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Home Matters: Adolescents Drink More Sugar Sweetened Beverages When They Are Available at Home


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BACKGROUND

- Sugar sweetened beverage (SSB) consumption has increased by 300% in 20 years and is the largest source of added sugar in US diets.
- SSBs contain added caloric sweeteners, are energy dense, and provide little to no nutritional value (sodas, fruit drinks, energy drinks, sport drinks, etc).
- Adolescence is a period of growing autonomy, marked by increasing regulation of the individual's own behavior and decision making.
- The availability and accessibility of SSBs in adolescents' environment can influence their decisions and subsequent consumption.
- 54% of calories are consumed at home, suggesting the availability of SSBs in the home environment might be an important determinant of SSB consumption.
- The association of SSB availability across different environmental settings with adolescent SSB consumption is not well understood.

STUDY OBJECTIVE

- Examine the association between availability of SSBs at home and adolescent SSB consumption.
- Evaluate whether this association was consistent across school and school neighborhood SSB availability.

METHODS

Dataset: Family Life, Activity, Sun, Health and Eating (FLASHE) study

- Secondary analysis of FLASHE: cross-sectional, internet-based study of parent-adolescent dyads by the National Cancer Institute in 2014.
- **Adolescent SSB Consumption** – NCI SSB screener: Non Daily Consumption (<1) / Daily Consumption (1-2) / Daily Consumption (≥2)
- **Home SSB Availability** – Asked how often SSBs available in the home and categorized as: never / rarely or sometimes / often or always.
- **School Neighborhood SSB Availability** – Yes: at least one store within a 10-15-minute walk of school / No: zero stores in walking distance
- **School SSB Availability** – Yes: presence of vending machines that sell sodas, salty snacks and/or candy / No: absence of vending machines
- **Covariates:** Adolescent age, race, sex, BMI, parental marital status, housing insecurity.

Analysis: Multivariable Ordinal Logistic Regression

- Appropriate dietary analysis weights were applied.
- Model One – association between SSB Home availability and SSB consumption.
- Model Two - stratified by SSB availability in School.
- Model Three - stratified by SSB availability in School Neighborhood.
- Proportional Odds Assumption tested and met for all final models.

