

Television Viewing in Low-Income Latino Children: Variation by Ethnic Subgroup and English Proficiency

Darcy A. Thompson, MD, MPH,¹ Pamela A. Matson, PhD, MPH,²
and Jonathan M. Ellen, MD²

Abstract

Background: Television viewing is associated with an increased risk for obesity in children. Latino children are at high risk for obesity and yet little is known about differences in television viewing habits within this population. The purpose of this study is to determine if hours of television viewed by young children with low-income Latina mothers differs by maternal ethnic subgroup and English language proficiency.

Methods: This was a cross-sectional analysis of data from the *Welfare, Children, & Families: A Three City Study*. Participants were 422 low-income Latina mothers of Mexican and Puerto Rican descent with children ages 0–4 years old. The dependent variable was hours of daily television viewed by the child. The independent variable was maternal ethnic subgroup and English language proficiency. Analyses involved the use of multiple negative binomial regression models, which were adjusted for demographic variables.

Results: Multivariable regression analyses showed that compared to children with mothers of Mexican descent, children of mothers of Puerto Rican descent watch more daily television (<2 years old, incidence rate ratio (IRR)=4.18, 95% confidence interval (CI) 1.68, 10.42; 2–4 years, IRR = 1.54, 95% CI 1.06, 2.26). For children with mothers of Mexican descent, higher maternal English language proficiency was associated with higher amounts of child television viewing (IRR = 1.29, 95% CI 1.04, 1.61). No relationship was found for children of Puerto Rican descent.

Conclusions: Child television viewing varies in low-income Latino children by maternal ethnic subgroup and English language proficiency. Interventionists must consider the varying sociocultural contexts of Latino children and their influence on television viewing.

Introduction

Children who frequently watch television are more likely to become overweight and obese than children who watch less television.^{1,2} Given that Latino preschool children are at greater risk for obesity than other children,³ understanding television viewing in this population is warranted. While there is considerable literature regarding the television viewing habits of white and African American children,^{4–7} there is limited research on television viewing in Latino children. Furthermore, none of this work takes into account the ethnic subgroups of Latinos.

Latinos are a heterogeneous population made up of individuals descending from many different places of origin. Those of Mexican descent are the predominant

population of Latinos in the United States, 64% of the US Latino population, but other groups such as Puerto Ricans (9%) are also highly represented in the Latino population.⁸ More and more research is starting to demonstrate that health beliefs and health behaviors differ within the Latino population by ethnic subgroups.^{9–11} Additionally, evidence suggests that if such within-group heterogeneity is overlooked, interventions may fail to be effective for certain groups of Latinos. For example, a study by Borrelli et al. found that certain pretreatment factors known to be associated with poor smoking cessation outcomes varied between Puerto Rican and Dominican smokers.¹² This suggests a need to consider within-group differences when designing interventions targeting Latinos.

¹Department of Pediatrics, University of Colorado School of Medicine, Aurora, CO.

²Department of Pediatrics, Johns Hopkins University School of Medicine, Baltimore, MD.

The English language proficiency of Latinos in the United States has also been found to be associated with varying health behaviors and outcomes.^{10,13,14} Prior work has shown increased television viewing in children of English-speaking compared to Spanish-speaking Latina mothers in children less than 3 years of age.¹⁵ This may reflect the relationship of English language proficiency with varying sociocultural characteristics and contexts.^{16,17} English language proficiency may be related to or impact family beliefs about television viewing, access to media, and activity norms. However, differences of this relationship within Latino ethnic subgroups to our knowledge have not been examined.

Using data from the *Welfare, Children, & Families* study, we sought to determine if hours of daily television viewed by young children with low-income Latina mothers differ by maternal ethnic subgroup. We also examined whether viewing differs by English language proficiency within these maternal ethnic subgroups.

