Published in final edited form as:

Eat Behav. 2008 April ; 9(2): 251–256.

Dietary Fat Intake among Urban, African American Adolescents

Jennifer Di Noia^a, Steven P. Schinke^a, and Isobel R. Contento^b

^aColumbia University School of Social Work, 1255 Amsterdam Avenue, New York, NY 10027, USA

^bTeacher's College, Columbia University, 525 West 120th Street, Box 137, New York, NY 10027, USA

Abstract

This study examined commonly consumed high-fat food sources to estimate dietary fat intake among 314 urban, African American adolescents (mean age (SD) = 12.57 (.98) years; 66% female; 91% African American non-Hispanic; and 9% African American Hispanic). Youths' fat intake was measured using the Block Fat Screener. Most (77%) participants had diets very high in fat (i.e., 40% to 50% of energy). Mean frequencies of consumption revealed youths' preferences for the following high-fat food items: corn chips, potato chips, popcorn, and crackers; fried chicken; and doughnuts, pastries, cake, and cookies. Total fat intake differed based on youths' age. Urban, African American adolescents can benefit from intervention to lower their fat intake. Programs that target and address the food preferences and eating habits of this population are clearly needed.

Keywords

Dietary fat intake; African Americans; adolescents

1. Introduction

The total amount and types of fat in the diet affect risk for cardiovascular diseases, non-insulin-dependent diabetes, and obesity (Bray, Paeratakul, & Popkin, 2004), and obesity raises risk for coronary heart disease, stroke, high blood pressure, and cancer (McCullough & Giovanucci, 2004; Michels, 2005). Compared with Whites, African Americans have a higher prevalence rate of non-insulin-dependent diabetes and higher mortality rates from diseases of the heart and stroke (National Center for Health Statistics [NCHS], 2006a; Centers for Disease Control and prevention [CDC], 2005). African Americans have higher cancer incidence and mortality rates than any other US ethnic or racial group (American Cancer Society, 2006), and nearly half (45%) of African American adults are obese (National Center for Health Statistics [NCHS], 2006b).

Overweight and obesity in childhood track into adulthood (Deshmukh-Taskar et al., 2006; Serdula et al., 1993; Wang, Ge, & Popkin, 2003; Whitaker, Wright, Pepe, Seidel, & Dietz, 1997). There is also evidence of early consolidation and tracking of dietary intake patterns and food choice behaviors (Kelder, 1994; Wang, Bentley, Zhai, & Popkin, 2002). Thus, early intervention to promote the adoption of a low-fat diet among African American adolescents

Address correspondence to: Jennifer Di Noia, Ph.D., Columbia University School of Social Work, 1255 Amsterdam Avenue, New York, NY 10027; 212 851-2279 (Telephone); 212 851-2205 (Fax); jd201@columbia.edu (E-mail).

Publisher's Disclaimer: This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

can influence youths' long-term dietary behaviors and reduce their risk of developing a variety of adverse health conditions.

Essential to the development of programs to lower youths' fat intake is understanding of fat intake patterns and food sources that contribute to youths' fat intake. Previous studies have shown that African American adolescents have higher mean intakes of total fat than do White adolescents (Befort et al., 2006), and that fewer African American adolescents meet dietary recommendations for fat intake than do White, Asian American, and Hispanic adolescents (Neumark-Sztainer, Story, & Perry, 2001; Neumark-Sztainer, Story, Hannan, & Croll, 2002). Child and adolescent total fat intake is associated with participation in such high-fat practices as adding fat to foods and consuming high-fat foods (Cullen, Lara, & de Moor, 2002; Lee, Mitchell, Smicklas-Wright, & Birch, 2001). African and Mexican American adolescents use low-fat food substitutes and engage in such low-fat behaviors as removing chicken skin and meat fat before consumption than do European American adolescents (Cullen, Lara, & de Moor, 2002).

