Published in final edited form as:

Prev Med. 2015 August ; 77: 35–40. doi:10.1016/j.ypmed.2015.04.011.

Association between Exposure to Household Cigarette Smoking Behavior and Cigarette Smoking in Hispanic Adults: Findings from the Hispanic Community Health Study/Study of Latinos

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Abstract

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Conflict of Interest Statement

The authors declare that there are no conflicts of interest.

Background—Cigarette smoking behavior is highly determined by social influences during childhood and adolescence. This phenomenon has not been fully evaluated in the Hispanic/Latino population.

Purpose—To examine the association between exposure to household cigarette smoking behavior (HCSB) with adult cigarette smoking among a diverse Hispanic/Latino population living in four US urban centers. The effect of acculturation on cigarette smoking was also evaluated.

Methods—Data from the Hispanic Community Health Study/Study of Latinos (HCHS/SOL) (n=13,231, ages 18–74 years, collected between March 2008 and June 2011) were analyzed using logistic regression.

Results—HCSB exposure was an independent risk factor for adult current cigarette smoking in Hispanic/Latinos (OR 1.7; 95% CI 1.4, 2.1) after controlling for relevant confounders including socio-demographic and cultural factors. Cubans and Puerto Ricans had the highest prevalence of HCSB exposure (59% and 47% respectively) and highest prevalence of current cigarette smoking (26% and 32%) compared with other Hispanic/Latino groups, ($p < .01$).

Conclusions—Our data suggest that exposure to HCSB in Hispanics/Latinos living in the US is an independent predictor of adult cigarette smoking, and this association appears to be strongest in Cubans and Puerto Ricans.

Introduction

Tobacco use is a major contributor to morbidity and mortality in the United States. It is well-established that cigarette smoking behavior typically begins during adolescence (Kandell 2004; Wilkinson, 2008; Hill, 2005; Peterson, 2006; Shih, 2010). Therefore, studies investigating social influences of cigarette smoking initiation have primarily focused on young populations (Kandell 2004; Wilkinson, 2008; Hill, 2005; Peterson, 2006; Shih, 2010). Previous studies have shown that exposure to household cigarette smoking behavior (HCSB) and familial influences play a role on the onset and maintenance of cigarette smoking behavior (Kandell, 2004; Wilkinson, 2008; Hill, 2005; Peterson, 2006; Shih, 2010). Markides et al. conducted a three-generation investigation of cigarette smoking among Mexican Americans to evaluate the intergenerational transmission of smoking behavior (Markides, 1987). Within-family analyses demonstrated that familial transmission of cigarette smoking occurred between the second and third generations (Markides, 1987). Together, this evidence supports social learning and socio-environmental theories (Bandura, 2001; Emery, 2000), in the sense that observational learning of smoking in the home environment may influence children and youth to become smokers by observing their parents or other relatives smoke cigarettes.

In this study we set out to evaluate exposure to childhood HCSB in Hispanics/Latinos and determine its association with smoking behavior later in life. Exposure to HCSB was defined as “having lived with a regular smoker who smoked in your home”. We hypothesized that HCSB exposure early in life would be associated with current smoking behavior. None of the previous studies has examined the association of HCSB exposure with cigarette smoking among a representative sample of Hispanics/Latinos with diverse cultural heritage and socioeconomic status. Understanding the association between HCSB exposure/social

influences and cigarette smoking among Hispanics/Latinos living in the US is important because of two main reasons: (1) very little is known about the family members' influence on cigarette smoking behavior among diverse Hispanics/Latinos; and (2) cigarette smoking is increasingly prevalent among Hispanic/Latino adolescents, particularly Latinas (CDC, 2010). Consequently, examining the association of exposure to HCSB with adult cigarette smoking behavior among a diverse Hispanic/Latino population might help identify differences in social influences of smoking across Hispanic/Latino ethno-cultural groups.