Methods

We conducted a cross-sectional analysis of data from Wave 1 of the longitudinal study *Welfare, Children, & Families: A Three City Study*.^{18,19} The methods of the *Three City Study* have been published previously.¹⁸ Briefly, this was a household-based stratified random sample survey of over 2400 low-income mother/child dyads living in low-income neighborhoods in Boston, Chicago, and San Antonio. Participants were required to have an income below 200% of the poverty line. Randomly selected focal children were aged either birth to 5 years or 10 to 15 years. Wave 1 was collected in 1999 using door-to-door interviews conducted in either English or Spanish, based on the respondent's preference. The analyses here use only data from Wave 1 for participants self-identifying as Hispanic, Spanish, or Latina with a focal child aged birth to 4 years ($n=583$). Data from respondents not identifying themselves as the natural or adoptive mother of the child of interest were not used ($n=18$). The Johns Hopkins School of Medicine Institutional Review Board determined this analysis to be exempt from review because the database is publicly available.

Dependent Variable—Number of Hours of Daily Television Viewed by the Child

Respondents were asked: "On average, how many hours per day does [CHILD] watch TV?" Responses were captured as integer values and any value above 16 hours a day was considered an outlier ($n=1$) and was dropped from the analyses. Television viewing assessed in survey formats has been found to be moderately correlated with more intense measurement methods (*i.e.*, 24-hour recall and a 7-day log),^{20,21} and the reliability is acceptable with one study showing a test-retest correlation ranging from 0.61 to 0.68²¹ and another reporting a range of 0.79 to 0.94.²²

Main Independent Variable—Maternal Ethnic Subgroup (Mexican and Puerto Rican) and Self-Reported Spoken English Language Proficiency

The main independent variable was created based on the maternal report of ethnic subgroup using the following question: Which of the following groups best describes you? Are you Cuban, Dominican, Mexican, Puerto Rican, or other? Those not responding Mexican or Puerto Rican were dropped due to small numbers in each group (Cuban, $n=5$; Dominican, $n=74$; other, $n=48$) as were those with no response ($n=1$). Subgroups therefore included Latinas of Mexican and Puerto Rican descent. We used the mother's versus the child's ethnicity and ethnic subgroup because it is more likely to represent the sociocultural environment of a child 0–4 years old, and therefore more likely to be a determinant of the television viewing habits of these children.

English language proficiency was determined using data from two questions. Respondents were asked if their first language was English. Those responding yes ($n=231$) were labeled as speaking English "very well." Those responding "no" were asked "How well do you speak English? (very well, pretty well, not very well, not at all)." Data were used as a continuous variable (not at all=1 to very well=4). These questions are similar to questions used in the US Census and have been reported to be strongly correlated with scores on formal testing of proficiency.²³

Covariates—Child Age and Sex, Maternal Education Level, Age, Marital Status, and City of Residence

Demographic covariates were selected and included in the final model to control for subgroup compositional differences. The covariates included the child's age (continuous) and sex (male, female), and maternal education level (8th grade or less, 9th to some of 12th grade, GED or high school diploma, more than high school), age (continuous), marital status (married or not), and city of residence (Boston, Chicago, and San Antonio). For all covariates, responses of "don't know" and refusals were recoded as missing for the analyses.

Analyses

Descriptive statistics and comparative analyses were conducted stratified by maternal ethnic subgroups. Demographic characteristics were tested for differences using adjusted chi-squared tests and analysis of variance (ANOVA).

Because the dependent variable hours of television viewing per day is a rate, a Poisson regression model was used. Exploratory analysis of the dependent variable—hours of daily television viewed by the child—demonstrated a nonnormal and overdispersed distribution requiring the use of a negative binomial model.²⁴ As is commonly done with both Poisson and negative binomial regression models, the regression coefficients were exponentiated and are reported as incidence rate ratios (IRR)

to ease interpretation. The first regression model was used to determine the independent associations between the two maternal ethnic subgroups and number of hours of daily television viewed by the child. In this regression, children with mothers of Puerto Rican descent were compared to children with mothers of Mexican descent as the reference group. For the first regression analysis, the IRR would be interpreted as the relative difference in the rate (hours/day) of television viewing for children of mothers of Puerto Rican descent compared to children of mothers of Mexican descent, adjusting for all other factors in the model. For example, an IRR of 2.0 would indicate that children of mothers of Puerto Rican descent view twice the rate (hours/day) of television as children of mothers of Mexican descent. Due to the impact of child age and development on viewing in the age range of children in this study, we tested for an interaction between child age and ethnic subgroup. The results suggest the possibility of effect modification ($p < 0.05$), and thus the regression results are stratified by child age: < 2 years and 2–4 years.

