 11

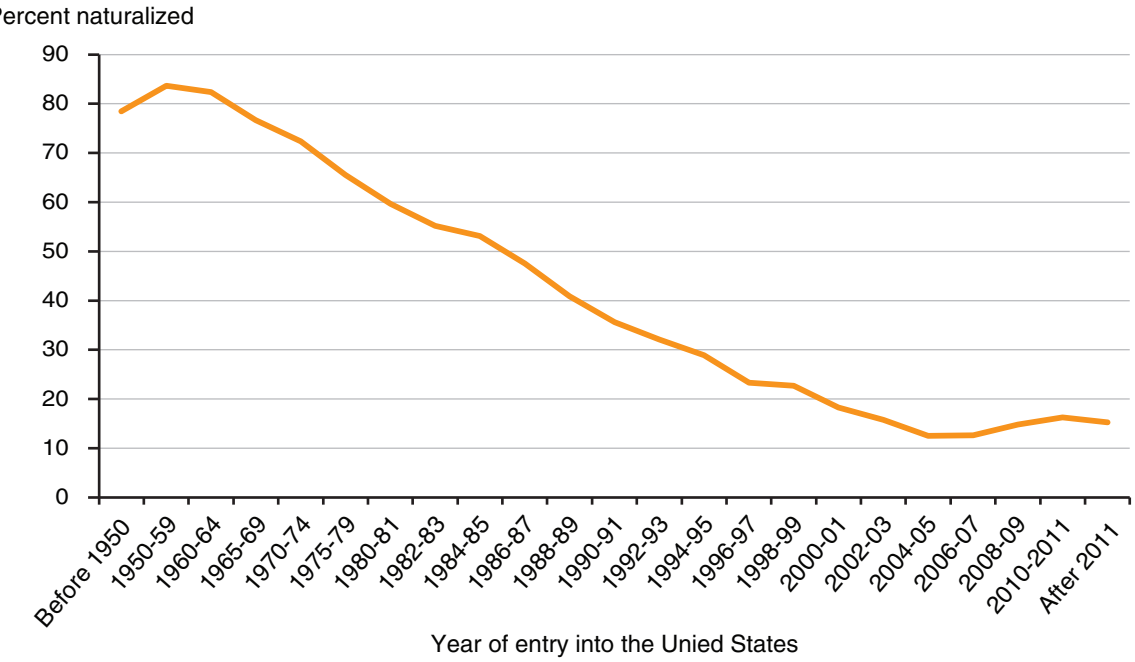
Prevalence of food insecurity of Hispanic adult immigrants by year of entry into the United States and migration status, 2011-14



Source: Calculated by USDA, Economic Research Service using data from the December 2011, 2012, 2013, and 2014 Current Population Survey Food Security Supplement.

Figure 12

Percentage of Hispanic immigrant adults who were naturalized as of 2011-2014, by year of entry into the United States



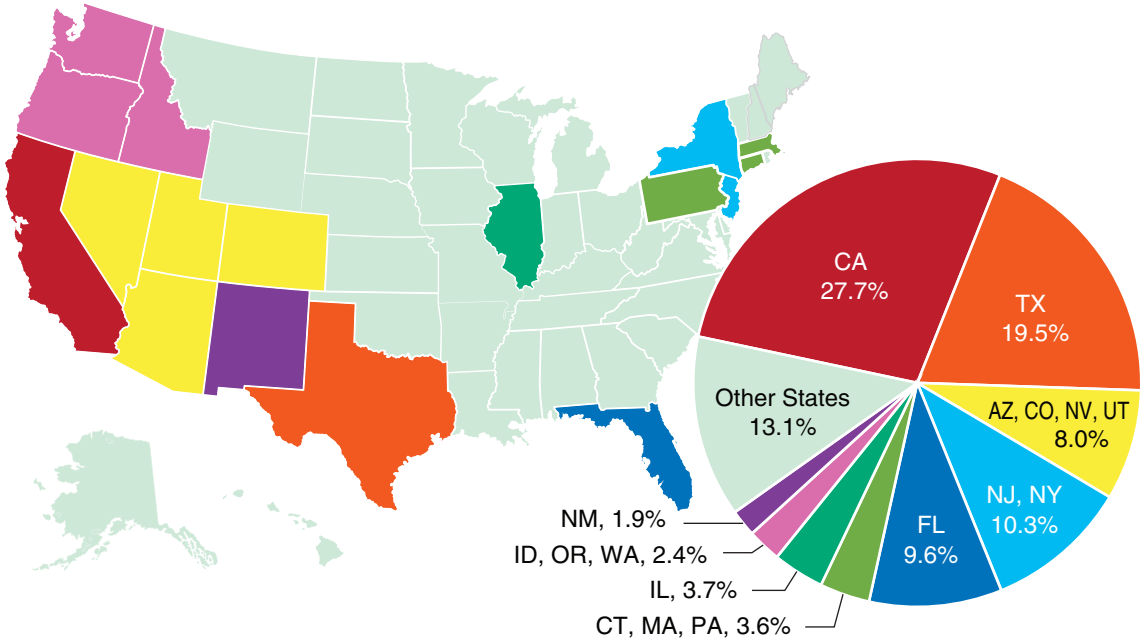
Source: Calculated by USDA, Economic Research Service using data from the December 2011, 2012, 2013, and 2014 Current Population Survey Food Security Supplement.