Methods

a. Study Population

This is a cross-sectional observational study that used baseline data collected between March 2008 and June 2011 from the Hispanic Community Health Study/Study of Latinos (HCHS/SOL). HCHS/SOL methodology is further described elsewhere (Sorlie, 2012; LaVange, 2010). From the HCHS/SOL sample of 16,415 subjects, participants were included if they had complete data for the variables of interest. Subjects classified as "Other Hispanic/Latino group" were excluded. The final sample was comprised of 13,231 men and women.

b. Data Collection Procedures

Survey data on demographic factors, cigarette use and HCSB exposure were collected via HCHS/SOL questionnaires. Study surveys were translated into Spanish and certified by independent translators. The IRBs at each participating institution approved the study and informed consent was obtained from all participants.

c. Data Analyses

The primary independent variable of interest was HCSB exposure, which was defined as: (1) none; (2) having lived with a regular smoker before the age of 13 years; (3) having lived with a regular smoker after the age of 13 years; and (4) growing up with a smoking mother or primary female caregiver. Participants were asked survey questions regarding these types of exposure to HCSB and their responses were coded as "yes" or "no". The outcome variable was current cigarette smoking. Potential confounders included age, gender, Hispanic/Latino ethno-cultural background, education level, income, current occupational SHS exposure, language preference, length of stay in the US, Short Acculturation Scale for Hispanics (SASH) score and geographic location (HCHS/SOL field center).

Statistical analyses included exploratory data analyses for the exposure and outcome variables across Hispanic/Latino groups. Descriptive statistics were computed for the total cohort and for Hispanic/Latino groups. All reported values (means, prevalence values, and odd ratios in this analysis were weighted to adjust for sampling probability and nonresponse (Sorlie, 2012; LaVange, 2010). P-values for overall group comparisons were calculated using X^2 tests for categorical variables, and F-tests for continuous variables. For X^2 and F-tests that showed statistical significance, post-hoc analyses were done to determine which comparisons were significant. The prevalence of current cigarette smoking was determined separately for men and women, by HCSB exposure and other key demographic variables. Logistic regression was used to describe the association of past HCSB exposure indicators

with current cigarette smoking adjusting for the above-mentioned potential confounders, overall and stratified by Hispanic/Latino ethno-cultural groups (models 1, 2, and 3). All statistical analyses were performed using SAS (V. 9.2, SAS Institute, Inc.).

Results

a. Participants' Characteristics

The final sample of 13,231 adults included 7,810 women (51%), and 5,421 men (49%). Demographic information is summarized in Table 1. On average participants were middle age (41 years old) and included Mexicans, Puerto Ricans, Cubans, Dominicans, Central- and South Americans. Fifty-three percent of participants were employed, and close to half (47%) of the entire sample reported a household income lower than \$20,000. With respect to acculturation, the mean SASH score showed low acculturation level (2.2 of a maximum 5 points), the majority of participants had lived in the US ten years or more (73%), and preferred to speak Spanish (76%).

b. Prevalence of Exposure to Household Cigarette Smoking Behavior

The prevalence of HCSB exposure is summarized in Table 2. Exposure to HCSB was common among men and women, with about 40% of participants reporting being exposed to HCSB before and at age 13 years and older. About one-quarter reported maternal smoking during childhood (23%), and 20% of the participants were currently exposed to HCSB. Exposure to HCSB during childhood varied by Hispanic/Latino group. The prevalence of HCSB exposure before and at age 13 and older was significantly higher for Cubans (59%) and Puerto Ricans (47%) than other Hispanic/Latino groups (Mexicans 33%, Dominicans 38%, Central Americans 30%, South Americans 32%, $p\text{-value} < .001$). Maternal smoking was also more common among these two ethnic groups (Cubans 35% and Puerto Ricans 30%), $p < .01$. Overall, 7% of participants reported current SHS exposure in the work environment (data not shown).

c. Prevalence of Cigarette Smoking

Twenty percent of participants reported current cigarette smoking (Table 2). The prevalence of current cigarette smoking was significantly higher for Puerto Ricans (32%), and Cubans (26%) compared with other Hispanic/Latino groups, $p < .01$ (Table 2). Table 3 presents the smoking status prevalence for men and women. Participants who were younger (less than 65 years), had a household income below \$50,000, and lower acculturation level (< 2), had a significantly higher current cigarette smoking prevalence compared with their counterparts ($p < .01$). In contrast, the prevalence of current cigarette smoking did not vary by educational level. Comparisons by gender showed that the prevalence of current smoking was higher for men (12%) than women (6%) who were exposed to HCSB ($p < .01$).