Analysis of whether viewing differs by English language proficiency was stratified by ethnic subgroup, supported by results of testing for an interaction between ethnic subgroup and English language proficiency in the regression model ($p < 0.05$). Two regression models, one for each group of mothers (Mexican and Puerto Rican descent), were conducted to determine within each maternal ethnic subgroup the independent association of maternal English language proficiency and number of hours of daily television viewed by the child. With this stratification by ethnic subgroup, the representation of participants in each of the three cities was found to be limited, leaving some cities with only 2 participants in a city. Because of the inability to make comparisons with such small numbers in a group, 4 women within the ethnic subgroups were dropped for these final analyses. This included the 2 mothers of Mexican descent in Boston and the 2 mothers of Puerto Rican descent in San Antonio.

All statistical analyses were performed using Stata (Intercooled Stata 10.1, StataCorp LP, College Station, TX). Renormalized weights were used to adjust for the complex sampling design and the subsample analyses, as recommended by the lead investigators of the study *Welfare, Children, & Families*.²⁵

Results

Among the 437 mothers identifying as Mexican or Puerto Rican with a focal child ages birth to 4 years old, 3% ($n = 14$) were excluded because they were missing data from one of the covariates and 1 was excluded for being an outlier (television viewing > 16 hours/day). The final study population was 422.

Of the 422 respondents, 283 (67%) were mothers of Mexican descent and 139 (33%) were of Puerto Rican descent. Characteristics of each subgroup are presented in

Table 1. The average hours of daily television viewed by children with low-income mothers in the two ethnic subgroups are also shown in Table 1 stratified by child age.

In a multivariable regression model evaluating the association of maternal ethnic subgroup with daily child television viewing in children < 2 years, adjusting for demographic factors, analyses showed that low-income children of Puerto Rican descent watch more daily television than children with mothers of Mexican descent (Table 2). Among children less than 2 years old, the rate of television viewing is expected to be 4.18 times greater for

Table 1. Characteristics of Respondents by Maternal Ethnic Subgroup ($n = 422$)^a

Characteristics	Mexican ($n = 283$)	Puerto Rican ($n = 139$)
Child age		
Mean in years	2.0	2.2
(95% confidence interval)	(1.7–2.3)	(1.8–2.5)
Child male sex	45%	39%
Maternal marital status*		
Not married	40%	85%
Maternal education*		
< 9 th grade	22%	5%
9 th to some of 12 th grade	27%	20%
GED or high school diploma	27%	35%
More than high school	23%	39%
Maternal spoken English		
Proficiency*		
Not at all	10%	2%
Not very well	19%	6%
Pretty well	12%	18%
Very well	59%	75%
City		
Boston	1%	88%
Chicago	46%	11%
San Antonio	53%	< 1%
Reported hours of daily television viewed by child		
(95% confidence interval)		
< 2 year olds ($n = 178$)	1.0 (0.7–1.3)	2.2 (1.4–3.0)
2 to 4 year olds ($n = 244$)	3.3 (2.8–3.8)	4.0 (3.3–4.7)

^aAll results are weighted

* $p < 0.05$

Note: All characteristics tested for differences except for the variables City and Hours of daily television. Percentages may not add up to 100% due to rounding.

Table 2. Regression Model of Hours of Daily Television by Maternal Ethnic Subgroup

Children with mothers of	Children 0–1 year old (n=178)		Children 2–4 years old (n=244)	
	Unadjusted IRR (95% confidence interval)	Adjusted ^a IRR (95% confidence interval)	Unadjusted IRR (95% confidence interval)	Adjusted ^a IRR (95% confidence interval)
Mexican descent	Referent	Referent	Referent	Referent
Puerto Rican descent	2.33 (1.45–3.73)	4.18 (1.68–10.42)	1.22 (0.98–1.53)	1.54 (1.06–2.26)

^aAdjusted for child age and sex, and maternal age, education level, marital status, and city of residence.

