Adolescent Social Influences and Smoking: A new framework through the lens of social media

Grace C. Huang MPH & Thomas W. Valente PhD
Institute for Health Promotion and Disease Prevention Research, Keck School of Medicine, University of Southern California

1. Selected Social (Media) Influence Theories

Theory/Model Constructs/Mechanisms

Social Influences
Social Cognitive Theory (Bandura, 1977) Observational learning
Theory of Reasoned Action (Fishbein & Ajzen, 1975) Perceived norms
Diffusion of Innovations (Rogers, 2003; Valentine, 1994) Homerophy, Network exposure, Network thresholds, influence, Selection, Network position (opinion leaders), Network structure
Social Network Theory (Wasserman & Faust, 1994) Network exposure
Social Media Influences
Fogg Behavior Model (Fogg, 2009) Opinion leaders
Model of Internet Interventions (Karahalios & Harjumaa, 2008) Website use, Support, Website characteristics

2. Empirical Studies

Reference & Description Design Partipnt Theory Sig. Effect
Obernauer et al. (2004). Smoking cessation using cell phone text messaging and Internet. 1 grp 46 college smokers TTM Yes
Riley et al. (2008). Internet and mobile phone text messaging. 1 grp 31 college smokers TTM Yes
Rogers et al. (2005). Smoking cessation using mobile phone text messaging and buddy feature. 2 grp 2 RCT 671 smokers (6-15 yo) Not explicit Yes
Wrightier et al. (2011). Video messaging mobile phone for smoking cessation; 2 TUT; IT. 2 grp 2 RCT 296ry adult smokers SCT Yes
Abrams et al. (2008). Formative evaluation of the K-Pack Program. 2 grp 2 RCT 43 college smokers SCT Yes
An et al. (2008). The RealU online cessation intervention with tailored/interactive features. 2 grp 2 RCT 517 college smokers SCT; Prob beh Yes
Buller et al. (2008). Randomized trials on Consider This tailored smoking prevention program. Pair- matched. 2 TUT & 1,234 adult. SCT; MI Mixed
Chen et al. (2006). Smoking cessation program with an Internet-assisted instruction. 2 grp 2 RCT 776 high school smokers Not explicit Yes
Alcove et al. (2004). Process evaluation of a cessation program; Kick It. 2 grp 2 RCT 70 college smokers TTM; Design th Yes
Norton et al. (2008). Classroom-based smoking prevention and cessation in schools. 2 grp 2 RCT 1462 adolescents Cognitive beh Yes
Norman et al. (2008). Classroom-based smoking prevention and cessation in schools. 2 grp 2 RCT 139 adult smokers Likelihood action Yes
Piper et al. (2006). Stomp Out Smokers vs. brief office intervention for smoking cessation. 2 grp 2 RCT 2276th graders Syst Yes
Sheloch et al. (2005). Pilot test of HeadStart program to affect smoking cessation. 2 grp 1 RCT 22276th graders Not explicit Yes
Woodruff et al. (2007). Virtual world chat room (Breathing Room) for smoking cessation. 2 grp 2 RCT 136 high school smokers SCT; TTM; MI Yes

3. Integrating Social Influence and Social-media Influence Mechanisms

4. Discussion

Social influence is an established construct for effective adolescent smoking interventions.
- The 14 studies varied in design, delivery, time frame, sample size, and specific intervention components.
- Most interventions emphasized cessation (vs. prevention) and included brief mentions of theory. Few addressed process measures.
- The proposed model integrates system design features that explain social media influence mechanisms and highlight the interactivity with traditional cognitive behavioral processes.

5. Implications

- Social influence based interventions that use social media and social networks are promising, but lack sound theoretical support.
- Future studies should explore the full use of Web 2.0 features for real-time influence and feedback between existing network members.
- More emphasis on process evaluation is necessary to identify effective intervention components and to increase long term cost efficiency.
- Social media features facilitate socialization patterns that can be harnessed for innovative, interactive, and tailored interventions for adolescent smoking prevention and cessation.

6. Acknowledgement

This research was supported by a National Institutes of Health/National Cancer Institute Ruth L. Kirschstein NRSA award (T32 CA-009492-28). For more information, contact Grace C. Huang (grace.huang@usc.edu).

Introduction

Smoking is a public health concern for adolescents and young adults and associated with increased risks of addiction, future problem behaviors, and many chronic illnesses.

Social influence has been recognized as a significant factor in the adolescent’s decision-making process. Many behavioral research theories incorporate social influence constructs to guide health promotion interventions. The recent increase in social media outlets, however, have transformed traditional communication patterns, as well as the dimensions of social influence.

Mobile phones and Internet social network sites accelerate the transmission of information and adoption of new ideas or behaviors. Since adolescents are one of the major consumers of these new technologies, the use of social media may be an effective way to reach this age group for smoking prevention/cessation interventions.

Many new studies have shown moderate success in using social media as an intervention tool. However, few are based on a sound theoretical foundation and even fewer address the specific mechanisms that explain how and why they were effective.

Study Aims

1. Provide a theoretical overview of potential mechanisms by which social media influences may occur.
2. Review the existing empirical studies in smoking prevention or cessation delivered through social media channels.
3. Propose a new theoretical framework to guide future social media interventions for adolescent health promotion.

Inclusion Criteria for Empirical Studies

- Incorporated social or interactive features of the mobile phone (i.e. text message) and the Internet (i.e. chat, blogs, email, quizzes, networking) for smoking prevention and cessation.
- Addressed adolescents and young adults as the intended audience group.
- Used either randomized control or quasi-experimental study designs.
- Published in English, in a peer-reviewed journal, regardless of specific geographical location and/or publication date.