OBESOGENIC BEHAVIORS AMONG ADOLESCENTS: THE ROLE OF GENERATION AND TIME IN THE UNITED STATES

**Objectives:** To examine how obesogenic behaviors (consumption of sugary drinks, physical activity, and/or sedentary behaviors) differ among adolescents within and across generation.

**Design:** Data come from the 2008 Boston Youth Survey, a population-based sample of 9th-12th-graders in 22 public high schools in Boston, MA. We used self-reported information to calculate generation and obesogenic behaviors (i.e., physical activity in past 7 days, consumption of sugar-sweetened beverages in past 7 days, and TV/computer/video game use on an average school day). Multivariable models were conducted to estimate the association between generation and obesogenic behaviors, adjusting for race/ethnicity, sex, age, family structure, and school.

**Results:** Relative to first generation youth, 1.5 generation (RR = 1.74, 95% CI = 1.10, 2.77) and second generation (RR = 1.45, 95% CI = 1.02, 2.07) youth were more likely to consume soda. Second (RR = 1.60, 95% CI = 1.20, 2.14) and third generation (RR = 2.29, 95% CI = 1.43, 3.65) youth were significantly more likely to consume other sugary drinks. Only third generation youth were more likely to watch ≥2 hours/day of TV when compared to first generation youth (RR = 1.53, 95% CI = 1.07, 2.18). No differences were seen by generation for levels of moderate-to-vigorous physical activity or computer/video games.

**Conclusions:** Greater consumption of sugary drinks is seen across generation among adolescents. Sugary drinks, which are aggressively marketed to immigrant youth, may contribute to excess weight gain seen among foreign-born youth upon arrival in the United States. (Ethn Dis. 2015;25(1):58-64)

**Key Words:** Obesogenic Behaviors, Body Mass Index, Generation, Time in the United States, Adolescents

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**INTRODUCTION**

Adolescence is a critical period for establishing dietary and exercise patterns, and for the development of obesity. Obesity among youth has more than tripled in the past 30 years, with 18.1% of adolescents in the United States now considered obese. There are important health and social implications of obesity for adolescents, including risk of an array of cardiometabolic diseases, and psychological consequences related to stigmatization and poor self-esteem. Obesity among adolescents is a global public health issue; however, the rate of obesity among youth in the United States is among the highest worldwide.

Although immigrant youth weigh less than their US-born peers, generation and nativity status are correlated with obesity, with most studies demonstrating a higher risk of obesity with increased generation and with US-born offspring of foreign-born parents.

While the notion that obesity markedly increases from first generation (foreign-born) to second generation (US-born offspring of ≥1 foreign-born parent) is well-established, more recent research has begun to show that convergence of weight between foreign- and US-born no longer takes a full generation. Rather, the process by which the risk of obesity among foreign-born youth becomes indistinguishable from their US-born peers occurs within a matter of years.

Little is known about the factors or mediating mechanisms that contribute to/underlie the increase in weight that occurs in the first few years after arrival in the United States. Many studies have shown that risk behaviors, including sexual activity, substance use, and perpetration of violence among immigrant youth, increase with more time spent in the United States. However, fewer studies have explored whether this pattern is true of obesogenic behaviors such as diet, physical activity, and sedentary behaviors that are precursors of obesity. Moreover, most studies have examined changes either between US- and foreign-born or across first, second, and third generation youth. Consequently, they have overlooked the fact that rates of obesity and other risk behaviors among foreign-born youth converge with US-born peers within a generation, rather than across a generation. Similarly, foreign-born youth may adopt the obesogenic behaviors of their US-born peers soon after immigrating to the United States; however, this pattern of adoption remains understudied.

Because immigrant children and children of immigrant parents are the fastest growing segment of the US youth population, there is an urgent need to understand how adoption of obesogenic behaviors influence the sharp increase in obesity observed among immigrant youth shortly after arrival in the United States. Dietary factors, such as sugar-sweetened beverage intake, physical activity, and sedentary behaviors, are important determinants of obesity and are potential mediators of the association between increased generation status and obesity. These modifiable behaviors