Food Security of Hispanic Adults by State

Population growth from immigration has not occurred uniformly across the United States, but has been concentrated in a few States (U.S. Census Bureau, 2006). The largest share of Hispanic adults lived in California (27.7 percent), Texas (19.5 percent), and other States in the Southwest in 2011-14 (figure 13).[13] Historically, Hispanics have been clustered by origin—for example Cubans in Florida, Puerto Ricans in New York.

The prevalence of food insecurity among Hispanics was lower in New Mexico than in other States, but was otherwise similar across States and groups of States analyzed (figure 14). Differences in very low food security across States and regions were not statistically significant. Results of multivariate logistic regression models estimating the association of food insecurity with ethnicity, citizenship, and other economic and demographic characteristics are described in Appendix A.

Figure 13
Hispanic adults by State or region, 2011-14

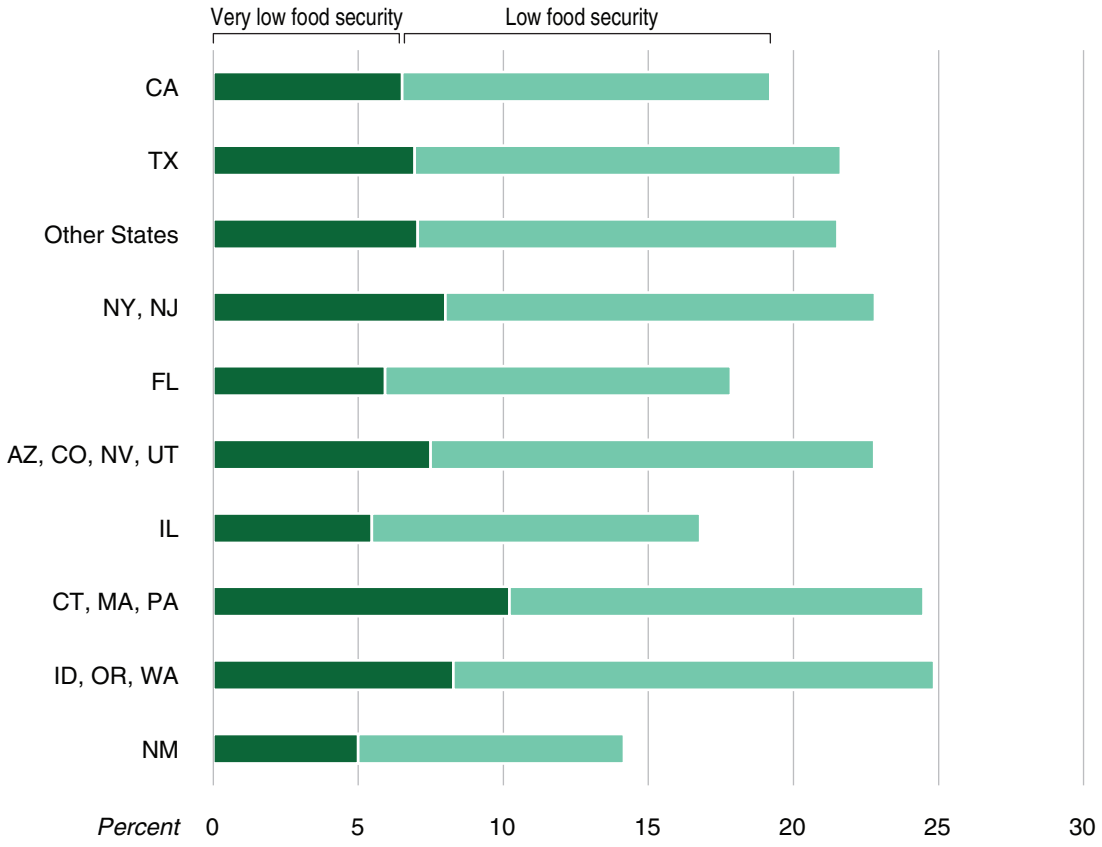


Source: Calculated by USDA, Economic Research Service using data from the December 2011, 2012, 2013, and 2014 Current Population Survey Food Security Supplement.

[13]For this analysis, States are shown separately if the number of Hispanic adults in those States is large enough to support the estimates. Southwest and Northeast States were grouped based on having similar proportions of Hispanics by national origin and food security status.

Figure 14

Prevalence of food insecurity by severity and State or region, Hispanic adults, 2011-2014



Source: Calculated by USDA, Economic Research Service using data from the December 2011, 2012, 2013, and 2014 Current Population Survey Food Security Supplement.

Conclusions

USDA's annual household food security reports consistently show that Hispanic households have higher food-insecurity rates than non-Hispanic White households (Coleman-Jensen et al., 2015). As with all U.S. households, household composition and income are important factors related to food insecurity among Hispanics. In addition, we find variation in the prevalence of food insecurity among Hispanics of different origin, citizenship status, and length of residence in the United States.

Within each Hispanic-origin group, noncitizens have higher food-insecurity rates than citizens. Length of residence is also related to food insecurity but is conflated with citizenship status. Hispanics of different origin groups face different food insecurity rates. Puerto Rican Hispanics tend to have higher food-insecurity rates, and Hispanics of Cuban origin lower rates, than Hispanics of other origins.