d. Association of Exposure to Household Cigarette Smoking Behavior and Current Cigarette Smoking

Multivariate logistic regression analysis was used to examine the association of exposure to HCSB and current cigarette smoking. Two models were ran. The first one, which adjusted for key potential confounders (age, gender, education level, income, and HCHS/SOL field

center) showed that individuals who were formerly exposed to HCSB had a greater risk of being current cigarette smokers compared to those who were never exposed (OR 1.8; 95% CI 1.5, 2.1, Table 4, Model 1). Model 2 included, in addition of all the above listed potential confounders, other variables such as occupational SHS exposure, language preference, length of stay in the US, and SASH score. The association of HCSB exposure with current cigarette smoking remained significant (OR 1.7, 95% CI 1.4, 2.0, Table 4, Model 2).

Comparisons across all Hispanic/Latino ethno-cultural groups (except Dominicans) indicated that the association of former exposure to HCSB with current cigarette smoking was overall similar for participants of the different Hispanic/Latino backgrounds (Table 4; Models 1 and 2). Acculturation did not appear to act as a moderator in the association between HCSB exposure and current cigarette smoking (Table 4, Model 3).

Discussion

In this large and representative sample of Hispanics/Latinos residing in the US, childhood exposure to HCSB was an independent predictor of adult cigarette smoking. Childhood exposure to HCSB nearly doubled the risk of being current cigarette smokers compared to those who were never exposed, after controlling for relevant socio-demographic confounders. To our knowledge, this is the first study to demonstrate an association between childhood exposure to HCSB and cigarette smoking in a large and diverse sample of Hispanics/Latinos residing in the US.

Our findings support relevant socio-cognitive and socio-environmental theories (Bandura, 2001; Emery, 2000) of cigarette smoking initiation, including social learning theory which emphasizes the importance of the learning process early in life. Our data suggest that children who grow up in a smoking household environment are more likely to initiate smoking through observation and imitation. In this study nearly a quarter of HCHS/SOL participants reported maternal smoking during childhood, and 40% reported smoking by other household members before and after the age of 13 years. Comparisons across ethno-cultural groups showed that the prevalence of both maternal and household smoking was higher for Cubans and Puerto Ricans compared to other Hispanics/Latinos. In support of our hypothesis, these two ethnic groups also had the highest prevalence of current cigarette smoking.

Our data are also consistent with previous cross-sectional and longitudinal studies investigating the association of parental/sibling cigarette smoking with youth smoking (Kandell 2004; Wilkinson, 2008; Hill, 2005; Peterson, 2006; Shih, 2010). Results from longitudinal studies support the association of familial smoking with onset of adolescent smoking (Hill, 2005; Peterson, 2006). A population-based study examined the nine-year prediction of adolescent cigarette smoking by parental smoking status (Peterson, 2006). Their data showed that having one parent who smoked significantly increased the risk of adolescent smoking compared to families with no smoking parents. Moreover, a “dose-response” effect was observed with the risk of child smoking significantly increasing with the number of smoking parents (Peterson, 2006). Together these findings support evidence on the influence of familial smoking on the onset of cigarette smoking, and demonstrate that

smoking behavior tracks from childhood to adulthood (Hill, 2005; Peterson, 2006; Kandell, 2004).

An important consideration is the place of former exposure to HCSB. This study collected data on lifetime HCSB exposure (before and after 13 years of age). Since the majority of HCHS/SOL participants (78%) were foreign-born and the mean age of migration to the US was 27 years (data not shown), it can be implied that part of the former exposure (particularly during childhood) took place in their country of origin. Data from WHO and international studies show that the prevalence of cigarette smoking varied markedly across countries in Latin America (WHO, 2011; Champagne, 2010). The current study's findings are consistent with this reported variation in cigarette smoking across Latin American countries (WHO, 2011; Champagne, 2010).