Studies with adults reveal that African Americans obtain a large proportion of their total fat from higher-fat luncheon meats and bacon, higher-fat (mainly fried) poultry dishes, egg items, and seafood (Popkin, Siega-Riz, Haines, & Jahns, 2001). Compared with White women, African American women consume less fat from dairy foods, mixed dishes, and vegetables or salads and more fat from red meat, poultry, and fish (Kristal, Shattuck, & Patterson, 1999). Urban, African American women are frequent consumers of such high-fat foods as breakfast and luncheon meats, desserts and ice cream, and chips, fries, and crackers (Kayrooz, Moy, Yanek, & Becker, 1988). Given the concordance of parental and adolescent dietary behaviors (Cullen, Lara, & de Moore, 2002; Rossow & Rise, 1994), it is reasonable to expect similarities between the high-fat food preferences of African American adults and those of African American adolescents. Notwithstanding data on ethnic-racial variations in adolescent fat intake, population-specific studies of adolescent high-fat food preferences are lacking. The purposes of this study were to examine dietary fat intake among a sample of urban, African American adolescents and to determine commonly consumed food sources of fat in this population.

2. Method

2.1 Participants

Participants were recruited through youth services agencies located in Philadelphia, Pennsylvania. Youth services agencies were private nonprofit organizations that provided youths with such human services as school dropout prevention, substance abuse prevention, recreation, educational tutoring, computer literacy training, and youth club activities. The agencies were located in communities in which 20% or more of families had incomes below the Federal poverty level.

Selection criteria for study participation were African American racial heritage and aged 11 to 14 years. Following Institutional Review Board approval, eligible youths provided written assent and obtained informed written consent from a parent or guardian. For their participation, youths received a \$20 honorarium.

2.2 Materials and procedure

Participants were administered a brief questionnaire under the direction of trained research staff. The questionnaire assessed youths' demographic characteristics and fat intake. Youths reported their gender, age, and ethnicity (Hispanic/non-Hispanic). Fat intake was measured via the Block Fat Screener (Block, Gillespie, Rosenbaum, & Jenson, 2000). This 17-item

instrument includes the top sources of fat in the diets of Americans as determined by national surveys and research. Spearman correlations between fat intake estimates derived from the screener and estimates derived from the Block 100-item Food Frequency Questionnaire were at or above .60 in a sample of adults; sensitivity, specificity, and positive predictive values were 52%, 93%, and 57%, respectively (Block, Gillespie, Rosenbaum, & Jenson, 2000). Although the screener was validated with adults (Block, Clifford, Naughton, Henderson, & McAdams, 1989; Block, Gillespie, Rosenbaum, & Jenson, 2000), it has been used to measure fat intake in other adolescent samples (Neutzling, Araujo, Vieira, Hallal, & Menezes, 2007; Ayala et al., 2007).

Youths reported their frequency of consumption of items included in the measure using response options ranging from 0 (once a month or less) to 4 (five or more times a week). Item ratings were summed to derive a total score. Scores at or below seven on this scale indicate very low fat intake (i.e., less than 25% of energy). Scores between 8 and 14 indicate average fat intake (i.e., between 30% and 35% of energy). Scores between 15 and 22 indicate high fat intake (i.e., above 35% of energy). Scores above 23 indicate very high fat intake (i.e., 40% to 50% of energy).

2.3 Analysis

Data were analyzed using SPSS for Windows version 12.0.1. Descriptive statistics examined youths' total fat intake and intake of high-fat food items. Three-way analysis of variance (ANOVA) examined main and interaction effects of gender, age, and ethnicity on youths' fat intake scores. One-way ANOVA and *t* tests for independent samples examined whether youths' item intakes differed based on their gender, age, and ethnicity.

3. Results

Participants were 314 African American adolescents with a mean (SD) age of 12.57 (.98) years. The sample was 66% female, 91% African American non-Hispanic, and 9% African American Hispanic. Youths' mean (SD) fat score was 31.35 (11.71), a value corresponding to a total fat intake between 40% and 50% of energy. A modest 7% of youths met current dietary fat intake recommendations (25% to 35% of energy). Although fat intake did not differ based on gender, more males (9%) than females (6%) had intakes within recommended levels. Most participants (77%) had diets very high in fat.

Findings from three-way ANOVA revealed a main effect for age, $F_{3,299} = 3.34$; $p < .05$, and an interaction effect between age and ethnicity on fat intake scores, $F_{3,299} = 3.06$; $p < .05$. Post hoc tests revealed that youths aged 11 years ($n = 52$) had lower scores than did youths aged 12 ($n = 91$), 13 ($n = 111$), and 14 ($n = 60$) years ($M = 24.59$, $SD = 1.79$ vs. $M = 33.37$, $SD = 1.70$, $M = 32.87$, $SD = 2.28$, and $M = 26.55$, $SD = 1.65$, respectively). Within ethnic groups, fat intake scores did not differ by age. Within age groups, 11-year-olds who were African American non-Hispanic ($n = 49$) had higher intake scores than did 11-year-olds who were African American Hispanic ($n = 3$), ($M = 31.12$, $SD = 13.82$ vs. $M = 18.00$, $SD = 14.73$).

