CHAPTER 3

THEORY IN HEALTH PROMOTION PROGRAMS

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LEARNING OBJECTIVES

- **Define and explain the role of ideas, concepts, constructs, and variables in the development and support of a theory.**
- **Summarize the essential constructs of intrapersonal, interpersonal, and population-level theories and models.**
- **Apply theoretical constructs when developing health education or promotion activities or programs.**
- **Describe the leading models of contemporary health promotion program planning, implementation, and evaluation and suggest how they might be used in practice.**

Theory in Health Promotion Programs

Theories provide the conceptual basis on which health promotion programs are built, and guide the actual process of planning, implementing, and evaluating a program. The strongest programs focus on both purposes. Conversely, in the absence of theories it is difficult to identify how health promotion programs affect factors that influence health at individual, family setting, or societal levels. Theories used in the field of health education and promotion are derived from multiple disciplines, including education, sociology, psychology, anthropology, and public health. Health promotion theories are used to guide interventions that are delivered in multiple settings, including schools, communities, work sites, health care organizations, homes, and the consumer marketplace (Glanz, Rimer, & Viswanath, 2015). Understanding the history, purpose, constructs, and use of the prominent health theories provides the knowledge necessary to select the most appropriate theory to guide the development, implementation, and evaluation of health promotion programs (Goodson, 2010).

Kerlinger (1986) defines a *theory* as "a set of interrelated concepts, definitions and propositions that present a systematic view of events or situations by specifying relationships among variables in order to explain and predict the events or situations" (p. 25). Theories help us articulate assumptions and hypotheses regarding the strategies and focus of interventions. In health promotion we are primarily interested in predicting or explaining changes in *behaviors* or environments. Sometimes health promotion

practitioners and researchers combine two or more theories to address a specific problem, event, or situation; when this occurs, health *models* are formed (Glanz, Rimer, & Viswanath, 2015; Hayden, 2014).

Theories are rooted in concepts or ideas that are abstract entities. They are not measurable or observable. *Concepts* are adopted and formed in theories and are considered the primary components of a theory (Glanz, Rimer, & Viswanath, 2015). Concepts that have been developed and tested over time and are components of theories are referred to as *constructs*. For example, in the theory of reasoned action and theory of planned behavior, behavioral intention is a construct. And when a construct is defined with specificity and can be measured, it becomes an indicator or *variable*. Converting a theory construct into a variable allows the construct to be refined through empirical testing. This empirical testing allows for relationships between constructs and a specific behavior to be explored. By exploring association with as well as mediation and moderation of these constructs and the behavior, health educators obtain a better knowledge of how the theory links to the specific behavior. Valuable constructs of theories must be able to explain phenomena, which for health promotion are behaviors and environmental conditions.

Theories in the early 1970s and 1980s focused primarily on the characteristics, risk factors, demographic characteristics, and life stages of individuals. Theories in the 1980s evolved to focus not only on characteristics of individuals but also on an increased recognition that behaviors take place in a social, physical, and environmental context. Prominent in the 1990s were models that identify steps in planning, implementing, and evaluating health promotion programs. The health theories and models presented in this chapter reflect this evolution of health promotion. Because health is dynamic, so too are theories. Likewise, these theories represent different paradigms. They were formed to address a range of health concerns, needs, and situations, and therefore they are used in different ways. Theories are an important tool for health practitioners and researchers as they address health concerns, problems, and situations.

This chapter first presents theories and models most used in health promotion programs. These foundational theories focus on one or more of the three levels of influence to consider in developing health promotion programs: intrapersonal (individual), interpersonal, and community or population (Hayden, 2014). When health promotion programs focus on multiple levels, they reflect the ecological perspective of health promotion that emphasizes the interaction between and interdependence of factors within and across all levels of a health problem. In other words, people are influenced at a number of levels and an individual's behavior both shapes and is shaped by the social environment.

Second, this chapter presents health models that focus on the process of developing a health promotion program. Such models guide planning, implementation, and evaluation of health promotion programs. The strongest health promotion programs use both foundational theories and models and planning models.