Our findings demonstrate a wide variation in HCSB exposure and cigarette smoking according to socio-demographic factors. We found that Hispanics/Latinos of lower socioeconomic levels had greater HCSB exposure. These results are consistent with national and international data showing that individuals of lower income carry an overburden of exposure to cigarette smoking (Kaufmann, 2010; US Surgeon General, 2006; WHO, 2011).

It is notable that findings from this landmark and comprehensive study of Hispanics/Latinos are congruent with results from smaller scale studies documenting heterogeneity in cigarette smoking prevalence across Hispanics/Latinos of different country of origin and ethno-cultural backgrounds (CDC, 2011; Markides, 1987; Marin, 1989; Pletsch, 1994; Winkleby, 1995; Pérez-Stable, 2001; Kaplan, 2014). These data highlight the importance of disaggregating Hispanic/Latino ethno-cultural groups, which revealed important differences in the magnitude of the problem of social influences related to cigarette smoking behavior in this population. These findings also suggest that previous prevalence estimates of cigarette smoking for Hispanics/Latinos (largely based on data from Mexican Americans) are likely to be underestimates of the true national prevalence among ethno-culturally diverse Hispanics/Latinos.

With respect to acculturation status, our data showed that Spanish speakers had a higher prevalence of HCSB exposure and cigarette smoking compared to English speakers. In contrast, residing in the US for less than 10 years was associated with lower HCSB exposure and smoking. However, acculturation did not act as a moderator in the association of HCSB exposure and cigarette smoking. The lack of moderating effect may be due in part to the narrow range of acculturation values among HCHS/SOL participants who were largely new immigrants and low acculturated (SASH score = 2). The mechanisms of acculturative processes are complex and deserve further attention in future studies.

This study is not without limitations. It used a cross-sectional study design to evaluate the association of exposure to HCSB (as a proxy for family influences) with current cigarette smoking and causality could not be determined. Second, this study relied on self-reported data, and participants may have underreported HCSB exposure and cigarette smoking. And fourth, some of the survey questions on HCSB exposure asked about exposure as a child, and therefore, data may have been subject to recall-bias. This study's major strengths lie

within the inclusiveness of the HCHS/SOL study population, a large sample of ethno-culturally diverse Hispanics/Latinos living in the US; this allowed us to assess variations in HCSB exposure and smoking across various Hispanic/Latino ethno-cultural backgrounds. In addition, participants were recruited from four geographically diverse US urban centers capturing a more complete picture of the prevalence of HCSB exposure and its association with cigarette smoking in this country. Moreover, the assessment of HCSB exposure included smoking behavior by household members other than the mother, reflecting the household structure of Hispanics/Latinos which often includes extended family members.

Additional investigations on these topics are warranted to further explore differences in HCSB exposure and cigarette smoking among diverse Hispanic/Latino groups. Future research studies should also evaluate knowledge, attitudes, and beliefs about tobacco use in the home environment among diverse Hispanic/Latino groups. Additional information of these topics would be instrumental in developing culturally tailored tobacco-control interventions targeting individuals, households, and communities, particularly those who are socioeconomically disadvantaged.

In conclusion, our data suggest that exposure to HCSB in Hispanics/Latinos living in the US was an independent predictor of adult cigarette smoking, and this association appears to be strongest in Cubans and Puerto Ricans. While progress has been made in reducing exposure to HCSB and cigarette smoking in the US and Latin America, these findings suggest that additional efforts are needed to reduce home HCSB exposure in Hispanics/Latinos in this country and abroad.

Acknowledgments

The authors would like to thank the HCHS/SOL study's staff and participants for their valuable contributions.

Research reported in this paper is supported by contracts from the National Heart, Lung, and Blood Institute (NHLBI- NIH) to the University of Illinois at Chicago (N01-HC65236, M.L. Daviglus, PI), University of North Carolina (N01-HC65233), University of Miami (N01-HC65234), Albert Einstein College of Medicine (N01-HC65235), and San Diego State University (N01-HC65237).

Abbreviations

HCSB	Household Cigarette Smoking Behavior
SHS	Secondhand Smoke
HCHS/SOL	Hispanic Community Health Study/Study of Latinos
SASH	Short Acculturation Scale for Hispanics

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Research Highlights

- Prevalence of childhood exposure to household smoking behavior was 40%.
- Exposure to household smoking behavior was a risk factor for cigarette smoking.
- The association appeared to be strongest for Cubans and Puerto Ricans.