Frequently consumed high-fat foods (in descending order) were corn chips, potato chips, popcorn, and crackers; fried chicken; and doughnuts, pastries, cake, and cookies. The distribution of youths' item intakes is shown in Table 1. Gender differences were found for youths' intake of margarine, butter, or oil in cooking, $t_{312} = 1.40$; $p < .05$. Girls ($n = 208$) reported higher intake of these items than did boys ($n = 106$), ($M = 2.13$, $SD = 1.43$ vs. $M = 1.77$, $SD = 1.36$).

4. Discussion

Study findings reveal a dietary pattern of excess consumption of fat in this sample of urban, African American adolescents. That most youths had diets very high in fat is disconcerting, given the young age of our sample. On average, youths consumed 40% or more of their energy from fat. Youths' mean fat intake was lower than the mean intakes found among a nationally representative sample of youths. Among youths aged 12 through 15 years, fat accounted for 36% of energy among non-Hispanic African Americans, 33% of energy among non-Hispanic Whites, and 34% of energy among Mexican Americans (Bialostosky, Wright, Kennedy-Stephenson, McDowell, & Johnson, 2002). However, youths' intake was similar to the mean percentage of energy from fat found among urban, African American adolescents in other research (Befort et al., 2006). This similarity may reflect the influence of such environmental factors as food availability and affordability on youths' eating behaviors. Previous research has shown that low-fat food alternatives and healthier types of foods are less available and relatively more expensive in poor, minority communities (Hosler, Varadarajulu, Ronsani, Fredrick, & Fisher, 2006; Donkin, Dowler, Stevenson, & Turner, 2000; Jetter & Cassidy, 2006).

Youths aged 11 years had lower fat intake than did youths aged 12 through 14 years. This finding may be an artifact of changes in eating habits that occur as youths transition from childhood to adolescence. During this transition, youths strive for increased autonomy and independence. They begin to buy and prepare food for themselves more often (Spear, 2002). Older adolescents eat at home less often than do younger adolescents (Neumark-Sztainer, Story, Ackard, Moe, & Perry, 2000). Away-from-home foods are higher in fat and energy than are foods eaten at home (Lin, Guthrie, & Frazao, 1999). The increase in fat intake that occurs with age suggests that urban, African American adolescents can benefit from intervention to promote low-fat eating practices before behavioral patterns become resistant to change.

Previous research on adolescent fat intake has engaged predominantly White samples (Neumark-Sztainer, Story, & Perry, 2001; Sanchez et al., 2007; Stanton, Fries, & Danish, 2003; Zabinski et al., 2006). Moreover, results regarding the relationship between age and total fat intake have been mixed, making comparisons between findings from this study and findings from previous research difficult. Neumark-Sztainer, Story, and Perry found that fat intake increased with age among females, but remained constant for males across ages. Age was a significant predictor of not meeting dietary guidelines for fat intake in the Sanchez et al study. Zabinski et al. found that age was inversely related to percent energy from total fat. Stanton, Fries, and Danish found age to be unrelated to fat intake. Additional research with urban, African American adolescents is needed to confirm age differences in fat intake found in this study. Studies with ethnic-racially diverse samples of adolescents are also needed to determine whether fat intake varies with age both within and across ethnic-racial groups.

Food sources of fat differed from those found among a nationally representative sample of US children and adolescents (Subar, Krebs-Smith, Cook, & Kahle, 1998). In that sample, milk, beef, and cheese made the greatest contribution to youths' fat intake. In this study, corn chips, potato chips, popcorn, and crackers; fried chicken; and doughnuts, pastries, cake, and cookies were the most frequently consumed high-fat foods. This discrepancy may be an artifact of differences between the intake measures used in each study. There were dissimilarities between the Subar, Krebs-Smith, Cook, and Kahle measure and the measure used in this study with regard to the recall period (preceding 24 hours versus preceding month), data gathered (frequency and quantity of intake versus frequency of intake only), and items studied (food groups of similar nutrient content or consumption (i.e., poultry) versus intake of specific items (i.e., fried chicken)). Possibly, the difference reflects changes in adolescent diets that have occurred over time. Recent data on dietary sources of nutrients among children and adolescents