Despite a high incidence of full-time employment, Hispanic noncitizens have higher food insecurity rates and lower incomes than Hispanic citizens and other race/ethnic groups. The low educational attainment of Hispanic noncitizens, combined with low-income full-time employment, suggests that adequate job opportunities are limited for this group.

English proficiency and language acclimation may also play a role, but could not be analyzed in this study.

Lack of access to SNAP (Supplemental Nutrition Assistance Program) and other public assistance programs may be a factor in the higher food-insecurity rates of noncitizen Hispanics (Borjas, 2004), but these factors could not be analyzed here. Immigrant eligibility for nutrition assistance is a complicated issue due to differences in eligibility of immigrants across programs and household members. For example, some immigrants may be ineligible for SNAP benefits but the school meals program is available to all children, regardless of immigration status. Another complicating factor is that a household may contain both immigrants and citizens. For example, children born in the United States may be SNAP-eligible while immigrant parents may be ineligible (Koball et al., 2013). These complicating factors may make it difficult for food assistance programs to address food insecurity among Hispanic immigrants.

Analyses shown in the appendix suggest that differences in income, employment, and education between Hispanics and non-Hispanic Whites account for much of the increased likelihood of food insecurity among Hispanics. Lower income and less favorable employment among Hispanics primarily account for much of the higher likelihood of food insecurity faced by Hispanic households. When very low food security is considered, analyses indicate that controlling for household characteristics reduces and even reverses the coefficients. After controlling for income, employment, and education, we find that Hispanic households are less likely to have very low food security than non-Hispanic Whites. These findings indicate that the higher prevalence of very low food security for Hispanics is fully explained by their lower income and education levels and less favorable employment.

This report shows that there is significant variation in the incidence of food insecurity for Hispanics from different origins and by citizenship status. Interventions to address food insecurity among Hispanics may be more successful if they account for the diversity among Hispanic households.

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Appendix A: Multivariate Logistic Regression Models

This appendix describes the extent to which differences in economic, demographic, and geographic characteristics may account for differences in the prevalence of food insecurity between Hispanics, non-Hispanic Blacks, non-Hispanic Whites, and other non-Hispanics. Hispanic citizens and Hispanic noncitizens are treated as distinct subpopulations because of substantial differences in food insecurity between the two groups.

Multivariate logistic regression models of food insecurity and very low food security were estimated at the household level, whereas the main report focuses on the individual level. The models for food insecurity and very low food security are as follows:

$$Y = f\left(\text{Hisp}\times \text{US Cit}, \text{Hisp}\times \text{Non Cit}, \text{NH Black}, \text{NH Other}, \text{HH Char}, \text{Region}, \text{Year}\right)$$

where Y is the dependent variable, Hisp × US Cit and Hisp × Non-Cit are interactions of Hispanic ethnicity and U.S. citizenship status of the reference person (the person, or persons, in whose name the residence is owned or rented). The models also include controls for non-Hispanic Blacks (NH Black), and other non-Hispanics (NH Other). Household characteristics (HH Char) depend on which model is being estimated, but include income, employment/labor force participation status (of the primary worker and other adults, separately), educational attainment of the most highly educated adult, household structure, presence of older children (ages 10-17) and the elderly (65 or older), and residence in a metropolitan area. Metropolitan or nonmetropolitan residence is based on the household's county of residence. Nonmetropolitan counties are more rural. Region and Year include region- and time-fixed effects, respectively.

The models were estimated using logistic regression. Baseline models included controls for the reference person's race/ethnicity and time-fixed effects. Control variables were incrementally added to the baseline model to examine the extent to which economic (Model 1), demographic (Model 2), and geographic characteristics (Model 3) may explain differences in rates of food insecurity between Hispanics, Blacks (non-Hispanic), Whites (non-Hispanic), and other non-Hispanics.

A number of household characteristics that are known from previous research to be associated with food insecurity were more prevalent among Hispanic (especially noncitizen) and Black households than among White and "other" non-Hispanic households (table A1). Noncitizen Hispanic households had a lower mean income; were more likely to include adults who were unemployed (looking for work); less likely to have adults with a 4-year or graduate degree; more likely to be single parents with children; more likely to have older children; and less likely to include an elderly adult (age 65 or older). Similar patterns were observed between Hispanic citizen and White (non-Hispanic) and other non-Hispanic households. However, Black non-Hispanic) households were more likely to be unemployed, more likely to contain single mothers, and less likely to have younger children than Hispanic citizen households. Some demographic disadvantages may be offset by the higher proportion of Hispanic (citizen and noncitizen) households with full-time workers. Overall, though, it appears that the economic and demographic characteristics of Hispanic households are related to an increased risk of food insecurity. Regression analyses assess the extent to which this is true.