Table 1

Descriptive characteristics for all participants and by Hispanic/Latino group^a

Characteristic	Overall (n=13231)	Dominican (n=1191)	Central American (n=1412)	Cuban (n=1847)	Mexican (n=5643)	Puerto Rican (n=2237)	South American (n=901)	P-value ^b
Age (years)	41.3 (40.8,41.9)	40.1 (38.7,41.5)	39.9 (38.8,40.9)	46.7 (45.6,47.8)	38.5 (37.7,39.2)	43.3 (42.2,44.4)	42.6 (41.1,44.1)	<.001
Gender								
Men	48.9 (47.8,50.1)	39.7 (35.7,43.8)	49.5 (45.7,53.4)	55.9 (53.7,58.1)	47.4 (45.4,49.4)	51 (47.9,54.0)	45.7 (41.7,49.8)	<.001
Women	51.1 (49.9,52.2)	60.3 (56.2,64.3)	50.5 (46.6,54.3)	44.1 (41.9,46.3)	52.6 (50.6,54.6)	49 (46.0,52.1)	54.3 (50.2,58.3)	<.001
Income (\$)								
<20,000	46.8 (44.7,48.8)	54.8 (50.1,59.5)	53.3 (48.9,57.7)	55.2 (51.9,58.6)	38.9 (35.7,42.0)	49.8 (45.9,53.7)	43.7 (39.1,48.2)	<.001
20,000–\$50,000	40.8 (39.4,42.3)	37.4 (33.1,41.7)	38.6 (34.6,42.6)	36.5 (33.5,39.5)	45.6 (43.2,48.0)	35.8 (32.0,39.6)	44.9 (40.6,49.1)	<.001
>50,000	12.4 (10.8,14.0)	7.8 (5.4,10.2)	8.1 (5.7,10.4)	8.3 (6.2,10.4)	15.6 (12.6,18.5)	14.4 (11.9,16.8)	11.5 (8.5,14.4)	<.001
Education								
Less Than High School	31.7 (30.2,33.2)	34.5 (30.9,38.2)	37.4 (33.7,41.1)	20.6 (18.2,23.0)	35.3 (32.7,38.0)	34.5 (31.2,37.7)	21.7 (17.6,25.7)	<.001
High School or Equivalent	28.6 (27.4,29.8)	24.5 (20.4,28.6)	26.7 (23.5,29.9)	29.9 (26.7,33.1)	29.8 (27.7,31.9)	28 (25.4,30.5)	26.6 (22.7,30.5)	0.1
Beyond High School or Equivalent	39.7 (38.0,41.4)	41 (37.2,44.8)	35.9 (32.4,39.4)	49.4 (46.2,52.7)	34.9 (31.7,38.1)	37.6 (34.1,41.0)	51.7 (47.3,56.2)	<.001
Employed	52.9 (51.3,54.4)	51.1 (46.2,56.0)	61.5 (58.1,64.8)	45.7 (42.4,48.9)	58.1 (55.9,60.2)	41.8 (38.7,45.0)	64.5 (60.3,68.8)	<.001
HCHS/SOL Site								
Bronx	26.8 (24.0,29.6)	94.1 (91.5,96.8)	18 (13.1,22.8)	1.3 (0.7,1.9)	7.3 (5.1,9.5)	70.6 (66.4,74.7)	23.3 (17.8,28.9)	<.001
Chicago	16.9	0.9	15.6	1	25.6	22.4	21.6	<.001

