A Content Analysis of Food References in Television Programming Specifically Targeting Tween Viewing Audience Aged 11-14 Years

Mary Roseman, PhD, RD, LD, CHE
Associate Professor
Department of Nutrition & Hospitality Management
University of Mississippi
Objective

Participants will be able to:

- Explain the literature on food references in TV advertisements and programs.
- Explain methods for and findings from content analysis of food references in tweens’ TV programming.
- Discuss implication of findings and opportunities to enhance future TV programming.
Introduction

- The article can be found in JNEB. 2013. 46(1), 20-25.
Introduction

- Children spend more time watching TV than other media activity
  - 40 minutes more than 5 years ago\(^1\)
- Exposure to food advertisements
  - 11-13 food advertisements/a day\(^2\)
  - Majority of foods are high in sugar, fat, and sodium\(^2\)
  - Studies show it can influence behavior, and lead to increased consumption of snacks, sugar-sweetened beverages, and fast food.\(^3-5\)
Introduction

- Research regarding food references in TV programs is limited and dated.
  - Only 2 published in last decade \(^{11,12}\)

- Amount of time children spend viewing television programs is increasing

- Children’s viewing behaviors continue to change.
7 studies have looked at food references in television programs\textsuperscript{6-12}

- All but 1 focused on prime-time television \textsuperscript{6-10, 12}
- Only 1 examined children television programs \textsuperscript{11}

2008 study – 35,000 food, beverage, and restaurant appearances\textsuperscript{12}

- Primarily regular soft drinks, traditional restaurants, and energy/sports drinks
Average number of food references ranged from 4.8 to 17 per hour \(^6,10\)

More than half of food references were toward nonnutritious food \(^6-10\)

In the study of children, unhealthy foods received nearly twice the total airtime compared with healthy foods \(^11\)
The objective of the study was to examine food references in television programming targeted at 11- to 14-year-olds, or the age group marketers have labeled “‘tweens.’”
Importance of Study

- Television viewing is at its highest among this tweens
  - averages more than 5 hours of television
  - children with a television in their bedroom increased from 54% among 8- to 10-year-olds to 76% among 11- to 18-year-olds
  - tweens are more likely to be watching television without adult supervision

- Children’s viewing of television programs extends beyond television and includes the Internet, YouTube, and DVD

Department of Nutrition & Hospitality Management, University of Mississippi
Other Important Factors

- Children can form connections to TV characters
  - characters enthusiasm for certain foods could have more influence than food advertising\textsuperscript{11}
  - children are more likely to imitate another person if that person is liked or admired by the child\textsuperscript{13} and the same age or slightly older\textsuperscript{14}
  - modeling impact on children’s food preferences and consumption patterns\textsuperscript{15-18}
  - One found modeling of healthy eating by television characters led to an increase in children’s fruit and vegetable consumption\textsuperscript{19}

Department of Nutrition & Hospitality Management, University of Mississippi
Study Methods

- Examined food references in 6 TV programs
- Disney Channel, popular station among 9- to 14-year-olds
- Food scenes were compared to USDA MyPlate
- Analyzed according to “modified” Scheidt’s Ratio of Recommended to Restricted Food Components (RRR)
Methods: MyPlate

- **MyPlate food groups:**
  - fruits, vegetables, grains, protein foods, dairy, and oils.

- not fitting – “combination” (e.g., pasta alfredo, bean burrito, chicken pot pie, pizza, sub sandwich)
  - OR

- “other” (e.g., chips, cookies, donuts, candy, sugar sweetened beverages, coffee, water)

Department of Nutrition & Hospitality Management, University of Mississippi
The equation for RRR\textsuperscript{21} is as follows:

\[
\frac{(\%DV \text{ protein} + \%DV \text{ fiber} + \%DV \text{ calcium} + \%DV \text{ iron} + \%DV \text{ vitamin A} + \%DV \text{ vitamin C})}{6}
\]

\[
\frac{(\%DV \text{ calories} + \%DV \text{ sugars} + \%DV \text{ cholesterol} + \%DV \text{ saturated fat} + \%DV \text{ sodium})}{5}
\]

RRR is interpreted such that the more nutritious foods score >1.0; foods <1.0 are classified as less nutritious.

Modified RRR: >3.0, 1.0-2.9, 0.75-0.99, 0.50-0.74, 0.25-0.49, and <0.25
Methods: Sample

- Sample
- Five days – weekday afternoon & early evening cable television
- Day parts known as early fringe and prime access
  - tweens are more likely to be viewing television, often alone and without parental influence
- 20 hours of Disney Channel programming broadcast between 4 - 7:59 p.m. – comparable to previous studies\textsuperscript{6,9,10}
- excluded commercial breaks and opening and ending credits.
## Results: Reason & Frequency of FRS

<table>
<thead>
<tr>
<th>Reason</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physiological Need</td>
<td>143</td>
<td>40.7</td>
</tr>
<tr>
<td>Food Display</td>
<td>35</td>
<td>10.0</td>
</tr>
<tr>
<td>Party</td>
<td>30</td>
<td>8.5</td>
</tr>
<tr>
<td>Other Social Events</td>
<td>28</td>
<td>8.0</td>
</tr>
<tr>
<td>Retail Store</td>
<td>23</td>
<td>6.6</td>
</tr>
<tr>
<td>Gift</td>
<td>13</td>
<td>3.7</td>
</tr>
<tr>
<td>Cooking</td>
<td>12</td>
<td>3.4</td>
</tr>
<tr>
<td>Nickname</td>
<td>6</td>
<td>1.7</td>
</tr>
<tr>
<td>Contest</td>
<td>3</td>
<td>0.9</td>
</tr>
<tr>
<td>Other</td>
<td>58</td>
<td>16.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>351</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>
### Results:
**Frequency of FRS by Meal Type**

