Social-Cognitive Factors in Health Behavior Change

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ABSTRACT

Adoption and maintenance of health behaviors require two separate processes that take place in a motivation phase and in a volition phase. First, an intention to change is developed, among others, on the basis of self-beliefs. Second, self-regulation is at stake when it comes to planning, initiating, maintaining, and relapse management. Social cognition models of health behavior change address these two processes. One such model, the Health Action Process Approach, is explicitly based on the assumption that two distinct phases need to be studied longitudinally, one phase that leads to a behavioral intention and another that leads to actual health behavior. Within both stages, different patterns of social-cognitive predictors may emerge, with perceived self-efficacy as the only predictor that seems to be equally important in both phases. Identifying individuals at particular points within the change process has considerable implications for treatment.

Keywords: health behavior; self-regulation; self-efficacy; risk perception, social-cognition model
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Many health conditions are caused by such risk behaviors as problem drinking, substance use, smoking, reckless driving, overeating, or unprotected sexual contact. Fortunately, human beings have, in principle, control over their conduct. Health-compromising behaviors can be eliminated by self-regulatory efforts, and health-enhancing behaviors, for instance physical exercise, weight control, preventive nutrition, dental hygiene, condom use, or accident-preventive actions, can be adopted instead. The adoption of health behaviors is often viewed rather simplistically as a response to a health threat. Individuals may become aware that their lifestyle puts them at risk for a threatening disease. Consequently, they are believed to make a deliberate decision to refrain from risk behaviors in favor of recommended precautions. This commonsense view of behavioral change is based on the questionable belief that humans are rational beings who respond to a perceived risk in the most reasonable manner. However, many studies show that risk perception alone is a poor predictor of behavioral change. This state of affairs has encouraged health psychologists to identify other alterable variables and to design more complex models that include an integrated pattern of determinants and processes of change (for reviews, see Conner & Norman, 1996; Schwarzer, 1992; Wallston, 1994; Weinstein, 1993).

The following sections address first the motivation process, and second the self-regulatory processes of planning, initiation, maintenance, and relapse management. Third, modeling of health behavior change is discussed.

Motivation to Change

Before people change their habits, they need to become motivated. This is seen as a process towards an explicit intention (e.g., “I intend to quit smoking this weekend”). Three variables
are considered to play a major role in this process, (a) risk perception, (b) outcome expectancies, and (c) perceived self-efficacy.

Perceiving a health threat seems to be the most obvious prerequisite for the motivation to remove a risk behavior. If one is not aware at all of the risky nature of one’s actions, motivation does not emerge. Scaring people into health behaviors, however, has not been shown to be effective. In general, initial risk perception seems to be advantageous to put people on track for developing a motivation to change, but later on other factors are more influential in the self-regulation process.

People not only need to be aware of the existence of a health threat, they also need to know how to regulate their behavior by understanding the contingencies between their actions and subsequent outcomes. These outcome expectancies are among the most influential beliefs in the motivation to change. A smoker may find more good reasons to quit than good reasons to continue smoking (“If I quit smoking, then I will save money”). This imbalance does not directly lead to action, but it can help to develop an intention to quit. The pros and cons represent a number of positive and negative outcome expectancies that are typical in rational decision making. However, such contingencies between actions and outcomes need not be explicitly worded and evaluated—they can also be rather diffuse mental representations, loaded with emotions. Outcome expectancies can also be understood as methods, or means-ends relationships, indicating that people know proper strategies to produce desired effects.

The efficacy of a method has to be distinguished from the belief in one’s personal efficacy to apply the method. Perceived self-efficacy portrays individuals’ beliefs in their capabilities to exercise control over challenging demands and over their own functioning (Bandura, 1997). These beliefs are critical in approaching novel or difficult situations or in adopting a strenuous self-regimen. People make an internal attribution in terms of personal competence when forecasting their behavior (e.g., “I am certain that I can quit smoking even if my friend continues to smoke.”). Such optimistic self-beliefs influence the goals people set
for themselves, what courses of action they choose to pursue, how much effort they invest in
given endeavors, and how long they persevere in the face of barriers and setbacks. Some
people harbor self-doubts and cannot motivate themselves. They see little point in even
setting a goal if they believe they do not have what it takes to succeed. Thus, the intention to
change a habit that affects health to some degree depends on a firm belief in one’s capability
to exercise control over that habit.