Characteristic	Overall (n=13231)	Dominican (n=1191)	Central American (n=1412)	Cuban (n=1847)	Mexican (n=5643)	Puerto Rican (n=2237)	South American (n=901)	P-value ^b
Miami	(14.8,18.9) 27.9 (23.7,32.0)	(0.4,1.4) 4.5 (2.0,7.0)	(11.6,19.5) 62 (54.9,69.2)	(0.0,1.9) 97.2 (95.8,98.6)	(21.8,29.3) 1.2 (0.6,1.7)	(18.7,26.2) 4.8 (3.2,6.4)	(16.3,27.0) 50.2 (43.0,57.4)	<.001
San Diego	28.5 (24.9,32.1)	0.4 (0.0,1.0)	4.4 (2.5,6.4)	0.5 (0.0,1.2)	66 (61.7,70.4)	2.2 (0.9,3.5)	4.8 (1.7,8.0)	<.001
10 Years in U.S.	73.1 (71.4,74.9)	76 (71.8,80.2)	64.4 (60.1,68.7)	54.4 (50.8,58.0)	76.5 (74.2,78.8)	93.5 (91.6,95.4)	59.2 (54.2,64.1)	<.001
Spanish Language	76.2 (74.4,78.0)	78.7 (73.7,83.8)	87.7 (84.5,91.0)	92.9 (91.2,94.7)	77.9 (75.7,80.1)	41 (37.3,44.8)	90.6 (87.5,93.7)	<.001
SASH Score	2.2 (2.1,2.2)	2.1 (2.0,2.2)	1.9 (1.8,1.9)	1.8 (1.7,1.8)	2.1 (2.1,2.2)	2.9 (2.8,2.9)	2 (1.9,2.0)	<.001

Study location/time: Chicago, spring 2014.

^aPercentages and (standard error). Values are weighted for study design and non-response.

^bP-values for group comparisons were calculated using χ^2 tests for categorical variables, and F-tests for continuous variables.

Table 2

Cigarette smoking and exposure to HCSB by Hispanic/Latino group^a

Characteristic	Overall (n=13231)	Dominican (n=1191)	Central American (n=1412)	Cuban (n=1847)	Mexican (n=5643)	Puerto Rican (n=2237)	South American (n=901)	P-value ^b
Cigarette Smoking								
Never	61.7 (60.3,63.0)	76.8 (73.2,80.3)	71.5 (68.1,74.8)	53.7 (50.5,56.9)	64 (61.7,66.3)	50.3 (47.1,53.4)	65.9 (61.7,70.1)	<.001
Former	17.7 (16.7,18.6)	11.8 (9.4,14.2)	14.3 (12.2,16.4)	20 (17.8,22.2)	18.2 (16.5,19.9)	17 (14.3,19.7)	22.4 (19.0,25.8)	<.001
Current	20.7 (19.5,21.9)	11 (8.1,14.8)	14.3 (11.5,17.0)	26.3 (23.5,29.0)	17.8 (15.9,19.6)	32.7 (29.9,35.6)	11.7 (9.0,14.3)	<.001
Cigarette Pack/Year	5.1 (4.7,5.6)	3 (2.4,3.7)	2.8 (2.3,3.3)	11 (9.7,12.2)	2.4 (2.2,2.7)	7.8 (7.0,8.7)	3.7 (2.6,4.7)	<.001
HCSB Exposure								
None	36.3 (34.7,37.8)	39.7 (35.3,44.1)	45.1 (41.6,48.6)	21.8 (19.4,24.2)	42.7 (40.4,44.9)	29.1 (26.0,32.2)	42.6 (38.6,46.6)	<.001
<13 years old	9.9 (9.1,10.7)	14.2 (11.8,16.7)	9.9 (8.0,11.7)	9.1 (7.0,11.2)	9.5 (8.2,10.7)	9.3 (7.6,10.9)	10.1 (7.1,13.2)	<.01
13 years old	12.9 (11.9,13.9)	8.3 (6.2,10.3)	14.9 (12.8,17.0)	9.4 (7.9,11.0)	14.6 (12.7,16.5)	13.8 (11.7,16.0)	15.4 (12.3,18.5)	<.001
< and 13 years old	40.9 (39.3,42.6)	37.8 (33.8,41.9)	30.2 (27.2,33.1)	59.6 (56.4,62.9)	33.3 (31.3,35.3)	47.8 (44.2,51.3)	31.9 (28.0,35.7)	<.001
Maternal Smoking (Yes)	23.1 (21.8,24.4)	26 (22.5,29.6)	15.8 (13.3,18.2)	35.9 (33.0,38.7)	15.3 (13.7,16.9)	30.6 (27.6,33.7)	19.1 (15.7,22.5)	<.001
Current Number of Household Smokers								
None	79.7 (78.3,81.1)	83.7 (79.5,87.9)	83.2 (80.4,86.1)	77.8 (75.3,80.2)	81.3 (79.0,83.6)	72.3 (69.4,75.3)	84.4 (80.7,88.1)	<.001
One or More	20.3 (18.9,21.7)	16.3 (12.1,20.5)	16.8 (13.9,19.6)	22.2 (19.8,24.7)	18.7 (16.4,21.0)	27.7 (24.7,30.6)	15.6 (11.9,19.3)	<.001

