

Chapter 2

Theory and Fundamentals of Health Promotion for Children and Adolescents

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2.1 The Importance of Theory

Health promotion, and more broadly, public health, is very much a discipline of “action.” While one may not need to understand theory to promote health, for an intervention to be effective, it is helpful to understand the theories surrounding health behavior, health promotion, and public health.

What exactly is theory? In simplest terms, theories are ways in which we can explain a phenomenon. A theory is an explanatory framework in which helps us understand and predict the ways in which individuals or societies operate. And although theories are abstract and conceptual, they can be tested in a systematic fashion (Viswanath, Orleans, Glanz, & Rimer, 2008). A fully developed theory can explain (1) factors that influence the phenomenon, (2) the relationship between these factors, and (3) the circumstances in which these relationships occur (Nutbeam, Harris, & Wise, 2010). Theory helps bind a discipline as well as provide boundaries, while on a pragmatic level, it provides a guide for a discipline’s practice.

In many ways, theory and practice have often been pitted as opposite concepts, with research or empirical investigation serving as a way to bridge these two ideas by testing the theory in action. Indeed, “theory, research, and practice are a continuum along which the skilled professional should move with ease. Not only are they related but they are each essential to health education and health behavior” (Viswanath et al., 2008). The relationship between theory, research, and practice is complex and perhaps can better be described as a cycle of interacting endeavors that feed off of each other. Theory provides the conceptual underpinning to research and practice, while both research and practice provide the empirical evidence to better shape concepts within theory.

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Theory needs to be understood and applicable in a variety of settings in order to be useful. In essence, theories are distilled representations of our reality, and while they can never be totally encompassing of all the nuances of behavior, a good theory can be a helpful guide toward effective programming. Theories can help define the problem, provide guidance on how and where to target change, and determine a benchmark to implement and evaluate the program (Nutbeam et al., 2010). Within health promotion, theories can both explain health behavior and propose ways to change behavior. Explanatory theories explain the origin of a certain health behavior, while theories of action help guide the development of interventions (Viswanath et al., 2008).

2.1.1 Two Theoretical Paradigms

Given the diversity of the field of public health and health promotion, people often draw upon varying theories depending on the focus of their work. While some argue that this diversity brings about contention and competing public health action, the multidisciplinary nature of public health must include a variety of theories, as the reasons for health behavior are complex and multilayered.

One of the main contentions in the field of health promotion is the dualism between the individualist and structuralist approaches to health. Those that promote individualist theories argue that people exercise control over their health, and thus it is their responsibility to maintain it. Structuralist proponents argue that one cannot extricate an individual's health from the social, environmental, political, and economic conditions in which it occurs, and of which individuals have little control (Bandura, 2004).

Recently, the focus of “changing health behavior through a sequential change in knowledge, attitudes, and beliefs is no longer a prevailing paradigm in health promotion research” (Crosby & Noar, 2010). Intervening at multiple levels across the ecological spectrum is accepted as the better approach. Thus, there is a disconnect between current theories in health promotion, which are centered on the individual, and the broad set of influences on health behavior. Much of medicine depends on a “single cause-single disease” model, which proves to be insufficient when addressing the complexities of health behaviors and health problems (Livingood et al., 2011). There is the need for a better understanding of “how social factors regulate behaviors, or distribute individuals into risk groups, and how these social factors come to be embodied” (Glass & McAtee, 2006). Understanding how the more “upstream” factors influence the “downstream” individual factors has been essential to producing effective health promotion programs.

This chapter will first look at both individual-based theories and models to better understand the psychological frameworks that are used within health promotion. Broader social and ecological models will then be described. Intervention and planning models will be reviewed in order to provide a structured sequence in which to guide and conduct health promotion interventions.