are lacking. Comparative data for drawing conclusions regarding participants' high-fat food preferences were based on the 1989–1991 Continuing Survey of Food Intakes by Individuals. Alternatively, the difference may reflect ethnic-racial variations in high-fat food preferences. Data from the nationally representative sample of youths reveal preferences for high-fat dairy products. Prior research has shown that in African American and other minority populations, dairy food consumption is particularly low (Fulgoni III et al., 2007; Jarvis & Miller, 2002). Moreover, youths' preferences for higher-fat fried poultry, desserts, and snacks were similar to the high-fat food preferences found in African American adults (Kayrooz, Moy, Yanek, & Becker, 1998; Kristal, Shattuck, & Patterson, 1999; Popkin, Siega-Riz, Haines, & Jahns, 2001).

Girls' intake of margarine, butter, or oil in cooking was higher than that of boys. This finding may reflect a true difference or be an artifact of differences in food preparation habits. Possibly, girls prepare meals for themselves more often than do boys. Additional research is needed to examine the contribution of this and other such factors (e.g., the location of meals, the availability of high-fat foods at home and in school, and demand for convenience and prepared foods) to youths' fat intake.

Study limitations include the self-selected sample. Youths electing to participate in this study may have differed from other African American adolescents enrolled in youth services agencies located in similar urban settings. Although a previously validated screener was used to measure fat intake, the use of other intake assessment methods (i.e., food records or 24-hour recalls) may have provided a clearer picture of youths' dietary intake. Findings regarding the combined effects of ethnicity and age on fat intake must be interpreted with caution, given the small number of African American Hispanics in our sample. The cross-sectional nature of the study precluded assessment of how youths' intake patterns change over time.

Despite these limitations, study findings add to the limited data on fat intake and commonly consumed food sources of fat among urban, African American adolescents. Clearly, dietary intervention programs to lower fat intake in this population are needed. Study findings highlight high-fat food sources that should be the focus of intervention programs for urban, African American adolescents. Alternatively, interventions can promote the consumption of palatable low-fat foods that may indirectly reduce youths' consumption of high-fat foods.

Acknowledgements

This research was supported with funding from the National Cancer Institute (CA 097849).

References

- American Cancer Society. Cancer facts and figures, 2006. Atlanta, GA: Author; 2006.
- Ayala GX, Baquero B, Arredono EM, Campbell N, Larios S, Elder JP. Association between family variables and Mexican American children's dietary behaviors. *Journal of Nutrition Education and Behavior* 2007;39:62–69. [PubMed: 17346653]
- Befort C, Jaur H, Nollen N, Sullivan DK, Nazir N, Choi WS, et al. Fruit, vegetable, and fat intake among non-Hispanic Black and non-Hispanic White adolescents: Associations with home availability and food consumption settings. *Journal of the American Dietetic Association* 2006;106:367–373.
- Bialostosky, K.; Wright, JD.; Kennedy-Stephenson, J.; McDowell, M.; Johnson, CL. Dietary intake of macronutrients, micronutrients, and other dietary constituents: United States, 1988–1994 (DHHS publication No. 2000-169). Washington, DC: National Center for Health Statistics; 2002.
- Block G, Clifford C, Naughton MD, Henderson M, McAdams MA. A brief dietary screen for high fat intake. *Journal of Nutrition Education* 1989;21:199–207.
- Block G, Gillespie C, Rosenbaum EH, Jenson C. A rapid food screener to assess fat and fruit and vegetable intake. *American Journal of Preventive Medicine* 2000;18:284–288. [PubMed: 10788730]