Study location/time: Chicago, spring 2014.

^aPercentages and (standard error). Values are weighted for study design and non-response.

χ^2 tests for categorical variables, and F-tests for continuous variables.

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Table 3
Prevalence of cigarette smoking status by exposure to HCSB and social factors among Hispanic/Latino participants^a

Characteristic	Men			Women		
	Never	Former	Current	Never	Former	Current
	2639 47.8%	1446 27.3%	1336 24.9%	5458 69.5%	1217 16.1%	1135 14.3%
			P-value^b			P-value^b
HCSB Exposure						
Never	22.1 (0.8)	6.7 (0.5)	5.9 (0.5)	31.4 (1.0)	3.9 (0.3)	2.4 (0.2)
Former	23.0 (0.8)	13.8 (0.7)	12.0 (0.7)	29.5 (0.8)	7.5 (0.5)	6.4 (0.4)
Current	7.8 (0.6)	2.9 (0.3)	8.7 (0.6)	12.0 (0.6)	1.9 (0.2)	7.2 (0.6)
Age Group						
18–39 yrs.	28.6 (1.0)	6.5 (0.5)	13.4 (0.8)	35.3 (0.9)	3.9 (0.4)	7.0 (0.6)
40–64 yrs	19.7 (0.7)	12.8 (0.6)	11.5 (0.6)	30.2 (0.8)	7.5 (0.4)	7.9 (0.4)
65–74 yrs	3.3 (0.3)	3.3 (0.3)	0.9 (0.2)	5.9 (0.5)	1.5 (0.2)	0.9 (0.2)
Income (\$)						
< 20,000	19.6 (0.9)	9.1 (0.5)	12.9 (0.7)	35.2 (0.9)	7.2 (0.4)	9.3 (0.6)
20,000 – 50,000	22.4 (0.9)	10.3 (0.6)	10.4 (0.6)	28.6 (0.9)	4.6 (0.3)	5.6 (0.4)
> 50,000	9.6 (0.8)	3.2 (0.4)	2.6 (0.3)	7.6 (0.6)	1.2 (0.2)	0.8 (0.2)
Education						
Less Than High School	13.8 (0.7)	8.4 (0.5)	9.1 (0.6)	22.4 (0.8)	3.9 (0.3)	5.7 (0.4)
High School or Equivalent	16.6 (0.7)	5.5 (0.4)	8.5 (0.6)	19.0 (0.8)	3.3 (0.3)	4.4 (0.5)
Beyond High School or Equivalent	21.2 (0.8)	8.7 (0.6)	8.2 (0.6)	30.0 (0.9)	5.7 (0.4)	5.6 (0.4)
HCHS/SOL Site						
Bronx	14.4 (1.0)	4.3 (0.5)	6.4 (0.6)	19.7 (1.1)	3.3 (0.3)	5.4 (0.5)
Chicago	8.9 (0.7)	4.1 (0.3)	4.7 (0.4)	12.5 (0.9)	1.5 (0.1)	2.0 (0.2)
Miami	14.1 (1.1)	7.4 (0.6)	8.4 (0.9)	17.4 (1.4)	3.7 (0.3)	4.7 (0.5)
San Diego	14.2 (1.1)	6.7 (0.7)	6.4 (0.7)	21.7 (1.4)	4.4 (0.5)	3.5 (0.5)
H/L Group						
Mexican	20.1 (1.1)	9.8 (0.7)	10.3 (0.8)	32.7 (1.4)	5.5 (0.5)	4.6 (0.5)
Puerto Rican	8.0 (0.6)	3.2 (0.4)	5.9 (0.5)	8.5 (0.6)	2.4 (0.3)	4.9 (0.4)
Central American	4.5 (0.4)	1.4 (0.2)	1.6 (0.2)	6.1 (0.5)	0.7 (0.1)	0.5 (0.1)