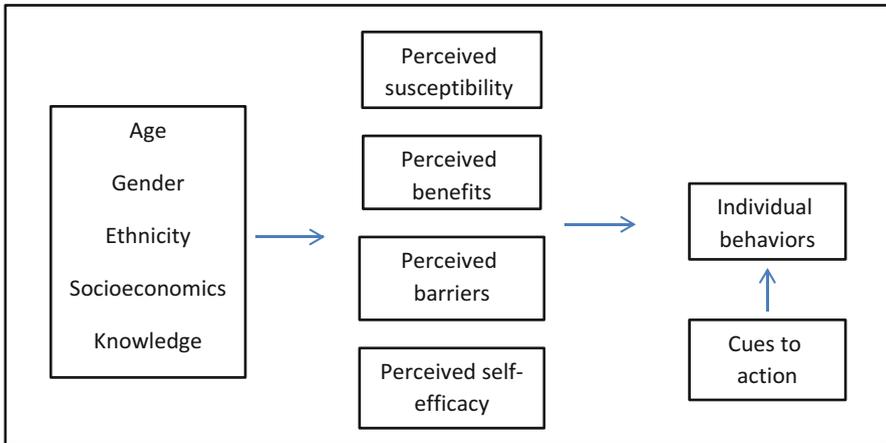


Fig. 2.1 Health belief model

2.2 Individual-Based Theories and Models

2.2.1 *The Health Belief Model*

The health belief model (HBM) was established in the early 1950s to understand why many people do not adhere to preventive health efforts. It has been one of the most widely used conceptual frameworks in health behavior research and interventions (Viswanath et al., 2008). This model takes into consideration psychological and behavior theories that posit the value a person places on a goal and their interpretation of how likely it is that that goal can be achieved. When put into a health context, the health behavior model attempts to predict the likelihood of person taking action for health problem using several concepts: susceptibility, severity, and the benefits and barriers to a behavior.

HBM suggests that individuals will take action if they perceive themselves to be susceptible to the illness or condition (perceived susceptibility), that this illness will have serious consequences (perceived severity), a course of action will minimize consequences (perceived benefits), and the benefits of taking action will outweigh the costs or barriers (perceived barriers) (Janz & Becker, 1984; Rosenstock, Strecher, & Becker, 1988; Rosenstock, 1974). The HBM suggests that before people change their behavior, they go through a process in which they weigh information before they reach a decision. Later iterations of the model have included modifying factors that are associated with personal characteristics and social circumstances, as well as Bandura's concept of self-efficacy (Fig. 2.1).

Critical reviews of HBM have shown empirical support for the model, through both prospective and retrospective studies (Harrison, Mullen, & Green, 1992; Janz & Becker, 1984; Rosenstock et al., 1988). In a 10-year review, Jan and Becker (1984) found that perceived barriers were the most powerful predictors across all

studies and perceived susceptibility was a strong predictor of preventive health behavior. Nevertheless, HBM has been criticized as a psychosocial model; it is limited to only what can be explained by individuals' attitudes and beliefs. HBM leaves out things such as the habitual nature of many behaviors, that many people take on behaviors for non-health-related outcomes, and that people are often constrained from making rational choices because of their environment. Additionally, the model is based on the premise that most people value health and their behaviors are driven by health goals (Janz & Becker, 1984).

Despite these critiques, the Health Behavior Model is still a widely used and helpful model, particularly for traditional preventive health behaviors such as screening and immunization. It is also helpful in providing a simple way to illustrate the importance of individual's belief about health and can assist practitioners to focus on ways to personalize and facilitate individual behavior change.

2.2.2 Reasoned Action and Planned Behavior

The theory of reasoned action and its subsequent extension, the theory of planned behavior, have been highly utilized in health promotion. The theory of reasoned action assumes that human behavior is for the most part rational and controllable. It posits that people's likelihood to engage in a behavior, or behavioral intention, is predicated by their attitudes and subjective norms. One's attitude toward a behavior is determined by the sum of one's beliefs in that behavior and one's evaluations of this belief. For example, one may believe that exercise is healthy and improves appearance but is also hard and time-consuming. Each of these beliefs is then weighted (looking good may be more important than comfort) to form an attitude. Subjective norms are the influence and expectations in one's social environment on performing the behavior in question. For example, a person may have many friends that exercise and encourage group participation, but also a significant other that is more sedentary. He or she then weighs the importance of each of those people's opinions. For any specific behavior, personal attitudes may be more or less important, depending on the weight attributed to subjective norms. Thus, in order for a health behavior intervention to be effective, it needs to take into account how the behavior is influenced by social norms and personal attitudes (Fishbein & Ajzen, 1975; Madden, Ellen, & Ajzen, 1992).