Foundational Theories/Models: Intrapersonal Level

The most basic level of health theory is the intrapersonal level. When we are designing or working in a program, it is critical to understand how the theory underlying or directing the program would work at an individual level. Ideally, individual health theories provide the framework for the approach (that is, methodology) in the classroom, in the group setting, and in the development of health promotion materials. In addition to structuring interventions, theories help us address intrapersonal factors such as knowledge, attitudes, beliefs, motivation, self-concept, and skills. The major intrapersonal health theories are highlighted in this section: the health belief model, the theory of reasoned action/planned behavior, and the integrative model, and the transtheoretical model and stages of change.

Health Belief Model

The *health belief model*, one of the more widely researched models, originated in the 1950s as a way to understand health-seeking behaviors (Rosenstock, 1974). In particular, it grew from work that sought to understand why very few people were participating in free and available disease detection programs. According to this model, a person's action to change his or her behavior (or lack of action) results from the person's evaluation of several constructs. First, a person decides if he or she is susceptible (*perceived susceptibility*) to a disease or condition, and weighs this against the severity of the disease or condition (*perceived severity*). For example, if a person believes that he or she is susceptible and the disease is severe enough to motivate him or her to change, he or she is more likely to take action to change. Alternatively, if a person does not believe he or she is susceptible, even though the disease might be severe, he or she will likely not act. A person also weighs the benefits of action to change (*perceived benefits*) versus the barriers to change (*perceived barriers*), and this analysis is the strongest predictive factor for behavior change (Sugg Skinner, Tiro, & Champion, 2015). If a person believes that the benefits outweigh the barriers, then he or she is more likely to take action to change. *Cues to action*, such as instructions or reminders, can also be used to facilitate change. The health belief model also takes other factors such as age, gender,

and personality into account, with the assumption that these factors can influence a person's motivation to change behavior. *Self-efficacy*, a person's belief that he or she can engage in a behavior (Bandura, 1986), was added later as a factor in behavior maintenance (Rosenstock, Strecher, & Becker, 1988). The original health belief model was tested on short-term health-seeking behaviors and appears to have greater associations with these types of shorter-term behaviors. For more complex lifestyle health behavior such as regular physical activity, other theories allow for more complex understanding of the mechanisms involved in those behaviors. Recent research suggests a need to expand the health belief model (Orji, Vassileva, & Mandryk, 2012) to create a model that is more predictive of behavior.

Theory of Planned Behavior, Theory of Reasoned Action, and the Integrated Behavioral Model

The theory of planned behavior, a derivative of the theory of reasoned action, postulates that people are motivated to change based on their perceptions of norms, attitudes, and control over behaviors. Each of these factors can either increase or decrease a person's intent to change his or her behavior. Intention to change behavior, then, is thought to be directly related to behavior change.

Table 3.1 shows several important constructs that are involved in these value-expectancy theories: *attitude*, *subjective norm*, *perceived behavioral control*, *intention*, and *behavior* (Montano & Kasprzyk, 2015). Figure 3.1 shows the theory of planned behavior explanation of how behavioral intention determines behavior, and how attitude toward behavior, subjective norm, and perceived behavioral control influence behavioral intention.

Table 3.1 Constructs in the Theory of Planned Behavior, Theory of Reasoned Action, and the Integrated Behavior Model

External variables	Demographic variables, specific attitudes, personality, and other variables that can influence attitudes; subjective norm or perceived behavioral control
Attitude	Comprises a person's beliefs that the behavior will lead to certain outcomes as well as the value the individual places on those outcomes
Subjective norm	Comprises a person's perception of a social norm and his or her motivation to comply with that perceived norm
Perceived behavioral control	Comprises beliefs about facilitators or barriers and how easy or difficult it would be to change behavior in the face of those facilitators or barriers
Intention	The probability that a person will perform a behavior
Behavior	Single, observable action performed by an individual, or a category of actions with a specification of target, action, context, and time (TACT)

According to the theory, attitudes toward behavior are shaped by beliefs about what is required to perform the behavior and outcomes of the behavior. Beliefs about social standards and motivation to comply with those norms affect subjective norms. The presence or lack of things that will make it easier or harder to perform the behaviors affects perceived behavioral control. Thus a chain of beliefs, attitudes, and intentions drives behavior.