Characteristic	Men			Women		
	Never	Former	Current	Never	Former	Current
	2639 47.8%	1446 27.3%	1336 24.9%	5458 69.5%	1217 16.1%	1135 14.3%
			P-value^b			P-value^b
South American	2.6 (0.3)	1.5 (0.2)	0.7 (0.1)	4.2 (0.3)	0.8 (0.1)	0.5 (0.1)
Cuban	10.4 (0.9)	5.4 (0.5)	6.5 (0.7)	10.5 (1.1)	2.5 (0.3)	3.8 (0.4)
Dominican	5.9 (0.6)	1.3 (0.2)	0.9 (0.2)	9.3 (0.8)	1.1 (0.2)	1.4 (0.3)
Spanish Language						
Spanish	37.8 (1.0)	18.9 (0.7)	18.1 (0.8)	57.6 (1.0)	10.2 (0.5)	9.9 (0.6)
English	13.8 (0.9)	3.7 (0.5)	7.8 (0.6)	13.8 (0.7)	2.7 (0.3)	5.8 (0.5)
Years in US						
< 10 years	14.0 (0.8)	6.2 (0.4)	6.4 (0.5)	20.1 (0.9)	3.5 (0.3)	3.5 (0.4)
10 Years	37.6 (1.1)	16.4 (0.7)	19.4 (0.8)	51.2 (1.0)	9.5 (0.5)	12.2 (0.6)
SASH Score						
<2	23.6 (1.1)	12.0 (0.7)	10.7 (0.9)	40.1 (1.3)	6.2 (0.5)	5.7 (0.7)
2	31.1 (1.3)	10.5 (0.8)	12.1 (0.8)	36.5 (1.3)	5.6 (0.5)	5.9 (0.5)

^aPercentages and (standard error). Values are weighted for study design and non-response.

^bP-values for group comparisons were calculated using χ^2 tests for categorical variables, and F-tests for continuous variables.

Table 4

Association of exposure to HCSB with current cigarette smoking among participants by Hispanic/Latino background groups^a

Exposure to HCSB	Overall (n=13231)	Mexican (n=5643)	Cuban (n=1847)	Puerto Rican (n=2237)	Dominican (n=1191)	Central American (n=1412)	South American (n=901)
	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Model 1 (reference group: never exposed to home HCSB)							
Former	1.8 (1.5,2.1)	1.3 (0.9,1.8)	2 (1.4,2.9)	2.2 (1.5,3.4)	4.5 (2.4,10.2)	1.9 (1.2,3.2)	2 (1.2,3.5)
Model 2 (reference group: never exposed to home HCSB)							
Former	1.7 (1.4,2.0)	1.2 (0.9,1.7)	2.1 (1.4,3.0)	2.2 (1.4,3.3)	4.6 (2.2,9.5)	1.9 (1.2,2.9)	2.1 (1.2,3.6)
Model 3 (reference group: never exposed to home HCSB)							
Former	1.7 (1.4,2.1)	1.4 (1.0,2.0)	2.1 (1.4,3.0)	2.5 (1.4,4.4)	2.8 (1.4,5.7)	1.7 (1.1,2.7)	2.1 (1.3,3.6)

Study location/time: Chicago, spring 2014.

^aOdd Ratios are weighted for study design and nonresponse.

Model 1: Analyses were adjusted for age, gender, education level, income and HCHS/SOL field center.

Model 2: Analyses were adjusted for age, gender, education level, income, occupational SHS exposure, language preference, length of stay in the U.S., SASH Score and HCHS/SOL field center.

Model 3: Analyses were adjusted for age, gender, education level, income, occupational SHS exposure, language preference, length of stay in the U.S., exposure to HCSB, SASH Score, exposure to HCSB × SASH Score, and HCHS/SOL field center.