The theory of planned behavior (Ajzen, 1991) expanded the theory of reasoned action and targeted situations where individuals do not have full control over the behavior in question. While behavioral intention is still of central importance, it is not only influenced by attitude and subjective norms, but also by one's perceived control over said behavior. Perceived behavioral control refers to an individual's perception of the ease or difficulty with which they can change a particular behavior; this perceived control varies across situations and actions. It can not only have a direct effect on behavior but also an indirect effect through behavioral intentions.

Thus, when a person believes that they have little resources or ability to engage in a behavior, their behavioral intention may be low even if they have positive attitudes and subjective norms toward the behavior.

Together, these two theories are useful to think about the information that is needed from individuals in order to create a program or intervention that meets their health needs. They both underscore the importance of taking into account people's beliefs around an issue, who are the main influencers to those beliefs, and how much control they think they have around this behavior (Willis & Earle, 2007). Several meta-analyses (Armitage & Conner, 2001; Godin & Kok, 1996) found that social norms seem to be less important in predicting behavior than attitude and perceived behavioral control. While issues have been raised in the measuring of these constructs (Ajzen, 2011), the theory of planned behavior has been shown to accurately predict intentions and behavior, making it an important theory to consider in health promotion.

2.2.3 Stages of Change/Transtheoretical Model of Change

The transtheoretical model of change, also known as the stages of change model, was developed to explain the different stages individuals go through in adopting a behavior (Prochaska & DiClemente, 1986). It is based on the premise that behavior change is an ongoing process and that people have different motivations or readiness to change. Because it utilizes constructs and processes from different theories, it is dubbed “transtheoretical.”

The five stages are as follows:

- Precontemplation—when an individual is not even considering changing their behavior or those that are consciously intending not to change
- Contemplation—the stage at which a person is considering making a change to a specific behavior
- Determination—the stage in which a person makes a commitment to change
- Action—the stage in which the behavior change is initiated and the individual is explicitly changing their behavior
- Maintenance—the stage of sustaining the change and achievement of health gains

A sixth stage, *termination*, has been identified as being appropriate for certain behaviors such as addiction. It is the stage in which individuals who have changed their behavior have no temptation to return to their old behavior.

The model was based on observations that people appear to move through these stages in predictable ways, although some move through them quicker than others, and others get “stuck” at a particular stage. People can also move backward and forward through the stages, and as the model is circular, people can enter or exit at any point. It applies to both people who self-initiate and those who respond to advice and encouragement to change.

The transtheoretical model is helpful in tailoring interventions to the stage at which people are in the change process. On the individual level, for example, it can provide a useful way for health-care providers to think about the advice that they give their patients, establishing whether their patient wants to change, determining what are the barriers to change, and understanding that relapse is a common problem. For planning intervention programs, the model is useful in figuring out how activities should be staged. For example, for those populations in the precontemplation stage, education and consciousness raising will be important, while for those that have already initiated the behavior, programs that provide social support are more relevant.

DiClemente (2005) emphasized a third dimension of the model, the context of change. He argues that the environment, both internal and external, in which the targeted behavior change occurs is an important contribution to the process of the change and the ability to move through the process. For example, in order for people to eat healthy and make healthy food choices, they need to be in an environment where there is easy access and availability to healthy food.

The transtheoretical model has been used as an important reference point in health interventions ranging from smoking cessation, to physical activity, to HIV prevention (DiClemente et al., 1991; Prochaska, Redding, Harlow, Rossi, & Velicer, 1994; Sarkin, Johnson, Prochaska, & Prochaska, 2001). It emphasizes the range of needs in any population and the necessity for sequencing the interventions so that interventions address all the different stages of change. A 2005 review (Bridle et al., 2005) found that there was limited evidence in the effectiveness from interventions using this model, although the methodological quality of these studies was questionable. Nevertheless, the model is useful in settings such as behavioral psychology and clinical settings.