IRR, Incidence rate ratio.

children with mothers of Puerto Rican descent [IRR = 4.18, 95% confidence interval (CI) 1.68, 10.42], compared to children with mothers of Mexican descent, holding demographic factors constant in the model. The model evaluating the same relationship in children aged 2–4 years, found the same direction of relationship but with a lower magnitude (Table 2). Among children 2–4 years old, the rate of television viewing is expected to be 1.54 times greater for children with mothers of Puerto Rican (IRR = 1.54, 95% CI 1.06, 2.26) descent, compared to children with mothers of Mexican descent, holding demographic factors constant in the model.

Using two separate multivariable regression models, analyses showed different relationships between maternal English language proficiency and child's daily television viewing within the two ethnic subgroups (see Table 3). Analyses showed that in mothers of Mexican descent higher English language proficiency is associated with their child watching more television (IRR = 1.29, 95% CI 1.04, 1.61), holding demographic factors constant in the model. No relationship between maternal English language proficiency and television viewing was found for children with mothers of Puerto Rican descent.

Discussion

Among children of low-income Latina mothers of Mexican and Puerto Rican descent, the amount of daily

television viewed varies by maternal ethnic subgroup. Children of low-income Puerto Rican mothers watch on average more daily television than children with mothers of Mexican descent. This relationship is stronger for children under 2, but still exists in 2–4 year olds. These findings add to the growing evidence demonstrating the influence of context and culture on viewing habits in young children with low-income Latina mothers.¹⁵ They also support the growing evidence for the need to consider the within-group heterogeneity of Latinos in the design of health interventions.¹²

Children's television viewing habits are greatly influenced by the environment around them. For example, the number of televisions in a home, the presence of a television in a child's bedroom, parental viewing habits, the existence of viewing limits, and parental perception of neighborhood safety are all associated with children's viewing habits.^{26–29} Differences in any of these factors or other factors may be cause for the differences in viewing found between low-income children with mothers of Mexican versus Puerto Rican descent. Differences in the social and geographical context of these groups are well documented. Beyond tending to settle in different parts of the country, Puerto Ricans overall have higher educational attainment, are more likely to be unemployed, are more concentrated in the Northeast, are more likely to speak English well, and are more likely to have smaller family sizes.^{30–32} Differences in parenting habits between these

Table 3. Regression Models of Hours of Daily Television by Maternal English Language Proficiency Stratified by Maternal Ethnic Subgroup

Mothers of Mexican descent (n=281)	Unadjusted IRR (95% confidence interval)	Adjusted ^a IRR (95% confidence interval)
English language proficiency ^b	1.25 (1.05–1.49)	1.29 (1.04–1.61)
Puerto Rican descent (n=137)		
English language proficiency ^b	1.08 (0.83–1.40)	1.03 (0.82–1.30)

^aAdjusted for child age and sex, and maternal age, education level, marital status, and city of residence.

^bResponses to question on spoken English language ability ranged from 1=not at all to 4=very well.

IRR, Incidence rate ratio.

groups due to contextual or cultural influences may also vary.

The finding that higher levels of maternal English language proficiency in low-income mothers of Mexican descent are associated with increased amounts of child television viewing was not unexpected. Many studies have found healthier behaviors in less acculturated and limited-English-proficient Latinos.^{10,13,14} Two studies have suggested that either lower acculturation levels or Spanish language preference are associated with less TV viewing.^{15,33} Language use or proficiency may reflect different sociocultural contexts including varying access to media.

For children with mothers of Puerto Rican descent, there was no relationship between maternal English language proficiency and child daily television viewing. Reasons for this were not evaluated in this study; however, one could also hypothesize that cultural and contextual influences on television viewing do not vary greatly by language proficiency for low-income children with mothers of Puerto Rican descent. Puerto Rico, as a territory of the United States, is heavily influenced by the mainland US culture. It is possible that viewing in Puerto Rico is similar to that in the mainland US, and thus English language proficiency, which is related to years in the United States and acculturation, is not associated with hours viewed. It also may be that English language proficiency in this group is not associated with contextual forces that would affect television viewing, such as neighborhood safety or other environmental influences. Additionally, it may be that the smaller sample size of Puerto Ricans or the limited variance of English language proficiency in this sample prevented us from finding an association.

