Text2BHealthy: Development and evaluation of a text message-based nutrition education program
Laryessa Worthington and Erin Braunscheidel

Why Text Messages?
- Widely available
- Wide reach at low cost
- Repeated, tailored messages
- Real-time, interactive evaluation
- Instant, penetrable into context of health behavior
- Perceived as personal, informal

How Has Texting Been Used in Health Promotion?
- Improve attendance in health care settings (Downer et al., 2006; Geraghty et al., 2006; Koshy et al., 2008; Leong et al., 2008)
- Access hard-to-reach populations
- Deliver information and reminders
- Measure real-time behavior

Targeted Messages
- Elementary schools can help us to know....
  - Shop
  - Recreation
  - Libraries
  - Weather
  - School schedules, testing, events
  - Lunch menus
  - Local events
  ......without even knowing your name!
Text2BHealthy: Participants & Program

Complement in-school youth programming:

- Messages targeted by school/area
- Reinforce FSNE program in school
  - 82% of FSNE programming is children/youth
- ~2 messages per week

<table>
<thead>
<tr>
<th>Participants</th>
<th>Retention</th>
<th>Schools</th>
<th>Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y1</td>
<td>203</td>
<td>91%</td>
<td>8</td>
</tr>
<tr>
<td>Y2</td>
<td>1149</td>
<td>90%</td>
<td>15</td>
</tr>
<tr>
<td>Y3</td>
<td>2473</td>
<td>33%</td>
<td>21</td>
</tr>
</tbody>
</table>

How Can Parents Enroll?

- Texting a keyword to number
- Providing phone/email at parent event
- Providing phone number/email address on pre/post test survey
- Going to website and opting in
Enrollment Types

<table>
<thead>
<tr>
<th></th>
<th>Year One</th>
<th>Year Two</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self enrollment</td>
<td>187 (90.8%)</td>
<td>367 (31.9%)</td>
</tr>
<tr>
<td>Manual enrollment</td>
<td>19 (9.2%)</td>
<td>778 (67.7%)</td>
</tr>
<tr>
<td>Web enrollment</td>
<td>N/A</td>
<td>4 (0.3%)</td>
</tr>
<tr>
<td>Total enrollment</td>
<td>206</td>
<td>1149</td>
</tr>
</tbody>
</table>

Evaluation - Data Sources

- Paper pre- and post-test surveys (September & May/June)
- Evaluation questions sent via text message
- Phone surveys with dropouts
- Post-implementation focus groups and surveys (June)

Evaluation

<table>
<thead>
<tr>
<th>Intervention Schools (n=11) (n=19)</th>
<th>Control Schools (n=4) (n=2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants</td>
<td>Non-participants</td>
</tr>
<tr>
<td>Non-Participants</td>
<td></td>
</tr>
</tbody>
</table>

- Paper pre- and post-test surveys (September & May/June)
- Evaluation questions sent via text message
- Phone surveys with dropouts
- Post-implementation focus groups and surveys (June)

Cell/Text Findings

- 97% had cell phone
- 95% could send/receive text messages
- 89% had unlimited texting plans
- 59% had smart phone
Pilot Evaluation - Outcomes

- Parent/Child Fruit and Vegetable Consumption
- Parent/Child Physical Activity

Y2 Outcome Analysis

- Vegetable Consumption
  - “Do you eat 2 or more vegetables as snacks?”
    - T2BH parents: 🔻
    - Control parents: 🔺
  - “Does your child eat more than one kind of vegetable each day?”
    - T2BH parents: 🔻
    - Control parents: 🔺

- Physical Activity
  - Intervention group tended to get significantly worse over the course of the year
  - Physical activity was not targeted in the program
  - Unclear why this phenomenon occurred

Texted Questions – Response Rates

- Y1 Response Rates:
- Y2 Response Rates:

- 4 Q’s each year, Y1 = 180 responses, Y2 = 686 responses
- No increase in opt outs after sending evaluation message
Qualitative Responses

- "The personal messages. I really felt like someone was writing directly for me"
- "I liked the ideas and suggestions about eating healthy and ideas for activities to do with my kids"
- "New snack and healthy food ideas"
- "Whatever you told me was on sale that week, I went to my Giant and built our meal around those fruits or vegetables"
- "Telling me what’s going on at school and getting the kids excited about being healthy"
- "It gave me tips for new foods and the way to prepare them"
- "It keeps me informed about health issues and community events"
- "It reminds me what to do"
- "Healthy food sales at my store"

Changes and Consideration Since Program Initiation

- Additional schools added with a Spanish option for 3 schools
- In-person enrollment
- Change in survey length
- Opt out message

Dropouts (n=82)

- Retention less challenging than recruitment
- A few parents cited little time to read messages
- Most "accidentally" dropped out
  - Revised STOP message did not reduce rates
  - What prompts dropping out?
- Dropout survey improved retention
  - 1 in Y1 reenrolled; 30 in Y2 reenrolled
- Re-enrolled participants stayed in
  - >37 changed numbers, 21 bounces

Questions?
Thank you!
Acknowledgements

- **Maryland FSNE**: Sally Ann Kamen, Lisa Lachenmayr, Amy Bortnick
- **UMD SPH**: Stephanie Grutzmacher, Ashley Munger, Lauren Messina, Jessica DiBari, FSNE-SPH

Undergraduate Research Team

This project was funded by USDA's Supplemental Nutrition Assistance Program in cooperation with the Maryland Department of Human Resources and the University of Maryland.