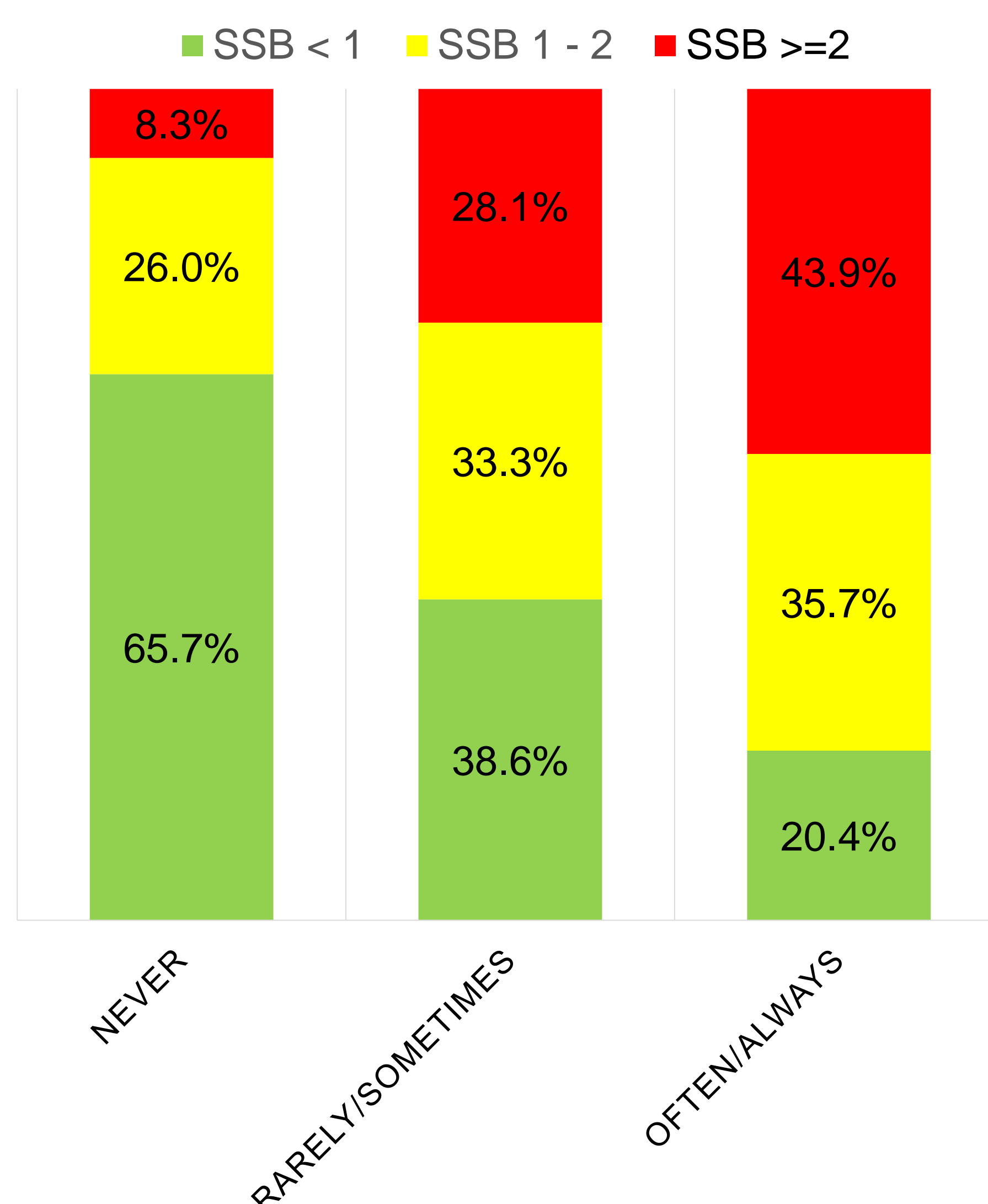
RESULTS



Characteristics of Study Sample From FLASHE N=1,494

	Weighted Percentage
Age (years)	
12-14	49.8%
15-17	50.2%
Sex	
Female	48.8%
Male	51.2%
Race/Ethnicity	
White	55.2%
Black	13.5%
Hispanic	15.9%
Other	15.4%
BMI	
Underweight (<5)	4.3%
Normal (≥5 - < 85)	68.5%
Overweight (≥ 85 - < 95)	14.8%
Obese (≥ 95)	12.4%
Parent Marital Status	
Married/Coupled	77.6%
Divorced/Wid/Separated	12.1%
Never Married	10.4%

Prevalence of Home Availability of SSBs and Adolescent SSB Consumption Behaviors



Ordinal Logistic Regression Model (n=1,494) of the association between SSB availability in the home and adolescents (12-17yo) SSB consumption behaviors

SSBs Availability at Home	SSB Consumption	
	Adjusted* OR	95% CI
Never	Ref	
Rarely/Sometimes	3.17	(3.16-3.18)
Often/Always	7.34	(7.32-7.37)

Ordinal Logistic Regression Model Stratified by School SSB Availability

SSBs Availability at Home	SSBs Not Available in School (n=726)		SSBs Available in School (n=768)	
	SSB Consumption		SSB Consumption	
	Adjusted OR	95% CI	Adjusted OR	95% CI
Never	Ref	Ref	Ref	Ref
Rarely/Sometimes	3.07	3.06-3.09	3.19	3.18-3.21
Often/Always	7.39	7.36-7.43	7.08	7.05-7.12

Ordinal Logistic Regression Model Stratified by School Neighborhood SSB Availability

SSBs Availability at Home	SSBs Not Available in School Neighborhood (n=303)		SSBs Available in School Neighborhood (n=1191)	
	SSB Consumption		SSB Consumption	
	Adjusted OR	95% CI	Adjusted OR	95% CI
Never	Ref	Ref	Ref	Ref
Rarely/Sometimes	3.15	3.13-3.17	3.24	3.23-3.25
Often/Always	6.20	6.15-6.25	7.69	7.66-7.72

*SSB consumption outcome categories: non-daily <1, daily 1-2, daily ≥2

**Model adjusted for school SSB availability, school neighborhood SSB availability, adolescent age, sex, race, BMI, parent marital status and housing insecurity.

CONCLUSION

- Despite the availability of SSBs in school and school neighborhood environments, the **home food environment remains an important determinant of adolescent SSB consumption.**
- The study highlight the important role parents continue to play in adolescent's SSB consumption through the drinks they make available in the home.

