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**Media Effects on Healthy Eating:
A Descriptive Look Through NHANES**

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Media effects on healthy eating: A descriptive look through NHANES

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Introduction

- Nationally, two-thirds of the adults and nearly one-third of children and teens are either overweight or obese ([Levi, Vinter, St. Laurent, & Segal, 2010](#)).
- The obesity rates for adults are higher for African Americans and Latinos compared to Whites in almost every state ([Levi et al., 2010](#)).
- National estimates show children from minority populations are obese at a higher percentage compared to the rest of the population ([Estabrooks, Fisher, & Hayman, 2008](#)).
- On average, young people ages 8-18 years old spend seven and a half hours consuming media and often times using more than one medium at a time.
- Since there is a strong presence, television can have an influence on food preferences and choices due to the enormous amount of television advertisements for food, mostly unhealthy, that people are exposed to.

Purpose

The purpose of this study is to compare the relationship that media consumption has on healthy eating between racial groups.

Method

- This study uses the 2009-2010 data from National Health and Nutrition Examination Survey (NHANES).
- The healthy variable represents the sum of responses to three key variables in the NHANES data: 1) dark green vegetables available at home, 2) fruits available at home, and 3) fat-free/low-fat milk available at home.
- The TV variable is defined as average hours spent per day watching television in the last 30 days.
- The computer variable is defined as average hours spent per day using the computer or playing computer games outside of school in the last 30 days.
- The sample size (n) used from the 2009-2010 NHANES data was 9,358 respondents.
- The target respondents for TV and computer questions were 2-11 years old.
- The statistical package used for analysis was StataSE 11.0 for Mac.

Results

TABLE 1
Description and Measurement of Variables

| Variable | Description | Mean/ Frequency (%) | Standard Deviation |
|---------------------------------------------------------------------|--------------------------------------|------------------------|-----------------------|
| <i>Independent Variables</i> | | | |
| <i>Respondent Demographics</i> | | | |
| Age (years) | Age of TV respondents in years | 6.28 | 3.00 |
| Age (years) | Age of COMPUTER respondents in years | 6.37 | 2.94 |
| Ethnicity | | | |
| African-American | 1=African-American, 0=otherwise | 19.78 | |
| Mexican-American | 1=Mexican-American, 0=otherwise | 24.09 | |
| Other Hispanic | 1=Other Hispanic, 0=otherwise | 11.45 | |
| White | 1=White, 0=otherwise | 44.67 | |
| <i>Media Consumption</i> | | | |
| Average hours spent per day watching television in the last 30 days | | | |
| TV | | 2.13 | 2.96 |
| African-American | 1=African-American, 0=otherwise | 2.43 | 1.58 |
| Mexican-American | 1=Mexican-American, 0=otherwise | 2.04 | 4.09 |
| Other Hispanic | 1=Other Hispanic, 0=otherwise | 2.15 | 1.51 |
| White | 1=White, 0=otherwise | 1.92 | 1.31 |
| Average hours spent per day using the computer in the last 30 days | | | |
| COMPUTER | | 2.64 | 3.06 |
| African-American | 1=African-American, 0=otherwise | 2.47 | 2.42 |
| Mexican-American | 1=Mexican-American, 0=otherwise | 3.36 | 2.76 |
| Other Hispanic | 1=Other Hispanic, 0=otherwise | 2.62 | 2.56 |
| White | 1=White, 0=otherwise | 2.07 | 2.53 |
| <i>Dependent Variable</i> | | | |
| Healthy | 1=Healthy, 0=otherwise | 86.39 | |

Note. Frequencies are reported for categorical variables. Means and Standard deviations reported for continuous variables

TABLE 2
T-tests for TV Consumption, Healthy=0

| Variables | TV | | T-test Sig |
|----------------------------|---------|---------|---------------|
| | Group 1 | Group 2 | |
| African American vs. White | 2.60 | 2.60 | |
| Other Hispanic vs. White | 2.19 | 2.60 | |
| Mexican American vs. White | 1.66 | 2.60 | *** |

p<.05*, p<.01**, p<.001***
Reference Group for Healthy=0 White mean=2.60, SE=.21

T-tests for TV Consumption, Healthy=1

| Variables | TV | | T-test Sig |
|----------------------------|---------|---------|---------------|
| | Group 1 | Group 2 | |
| African American vs. White | 2.40 | 1.87 | *** |
| Other Hispanic vs. White | 2.14 | 1.87 | ** |
| Mexican American vs. White | 2.09 | 1.87 | |

p<.05*, p<.01**, p<.001***
Reference Group for Healthy=1 White mean=1.87, SE=.05

TABLE 3
T-tests for COMPUTER Consumption, Healthy=0

| Variables | COMPUTER | | T-test Sig |
|----------------------------|----------|---------|---------------|
| | Group 1 | Group 2 | |
| African American vs. White | 2.49 | 2.80 | |
| Other Hispanic vs. White | 3.69 | 2.80 | |
| Mexican American vs. White | 4.09 | 2.80 | * |

p<.05*, p<.01**, p<.001***
Reference Group for Healthy=0 White mean=2.80, SE=.38

T-tests for COMPUTER Consumption Healthy=1

| Variables | COMPUTER | | T-test Sig |
|----------------------------|----------|---------|---------------|
| | Group 1 | Group 2 | |
| African American vs. White | 2.46 | 2.02 | ** |
| Other Hispanic vs. White | 2.51 | 2.02 | * |
| Mexican American vs. White | 3.28 | 2.02 | *** |

p<.05*, p<.01**, p<.001***
Reference Group for Healthy=1 White mean=2.02, SE=.09

Discussion

- Chi squared tests were first computed on healthy variable and average TV consumption and average computer consumption for the entire sample. From these tests, it was found that the healthy variable was significantly associated with TV and computer for entire sample.
- There is a positive correlation between computer consumption and healthy eating, yet the relationship is not significant.
- T-test results show among the households established as healthy, there is a significant difference (p<0.05) in average hours of TV watched between African Americans vs. White households and Other Hispanics vs. White households.
- T-test results show among the households established as healthy, there is a significant difference (p<0.05) in hours of computer use between African American vs. White households, Mexican Americans vs. White households, and Other Hispanic vs. White households.
- There is a significant difference (p<0.05) in average hours using the computer between healthy and not-healthy households.
- Healthy White households consume significantly less TV and computer (p<0.05) in comparison the healthy minority households
- White healthy households consume significantly less TV and computer (p<0.05) in comparison to minority healthy households.

Implications

- As supported by the literature, this study indicates that minority households, both healthy and not-healthy, watch TV and use the computer more frequently compared to White households.
- Considering that minority households have increased levels of TV and computer consumption, this influences the marketing plans, especially with food marketing for healthy food options and marketing towards children.
- Food marketing can be tailored and used at higher rates towards minority families because of their increased usage of TV and computers.
- As economic, educational, and public health researchers, it is important to continue research on how increased TV and computer consumption influences healthy eating and the food available in the household. Also important to continue to explore how youth are influenced by exposure to advertisements.

Select References

Estabrooks, P. A., Fisher, E. B., & Hayman, L. L. (2008). What is needed to reverse the trends in childhood obesity? A call to action. *Annals of Behavioral Medicine, 36*(3), 209-216. doi: 10.1007/s12160-008-9070-7

Levi, J., Vinter, S., St. Laurent, R., & Segal, L. M. (2010). *F an in Fat: How Obesity Threatens America's Future*. Washington, DC: Robert Wood Johnson Foundation.