Four logistic regression models were estimated with food insecurity as the dependent variable (table A2). Model 1 includes variables for race, Hispanic ethnicity, citizenship status, and interview year. This is the baseline descriptive model, and the coefficients on Hispanic citizen (0.75), Hispanic

Table A1

Selected characteristics of U.S. households by race, Hispanic ethnicity, and immigration status, 2011-2014

	Hispanic, citizen	Hispanic, noncitizen	Black, non-Hispanic	Other, non-Hispanic	White, non-Hispanic
Food insecure	19.6	25.9	24.1	11.4	10.4
Very low food secure	7.1	8.3	10.7	5.0	4.8
Income (ratio to the poverty line), mean	2.9	2.0	2.8	3.8	4.0
Primary employment/labor-force status					
Full-time worker	70.9	79.4	59.2	74.1	64.0
Retired	11.8	3.2	14.8	11.5	23.1
Part-time for non-economic reasons	4.3	3.2	4.6	3.8	4.3
Part-time for economic reasons	2.5	5.6	2.9	1.5	1.3
Unemployed	3.1	4.0	5.6	2.3	1.9
Out of labor force because of disability	4.5	2.0	8.5	3.1	3.7
Out of labor force, not retired or disabled	3.0	2.5	4.4	3.8	1.7
Employment/labor-force status of other household adults					
Full-time worker	28.5	30.3	18.3	31.2	24.9
Retired	10.3	4.0	8.4	12.9	14.7
Part-time for non-economic reasons	10.8	9.6	5.9	10.7	12.6
Part-time for economic reasons	4.9	8.5	3.0	3.8	2.6
Unemployed	8.4	10.9	7.5	6.4	4.5
Out of labor force because of disability	7.6	4.6	8.6	4.9	5.5
Out of labor force, not retired or disabled	24.5	41.4	14.8	27.0	14.6
Educational attainment of most highly educated adult					
Less than high school	12.5	36.3	9.7	4.8	4.3
High school graduation or GED	26.6	31.5	28.7	14.6	22.2
Some college, no four-year degree	34.5	19.0	34.6	24.0	29.9
Bachelor or other four-year degree	17.7	9.4	16.6	29.7	25.4
Graduate or professional degree	8.7	3.8	10.5	26.8	18.2
Household structure					
Married couple with child	25.5	40.3	12.6	29.2	19.7
Single male with child	5.0	5.5	3.2	2.4	1.9
Single female with child	14.3	15.9	18.6	7.6	5.2
Two or more adults, no child	34.7	25.5	31.2	38.8	44.1
Male living alone	9.9	7.8	15.0	10.1	12.6
Female living alone	9.9	4.2	19.1	11.5	16.0
Child age 10-17 present	38.6	57.6	29.8	31.0	22.8
One or more elderly (age 65 or older)	19.4	7.8	20.8	20.6	30.1

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Table A1
Selected characteristics of U.S. households by race, Hispanic ethnicity, and immigration status, 2011-2014 - continued

	Hispanic, citizen	Hispanic, noncitizen	Black, non-Hispanic	Other, non-Hispanic	White, non-Hispanic
Residence relative to metropolitan area					
Nonmetropolitan	7.5	7.1	10.7	9.7	19.3
Metropolitan, in primary city	42.4	45.9	46.1	41.9	20.9
Metropolitan, primary city residence not released	9.8	7.9	9.7	8.7	16.4
Suburban and other outlying metropolitan area	40.3	39.2	33.6	39.6	43.4
Census Region					
Northeast	16.2	12.9	15.9	17.1	18.9
Midwest	7.7	8.5	18.5	13.4	26.2
South	36.6	41.6	56.9	27.5	35.0
West	39.4	37.0	8.7	42.0	19.9
Number of households interviewed	11,964	4,990	17,171	10,755	127,711

Source: Calculated by USDA, Economic Research Service using data from the December 2011, 2012, 2013, and 2014 Current Population Survey Food Security Supplement.

noncitizen (1.11), and non-Hispanic Blacks (1.01) indicate a higher probability of food insecurity in these groups than for Whites (non-Hispanic). The coefficient for other non-Hispanics was statistically indistinguishable from zero. These coefficients correspond to odds ratios of 2.11, 3.03, and 2.75, respectively, suggesting Hispanics (and non-Hispanic Blacks) are more likely to be food insecure than other race/ethnic groups. Income, employment, and education variables are added in Model 2, and the coefficients of interest drop to 0.25, 0.20, and 0.43, respectively. Thus, having a lower income, and less favorable labor force and education characteristics accounts for 67 and 82 percent of the differential in food insecurity for Hispanic citizens and noncitizens, respectively. However, for Blacks (non-Hispanic), these characteristics appear to explain 57 percent of the differential in food insecurity, while the coefficients for other non-Hispanics were not statistically significant.

Adding household structure variables (Model 3) has relatively little effect on the coefficients of interest for all race/ethnic groups. Adding geographic variables (Model 4) further reduces the coefficients of interest to 0.20 for Hispanic citizens, 0.17 for Hispanic noncitizens, and 0.36 for non-Hispanic Blacks. These correspond to odds ratios of 1.23, 1.18, and 1.43, respectively. The coefficient on other non-Hispanic is not statistically significant. The characteristics in the full model accounted for about 80 percent of the difference in food insecurity between each of the Hispanic groups and the White (non-Hispanic) population, as measured by the logistic coefficients. The characteristics in the full model accounted for nearly 65 percent of the differences for Blacks (non-Hispanic) relative to Whites (non-Hispanic).

The corresponding analysis for very low food security is presented in table A3. The baseline coefficients on Hispanic citizen (0.41), Hispanic noncitizen (0.58), and non-Hispanic Black (0.86) indicate higher probabilities of very low food security in these groups compared with non-Hispanic Whites, although the differentials are smaller than for overall food insecurity. As with food insecurity, the coefficient on other non-Hispanic was statistically indistinguishable from zero. The coefficients

correspond to odds ratios of 1.50, 1.79, and 2.37 respectively, which suggests Blacks (non-Hispanic) are more likely to suffer very low food insecurity than other race/ethnic groups. These higher prevalence rates of very low food security can be completely accounted for by differences in income, employment, and education for all race/ethnic groups with the exception of Blacks (non-Hispanic) (Model 2). The coefficients of interest switch signs and indicate that Hispanics have significantly ***lower*** odds of very low food security relative to non-Hispanic Whites once differences in economic, demographic, and geographic characteristics are controlled for (Models 2-4).