Our findings contribute to the growing literature focused on understanding the television viewing habits of Latino children.^{15,34-41} Yet, our findings focus on just one aspect of viewing—the amount. To combat childhood obesity, interventions must focus on the amount of viewing as well as the context of viewing.^{1,42,43} Important work has been done looking at the context of viewing in Latino families. Work by Andaya et al. evaluated television viewing during family meals in a largely Latino sample of early elementary school children in southern California and found that children who rarely or never view the television during family meals are less likely to consume soda or chips.³⁵ Other studies show that many Latino children have TVs in their bedroom,^{37,44} a practice that has been shown to be associated with increased viewing in Latino children.³⁷ Additionally, other work suggests the important role parents play in influencing the amount of viewing and the impact of viewing.^{39,45} Our present findings emphasize the need to examine how viewing contexts and their influence on behaviors may vary within ethnic subgroups.

There are a few limitations of this study that warrant mention. Data in this study regarding children's television viewing habits are limited to daily hours viewed. Further work is needed to evaluate whether content viewed, language of programs viewed, or the context for viewing (*e.g.*,

child's bedroom) varies by ethnic subgroup or maternal English language proficiency. Both content and context have been linked to poor health outcomes.^{43,46} Additionally, we rely on maternal report as our measure of child television viewing. This is most likely not exact; however, prior studies have found moderate correlation between such reports and hours viewed, as noted by logs or video-recorded observations.^{20,21,47} Nevertheless, there is nothing to suggest that the data are systematically biased. These analyses are also limited to evaluating television viewing in children of Latina mothers in only two ethnic subgroups. There is obviously much greater heterogeneity to be explored within this population. Future research is needed to examine the underlying mechanism driving the observed relationship among these heterogeneous subgroups.

Conclusion

The need to culturally adapt evidence-based interventions is well accepted.^{48,49} Our findings call for a consideration of the within-group heterogeneity of low-income Latinos when developing interventions focused on reduction in television viewing in Latino children. At this time, this does not mean that a different intervention design is needed for each ethnic subgroup of families. The evidence at this point is limited, and such an approach may not be feasible.⁴⁹ Yet we need to further evaluate the varying sociocultural contexts of Latino subgroups and the potential influence of such contexts on television viewing behaviors amongst Latino children and families. Interventionists who include Latino participants in their studies should appreciate the heterogeneity of this population and should consider exploring whether such within-group differences are associated with preintervention characteristics or differences in outcomes. Only with such consideration will we be able to better understand viewing behaviors and contexts and the need for cultural adaptations for specific subgroups.

Acknowledgments

This research uses data from the Three Cities Study, whose Principal Investigator is Andrew J. Cherlin. The Three Cities Study is a longitudinal study and data collection with major funding provided by the National Institute of Child Health and Human Development with additional support from numerous government agencies and private foundations. Persons interested in obtaining data files from the Three Cities Study should contact the Inter-Consortium for Social and Political Research, The University of Michigan, Institute for Social Research, P.O. Box 1248, Ann Arbor, MI 48106-1248, netmail@icpsr.umich.edu.

Support for this study was provided to the primary author by the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) of the

National Institutes of Health (NIH) (K23HD060666). Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the NICHD or NIH.

Author Disclosure Statement

No competing financial interests exist for any of the authors.