- Bray GA, Paeratakul S, Popkin BM. Dietary fat and obesity: A review of animal, clinical, and epidemiological studies. *Physiology and Behavior* 2004;83:549–555. [PubMed: 15621059]
- Centers for Disease Control and Prevention. National diabetes fact sheet. 2005. Retrieved June 22, 2007, from: <http://www.cdc.gov/diabetes/pubs/estimates.htm#prev4>
- Cullen KW, Lara KM, de Moor C. Familial concordance of dietary fat practices and intake. *Family and Community Health* 2002;25:65–75. [PubMed: 12010116]
- Deshmukh-Taskar P, Nicklas TA, Morales M, Yang SJ, Zakeri I, Berenson GS. Tracking of overweight status from childhood to young adulthood: The Bogalusa Heart Study. *European Journal of Clinical Nutrition* 2006;60:48–57. [PubMed: 16132057]
- Donkin AJM, Dowler EA, Stevenson SJ, Turner SA. Mapping access to food in a deprived area: The development of price and availability indices. *Public Health Nutrition* 2000;3:31–38. [PubMed: 10786721]
- Fulgoni V III, Nicholls J, Reed A, Buckley R, Kafer K, Huth P, et al. Dairy consumption and related nutrient intake in African-American adults and children in the United States: Continuing Survey of Food Intakes by Individuals 1994–1996, 1998, and the National Health and Nutrition Examination Survey 1999–2000. *Journal of the American Dietetic Association* 2007;107:256–264. [PubMed: 17258962]
- Hosler AS, Varadarajulu D, Ronsani AE, Fredrick BL, Fisher BD. Low-fat milk and high-fiber bread availability in food stores in urban and rural communities. *Journal of Public Health Management Practice* 2006;12:556–562.
- Jarvis JK, Miller GD. Overcoming the barrier of lactose intolerance to reduce health disparities. *Journal of the National Medical Association* 2002;94:55–66. [PubMed: 11853047]
- Jetter KM, Cassidy DL. The availability and cost of healthier food alternatives. *American Journal of Preventive Medicine* 2006;30:38–44. [PubMed: 16414422]
- Kayrooz K, Moy TF, Yanek LR, Becker DM. Dietary fat patterns in urban African American women. *Journal of Community Health* 1998;23:453–469. [PubMed: 9824794]
- Kelder SH, Perry CL, Klepp KI, Lytle LL. Longitudinal tracking of adolescent smoking, physical activity, and food choice behaviors. *American Journal of Public Health* 1994;84:1121–1126. [PubMed: 8017536]
- Kristal AR, Shattuck AL, Patterson RE. Differences in fat-related dietary patterns between Black, Hispanic, and White women: Results from the Women's Health Trial Feasibility Study in Minority Populations. *Public Health Nutrition* 1999;2:253–262. [PubMed: 10512559]
- Lee Y, Mitchell DC, Smiciklas-Wright H, Birch LL. Diet quality, nutrient intake, weight status, and feeding environments of girls meeting or exceeding recommendations for total dietary fat of the American Academy of Pediatrics. *Pediatrics* 2001;107:1–7. [PubMed: 11134427]
- Lin B, Guthrie J, Frazao E. Quality of children's diets at and away from home. *Food Review* 1999;21:2–10.
- Michels KB. The role of nutrition in cancer development and prevention. *International Journal of Cancer* 2005;114:163–165.
- McCullough ML, Giovannucci EL. Diet and cancer prevention. *Oncogene* 2004;23:6349–6364. [PubMed: 15322510]
- National Center for Health Statistics. Health, United States, 2006, with chartbook on the health of Americans. Hyattsville, MD: Author; 2006a.
- National Center for Health Statistics. Obesity still a major problem. 2006b. Retrieved June 22, 2007, from http://www.cdc.gov/nchs/pressroom/06facts/obesity03_04.htm
- Neumark-Sztainer D, Story M, Ackard D, Moe J, Perry C. Family meals among adolescents: Findings from a pilot study. *Journal of Nutrition Education* 2000;32:335–340.
- Neumark-Sztainer, D.; Story, M.; Perry, C. Findings from Project EAT. 2001. Retrieved June 20, 2007, from University of Minnesota Web site: <http://www.epi.umn.edu/research/eat/eat-1.shtm>
- Neumark-Sztainer D, Story M, Hannan PJ, Croll J. Overweight status and eating patterns among adolescents: Where do youths stand in comparison with the Healthy People 2010 objectives? *American Journal of Public Health* 2002;92:844–851. [PubMed: 11988458]
- Neutzling MB, Araujo CLP, Vieira MFA, Hallal PC, Menezes AMB. Frequency of high-fat and low-fiber diet among adolescents. *Journal of Public Health* 2007;41:336–342. [PubMed: 17515985]