Table A2
Logistic regression of food insecurity on household characteristics

	Model 1		Model 2		Model 3		Model 4	
	Coeff	p	Coeff	p	Coeff	p	Coeff	p
Race/ethnicity (reference: White non-Hispanic)								
Hispanic citizen	0.748	<0.001	0.250	<0.001	0.229	<0.001	0.203	<0.001
Hispanic, non-citizen	1.110	<0.001	0.203	<0.001	0.202	<0.001	0.169	0.000
Black, non-Hispanic	1.012	<0.001	0.431	<0.001	0.377	<0.001	0.358	<0.001
Other, non-Hispanic	0.114	0.003	0.017	0.673	0.017	0.669	0.002	0.970
Income relative to poverty line (reference: above 500%)								
Income not reported			0.694	<0.001	0.657	<0.001	0.659	<0.001
Less than 50%			0.809	<0.001	0.659	0.002	0.663	0.002
50-75%			1.076	<0.001	0.942	<0.001	0.948	<0.001
76-100%			1.107	<0.001	1.029	<0.001	1.033	<0.001
101-150%			1.027	<0.001	0.947	<0.001	0.952	<0.001
151-200%			0.848	<0.001	0.799	<0.001	0.803	<0.001
201-300%			0.591	<0.001	0.551	<0.001	0.554	<0.001
301-400%			0.363	0.001	0.334	0.003	0.336	0.003
401-500%			0.084	0.407	0.069	0.491	0.071	0.482
Income relative to poverty line (linear)			-0.288	<0.001	-0.296	<0.001	-0.298	<0.001
Primary employment/labor-force status (reference: not in labor force but not retired or disabled)								
Full-time worker			-0.230	<0.001	-0.198	0.000	-0.193	0.001
Retired			-0.820	<0.001	-0.544	<0.001	-0.539	<0.001
Part-time for non-economic reasons			-0.202	0.003	-0.157	0.018	-0.154	0.021
Part-time for economic reasons			0.390	<0.001	0.415	<0.001	0.417	<0.001
Unemployed			0.664	<0.001	0.680	<0.001	0.681	<0.001
Out of labor force because of disability			0.656	<0.001	0.727	<0.001	0.738	<0.001
Employment/labor-force status of other household adults (omitted: not in labor force but not retired or disabled)								
Full-time worker			-0.240	<0.001	-0.163	<0.001	-0.162	<0.001
Retired			-0.527	<0.001	-0.286	<0.001	-0.288	<0.001
Part-time for non-economic reasons			-0.157	<0.001	-0.073	0.034	-0.074	0.032
Part-time for economic reasons			0.475	<0.001	0.531	<0.001	0.527	<0.001
Unemployed			0.501	<0.001	0.565	<0.001	0.562	<0.001
Out of labor force because of disability			0.595	<0.001	0.715	<0.001	0.720	<0.001

- continued

Table A2

Logistic regression of food insecurity on household characteristics - continued

	Model 1		Model 2		Model 3		Model 4	
	Coeff	p	Coeff	p	Coeff	p	Coeff	p
Educational attainment of most highly educated adult (reference: high school graduation or GED)								
Less than high school			0.133	<0.001	0.154	<0.001	0.155	<0.001
Some college, no four-year degree			0.049	0.014	0.037	0.066	0.029	0.134
Bachelor or other four-year degree			-0.399	<0.001	-0.393	<0.001	-0.408	<0.001
Graduate or professional degree			-0.782	<0.001	-0.757	<0.001	-0.773	<0.001
Household structure (reference: married couple with child)								
Single male with child					0.087	0.083	0.086	0.087
Single female with child					0.467	<0.001	0.466	<0.001
Two or more adults, no child					0.145	0.000	0.143	0.000
Male living alone					0.219	<0.001	0.213	<0.001
Female living alone					0.359	<0.001	0.352	<0.001
Child age 10-17 present					0.074	<0.001	0.073	<0.001
One or more elderly (age 65 or older)					-0.393	<0.001	-0.392	<0.001
Residence relative to metropolitan area (reference suburban and other outlying metropolitan area)								
Nonmetropolitan							-0.122	0.000
Metropolitan, in primary city							0.010	0.675
Metropolitan, primary city residence not released							-0.033	0.350
Census Region (reference: Northeast)								
Midwest							0.018	0.621
South							0.008	0.814
West							0.019	0.604
Survey year (reference 2014)								
2011	0.063	0.008	-0.015	0.572	-0.015	0.583	-0.015	0.594
2012	0.035	0.157	-0.025	0.389	-0.025	0.392	-0.024	0.408
2013	0.020	0.381	-0.006	0.814	-0.007	0.793	-0.007	0.797
Intercept	-2.188	<0.001	-1.516	<0.001	-1.694	<0.001	-1.670	<0.001
N	172,591		172,591		172,591		172,591	

Source: Calculated by USDA, Economic Research Service using data from the December 2011, 2012, 2013, and 2014 Current Population Survey Food Security Supplement.

