Developing Media Interventions to Reduce Household Sugar-Sweetened Beverage Consumption

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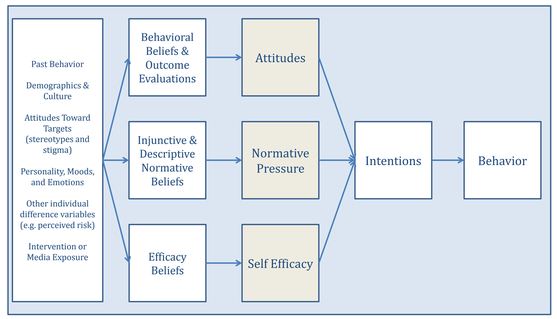
Background

- Approximately 12.5 million children and adolescents are obese (Ogden et al. 2006) – a figure that has tripled since 1980 (Ogden et al. 2010).
- The association between the consumption of sugar-sweetened beverages (SSBs) and obesity has become an important research topic (Rennie, Johnson, and Jebb 2005).
- As soft drink consumption by children and adolescents has also increased over the last forty years (French, Lin, and Guthrie 2003), SSB consumption is an appropriate target for public health interventions designed to counter childhood overweight.
- In 2010, the City of Philadelphia received funding to address the problem of overweight and obesity among its residents.
- The Annenberg Public Policy Center (APPC) assisted in the development of a media campaign to encourage parents to reduce their children's SSB consumption.

Objectives

Phase 1: Formative Testing

- Guided by the Integrative Model of Behavioral Prediction (IM; Fishbein & Yzer, 2003), conduct a theory-based survey of Philadelphia residents to determine whether eliminating SSBs at mealtime is driven by attitudes, normative pressure, or self-efficacy.



- Using the theory-based survey, inform the campaign messaging by identifying the most important underlying beliefs related to eliminating SSBs at mealtime.

Phase 2: Message Design

- Create campaign messages based on formative testing in Phase 1 and focus group testing.

Phase 3: Message Testing

- Conduct a quasi-experiment to examine whether exposure to the campaign messages is associated with an increase in intention to cut back SSB consumption.

Phase 1: Methods

Formative Testing Design

- Thirty-minute telephone survey used to collect a representative sample of households with children aged 3-16 in Philadelphia, PA.
- Fielded between June 8 , 2010 and July 3, 2010.
- Conducted in either English or Spanish as necessary.
- Response rate = 31%

Participants

- Total sample = 515 adult caregivers
- 23% percent of the respondents were interviewed on cell phones

Measures

- SSB Consumption; IM items measuring intentions, attitudes, normative pressure, self-efficacy, and associated beliefs relevant to SSB elimination at mealtime; and demographic measures.

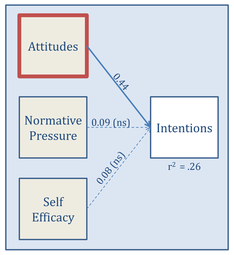
Analytic Approach

- Validate the self-reports of SSB consumption (not presented here)
- Estimate a path model with precursor variables and the three IM mediators predicting intentions to eliminate SSBs at mealtime.
- Identify the most important underlying beliefs related to eliminating SSBs at mealtime.

Phase 1: Results

Integrative Model Analysis

- Intentions to eliminate SSBs at mealtime are primarily driven by attitudes, not normative pressure or self-efficacy.



Behavioral Belief Analysis

- Analysis suggests that emphasizing the belief that SSB elimination will "make you feel that you were doing something good for your family" will be the most effective message strategy followed by counter arguing the belief that SSB elimination will "make eating meals less enjoyable".

Behavioral Beliefs	Correlation Between Belief and Intentions*	Average for Intenders	Average for Non-Intenders
Make you feel that you were doing something good for your family	.45	.92**	.71
Make eating meals less enjoyable	-.36	-.62**	-.21
Make your children unhappy	-.33	-.40**	-.03
Help prevent weight gain	.33	.77**	.48
Improve your family member's sleep	.31	.41**	.19
Make your life more stressful	-.25	-.53**	-.27
Save money	.22	.63**	.34
Make it more likely for your family to drink milk or water at mealtimes	.12	.72	.62

Performers excluded from this analysis. N = 494-484 except for correlations where the listwise N is 477.
Beliefs coded as -1 = Unlikely, 0 = Neither 1 = Likely.
* Polychoric. ** Difference between Intenders and Non-Intenders statistically significant at .05 or less.

Phase 2: Message Design

- Focus groups formatively tested four sets of messages.
- Three messages were selected: a TV, transit, and radio spot.
- The television spot emphasized the "make you feel that you were doing something good for your family" belief more than the transit and radio spot.
- All messages attempted to influence the "help prevent weight gain" belief.
- All messages highlighted the connection between SSB consumption and diabetes (based on the focus groups).
- Campaign was produced professionally by an advertising agency and began airing in January 2011.

To view the media messages, visit www.foodfitphilly.org/media

Phase 3: Methods

Message Testing Design

- Quasi-experimental design used to collect a sample of urban households with children aged 3-16.
- Fielded between March 9-16 2010.

Participants

- Total sample = 507 adult caregivers
- Quota for age, gender, and child race (40% African American)

Measures

- SSB Consumption; IM items measuring intentions, attitudes, and associated beliefs relevant to cutting back SSBs (5 from survey + 1 new related to diabetes); and demographic measures.

Analytic Approach

- Paired samples t-tests conducted to compare behavioral intention and behavioral beliefs before and after campaign exposure.

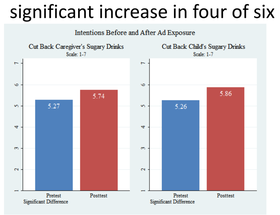
Phase 3: Results

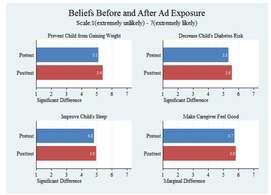
Intention Analyses

- Exposure to all messages was associated with a significant increase in intention to cut back child and caregiver's SSB consumption.

Behavioral Beliefs Analyses

- Exposure to all messages was associated with a small, but significant increase in four of six behavioral beliefs.





Conclusions

- Formative evaluation is critical to the design and implementation of effective health-related communication campaigns.
- The process from formative evaluation to campaign creation was not always obvious or predictable.
  - Different perspectives from different stakeholders
  - Limited time
  - Restricted budget
- The theory-based survey data identified specific behavioral beliefs that should be incorporated in a media campaign designed to encourage elimination of SSBs at mealtime.
- The quasi-experimental study provided evidence that exposure to all messages increases intention to cut back SSBs and supported the underlying beliefs in the correct direction.
- This project highlights how the Integrative Model can be applied to the design of a social marketing campaign.

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