Health communications that focus on arousing fear of disease, informing about health-
compromising habits, or increasing perceived personal vulnerability, are less effective than
health communications that raise belief in personal efficacy (Meyerowitz & Chaiken, 1987).
Perceived self-efficacy operates in concert with risk perception, outcome expectancies, and
other factors when it comes to the motivation to change. There is a large body of evidence
documenting the influence of these three predictors on the development of an intention.
Unfortunately, research that employs behavioral intentions as the criterion variable is more
prevalent than research that addresses actual behaviors (for reviews, see Bandura, 1997;
Schwarzer & Fuchs, 1995, 1996). Since most studies are based on cross-sectional research
designs, only little is known about the causal sequence and interplay of these factors. It is
assumed that initial risk perception sets the stage, whereas outcome expectancies and
perceived self-efficacy may emerge later. At the point in time when the behavioral intention is
measured, the latter two emanate as the major predictors, whereas the former is often
insubstantial.

Self-Regulatory Processes

Changing one’s health behavior is a difficult self-regulation process. After people have
adopted a goal, they need to prepare action and, later, maintain the changes in the face of
obstacles and failures. Thus, goal setting and goal pursuit can be understood as two distinct processes, the latter of which requires a great deal of self-regulatory effort.

Entrenched habits seldom yield to one single attempt at self-regulation. Renewed efforts are needed in order to achieve success. Strong self-beliefs can keep people on track and help them to persevere when temptations arise.

The process of self-regulation can be subdivided into sequences, such as planning, initiation, maintenance, relapse management, and disengagement, although these are not clearly distinct categories. The importance of planning has been recently emphasized by Gollwitzer (1999), who reviews research on what he calls “implementation intentions.” These plans specify the when, where, and how of a desired action and carry the structure of “When situation S arises, I will perform response R.” By this, situational circumstances or opportunities are cognitively linked to one’s goal behavior. It is argued that goals do not induce actions directly, but that they need to be mediated by highly specific plans. For example, the pursuit of goals in health promotion, such as strenuous physical exercise, and in disease-prevention, such as cancer screening, is facilitated by mental process simulation.

If the appropriate opportunity for a desired action is clearly defined in terms of how, when, and where, the probability for procrastination is reduced. People take initiative when the critical situation arises and give it a try. This requires firm self-beliefs in being capable of performing the action. People who do not hold such beliefs see little point in even trying.

The adoption and maintenance of the health behavior are not achieved through an act of will, but rather involve the development of self-regulatory skills and strategies. This embraces various means to influence one’s own motivation and behaviors, such as setting attainable, proximal subgoals, creating incentives, drawing from an array of coping options, and mobilizing social support. Action control processes include focussing one’s attention on the task, while ignoring distractors, resisting temptations, and managing unpleasant emotions.
Perceived self-efficacy is required in order to overcome barriers and stimulate self-motivation repeatedly.

Those who can get themselves started are quickly confronted with the problem of whether they can be resolute. Adherence to a self-imposed health behavior is difficult because of performance fluctuations, such as improvements, plateaus, setbacks, and failures. Competent relapse management is needed to recover from setbacks. Some people rapidly abandon their newly adopted behavior when they fail to get quick results. When entering high risk situations (e.g., a bar where others smoke) they cannot resist due to a lack of self-efficacy. The competence to recover is different from the competence enlisted for commencing an action. Restoration, harm reduction, and renewal of motivation are serviceable strategies within the context of health self-regulation.

Disengagement from the goal can be evidence for lack of persistence and, thus, can indicate self-regulatory failure. But in case of repeated failure, disengagement or scaling back, the goal might become an option that can be adaptive, depending on the circumstances. For example, if the goal was set too high, or if the situation has changed and become more difficult than before, it is seldom worthwhile to continue the struggle. In the case of health-compromising behaviors, giving up is not a tenable option. Instead, self-regulatory skills have to be developed, and unique approaches to the problem need to be taken. Failure can be a useful learning experience to build up more competence, on the condition that the individual makes a beneficial causal attribution of the episode and practices a constructive internal dialogue to renew the motivation (Baumeister & Heatherton, 1996).