References

- Robinson TN. Reducing children's television viewing to prevent obesity: A randomized controlled trial. *JAMA* 1999;282:1561–1567.
- Mendoza JA, Zimmerman FJ, Christakis DA. Television viewing, computer use, obesity, and adiposity in US preschool children. *Int J Behav Nutr Phys Act* 2007;4:44–54.
- Kimbrow RT, Brooks-Gunn J, McLanahan S. Racial and ethnic differentials in overweight and obesity among 3-year-old children. *Am J Public Health* 2007;97:298–305.
- Ford BS, McDonald TE, Owens AS, et al. Primary care interventions to reduce television viewing in African-American children. *Am J Prev Med* 2002;22:106–109.
- Outley CW, Taddese A. A content analysis of health and physical activity messages marketed to African American children during after-school television programming. *Arch Pediatr Adolesc Med* 2006;160:432–435.
- Stroman CA. Television's role in the socialization of African American children and adolescents. *J Negro Educ* 1991;60:314–327.
- Zimmerman FJ, Christakis DA, Meltzoff AN. Television and DVD/Video viewing in children younger than 2 years. *Arch Pediatr Adolesc Med* 2007;161:473–479.
- Brodie M, Suro R, Steffenson A, et al. 2002 National Survey of Latinos. No. 3300. Pew Hispanic Center/Kaiser Family Foundation. 2002. Available at <http://pewhispanic.org/files/reports/15.pdf>. Last accessed December 2, 2012.
- Davis AM, Kreutzer R, Lipsett M, et al. Asthma prevalence in Hispanic and Asian American ethnic subgroups: Results from the California healthy kids survey. *Pediatrics* 2006;118:e363–e370.
- Bates LM, Acevedo-Garcia D, Alegria M, et al. Immigration and generational trends in body mass index and obesity in the United States: Results of the national Latino and Asian American survey, 2002–2003. *Am J Public Health* 2008;98:70–77.
- Gordon-Larsen P, McMurray RG, Popkin BM. Adolescent physical activity and inactivity vary by ethnicity: The national longitudinal study of adolescent health. *J Pediatr* 1999;135:301–306.
- Borrelli B, Hayes RB, Gregor K, et al. Differences in smoking behavior and attitudes among Puerto Rican, Dominican, and non-Latino white caregivers of children with asthma. *Am J Health Promot* 2011;25:S91–S95.
- Kaiser LL, Melgar-Quinonez HR, Lamp CL, et al. Acculturation of Mexican-American mothers influences child feeding strategies. *J Am Diet Assoc* 2001;101:542–547.
- Cabrera NJ, Shannon JD, West J, et al. Parental interactions with Latino infants: Variation by country of origin and English proficiency. *Child Dev* 2006;77:1190–1207.
- Thompson DA, Sibinga EMS, Jennings JM, et al. Television viewing by young Hispanic children: Evidence of heterogeneity. *Arch Pediatr Adolesc Med* 2010;164:174–179.
- Kossoudji SA. English language ability and the labor market opportunities of Hispanic and east Asian immigrant men. *J Labor Econ* 1988;6:205–228.
- Kirkman-Liff B, Mondragon D. Language of interview: Relevance for research of southwest Hispanics. *Am J Public Health* 1991;81:1399–1404.
- Winston P, Angel RJ, Burton LM, et al. *Welfare, Children, & Families: A Three City Study, Overview and Design*. Johns Hopkins University: Baltimore, MD, 1999.
- Angel R, Burton L, Chase-Lansdale P, et al. Welfare, children, and families: A three-city study. 2009. Available at <http://dx.doi.org/10.3886/ICPSR04701.v7/>. Last accessed December 2, 2012.
- Gortmaker SL, Peterson K, Wiecha J, et al. Reducing obesity via a school-based interdisciplinary intervention among youth: Planet health. *Arch Pediatr Adolesc Med* 1999;153:409–418.
- Schmitz KH, Harnack L, Jacobs DR, et al. Reliability and validity of a brief questionnaire to assess television viewing and computer use. *J Sch Health* 2004;74:370–377.
- Robinson TN, Killen JD. Ethnic and gender differences in the relationships between television viewing and obesity, physical activity, and dietary fat intake. *J Health Educ* 1995;26:S91–S98.
- Kominski R. How good is 'How well'? an examination of the census English-speaking ability question. *Annual meeting of the American Statistical Association*. 1989. Available at www.census.gov/population/socdemo/language/ASApaper1989.pdf. Last accessed December 2, 2012.
- Cameron AC, Trivedi PK. *Regression Analysis of Count Data*. Cambridge University Press: Cambridge, 1998.
- Cherlin AJ, Fomby P, Moffitt RA. Weight construction and usage in wave one of the three-city study. March 2002. Available at www.icpsr.umich.edu/files/3CITIES/weighting.pdf. Last accessed December 2, 2012.
- Barr-Anderson DJ, van den Berg P, Neumark-Sztainer D, et al. Characteristics associated with older adolescents who have a television in their bedrooms. *Pediatrics* 2008;121:718–724.
- Barradas DT, Fulton JE, Blanck HM, et al. Parental influences on youth television viewing. *J Pediatr* 2007;151:369–373.
- Carlson SA, Fulton JE, Lee SM, et al. Influence of limit-setting and participation in physical activity on youth screen time. *Pediatrics* 2010;126:e89–e96.
- Burdette HL, Whitaker RC. A national study of neighborhood safety, outdoor play, television viewing, and obesity in preschool children. *Pediatrics* 2005;116:657–662.
- Chapa J, De La Rosa B. Latino population growth, socioeconomic and demographic characteristics, and implications for educational attainment. *Educ Urban Soc* 2004;36:130–149.
- Chapa J, Valencia RR. Latino population growth, demographic characteristics, and educational stagnation: An examination of recent trends. *Hisp J Behav Sci* 1993;15:165–187.
- Marotta SA, Garcia JG. Latinos in the United States in 2000. *Hisp J Behav Sci* 2003;25:13–34.
- Kennedy CM. Television and young Hispanic children's health behaviors. *Pediatr Nurs* 2000;26:283–294.
- Gallagher MR. Maternal perspectives on lifestyle habits that put children of Mexican descent at risk for obesity. *J Spec in Pediatr Nurs* 2010;15:16–25.
- Andaya AA, Arredondo EM, Alcaraz JE, et al. The association between family meals, TV viewing during meals, and fruit,