In a revision to the theory of reasoned action/planned behavior, Fishbein (2008) presents an integrated behavioral model, where distal factors such as demographic variables, attitudes, personality traits, and other individual variables are included to show their influence on beliefs. Proximal constructs are those that directly influence either intention or behavior (such as environment or skills). Additionally in the integrated behavioral model, perceived behavioral control is equated to self-efficacy, a more commonly known and widely used construct in health behavior research (Fishbein, 2008).

The strength of the relationship between the first three constructs in Table 3.1 and intention and behavior varies. A growing body of research has established what is being termed as the "planning-behavior gap" or the "intention-behavior gap" (Fernandez, Fleig, Godinho, Montenegro, Knoll, & Schwarzer 2015; Rhodes & Bruijn, 2013). Such research proposes the addition of action control variables to bridge this gap between planning and intention and actual behavior change (Fernandez et al., 2015).

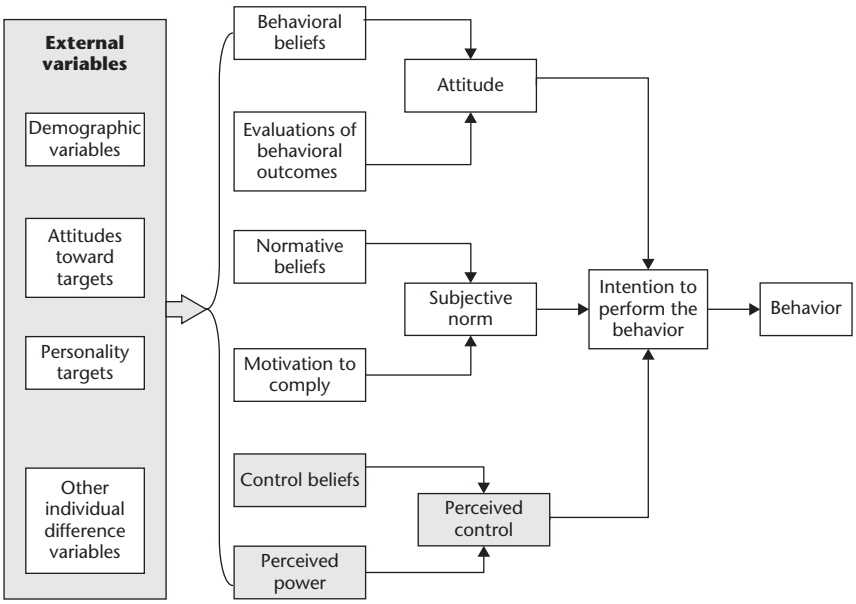

Figure 3.1 Theory of Planned Behavior and Theory of Reasoned Action, Integrated Behavioral Model

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Transtheoretical Model and Stages of Change

The *transtheoretical model* was developed in the early 1980s as a way to understand behavior change—in particular, change associated with addictive behavior (Prochaska, DiClemente, & Norcross, 1992). The transtheoretical model proposes that behavior change is a process that occurs in stages; a person moves through these stages in a very specific sequence using different strategies. The *stages of change* are one of the transtheoretical model constructs. The stages are precontemplation, contemplation, preparation, action, and maintenance. In the *precontemplation* stage, a person is not planning a behavior change within the next 6 months. In the *contemplation* stage, a person begins to consider behavior change and is intending to change within 6 months. In *preparation*, a person is planning a behavior change within the next month. In the *action* stage, a person has initiated a behavior change but has done so for 6 months or less. In *maintenance*, a person has maintained the behavior change for at least 6 months but less than 5 years. People move forward or backward (relapse) through the stages. The dimension of time—that is, each of the stages being associated with a specific time frame—is unique to the transtheoretical model.

This model postulates that *processes of change*, constructs that are used to facilitate behavior change during different stages of change (Prochaska, Redding, & Evers, 2015), help people move from one stage to the next. Table 3.2 lists the processes of change.