2.3 Social/Ecological Theories of Health

2.3.1 Social Cognitive Theory

The social cognitive theory (SCT) was built on the understanding of the reciprocal interaction between an individual and their environment and addresses both what determines health behavior and how to promote change. While most behavioral and social theories emphasize individual, environmental, and social factors that influence behavior, SCT posits that there is a dynamic interplay between these factors and that the relationship between people and their environment can be both subtle and complex. This emphasis on *reciprocal determinism*, as Bandura labels it, calls for an understanding of the continuous interaction between individuals, their environment, and their behavior. Thus, while environments can influence how people behave, people can also alter and construct environments to suit their purposes (Bandura, 1986).

In addition to this interactive dynamic, Bandura also explains a range of personal cognitive factors that affect behaviors and the environment. It lays out that people's actions are not only based on an objective reality but rather their perceptions of it. First, knowledge of health risks and benefits are the precondition for change, as people need to know how their lifestyle habits affect their health in order to embark to change habits that they enjoy (Bandura, 2004). People often learn about certain behaviors by observing others (*observational learning*), marking the importance of peer influence and social norms on health behavior. Second, people place value on *expectations*, such that in order to embark on a new behavior, they need to understand what the potential outcome will be when the behavior is repeated. These expectancies are greatly influenced by the environment of the observer and highlight the importance of understanding the motivations behind different behaviors. Third, and most importantly, is the concept of *self-efficacy*. Self-efficacy is one's belief in their ability to perform a behavior. Bandura states that self-efficacy is the most important prerequisite to behavior change and will greatly affect how much effort is placed into the task. People with high self-efficacy are more likely to take on challenges and recover quickly from setbacks and disappointments, while those with low self-efficacy are less confident and thus less likely to embark on tasks deemed to be difficult. Meta-analyses have shown that self-efficacy plays an influential role across multiple domains of health functioning and indeed is the focal determinant. It affects people's goals and aspirations, how they view barriers, and shapes the outcomes people expect to produce (Bandura, 1986, 1991, 2004).

In terms of the environmental influences, social cognitive theory describes how the environment needs to support behavior modification. One such way is through *incentive motivation* which provides rewards or punishment depending on the behavior, through such things as policies or punitive laws (i.e., tobacco taxation). Another approach is *facilitation* which provides resources that allows behaviors easier to perform (i.e., free condom distribution).

Overall, the social cognitive theory provides a comprehensive base for health promotion programs. It gives a conceptual framework for understanding what influences individual human behavior, the processes in which learning occurs, and the broader environmental concerns. SCT also offers practical directions for health practitioners to modify these various influences through individual, community, and policy changes.

2.3.2 Ecological Model of Health Promotion

A broader view of health behavior takes into account an individual's lifetime exposure to the influences of family, community, and society (Glass & McAtee, 2006). The ecological model of health promotion, having its roots in the earliest iterations of public health, presents health as an "interdependence between the individual and subsystems of the ecosystem" (Green, Richard, & Potvin, 1996). It acknowledges

multiple levels and dimensions of determinants of health, ranging from environmental, policy, social, and psychological. Because of this explicit consideration of multiple levels of influence, interventions stemming from this model are more comprehensive.

At its core, the ecological model of health promotion presents health “as the product of the interdependence between the individual and subsystems of the ecosystem” (Green, Richard, & Potvin, 1996). These subsystems include intrapersonal (psychological, biological), interpersonal (social, cultural, family), community, physical environment, and policy (McLeroy, Bibeau, Steckler, & Glanz, 1988). This behavior-environment interaction is reciprocal in nature, where the environment controls and influences behavior and the behavior of individuals, groups, and organizations influences and changes their environment. This comprehensive framework allows for intervention approaches to target changes at multiple levels of influence and posits that multi-level interventions are the most effective in changing behavior.