<table>
<thead>
<tr>
<th>Meal Time</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Snack*</td>
<td>134</td>
<td>40.5</td>
</tr>
<tr>
<td>Dinner</td>
<td>31</td>
<td>9.4</td>
</tr>
<tr>
<td>Lunch</td>
<td>21</td>
<td>6.3</td>
</tr>
<tr>
<td>Breakfast</td>
<td>14</td>
<td>4.2</td>
</tr>
<tr>
<td>Not Enough Information</td>
<td>131</td>
<td>39.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>331</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>
# Results: Frequency FRS Seen, Consumed or Mentioned

<table>
<thead>
<tr>
<th>Type of Food Reference</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual</td>
<td>428</td>
<td>52.8</td>
</tr>
<tr>
<td>Verbal</td>
<td>203</td>
<td>25.1</td>
</tr>
<tr>
<td>Consumptive</td>
<td>84</td>
<td>10.4</td>
</tr>
<tr>
<td>Verbal &amp; Visual</td>
<td>70</td>
<td>8.6</td>
</tr>
<tr>
<td>Verbal &amp; Consumptive</td>
<td>20</td>
<td>2.5</td>
</tr>
<tr>
<td>Visual &amp; Consumptive</td>
<td>3</td>
<td>0.4</td>
</tr>
<tr>
<td>Verbal, Visual, &amp; Consumptive</td>
<td>2</td>
<td>0.2</td>
</tr>
<tr>
<td>Total</td>
<td>810</td>
<td>100.0</td>
</tr>
</tbody>
</table>
# Results of RRR

<table>
<thead>
<tr>
<th>Food Groups</th>
<th>RRR &gt; 3.0</th>
<th>RRR 1.0-2.9</th>
<th>RRR 0.75-0.99</th>
<th>RRR 0.50-0.74</th>
<th>RRR 0.25-0.49</th>
<th>RRR &lt;0.25</th>
<th>NI*</th>
<th>Total</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grains</td>
<td>5</td>
<td>9</td>
<td>41</td>
<td>42</td>
<td>2</td>
<td>0</td>
<td>4</td>
<td>103</td>
<td>12.7</td>
</tr>
<tr>
<td>Vegetables</td>
<td>56</td>
<td>14</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>76</td>
<td>9.4</td>
</tr>
<tr>
<td>Fruits</td>
<td>52</td>
<td>7</td>
<td>14</td>
<td>34</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>117</td>
<td>14.4</td>
</tr>
<tr>
<td>Dairy</td>
<td>0</td>
<td>1</td>
<td>18</td>
<td>3</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>34</td>
<td>4.2</td>
</tr>
<tr>
<td>Protein Foods</td>
<td>1</td>
<td>21</td>
<td>15</td>
<td>3</td>
<td>20</td>
<td>5</td>
<td>0</td>
<td>65</td>
<td>8.0</td>
</tr>
<tr>
<td>Oils</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>4</td>
<td>0.5</td>
</tr>
<tr>
<td>Combination √</td>
<td>0</td>
<td>2</td>
<td>12</td>
<td>15</td>
<td>9</td>
<td>0</td>
<td>33</td>
<td>71</td>
<td>8.8</td>
</tr>
<tr>
<td>Other ^</td>
<td>23</td>
<td>19</td>
<td>3</td>
<td>19</td>
<td>98</td>
<td>152</td>
<td>26</td>
<td>340</td>
<td>42.0</td>
</tr>
<tr>
<td>Total</td>
<td>137</td>
<td>73</td>
<td>103</td>
<td>118</td>
<td>150</td>
<td>162</td>
<td>67</td>
<td>810</td>
<td>100.0</td>
</tr>
<tr>
<td>Percent</td>
<td>16.9</td>
<td>9.0</td>
<td>12.7</td>
<td>14.6</td>
<td>18.5</td>
<td>20.0</td>
<td>8.3</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>
Discussion

- Food references were almost twice as frequent in this children’s cable programming study compared to broadcast network prime time programming.
- Previous studies FRS occurred an average of 6-9/hour vs. this study’s finding of 16.6 FRS/hour.
- Comparable to the 2001 study of prime time television programs that reported 17 FRS/hour.
Discussion Based on MyPlate

- Only 66 of 331 FRS were meal occasions
- Only 24% of 880 foods were categorized as fruits or vegetables, inconsistency with MyPlate
- Nearly 50% of the foods in this study did not fit into any food group and were considered “other”
- The majority of the “other” foods were high in sugar and/or fat
  - MyPlate recommendations to “choose foods and drinks with little or no added sugars” and “eat fewer foods that are high in solid fats”

Department of Nutrition & Hospitality Management, University of Mississippi
Conclusions

- TV programming exposes children to positive and negative food messages through the placement of food into the story.

- Existing analysis of food in programming, as well modeling and observational learning research, suggests that the portrayal of food in television programming deserves increased attention by nutrition educators, researchers, health professionals, and industry specialists.

- Good model may be historical treatment of smoking in TV programs.

Department of Nutrition & Hospitality Management, University of Mississippi
References


References


Thank You! and Questions