Throughout the entire process of changing behavior, people weigh the benefits and drawbacks of behavior change. This construct, called

Table 3.2 Transtheoretical Model Construct: Processes of Change

Stages	Process	Definition
Precontemplation to Contemplation	Consciousness raising	Increasing awareness of health factors
	Dramatic relief	No longer experiencing negative emotions
	Environmental reevaluation	Realizing the impact of a behavior on one's environment
Contemplation to preparation	Self-reevaluation	Understanding the personal impact of the behavior change
Preparation, action, maintenance	Self-liberation	Making a commitment to change
Maintenance	Counter-conditioning	Behavioral substitution
	Helping relationships	Social support
	Reinforcement management	Using and modifying reinforcement strategies
	Stimulus control	Manipulating cues for behavior change

decisional balance, is fluid throughout the process. For example, in the precontemplation stage, a person might associate more negatives than positives with a behavior change. A person moving through this stage to subsequent stages and to the action stage might find there are more positives than negatives associated with behavior change. When the perceived benefits outweigh the perceived barriers, action occurs.

Other transtheoretical model constructs appear to be linked to behavior progression across many stages. Two such constructs are *self-efficacy* (Bandura, 1986) and *temptation*. Temptation refers to the urge to engage in unhealthy behavior when confronted with a difficult situation (Prochaska, Redding, & Evers, 2015). Temptation is represented by three factors that denote the most common types of tempting situations: negative affect or emotional distress, positive social situations, and craving.

Foundational Theories/Models: Interpersonal Level

The second level of health theories and models focuses on individuals within their social environment. Our social environment includes the people with whom we interact and live in our daily lives (for example, family members, coworkers, friends, peers, teachers, clergy, health professionals). These theories and models recognize that we are influenced and influence others through personal opinions, beliefs, behavior, advice, and support, which in turn influence our health and that of others. This section discusses two theories that explore these reciprocal effects of relationships on our health behavior: *social cognitive theory* and *social network and social support theory*.

Social Cognitive Theory

Social cognitive theory (SCT; Bandura, 1986) evolved from social learning theory, which was created by Albert Bandura in the early 1960s (Bandura & Walters, 1963). SCT (Bandura, 1986) defines human behavior as an interaction of personal factors, behavior, and the environment. SCT theory is the most frequently used paradigm in health promotion. This theory is based on the reciprocal determinism between behavior, environment, and person; their constant interactions constitute the basis for human action. Bandura posits that individuals learn from their interactions and observations (Bandura, 1986). According to this theory, an individual's behavior is uniquely determined by each of these three factors (Bandura, 1986):

Personal factors: A person's expectations, beliefs, self-perceptions, goals, and intentions shape and direct behavior.

Environmental factors: Human expectations, beliefs, and cognitive competencies are developed and modified by social influences and physical structures within the environment.

Behavioral factors: A person's behavior will determine the aspects of the person's environment to which the person is exposed, and behavior is, in turn, modified by that environment.

Bandura has identified several important constructs in SCT, including the *environment*, *situations*, *behavioral capacity*, *outcome expectations*, *outcome expectancies*, *self-control*, *observational learning*, *self-efficacy*, and *emotional coping*. Each of these constructs is defined in Table 3.3.

APPLICATION ACTIVITY: SOCIAL COGNITIVE THEORY

Locate a peer-reviewed journal article focusing on the use of SCT in explaining, predicting, or attempting to increase physical activity levels.

1. What type of study is being conducted? What evidence did you use to make your decision?
2. How are the constructs defined?
3. How are the constructs measured?
4. Describe the purpose and methodology.
5. Describe the findings with respect to the limitations of the study.

In small groups, discuss the strengths and weaknesses of the study, specifically in regard to methodology and measurement. What areas of future study do you identify as needed after your discussion?

According to Bandura (1986), these constructs are important in understanding health behaviors and planning interventions to change them. The construct of self-efficacy is among the most analyzed psychosocial constructs in research. Bandura (1995) defines self-efficacy as the confidence a person has in his or her ability to pursue a specific behavior. Self-efficacy is a central construct, in that it can influence behavior both directly and indirectly (Bandura, 2004). It is a guide for and motivator of health behaviors and is rooted in the core belief that one has the power to produce desired effects through one's actions. Unless people believe that they can produce the desired changes by their own effort, there will be very little incentive to put in that effort (Bandura, 2004).