The four main principles of the ecological perspective are the following: (1) there are multiple levels of factors that influence health behavior and some concepts cut across levels such as sociocultural factors and physical environment; (2) there is interaction across levels such that variables work together; (3) multi-level interventions are most effective in changing behavior and having sustaining effects; and (4) ecological models are most useful when they are behavior specific. The ecological approach posits features of the social and built environment above and before the individual that constrain, limit, reward, and induce the behavior of the individual (Glass & McAtee, 2006).

The ecological model takes into account the importance of *contextualizing* individual behavior. People act differently in different environments, and effectiveness of any health promotion strategy depends on its fit to the specific environment in which the intervention is to be applied. Educating and providing skills to change behavior is not sufficient if the existing environment and policies stand in the way of making healthy choices. Thus, one can teach and motivate people to eat healthy foods and exercise, but if their environment does not consist of places to purchase healthy food or safe places to exercise, much of the “choice” behind the behaviors disappears.

One critique of the ecological model is that it offers limited guidance on the dynamic interactions of these factors and the unique elements of settings (Livingood et al., 2011). Because of its complexity, the model lacks specificity about what is most important and burdens the health professional with the task of figuring out what the critical factors are for each health behavior. The ecological model makes it difficult to create testable hypotheses and is challenging to manipulate experimentally. Thus, while it broadens the perspective of understanding health, it is problematic to operationalize. Additionally, the ecological perspective is that everything influences everything, leading many to throw their hands up in despair at the lack of parameters or control over these complex, intertwined systems (Green, Richard, & Potvin, 1996).

A review of 157 intervention articles over 20 years (Golden & Earp, 2012) found that the majority of interventions targeted only one or two ecological levels and most remained focused on individual beliefs and attitudes of social networks. This is perhaps because given limited funding and resources, it is unrealistic for an

intervention to tackle three or more ecological levels. Given its limitations, some have argued that the ecological model may be most useful as a tool to help frame and contextualize health behavior rather than a guideline for interventions. Nevertheless, the ecological framework highlights that it is important to consider multi-level approaches to improving health behavior and to create environments and policies that make it possible to make healthy choices.

2.4 Intervention Models

2.4.1 Tiered Prevention

Much of health promotion involves prevention, which are those interventions that occur before the onset of disease or disorder. Health promotion can occur at multiple levels, but, in order to best intervene, it is important to tailor efforts according to “disease-risk cycle.” This categorization can distinguish between a person’s and community’s current health status (Martin, Haskard-Zolnieriek, & DiMatteo, 2009).

Disease prevention strategies were often defined as being either primary (before the onset of disease via risk reduction), secondary (detecting the disease and treating preclinical changes), or tertiary (to soften the impact after disease progression). There is an implied understanding of the etiology of the disease in question, such that there is a clear mechanism between cause of the disease and the occurrence and clinical manifestations. While this long-used classification was useful when diseases were pathogenic in nature, it is not as useful for those chronic disease or lifestyle health behaviors.

In response, Gordon (1983) proposed a model where interventions are broken down into three areas based on the costs and benefits of delivering the intervention to the targeted population. *Universal prevention* is defined as interventions that are offered to the general population regardless of risk. *Selective prevention* refers to interventions that are targeted to the subpopulation that are at high risk for developing the disorder or problem. *Indicated prevention* includes interventions that are targeted to individuals identified to be at high risk based on individual assessment but are currently asymptomatic (Gordon, 1983). This hierarchy recognizes the more complex interaction between risk and protective factors and the need to balance where people are in the spectrum of risk and the cost and discomfort of the preventive intervention.

Within the realm of public health and health promotion, there has been a blending of these classification systems where they are often used interchangeably. Yet Gordon believed that there was an important distinction between prevention and treatment, especially with conditions that are chronic and behavior driven (National Research Council, 1994). The tiered model of prevention has been extensively used within health promotion for children, particularly in the school setting. Using this model, a universal intervention would include all the children in a school or making a particular change school-wide. A selective intervention would target students in a

smaller setting that are at-risk for a particular behavior. An indicated intervention would be for those particular students that are exhibiting some problem behaviors (Fedewa, Candelaria, Erwin, & Clark, 2013; Kratochwill, Albers, & Steele Shernoff, 2004; Lane, Oakes, Menzies, Oyer, & Jenkins, 2013; Tomb & Hunter, 2004).

