



Development of a hybrid model with elements of information seeking, behavioral change and social influence



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ABSTRACT

Health promotion campaigns using theories or models consistently produce stronger behavioral changes and are more effective interventions. The proposed Information Attainment and Adoption Model integrates components of the Theory of Motivated Information Management and the Precaution Adoption Process Model. The Information Attainment and Adoption Model uses strategic constructs in a semi-staged design to move individuals from being unaware of an issue to seeking and attaining the information to maintaining the behavior. The model is based on four stages: motivation, guidance, action and maintenance. The model is intended to be flexible enough to be used for a variety of health promotion issues and with a variety of communication channels. An example from the field of motor vehicle safety is used to demonstrate applicability of the model to a campaign under development. Empirical research is needed to determine the efficacy and effectiveness of the model in changing behavior as well as the ease of use for campaign developers.

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1. Introduction

Studies show that health promotion interventions steeped in behavioral theory are more effective at producing desired results compared to those without a theoretical foundation (Corcoran, 2007). Furthermore, the effect magnitude might be larger for public health interventions designed to incorporate elements of two or more theoretical models (Legler et al., 2002). While planning a national campaign to encourage drivers to use their vehicle safety technologies more effectively, we were unable to find a model or theory that illustrated how a person could move from being completely unaware of a risk, to attaining information about the risk, to changing and maintaining the new behavior. The unsuccessful search for a single framework ultimately led to the development of a hybrid model presented here that incorporates concepts from the Theory of Motivated Information Management and Precaution Adoption Process Model.

The central intent of the Theory of Motivated Information Management (TMIM) is to explain what motivates individuals to seek out new information on topics of importance. The TMIM seeks to improve our understanding of the process through which individuals decide whether or not to gather more information on a specific topic that may be important to them. This theoretical framework dissects the decision making process for information seeking behavior in three phases: interpretation,

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evaluation and decision. The interpretation phase occurs when individuals become aware that they do not know as much about an important subject as they believe they should. This perceived uncertainty will lead to an emotional reaction, such as anxiety or unease (Afifi & Weiner, 2004; Fowler & Afifi, 2011). In the evaluation phase, individuals perform an assessment of the costs and benefits to seeking the information and efficacy to obtain the information. Based on the results of the assessments, the decision phase will determine whether or not that information will be sought (Fowler & Afifi, 2011).

TMIM has been used on a range of topics involving interpersonal communication, including seeking information on family medical history (Hovick, 2014; Rauscher & Hesse, 2014) and specific diseases or chronic health conditions (Fowler & Afifi, 2011; Nehama & Martinez, 2014; Wong, 2014; Zhao, 2014). While the TMIM offers a promising approach for motivating information seeking behavior, it does not address what happens after individuals obtain the information. Our campaign required a model that motivated individuals to seek and attain information and then use that information to change their behavior. We looked to the Precaution Adoption Process Model (PAPM) to address this gap. In the first stage of PAPM, individuals are unaware of a health issue, in stage two they become aware but not yet engaged (Weinstein, Sandman, & Blalock, 2008). In stage three they are undecided about committing to an action, which will either lead to deciding not to act (stage 4), or deciding to act (stage 5). The final stages (6 and 7) illustrate individuals adopting the behavior and then actively maintaining the behavior (Weinstein et al., 2008).

Like TMIM, PAPM has been used as a framework for a variety of public health interventions. PAPM has been applied to disaster preparedness and effective response (Glik, Eisenman, Zhou, Tseng, & Asch, 2014; Jassempour, Shirazi, Faraoei, Shams, & Shirazi, 2014), osteoporosis prevention (Blalock et al., 2002), and home radon testing (Weinstein, Lyon, Sandman, & Cuite, 1998).

The TMIM describes how information seeking is motivated by raising awareness of a perceived knowledge gap. Because our topic is emerging and not well-known, we assumed that the general public had a knowledge gap and we needed to bring attention to it. We found the TMIM does not rely entirely on motivating individuals with negative consequences, one of our needs from a model. A major limitation in TMIM is it does not extend past information seeking into behavior change. The goal of our campaign was not simply to motivate individuals to seek and attain information, but also to encourage them to use the information to change behavior. Unfortunately the TMIM, very much like other information seeking theories, was limited in its ability to address this need.

The PAPM fulfills several of our needs; it addresses protective behaviors, it does not rely entirely on consequences – either positive or negative – for motivation, it helps explain behavioral change and it has been used on new and emerging topics. As a stage theory, PAPM is easily deconstructed to allow integration of new concepts. In addition, there is obvious overlap with the TMIM which would be essential in creating an integrated model. TMIM and PAPM both utilize behavioral concepts that have been shown to be easily applicable in campaign planning, another useful characteristic of the models (Jones & Donovan, 2004).

2. Creating a hybrid model

Before the development of the new model, we considered what factors would predict or precede the occurrence of behavioral change. First, we want to motivate information seeking and attainment. Next, we want individuals to use the information to learn about the behavior and decide to act. Then, we want to make sure that the behavior is adopted and maintained over a period of time. These are the four stages of the new Information Attainment and Adoption Model (IAAM): motivation, guidance, action and maintenance.

We identified key constructs and points of comparison in the TMIM and PAPM and integrated them within the four stages of the IAAM. These constructs form strategies for the intervention to push a person through the model. Fig. 1 demonstrates how the components of the TMIM and PAPM were integrated to create the four stages of the IAAM.

Perceived knowledge gap and perceived importance are main constructs within the TMIM and were adopted in the IAAM as motivating factors to seeking and attaining information in stage one. We applied the TMIM's outcome expectancies and efficacy constructs under stage one as demonstrating benefits, reducing barriers and increasing confidence in seeking and attaining information.

We translated the PAPM stages into constructs based on a list of factors likely to move individuals through the stages (Weinstein et al., 2008). Weinstein et al. (2008) proposes using social pressure and perceived susceptibility to engage individuals. We included increasing individuals' perceived social pressure and perceived risk as key constructs to motivating them to seeking and attaining information in stage one.

Key factors in the PAPM to move individuals from deciding to acting include detailed information about the behavior, reminders and cues to action (Weinstein et al., 2008). While Weinstein et al. (2008) propose detailed implementation information, such as “how to” guides, are most important after individuals have decided to act, we believe individuals may be more likely to change their behavior if they are confident they have the resources to change (Ajzen, 1991). Detailed and easy-to-understand information will increase confidence and likelihood of adoption. Weinstein et al. (2008) suggests addressing individuals' beliefs about the cost and benefits of adopting a behavior to motivate them to make a decision about whether or not to act. We have included these concepts of demonstrating benefits, reducing barriers and increasing confidence in adopting behavior under stage two.

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