Table 3.3 Constructs of Social Cognitive Theory

Construct	Definition
Environment	Social or physical circumstances or conditions that surround a person
Situations	A person's perception of his or her environment
Behavioral capability	The knowledge and skill needed to perform a given behavior
Outcome expectations	Anticipation of the probable outcomes that would ensue as a result of engaging in the behavior under discussion
Outcome expectancies	The values that a person places on the probable outcomes that result from performing a behavior
Self-control	Personal regulation of goal-directed behavior or performance
Observational learning	Behavioral acquisition that occurs through watching the actions of others and the outcomes of their behaviors
Self-efficacy	A person's confidence in performing a particular behavior
Emotional coping	Personal techniques employed to control the emotional and physiological states associated with acquisition of a new behavior

Social Network, Social Support, and Social Capital Theory

It is widely recognized that social networks and the social relationships that are derived from them have powerful effects on important aspects of both physical and mental health. *Social network* refers to the existence of social ties that could be supportive (Valente, 2015). Social networks involve the network environment (influence and selection), the position of the individual in the network, and the network properties (Valente, 2015). Social networks can also be described by type (i.e., dyadic relationships, affective communities, etc.) (Vassilev et al., 2011).

Most obviously, the structure of network ties influences health via the provision of social support. *Social support* has been defined as the physical and emotional comfort given to us by our family, friends, co-workers, and others (House, 1981). Social support is structural or functional (Holt-Lunstad & Uchino, 2015). Structural support refers to the level of integration into social networks or how connected people are within their community. Functional support refers to the mechanisms of support, or the types of support that a person may perceive to have or receive. Common types of functional support are listed in Table 3.4. *Social capital* refers to resources individuals and groups have within their network (Villalonga-Olives & Kawachi, 2015). Relationships and social networks are central to social capital (Hayden, 2014). When relationships are solid at the community level, individuals feel strong bonds and attachment to places

Table 3.4 Subtypes of Functional Social Support

Subtypes	Definition
Emotional	Conveying that a person is being thought about, appreciated, or valued enough to be cared for in ways that are health promoting
Instrumental support	Provision of tangible aid and services such as gifts of money, moving furniture, food, assistance with cooking, or child care
Belonging	Sense of feeling connected to a social group
Informational support	Provision of advice, suggestions, or information that a person can use to address a particular situation

(for example, a neighborhood) and organizations (for example, voluntary or religious organizations)—bonds that may lead to improvements in psychological and physical health. For instance, scholars have recently focused on the role of social capital in chronic illness (Hu et al., 2014; Vassilev et al., 2011). Additionally, newer research attempts to integrate social capital into other behavioral theories based upon a review of behavioral literature (Samuel, Commodore-Mensah, & Himmelfarb, 2014).

Foundational Theories/Models: Population Level

Health promotion programs for diverse settings and populations, not just a specific group of individuals, are at the heart of the health promotion field. Theories at the population level explore how social systems function and change and how to mobilize individuals in the different settings. Because health is complex and not always modifiable solely on a behavioral level, ecological approaches can address broader influences, such as social economic issues (Fielding, 2013). For this reason, multicomponent interventions are often necessary to tackle overarching issues such as health disparities (Fielding, 2013). Ecological frameworks typically use multiple levels of influence, including the intrapersonal, interpersonal, institutional, community, and societal levels (Hayden, 2014). More recently, researchers suggest modifying the model to make the policy/societal level the core, moving outward toward individual, rather than the traditional model that begins with the individual moving outward toward the societal/policy level (Golden, McLeroy, Green, Earp, & Lieberman, 2015).

The conceptual frameworks in this section offer strategies for intervening at the population level. This section discusses how communication theory, diffusion of innovations, and community mobilization are used to affect health behavior.

Communication Theories

Though there are many *communication theories*, they typically are grouped into micro-level or macro-level theories (Viswanath, Finnegan & Gollust, 2015). Micro-level theories (such as information processing theories and message effects theories) investigate the impact of communication on individuals. Messages are directed toward a priority population based upon a shared characteristic (such as gender) or tailored toward a specific, measured characteristic (such as sedentary working mothers) (Kreuter & Wray, 2003). Macro-level models (e.g., knowledge gap, risk communication) investigate how the larger social structure and function impacts the process of creating messages through evaluating the impact of messages (Viswanath, Finnegan & Gollust, 2015). For example, knowledge gap research looks to decrease disparities in health knowledge by carefully selecting the message channel in order to reach those most in need of the message, while risk communication research involves investigating the delicate balance between communicating risk and promoting behavior change. Much of the research on health communication theory is limited to investigations of message type and level of interest in specific populations; how people sense and react to messages is still not well understood (Ruben, 2014). Edgar and Volkman (2012) provide examples about use of common communication theories and models (Activation Model, Extended Parallel Process Model, and Fisher's Narrative Theory) in health promotion efforts.

