

**Integrating Social Influence Theories with Social Media Intervention Mechanisms**

**The Persuasive Systems Design (PSD)**

(Oinas-Kukkonen & Harjumaa, 2008)  
 This model features principles for **persuasive systems**, with the intent to reinforce, change or shape attitudes and/or behaviors without using coercion or deception (Fogg, 2008).

Persuasion is attempted with either **computer-human** or **computer-mediated** interactions through discussion forums, instant messages or social networking sites.

The PSD model principles are categorized to support 4 mechanisms: 1) the **primary task**, 2) the **dialogue** between the user and the system, 3) the **system's** credibility, and 4) the degree of **social influence (support)** from others.

**Social Support Principles**

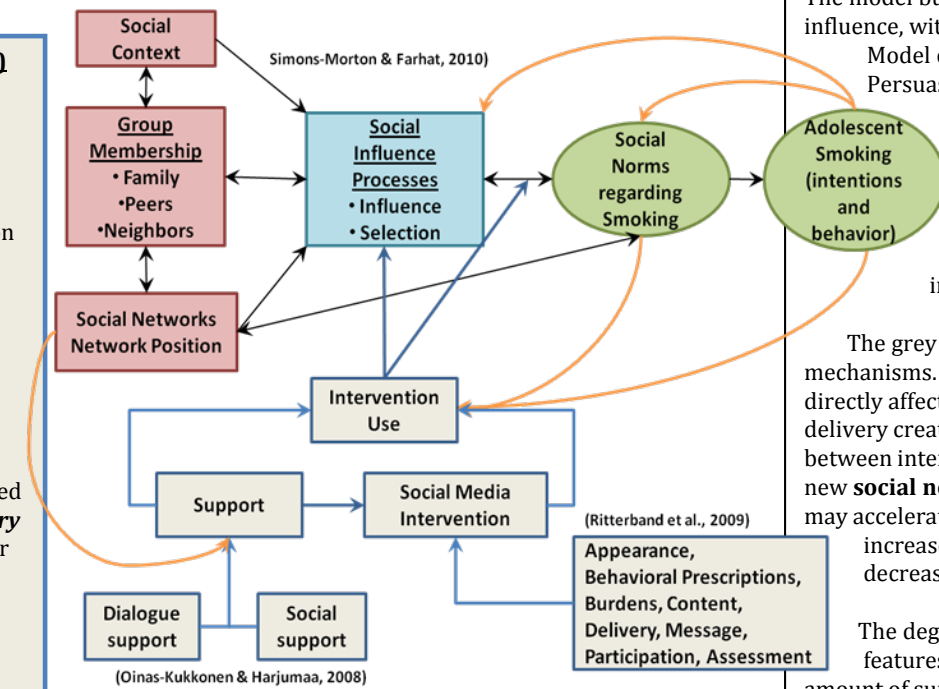
- Social learning
- Social comparison
- Normative influence
- Social facilitation
- Cooperation
- Competition
- Recognition

**Dialogue Support Principles**

- Praise
- Rewards
- Reminders
- Similarity

**Primary Task Support Principles**

- Simplification of task
- Self-monitoring
- Simulation
- Personalization



**The Model of Internet Interventions**

(Ritterband et al., 2009)  
 This model provides a framework for understanding the components that make an Internet-based intervention successful.

The use of an Internet intervention is determined by:

- 1) **Individual characteristics**
- 2) **Website characteristics,**
- 3) **Adherence to the site,** and
- 4) **Support offered by the program to assist users**

The degree of intervention exposure forms the basis of behavior change mechanisms and maintenance. An exhaustive list of design elements derived from social marketing and Web-based design theories, in turn, serve as a detailed guide for the development and evaluation of intervention measures.

The model builds on Simons-Morton and Farhat's (2010) model of social influence, with the addition of new system design dimensions adapted from the Model of Internet Interventions (Ritterband et al., 2009) and the Persuasive Systems Design Model (Oinas-Kukkonen & Harjumaa, 2008).

These additions extend our traditional understanding of social influence mechanisms as social media tools are incorporated into tobacco use interventions. With the addition of social network sites and mobile phone texting, there are now boundless pathways for interactions and influences to occur (Cugelman et al., 2011; Fogg, 2008).

The grey boxes indicate the entry points for social media change mechanisms. Based on the Model of Internet Interventions, **intervention use** directly affects social influence processes whereby instantaneous information delivery creates new contexts for **selection and influence**. The interaction between intervention use and social influences then collectively formulates new **social norms**. For instance, high exposure to the intervention messages may accelerate the transmission of tobacco-related information, which may increase negative social norms about smoking, and subsequently decrease the adolescent's propensity to begin or continue smoking.

The degree to which an intervention is actually used is dictated by features of the **intervention** itself (Ritterband et al., 2009) and the amount of support from the system (**dialogue support**) or from other system users (**social support**) (Oinas-Kukkonen & Harjumaa, 2008). The source of this social support may originate from intervention staff, existing networks, or a fully-automated computer system.

**Cyclical feedback loops** highlight the interactivity between cognitive-behavioral processes and the social media intervention. An intervention linked to a social network site could, for instance, become a dynamic space where relationships are constantly being re-evaluated as values, expectancies, attitudes, and behaviors change based on the feedback from their support network and changing social norms. **Bi-directional arrows** suggest that exogenous **contextual factors, group memberships, network structures** are integrated, and that influence processes are fluid.

The model hypothesizes that as intentions and behaviors are altered and broadcasted, they then contribute to reciprocal influences on social norms and friendship structures in the network. This model integrates theories and constructs from multiple disciplines, allowing researchers to conceptualize, identify, and measure the factors likely to contribute to behavior change in social media interventions.