Table A3

Logistic regression of very low food insecurity on household characteristics

	Model 1		Model 2		Model 3		Model 4	
	Coeff	p	Coeff	p	Coeff	p	Coeff	p
Race/ethnicity (reference: White non-Hispanic)								
Hispanic citizen	0.405	<0.001	-0.118	0.010	-0.113	0.016	-0.137	0.005
Hispanic. non-citizen	0.581	<0.001	-0.275	<0.001	-0.238	0.000	-0.268	<0.001
Black, non-Hispanic	0.863	<0.001	0.203	<0.001	0.157	0.000	0.154	0.000
Other, non-Hispanic	0.041	0.476	-0.063	0.299	-0.051	0.403	-0.062	0.330
Income relative to poverty line (reference: above 500%)								
Income not reported			1.059	<0.001	0.982	<0.001	0.989	<0.001
Less than 50%			1.292	0.001	1.052	0.008	1.066	0.007
50-75%			1.565	<0.001	1.315	0.000	1.330	0.000
76-100%			1.507	<0.001	1.345	0.000	1.357	0.000
101-150%			1.462	<0.001	1.294	0.000	1.306	0.000
151-200%			1.193	<0.001	1.074	0.001	1.084	0.000
201-300%			0.952	0.000	0.836	0.001	0.843	0.001
301-400%			0.654	0.002	0.551	0.009	0.555	0.009
401-500%			0.365	0.039	0.301	0.087	0.304	0.085
Income relative to poverty line (continuous)			-0.238	0.000	-0.270	<0.001	-0.272	<0.001
Primary employment/labor-force status (reference: not in labor force but not retired or disabled)								
Full-time worker			-0.299	<0.001	-0.250	0.000	-0.245	0.001
Retired			-0.825	<0.001	-0.484	<0.001	-0.482	<0.001
Part-time for non-economic reasons			-0.225	0.007	-0.178	0.031	-0.177	0.031
Part-time for economic reasons			0.338	0.000	0.367	<0.001	0.366	<0.001
Unemployed			0.674	<0.001	0.693	<0.001	0.691	<0.001
Out of labor force because of disability			0.664	<0.001	0.693	<0.001	0.705	<0.001
Employment/labor-force status of other household adults (omitted: not in labor force but not retired or disabled)								
Full-time worker			-0.339	<0.001	-0.206	<0.001	-0.206	<0.001
Retired			-0.738	<0.001	-0.380	<0.001	-0.384	<0.001
Part-time for non-economic reasons			-0.333	<0.001	-0.184	0.001	-0.189	0.001
Part-time for economic reasons			0.433	<0.001	0.531	<0.001	0.523	<0.001
Unemployed			0.514	<0.001	0.629	<0.001	0.623	<0.001
Out of labor force because of disability			0.502	<0.001	0.691	<0.001	0.699	<0.001
Educational attainment of most highly educated adult (reference: high school graduation or GED)								
Less than high school			0.049	0.289	0.073	0.117	0.077	0.095
Some college, no four-year degree			0.086	0.005	0.079	0.011	0.069	0.027
Bachelor or other four-year degree			-0.404	<0.001	-0.396	<0.001	-0.414	<0.001
Graduate or professional degree			-0.680	<0.001	-0.637	<0.001	-0.656	<0.001
Household structure (reference: married couple with child)								
Single male with child					0.189	0.015	0.185	0.016
Single female with child					0.481	<0.001	0.480	<0.001
Two or more adults, no child					0.339	<0.001	0.339	<0.001

- continued

Table A3

Logistic regression of very low food insecurity on household characteristics - continued

	Model 1		Model 2		Model 3		Model 4	
	Coeff	p	Coeff	p	Coeff	p	Coeff	p
Male living alone					0.571	<0.001	0.566	<0.001
Female living alone					0.656	<0.001	0.648	<0.001
Child age 10-17 present					0.100	0.000	0.097	0.000
One or more elderly (age 65 or older)					-0.589	<0.001	-0.588	<0.001
Residence relative to metropolitan area (reference sub-urban and other outlying metropolitan area)								
Nonmetropolitan							-0.193	<0.001
Metropolitan, in primary city							-0.059	0.075
Metropolitan, primary city residence not released							-0.067	0.155
Census Region (reference: Northeast)								
Midwest							0.034	0.452
South							-0.024	0.568
West							0.029	0.553
Survey year (reference 2014)								
2011	0.049	0.191	-0.038	0.333	-0.036	0.359	-0.036	0.358
2012	0.029	0.390	-0.038	0.300	-0.033	0.370	-0.032	0.379
2013	-0.004	0.907	-0.037	0.297	-0.037	0.293	-0.038	0.284
Intercept	-3.002	<0.001	-2.854	<0.001	-3.117	<0.001	-3.052	<0.001
N		172,591		172,591		172,591		172,591

Source: Calculated by USDA, Economic Research Service using data from the December 2011, 2012, 2013, and 2014 Current Population Survey Food Security Supplement.