Diffusion of Innovations Model

Though there are many diffusion models, the *diffusion of innovations model* is one of the most widely known (Brownson, Tabak, Stamatakis & Glanz, 2015). This model focuses both on the adopter and on innovative characteristics of the intervention to tailor messages to adopter groups over time (Rogers, 2003). People are grouped into adopter groups based on when they buy in to an innovation (such as a new product, program, or service): innovators, early adopters, early majority, late majority, and laggards. The innovators are the first group to adopt an innovation, and adopt because they want to be on the cutting edge. Early adopters, the next group, typically adopt an innovation after seeing how it works for the innovators. The early majority and late majority are the next two groups to adopt; they usually wait to see the longer-term benefits and drawbacks of an innovation before adopting it. The last group to adopt an innovation, if they do adopt it, is the laggards. Table 3.5 shows key concepts in the diffusion of innovations model, along with questions that illustrate their application (Brownson, Tabak, Stamatakis & Glanz, 2015).

Table 3.5 Concepts in the Diffusion of Innovations Model

Concept	Questions Used to Make Decisions About Adoption
Relative advantage	Is the innovation easier or more cost-effective to use than other options?
Compatibility	Is the innovation compatible with the adopter's lifestyle?
Complexity	Is the innovation relatively simple to adopt and use?
Trialability	Can adopters try the innovation out before adopting?
Observability	Can the innovation's benefits be easily observed?
Impact on social relations	Will the innovation have a positive impact on the adopter's social structure?
Reversibility	Can an adopter discontinue the innovation easily?
Communicability	Is the innovation understandable?
Time	How much time must be committed in order to adopt the innovation?
Risk and uncertainty level	How much risk is associated with adoption of the innovation?
Commitment	How much commitment is needed for adoption of the innovation?
Modifiability	Will there be opportunities for modifications after adoption has occurred?

The diffusion of innovation model also uses marketing strategies to target individuals in specific adopter groups to change a behavior. Groups adopt an innovation through five stages: awareness, persuasion, decision, implementation, and confirmation (Rogers, 2003).

The concepts of the diffusion of innovations model help to define and structure the communications related to an intervention. The concepts guide program staff in how to pitch a program to a potential group of participants. For example, using the concept of complexity, the staff promoting a walking program to encourage employees at a particular work site to engage in physical activity might frame the idea of fitting walking into a busy schedule as something that is relatively simple to do. A staff member might advocate for employees to hold meetings while walking, or she might promote quick, 10-minute walking breaks during the day. The message would change depending on the characteristics of the adopter group (for example, innovators, early adopters). Recent research suggests a need to focus on implementation, specifically evaluating adoption and diffusion of messages and interventions in populations (Breslau, Weiss, Williams, Burness, & Kepka, 2015).

Community Mobilization

Community mobilization is broadly defined as individuals or groups taking action that is organized around specific community issues. Community mobilization focuses on community-based strategies to improve health

outcomes. Grounded and guided by the seminal works of Cloward and Ohlin (1961), Alinsky (1971), Arnstein (1969), and Freire (1972), early community mobilization efforts attempted to view the individual in relationship to the community (for example, the individual's family or neighborhood) in order to better understand the interplay of individual characteristics, health conditions, and environmental factors. Though recent research is mixed regarding the efficacy of efforts of community mobilization, some point to the broad and sometimes varying definitions, as well as numerous measurements and evaluations of such efforts (Cornish, Priego-Hernendez, Campbell, Mburu, & McLean, 2014). Concepts associated with community mobilization include community empowerment, community participation, capacity building, community coalitions, and community organization and development.

As originally developed, community mobilization focuses on communities as defined in Chapter 1—that is, both as physical locations (for example, neighborhoods, towns, or villages) and as groups of people with common interests (for example, cultural, racial, faith, or hunger action groups). The community mobilization phases discussed in this section are now widely used in all types of settings (for example workplaces, schools, health care organizations, and communities).

