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

Christina F. Haughton  
*University of Massachusetts Medical School*

Molly E. Waring  
*University of Massachusetts Medical School*

Monica L. Wang  
*Boston University*

See next page for additional authors

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Presenter Information
Christina F. Haughton, Molly E. Waring, Monica L. Wang, Milagros C. Rosal, Lori Pbert, and Stephenie C. Lemon

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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 (FLASHÉ) study

**Adolescent SSB Consumption**
- NCI SSB screener: Non Daily Consumption (<1) / Daily Consumption (1-2) / Daily Consumption (≥2)

**Home SSB Availability**
- Asked about 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**

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

<table>
<thead>
<tr>
<th>SSB Consumption</th>
<th>SSBs Availability at Home</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjusted OR</td>
<td>95% CI</td>
</tr>
<tr>
<td>Neve</td>
<td>Ref</td>
</tr>
<tr>
<td>Rarely/Sometimes</td>
<td>3.17 (3.16-3.18)</td>
</tr>
<tr>
<td>Often/Always</td>
<td>7.34 (7.32-7.37)</td>
</tr>
</tbody>
</table>

Ordinal Logistic Regression Model Stratified by School SSB Availability

<table>
<thead>
<tr>
<th>SSBs Not Available in School</th>
<th>SSBs Available in School</th>
</tr>
</thead>
<tbody>
<tr>
<td>(n=726)</td>
<td>(n=768)</td>
</tr>
<tr>
<td>SSB Consumption</td>
<td>Adjusted OR 95% CI</td>
</tr>
<tr>
<td>Adjusted OR</td>
<td>95% CI</td>
</tr>
<tr>
<td>Neve</td>
<td>Ref</td>
</tr>
<tr>
<td>Rarely/Sometimes</td>
<td>3.07 3.06-3.09</td>
</tr>
<tr>
<td>Often/Always</td>
<td>7.39 7.36-7.43</td>
</tr>
</tbody>
</table>

Ordinal Logistic Regression Model Stratified by School Neighborhood SSB Availability

<table>
<thead>
<tr>
<th>SSBs Not Available in School</th>
<th>SSBs Available in School</th>
</tr>
</thead>
<tbody>
<tr>
<td>(n=303)</td>
<td>(n=1191)</td>
</tr>
<tr>
<td>SSB Consumption</td>
<td>Adjusted OR 95% CI</td>
</tr>
<tr>
<td>Adjusted OR</td>
<td>95% CI</td>
</tr>
<tr>
<td>Neve</td>
<td>Ref</td>
</tr>
<tr>
<td>Rarely/Sometimes</td>
<td>3.15 3.13-3.17</td>
</tr>
<tr>
<td>Often/Always</td>
<td>6.20 6.15-6.25</td>
</tr>
</tbody>
</table>

**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 highlights the important role parents continue to play in adolescent's SSB consumption through the drinks they make available in the home.