Appendix B: Literature Review on Factors Related to Food Insecurity of Hispanic Households

Prior research on food insecurity among Hispanics points to several causal factors, including household income, immigrant status, education/English proficiency, community-level factors, and increased restrictions on food assistance program participation. As with other race and ethnic groups, a key factor related to food insecurity among Hispanics is low income. Sano and colleagues (2011) report that socioeconomic factors such as low income and low education are associated with higher probabilities of food insecurity. They argue that food-secure households are only "one injury or illness of the primary income earner" away from food insecurity (p. 120). Poverty has been found to be more prevalent in Hispanic households with children and can significantly increase the probability of household food insecurity (Mazur et al., 2003). While low socioeconomic status is associated with higher levels of food insecurity, acculturation[14] can have a mitigating effect, suggesting the need for culturally specific health and nutrition education programs (Mazur et al., 2003).

An additional factor in Hispanic food insecurity is immigration. Recent Hispanic immigrants are at a higher risk for food insecurity because of economic constraints posed by a variety of factors such as poverty, low-wage employment, job insecurity, language, education, and marginal social standing (Quandt et al., 2006). Hispanic immigrant households regularly provide financial support to family abroad, and in doing so place additional pressure on limited household food resources (Sano et al., 2011).

Origin has been found to be a key factor in the quality of diet among Hispanic groups. Duffey and colleagues (2008) find that dietary quality varies by whether a Hispanic person is U.S. born or foreign born, suggesting that Hispanic subgroups have significant differences in dietary behaviors. Research has shown that the dietary ***quality*** of Hispanic immigrants deteriorates the longer they live in the United States (Ayala et al., 2008). Quandt and colleagues (2006) argue that recent immigrants undergo stages of adjustment when faced with food insecurity, which may explain why longer time in the United States is associated with greater food security for Hispanic immigrants. Education and English proficiency may play a role in the food security status of Hispanic households, especially immigrant households. Capps and colleagues (2009) report that food insecurity is twice as high for non-English-speaking families as for English-proficient families. Kaiser and colleagues (2002) find that higher parental education and greater linguistic acculturation are both associated with lower levels of food insecurity. Mazur and colleagues (2003) report that Hispanic households have disproportionately lower incomes than non-Hispanic households, and that greater linguistic acculturation can partially compensate for these lower incomes. For example, they find the exclusive use of Spanish in the household is associated with lower levels of dietary quality (lower intake of macronutrients), but also associated with lower food insufficiency. They argue that lower acculturation (speaking mainly Spanish) offers a culture-based protection against Hispanic households experiencing food insufficiency.

Children of Hispanic immigrants, especially those who are undocumented, face much higher risks of being food insecure (Borjas, 2004; Kaiser et al., 2004; Kasper et al., 2000; Kersey et al., 2007; Quandt et al., 2004; Quandt et al., 2006; Sano et al., 2011). Chilton and colleagues (2009) find chil-

[14]Acculturation is the process through which individuals learn and implement certain characteristics of a new culture into their culture of origin (Marín and Gamba, 1996).

dren of immigrant mothers more likely to be food insecure and suffer poor health than children of U.S.-born mothers. Looking at children of Mexican immigrant parents, Capps and colleagues (2009) find that a lack of parental citizenship leads to a higher prevalence of food insecurity, even after controlling for other background characteristics.

Ip and colleagues (2015) find that Hispanic farmworker families perceive food insecurity dissimilarly, suggesting educational food programs should be tailored for specific Hispanic subgroups. They also find an episodic component to food security, where Hispanic families intermittently and unpredictably enter and exit the status of food insecurity. Fish and colleagues (2013) argue that improving access to fresh fruits and vegetables in minority communities is crucial to improving dietary quality but that improving families' cooking skills and perceptions of healthy foods is just as important as improving access.

Targeted nutrition education programs, when linked with food assistance benefits, have been shown to lead to healthier household food choices and improved food security. Kaiser and colleagues (2015) found that Hispanic/Latino ethnicity and being female were positively related to greater improvement in food management skills after participation in a targeted nutrition education program. Carney and colleagues (2012) found that educational programs that help Hispanic farmworker families plant and maintain organic gardens significantly reduce food insecurity, improve dietary intake, and strengthen family relationships, primarily because the families often worked in their gardens together.

Community-level factors may also relate to food insecurity. Hispanic immigrant households often live in social isolation from non-Hispanics (Kandel and Newman, 2004) which can significantly limit access to local support services (Delgadillo et al., 2004; Escobar et al., 2000; Lopez-Cevallos et al., 2012; Valencia-Garcia et al., 2012). Social networks help Hispanic families satisfy their food needs; organized support and public assistance programs within a community can make the difference between a family being food insecure or not (Sano et al., 2011). Kaiser and colleagues (2010) found that healthier people in rural areas have more extensive social networks and increased "intrapersonal, interpersonal, and community support" (p. 1). However, Sano and colleagues (2011) find that family social support can be both positive and negative, sometimes leading to higher likelihoods of food insecurity. For example, social networks can provide valuable emotional support for families but if food-insecure households frequently send money to relatives, this can further weaken household food budgets (Sano et al., 2011).

Hispanic immigrant populations are becoming more important to rural communities, often sustaining otherwise falling population levels. Hispanic immigrants frequently enter the U.S. economy through farm work located in rural areas, so understanding the food-related behaviors and decisions of this group is important in improving rural communities (Quandt et al., 2014). High rates of food insecurity in rural Hispanic immigrant households present significant challenges to those communities (Sano et al., 2011).

Hispanic farmworker families have been found to be more at risk for poor health due to factors such as poverty, relocation, and documentation status (Pulgar et al., 2015). Studying children of Mexican origin in rural *colonias* in Texas, Sharkey and colleagues (2012) found the prevalence of food insecurity (low and very low food security) extremely high (64 percent) and suggest that simply participating in the National School Lunch and School Breakfast Programs may be inadequate to meet these children's nutritional needs.