- vegetables, soda, and chips intake among Latino children. *J Nutr Educ Behav* 2011;43:308–315.
36. Lindsay AC, Sussner KM, Greaney ML, et al. Influence of social context on eating, physical activity, and sedentary behaviors of Latina mothers and their preschool-age children. *Health Educ Behav* 2008;36:81–96.
 37. Feng D, Reed DB, Esperat MC, et al. Effects of TV in the bedroom on young Hispanic children. *Am J Health Promot* 2011;25:310–318.
 38. Tomopoulos S, Dreyer BP, Valdez P, et al. Media content and externalizing behaviors in Latino toddlers. *Ambul Pediatr* 2007;7:232–238.
 39. Ayala GX, Baquero B, Arredondo EM, et al. Association between family variables and Mexican American children's dietary behaviors. *J Nutr Educ Behav* 2007;39:62–69.
 40. Borzekowski DLG, Poussaint AF. Latino American preschoolers and the media. The Annenberg Public Policy Center: University of Pennsylvania, 1998, Report 24.
 41. Tanasescu M, Ferris AM, Himmelgreen DA, et al. Biobehavioral factors are associated with obesity in Puerto Rican children. *J Nutr* 2000;130:1734–1742.
 42. Dietz WH, Gortmaker SL. Preventing obesity in children and adolescents. *Annu Rev Public Health* 2001;22:337–353.
 43. Dennison BA, Erb TA, Jenkins PL. Television viewing and television in bedroom associated with overweight risk among low-income preschool children. *Pediatrics* 2002;109:1028–1035.
 44. Taveras EM, Hohman KH, Price S, et al. Televisions in the bedrooms of racial/ethnic minority children: How did they get there and how do we get them out? *Clin Pediatr (Phila)* 2009;48:715–719.
 45. Springer AE, Kelder SH, Barroso CS, et al. Parental influences on television watching among children living on the Texas–Mexico border. *Prev Med* 2010;51:112–117.
 46. Zimmerman FJ, Bell JF. Associations of television content type and obesity in children. *Am J Public Health* 2010;100:334–340.
 47. Anderson DR, Field DE, Collins PA, et al. Estimates of young children's time with television: A methodological comparison of parent reports with time-lapse video home observation. *Child Dev* 1985;56:1345–1357.
 48. Kreuter MW, Lukwago SN, Bucholtz RD, et al. Achieving cultural appropriateness in health promotion programs: Targeted and tailored approaches. *Health Educ Behav* 2003;30:133–146.
 49. Lau AS. Making the case for selective and directed cultural adaptations of evidence-based treatments: Examples from parent training. *Clin Psychol-Sci Pr* 2006;13:295–310.

Address correspondence to:

Darcy A. Thompson, MD, MPH

Assistant Professor of Pediatrics

Department of Pediatrics, Section of Nutrition

University of Colorado School of Medicine

University of Colorado Anschutz Medical Campus

Mail Stop F561

12631 East 17th Avenue, Room 2605

Aurora, CO 80045

E-mail: Darcy.Thompson@ucdenver.edu