

## Chapter 13

# Persuasive Subtleties of Social Networking Sites: Design Implications for Behavior Change Interventions

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### ABSTRACT

*The key objective of this chapter is to improve deeper understanding of SNSs' usage, acceptance, and users' actual behaviors. The authors propose that understanding the phenomenal success of Facebook could provide valuable information for developing health behavior change interventions. Using structured questionnaires, the authors collect qualitative data to understand SNSs users' online behaviors with an explicit focus on enjoyment and entertainment, desire to be connected, reciprocation, information quality, need for admiration, and influence of task obtrusiveness. The authors perform quantitative analyses with a special focus on value-based constructs because values are motivational constructs and could help predict users' behaviors. Results indicate that enjoyment and entertainment, reciprocation, and admiration have the strongest influence on individuals' behaviors. Although it is still early for people to use SNSs for health purposes, the results could pave the way for future research into this interesting area.*

### BACKGROUND

As humans, we are largely driven by inspirations and motivations. Our motivations are a combination of varying dynamics ranging from living a healthy life, financial stability, having social connections and so forth. Additionally, we tend to have different beliefs and viewpoints that gradually become a part of our personae. Intriguingly, not all of us act in accordance with our beliefs.

For example, most of us are in favour of physical exercise still only a few adhere to regular exercise routine. The same goes for consuming fast food, despite its detrimental consequences; high majorities of people eat junk food that leads to physical disorders such as obesity. We have a natural tendency to behave in contradiction to our beliefs. In other words, there is a gap between what we believe in and what we essentially end up doing. This unpredictable behavior gives rise to a unique

DOI: 10.4018/978-1-4666-8789-9.ch013

state of cognitive distress as highlighted by the Cognitive Dissonance theory (Festinger, 1962). It was this particular gap that predetermined a manifesto for persuasive systems aiming at supporting people in overcoming disparities between their beliefs and behaviors.

Capitalizing on the above said, Fogg (2002) wrote his seminal book *Persuasive Technology: Using Computers to Change What We Think and Do*. Emerging technologies that aim to change peoples' behaviors are gaining increasing attention. Studying human behavior and developing behavior change interventions reveal plentiful gaps in terms of narratives, development processes and implementations. Over the past decade, digital interventions with influential features have received remarkable attention from researchers and practitioners. Generally, there are three categories of such interventions with abstract yet significant differences. We propose that these categories include Digital Interventions (DIs), Persuasive Systems (PSs) and the conceptual Behavior Change Support Systems (BCSSs). Digital interventions have primarily been focused on preventive health, Persuasive Systems emerged as interactive IT artefacts with a specific focus on desirable behavior change using functionalities including and not limited to reminders, virtual rewards, and social learning etc. Although persuasive systems have gained significant success over the years, researchers and system developers have somewhat failed to demonstrate actual and enduring change in users' behaviors and/or attitudes as argued by Oinas-Kukkonen (2010). We propose that for developing effective behavior change interventions, there is a need for advanced knowledge of socio-technological features in the process of abstraction, development and implementation.

Essentially persuasive information systems are interactive IT artefacts. Emergence and wide-spread acceptance of social web and ubiquitous computing devices have created tremendous opportunities for shaping peoples' behaviors in general health, psychological well being, sociabil-

ity and economic contexts (Oinas-Kukkonen & Harjumaa, 2008). Several scholars have defined persuasive information systems nevertheless Fogg's (2002) definition stands out amongst all where he describes these systems as technologies that are designed to bring a desirable change in peoples' behaviors and/or attitudes. Recently, persuasive information systems have been developed to tackle an array of problem domains such as promoting physical activity (Toscos, Faber, An & Gandhi, 2006), smoking cessation (Walters, Wright and Shegog, 2006), promoting sensible usage of energy (Midden & Ham, 2009), healthy aging (see Intille, 2004) and managing depression (see Langrial, Oinas-Kukkonen, Lappalainen & Lappalainen, 2013).

Oinas-Kukkonen (2010) has supplemented the research discipline of behavior change technologies by introducing the theoretical framework that is termed as Behavior Change Support Systems (herein "BCSSs"). His concept takes contemporary research a step further because of his emphasis on developing interactive and assistive IT artefacts that are augmented with software features for extended user-system interaction. It is important to note that the concept of BCSSs originates from Fogg's creative work on persuasive technologies. Nonetheless, it brings in new elements and research directions including thorough systems analysis and implementation of software features (for example, tunnelling, reduction, personalization, reminders, rewards, social influence etc.) The principal objective of a BCSS is to engage users into an enduring interaction with the system that would lead to a long lasting change in behaviors and attitudes.

We suggest that designers of behavior change interventions and health-related assistive technologies have somehow failed to develop successful IT artefacts that could demonstrate permanent change in peoples' behaviors. Designing effective behavior change interventions and health-related assistive technologies is a confounding task for numerous reasons thus users' requirements and

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