Restrictions on enrollment in government assistance programs are another major obstacle in reducing or preventing food insecurity in immigrant households. Borjas (2004) found that restricting the portion of the immigrant population that receives public assistance increases the share of food-insecure households. SNAP participation in Hispanic households has been shown to free up resources to facilitate a better diet and to insulate households against exogenous income shocks like a sudden loss of income or increase in expenditures (Edin et al., 2013) Kaushal and coleagues (2014) found that Mexican immigrant families with children are less likely to participate in SNAP, even though they are more likely to be food insecure than native families with children. Vulnerable groups such as first-generation Mexican immigrant families are at a higher risk of food insecurity and are the least likely to participate in SNAP (Kaushal et al., 2014).

Hispanic immigrant households are often fearful of accessing food assistance programs and community services because of their immigrant status (Grzywacz et al., 2014; Martinez et al., 2013; Sano et al., 2011). Sano and colleagues (2011) found that documentation status is a key determinant of food insecurity and family well-being, calling for social workers who can link the food insecure with the food assistance programs they are eligible for. Policies that restrict immigrant eligibility for food assistance programs have been shown to further constrain household food resources and compromise the health of children (Quandt et al., 2014; Sharkey et al., 2013). SNAP has been shown to improve very low food security in Hispanic households after 6 months in the program (Mabli et al., 2013). Increasing access to food assistance programs for these vulnerable Hispanic groups can significantly increase food security and well-being.

Table C1

Hispanic households by food security status and selected household characteristics, 2011-14

Category	Total[1]	Food Secure		Food Insecure					
				All		With Low Food Security		With Very Low Food Security	
	1,000	*1,000*	*Percent*	*1,000*	*Percent*	*1,000*	*Percent*	*1,000*	*Percent*
All Hispanic households[1]	15,455	11,769	76.2	3,686	23.8	2,554	16.5	1,132	7.3
Household composition:									
With children < 18 years	7,809	5,580	71.5	2,229	28.5	1,679	21.5	550	7.0
With children < 6 years	3,863	2,724	70.5	1,139	29.5	879	22.8	260	6.7
Married-couple families	4,614	3,519	76.3	1,095	23.7	847	18.4	248	5.4
Female head, no spouse	2,285	1,398	61.2	887	38.8	650	28.4	237	10.4
Male head, no spouse	798	591	74.1	207	25.9	154	19.3	53	6.6
Other household with child[2]	113	72	63.7	41	36.3	28	24.8	13	11.5
With no children < 18 years	7,645	6,188	80.9	1,457	19.1	875	11.4	582	7.6
More than one adult	4,946	4,082	82.5	864	17.5	534	10.8	330	6.7
Women living alone	1,265	972	76.8	293	23.2	179	14.2	114	9.0
Men living alone	1,434	1,135	79.1	299	20.9	162	11.3	137	9.6
With elderly	2,475	1,994	80.6	481	19.4	325	13.1	156	6.3
Elderly living alone	638	524	82.1	114	17.9	67	10.5	47	7.4
Household income-to-poverty ratio:									
Under 1.00	3,645	2,098	57.6	1,547	42.4	1,041	28.6	506	13.9
Under 1.30	4,904	2,971	60.6	1,933	39.4	1,300	26.5	633	12.9
Under 1.85	6,819	4,358	63.9	2,461	36.1	1,689	24.8	772	11.3
1.85 and over	5,499	4,894	89.0	605	11.0	423	7.7	182	3.3
Income unknown	3,137	2,517	80.2	620	19.8	442	14.1	178	5.7
Area of residence:[3]									
Inside metropolitan area	14,317	10,936	76.4	3,381	23.6	2,338	16.3	1,043	7.3
In principal cities[4]	6,707	5,034	75.1	1,673	24.9	1,165	17.4	508	7.6
Not in principal cities	6,182	4,843	78.3	1,339	21.7	912	14.8	427	6.9
Outside metropolitan area	1,137	832	73.2	305	26.8	216	19.0	89	7.8
Census geographic region:									
Northeast	2,359	1,698	72.0	661	28.0	452	19.2	209	8.9
Midwest	1,227	938	76.4	289	23.6	202	16.5	87	7.1
South	5,887	4,538	77.1	1,349	22.9	951	16.2	398	6.8
West	5,982	4,595	76.8	1,387	23.2	949	15.9	438	7.3

[1]Totals exclude households for which food security status is unknown because they did not give a valid response to any of the questions in the food security scale. On average during the study period, these exclusions represented 82,500 households (0.5 percent of all Hispanic households). [2]Households with children in complex living arrangements, e.g., children of other relatives or unrelated roommate or boarder. [3]Metropolitan area residence is based on 2003 and 2013 Office of Management and Budget delineations for the year 2011-2013 and 2014, respectively. As a result, prevalence rates for 2014 by area of residence are not precisely comparable with those of 2011-2013. [4]Households within incorporated areas of the largest cities in each metropolitan area. Residence inside or outside of principal cities is not identified for about 10 percent of Hispanic households in metropolitan statistical areas.

Source: Calculated by USDA, Economic Research Service using data from the December 2011, 2012, 2013, and 2014 Current Population Survey Food Security Supplement.