**Social Cognition Models of Health Behavior Change**

The initial motivation process comprises the setting of health behavior goals, whereas the subsequent self-regulation process addresses the pursuit of these goals. In health psychology,
attempts are being made to model such processes with the aim to understand the mechanisms of how people become motivated to change their risk behaviors, and how they become encouraged to adopt and maintain health actions. In the past, the focus of such models has been on identifying a parsimonious set of predictors that included constructs such as attitudes, social norms, disease severity, personal vulnerability, behavioral intention, etc. The most prominent approaches were the Health Belief Model, the Theory of Planned Behavior, and Protection Motivation Theory (for an overview and critique of these and other models, see Conner & Norman, 1996; Schwarzer, 1992, Wallston, 1994; Weinstein, 1993).

The Health Action Process Approach (HAPA; Schwarzer, 1992, 1999; Schwarzer & Fuchs, 1995, 1996) pays particular attention to postintentional mechanisms and conveys an explicit self-regulation perspective. It suggests a distinction between preintentional motivation processes and postintentional volition processes. Within these two phases, different patterns of social-cognitive predictors may emerge.

Insert Figure 1 about here

In the initial motivation phase, a person develops an intention to act. In this phase, risk perception is merely seen as a distal antecedent within the motivation phase. It may include not only the perceived severity of possible health threats, but also one’s personal vulnerability to fall prey to them. Risk perception in itself is insufficient to enable a person to form an intention. Rather, it sets the stage for further elaboration of thoughts about consequences and competencies. Outcome expectancies operate in concert with perceived self-efficacy, both of which contribute substantially to the development of an intention, whereas this pattern changes in the postintentional stage.
After goal setting, people enter the postintentional, or self-regulation phase, in which they pursue their goal by planning the details, trying to act, investing effort and persistence, possibly failing, and finally recovering or disengaging. The guiding principle here is that each substage advances from the previous one and, in addition, is facilitated by perceived self-efficacy. Thus, at each point there are two predictors, namely the successful completion of the previous substage in conjunction with an optimistic sense of control over the next one. Risk perception and outcome expectancies no longer exert much influence once goals have been set and actual behaviors are predicted. Certainly, there may be various influential variables in the self-regulation phase, but, according to present knowledge, stage progression and self-beliefs appear as the most parsimonious and powerful set of predictors.

Conclusions

The major health behavior models share several common predictors, among them risk perception, outcome expectancies, and perceived self-efficacy, while behavioral intentions and actual behaviors serve as dependent variables. The wording of these factors is different in different theories. For example, behavioral beliefs (as precursors of attitudes) can be equated to outcome expectancies, and perceived behavioral control can more or less be matched to perceived self-efficacy. Communication among theorists and among researchers is undermined by lack of conceptual clarity on the one hand, and high overlap of differently phrased constructs, on the other. A consensus is required in identifying and labeling those constructs.

Although these models assume an underlying motivation and volition process, most of the corresponding studies use only cross-sectional designs in which intentions and self-reported behaviors are predicted by the remaining variables of the model. However, such static prediction does not reflect changes over the course of time, for example stage
transitions or recycling through phases. Most importantly, only few of these models account for the postintentional phase, in which goals are translated into action, rendering the segment between intention and behavior a black box. Health behavior change, then, is reduced to the motivation phase, while the action phase is omitted. Research is needed to measure volitional constructs in a valid and parsimonious manner.

The health behavior change model described here is provided as a heuristic to understand better the complex mechanisms that operate when individuals become motivated to change their habits, when they adopt and maintain a new habit, and when they attempt to resist temptations and recover from setbacks. It applies to all health-compromising and health-enhancing behaviors and could even be adjusted to behavior change in more general ways. Efforts are called for that make observational data available at multiple points in time. Moreover, matching an appropriate intervention strategy to a given stage of change becomes a desirable goal for applied research.
REFERENCES


RECOMMENDED READING


Goal

Plan

Initiative

Maintenance

Recovery

Self-Efficacy

Outcome Expectancies

Risk Perception

Dis-engagement

Action

Barriers and Resources