2.4.2 PRECEDE-PROCEED

One attempt to create a comprehensive model for planning and evaluating a range of health issues at all levels (individual behavioral to environmental to national and policy) is the PRECEDE-PROCEED model (L.W. Green & Kreuter, 2005). The PRECEDE-PROCEED diagnostic approach to program planning is comprised of two steps: (1) PRECEDE (predisposing, reinforcing, and enabling constructs in educational/environmental diagnosis and evaluation) which is known as the diagnostic stage and (2) the development stage, PROCEED (policy, regulatory, and organizational constructs in educational and environmental development). This model provides systematic steps to both diagnose and plan interventions in a way that takes the ecological paradigm and breaks it down into manageable applications. As such, it involves all stakeholders affected by the health issue from the beginning and assumes that health is a community issue that is an integral part of a larger context. Health has a reciprocal relationship with the environment and is comprised of a constellation of factors.

The diagnostic part of the model, PRECEDE, is split into four phases:

- Phase 1 identifies and evaluates the social problems that have an impact on the population of interest. This is done by engaging the audience and finding out what it is that their community needs and then determining the desired outcome.
- Phase 2 diagnoses the epidemiological, behavioral, and environmental issues and factors that might cause or influence the desired outcome. This involves looking at epidemiological data such as vital statistics and health surveys, analyzing behavioral links to the health issue, and assessing the environmental factors that are beyond the control of the individual that influence the health outcome.
- Phase 3 isolates the predisposing, enabling, and reinforcing factors that influence the behaviors, attitudes, and environment. Predisposing factors are characteristics that motivate behavior—knowledge, beliefs, and values often fall into this category. Enabling factors are programs, services, and resources that help facilitate action to attain a behavior. Reinforcing behaviors are the attitudes and consequences that support or make it difficult to adopt a behavior.
- Phase 4 focuses on the administrative, policy, and regulatory issues that can influence the implementation of the intervention.

The PROCEED phases involve the implementation and evaluation of the intervention:

- Phase 5 implements an intervention based on the analysis conducted during the PRECEDE phases.

- Phase 6 evaluates the process of implementing the intervention and determines if the program is being implemented according to protocol with its objectives being met.
- Phase 7 measures the effectiveness of the intervention with regard to both the immediate objectives and changes in the predisposing, enabling, and reinforcing factors.
- Phase 8 evaluates the outcome in terms of both the overall objectives of the intervention and the changes in health and quality of life.

The PRECEDE-PROCEED model provides a stepwise structure or a road map within which a health intervention can be evaluated and planned. Its inclusion of community member participation allows for a feedback loop through which ideas are tested and adjusted for greater effectiveness. The model has the ability to adapt the chosen structure to fit the needs of a specific environment and community. It is a flexible, comprehensive, and scaleable model that has been used in thousands of applications in both global and national settings.

2.5 Conclusion

The theories outlined in this chapter highlight both individual and environmental approaches to health promotion. Yet it is important to highlight that these theories are not specifically geared toward children and as such are limited in their applicability. Children's health behaviors change as they develop and mature, and it is necessary to identify the changing biological, cognitive, social, and environmental factors over time. There has yet to be a health promotion theory that integrates the developmental perspectives into the existing models of understanding health behaviors. There are distinct opportunities to influence children's health behaviors across the developmental stages that need to be taken into account when designing health promotion interventions.

The field of modern health promotion is still trying to define itself, and, as such, the theories that are highlighted in this chapter are still not very well developed in their guidance of the field. Many theories have stemmed from other fields within public health, and while they have been tested, there is still no overarching theory that encompasses a comprehensive health promotion model. The challenge is to pair the appropriate theories of health behavior within a comprehensive planning process. This chapter provided an introduction to various theories and indicates their potential application within health promotion for children and adolescents. Many of the contributing authors in this book discuss the applications of these theories within their chapters.

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