Using Twitter for Prenatal Health Promotion: Encouraging a Multivitamin Habit Among College-Aged Females

Michael Mackert, Eunice Kim, Marie Guadagno, Erin Donovan-Kicken
University of Texas at Austin, USA

Background

- Growing use of Social Networking Sites (SNSs) for promoting health
  - Women age 18-29 as SNS “power users”
    - Potential as a health promotion tool to reach younger women.
- Use of Twitter for health promotion (Gold et al., 2011; Park et al., 2011)
  - Potential to spread quickly
  - Message’s ability to snowball

Neural Tube Birth Defects (NTDs)

- Highest rate of unplanned pregnancies in young women
  - Lindsey et al., 2009; Thomas et al., 2011
- NTDs occur due to inadequate periconceptional or lack of folic acid intake before becoming pregnant
  - Helinski et al., 2004
  - Health campaigns to reduce the rate of NTDs among young women

Multivitamin Promotion

- Multivitamins are a convenient and affordable way to ensure adequate intake of folic acid.
- However, overall rates of multivitamin usage remain very low, particularly among young women
  - Lindsey et al., 2009
**Research Purpose**

- To investigate how best to use Twitter as a health promotion tool to reach young women:
  - How to effectively communicate the important benefits of folic acid to young women
- Focusing on "real world" usage:
  - Promoting multivitamins which contain folic acid
  - Real world worth-of-mouth content, via retweets

**Tailoring**

Promotional messages developed for a particular subset of people frequently used in public health campaigns

Message tailored to a specific individual

- Tailored health messages are more effective than non-tailored messages

- Need for further exploration of SNSs

**Priming**

Effects of viewing of a message have on an individual's subsequent thoughts/behaviors related to the content.

- Intensity and the recency effects
  - Disappear over time
- "Real life" primes from media influence health behaviors (Harris & Graff, 2011)

**Research Hypotheses**

**Hypothesis 1**

Participants exposed to multivitamin promotion messages will exhibit more positive beliefs about multivitamins.

**Hypothesis 2**

Participants exposed to multivitamin promotion messages will exhibit stronger intentions to start a multivitamin habit.

Participants exposed to multivitamin promotion messages will exhibit stronger intentions to start a...

Research Questions

Will participants retweet messages sent to them?

Will having seen the messages previously (priming) and rating them to determine their preferred tweet (tailoring) impact the likelihood of retweeting?

Study 1

- Online survey (n=295 female undergraduate students)
- Experimental group (n=144) were exposed to multivitamin promotion tweets and answered a series of questions vs. Control group (n=151).
- Measures
  - Beliefs
  - Attitudes, subjective norms, perceived behavioral control, and intentions (TPB; Ajzen & Fishbein, 2005)
  - 7-point Likert-type scale

Multivitamin Promotion Messages

- Nine multivitamins promotion messages were designed to address important multivitamin benefits.
  - Beauty
  - Internal health (e.g., vision)
  - General health (e.g., healthy living)
  - Prevention (e.g., cancer)
  - Nutrition
Multivitamin Promotion Messages

- Nine multivitamin promotion messages were designed to address important multivitamin benefits.
  - Beauty
  - Internal health (e.g., vision)
  - General health (e.g., healthy living)
  - Prevention (e.g., cancer)
  - Nutrition

Results

- Participants exposed to multivitamin promotion messages on Twitter did not exhibit positive beliefs significantly more than participants who were not exposed to those messages ($t = 4.2, p = .66$).
  - $H1$ was not confirmed.

- Participants exposed to multivitamin promotion messages on Twitter did not generate
  - significantly positive attitudes toward multivitamin intake ($t = -4.6, p = .66$)
  - higher perceived control over multivitamins intake ($t = -1.2, p = .29$)
  - higher intentions to take multivitamins ($t = -1.4, p = .29$)
  - The results did not support $H2$.

Study 2

- female undergraduate students ($n=247$)

Online Survey

- Experimental group ($n=125$) rated the extent to which each message motivated them to take multivitamins and their intentions to pass each tweet along to others (vs. Control group, $n=122$).
  - Later, were asked to provide their Twitter ID.

Tracking Retweeting Behavior

- Subjects only selected from those who provided their Twitter ID ($n=78$).

- Participants received a multivitamin promotion tweet, which they rated the highest (message priming and tailoring) (vs. control group; received one randomly assigned promotion tweets)

- The researcher kept track of whether or not the subjects retweeted those tweets to others on Twitter.
Results & Discussion

- Only one subject (from the experimental group) retweeted the multivitamin promotion tweet to others on Twitter.
- This suggests young women are neither likely to retweet multivitamin promotion messages on Twitter in general or when primed with tailored messages.
- Additional consideration of future research
  - Message credibility issue
  - Trust in the use of Twitter – trust of Twitter itself, of Twitter users in general, of specific accounts that are familiar or unfamiliar to users
  - Priming and tailoring

Limitations & Future Research

- Use of a college student sample
  - Broader studies beyond college students are necessary.
- Use of an unfamiliar Twitter account
  - Should consider testing the impact of Twitter users likely to be known or influential to the target audience.
- Focus on better ways to use Twitter as an active health promotion tool—especially the potential to tap into existing social networks, trust, and credibility.