- Patterson BH, Harlan LC, Block G, Kahle L. Food choices of Whites, Blacks, and Hispanics: Data from the 1987 National Health Interview Survey. *Nutrition & Cancer* 1995;23:105–119. [PubMed: 7644380]
- Patterson RE, Kristal AR, Coates RJ, Tyllavsky FA, Ritenbaugh C, Van Horn L, et al. Low-fat diet practices of older women: Prevalence and implications for dietary assessment. *Journal of the American Dietetic Association* 1996;96:670–679. [PubMed: 8675910]
- Popkin BM, Siega-Riz AM, Haines PS, Jahns L. Where's the fat? Trends in U.S. diets 1965–1996. *Preventive Medicine* 2001;32:245–254. [PubMed: 11277682]
- Rossow I, Rise J. Concordance of parental and adolescent health behaviors. *Social Science and Medicine* 38:1299–1305.
- Sanchez A, Norman GJ, Sallis JS, Calfas KJ, Cella J, Patrick K. Patterns and correlates of physical activity and nutrition behaviors in adolescents. *American Journal of Preventive Medicine* 2007;32:124–130. [PubMed: 17197153]
- Serdula MK, Ivery D, Coates RJ, Freedman DS, Williamson DF, Byers T. Do obese children become obese adults? A review of the literature. *Preventive Medicine* 1993;22:167–177. [PubMed: 8483856]
- Spear BA. Adolescent growth and development. *Journal of the American Dietetic Association* 2002;102:S23–S29. [PubMed: 11902385]
- Stanton CA, Fries EE, Danish SJ. Racial and gender differences in the diets of rural youth and their mothers. *American Journal of Health Behavior* 2003;27:336–347. [PubMed: 12882427]
- Subar AF, Krebs-Smith SM, Cook A, Kahle LL. Dietary sources of nutrients among US children, 1989–1991. *Pediatrics* 1998;102:913–923. [PubMed: 9755265]
- U.S. Department of Health and Human Services, U.S. Department of Agriculture. Dietary guidelines for Americans, 2005. Washington, DC: Author; 2005.
- Wang Y, Bentley ME, Zhai F, Popkin BM. Tracking of dietary intake patterns of Chinese from childhood to adulthood. *Journal of Nutrition* 2002;132:430–438. [PubMed: 11880567]
- Wang Y, Ge K, Popkin BM. Why do some overweight children remain overweight, whereas others do not? *Public Health Nutrition* 2003;6:549–558. [PubMed: 14690036]
- Whitaker RC, Wright JA, Pepe MS, Seidel KD, Dietz WH. Predicting obesity in young adulthood from childhood and parental obesity. *New England Journal of Medicine* 1997;337:869–873. [PubMed: 9302300]
- Zabinski MF, Daly T, Norman GJ, Rupp J, Calfas KJ, Sallis JF, et al. Psychosocial correlates of fruit, vegetables, and dietary fat intake among adolescent boys and girls. *Journal of the American Dietetic Association* 2006;106:814–821. [PubMed: 16720122]

Table 1
Mean Frequencies of Consumption of High-fat Foods

Food item	Frequency of Consumption	
	<i>M</i>	<i>SD</i>
Corn chips, potato chips, popcorn, crackers	2.39	1.33
Fried chicken	2.27	1.13
Doughnuts, pastries, cake, cookies (not low-fat)	2.14	1.31
Ice cream	2.09	1.32
Whole milk	2.08	1.48
French fries, fried potatoes	2.06	1.19
Bacon or breakfast sausage	2.04	1.21
Margarine, butter or oil in cooking	2.00	1.42
Pizza	1.99	1.13
Margarine, butter, or mayo on bread or potatoes	1.87	1.27
Cold cuts, lunch meats, ham (not low-fat)	1.86	1.29
Eggs (not Egg Beaters or egg whites)	1.57	1.30
Hamburgers, ground beef, meat burritos, tacos	1.53	1.08
Salad dressings (not low-fat)	1.44	1.20
Beef or pork, such as steaks, roasts, ribs, or in sandwiches	1.42	1.09
Cheese, cheese spread (not low-fat)	1.32	1.25
Hot dogs, or Polish or Italian sausage	1.29	1.17

Note. Responses on 4-point Likert scales ranged from 0 (once a month or less) to 4 (five or more times a week).