Community mobilization attempts to engage all sectors of a community or setting in a community-wide (or setting-wide) effort to address a health, social, or environmental issue. Desired results of mobilizing stakeholders may include promoting collaboration between individuals and organizations; creating a public awareness; promoting shared ownership between individuals and organizations; expanding the base of support for an issue; promoting networking, training, and education; increasing opportunities for training and education; and increasing access to funding opportunities to support community (or setting) programming (Centers for Disease Control and Prevention, n.d.).

According to the CDC's model there are four phases in mobilizing a community: (1) planning for mobilization, (2) raising awareness, (3) building a coalition, and (4) taking action (Centers for Disease Control and Prevention, n.d.).

In the first phase, *planning for mobilization*, organizers initiate a planning process to determine the many factors that may affect the overall mobilization process. The second phase, *raising awareness*, focuses on the key individuals and organizations to contact in order to stimulate interest, participation, and collaboration. The third phase, *building a coalition*,

emphasizes the need to build a coalition that includes key organizations and individuals like health care providers, clergy members, community-based organization leaders, housing authorities, members of the local media, school and university administrators, local police forces, local businesses, and, most important, citizens of the community.

Once an active, participatory coalition, along with formal goals and objectives, is put in place, the final phase, *taking action*, is critical to actualizing results. This phase involves the development and implementation of an action plan. The action plan is based on the results of a needs assessment of the community or setting (see Chapter 4) and the effective use of coalition members' strengths and talents. The action plan would address, for example, efforts to educate members of the community or people in the setting about important health issues that affect the community or setting and ways to reduce or eliminate health problems. Lippman and colleagues (2016) suggest six domains in measuring community mobilization: shared concern, critical consciousness, organizational structures and networks, leadership, collective actions, and social cohesion.

Foundational Theories/Models Applied Across the Levels

Health theories and models provide guidance and support for planning, implementing, and evaluating a health promotion program. Programs drawn from health theories use a body of knowledge and experience that allows health promotion staff, stakeholders, and participants to be confident that a program is based on current research and best practices. Theories are the foundation for evidence-based health promotion programs. All theories have the potential to contribute to the process of planning, implementing, and evaluating a health promotion program. To aid in the process, Table 3.6 lists examples of theory-based strategies that are used at different levels of influence.

By becoming familiar with theories and models, program staff, stakeholders, and participants gain access to tools that will allow them to generate creative solutions to unique situations. They are able to go beyond acting on instinct or repeating earlier ineffective interventions to adopt a systematic, scientific approach to their work. Theories and models help staff, stakeholders, and participants to understand the dynamics that underlie real situations and to think about solutions in new ways.

Table 3.6 Using Foundational Theories to Plan Multilevel Interventions

Change Strategies	Examples of Strategies	Ecological Level	Useful Theories
Change people's behavior	Educational sessions Interactive technologies Printed literature Social marketing campaigns	Individual (intrapersonal)	Health belief model Theory of planned behavior Transtheoretical model
	Mentoring programs Lay health advising Goal setting Enhancing social networks or improving social support Creating new organizational policy and procedures	Interpersonal	Social cognitive theory Social network and social support theory
Change the environment	Media advocacy campaigns Advocating changes to public policy	Population	Communication theories Diffusion of innovations model Community mobilization

Health Promotion Program Planning Models

The health promotion planning models discussed in this section have common elements, although the elements may have different labels. In fact, all the approaches involve three basic steps:

1. Planning the program, including conducting a needs assessment of a health problem and its related factors and influences, prioritizing actions, selecting interventions, and making decisions to create and develop the program
2. Implementation of the program interventions and activities that are based on health theory, eliminate disparities, and are rooted in a needs assessment
3. Evaluation of the program to determine whether it has been implemented as planned and whether it has actually affected the health problem or related factors (identified in assessment) that it was intended to affect

This general three-part process makes sense; the three parts work together to give continual feedback and opportunities to adjust the program. Sussman and colleagues (2000) outline how to use these processes iteratively to provide one with an empirical program development process. Sussman and colleagues (2000) state that health behavior programs are planned and evaluated on an ongoing basis to make sure they are theoretically sound and will achieve stated goals. This cyclical process allows for continuous quality improvement.

The remainder of this section presents several prominent models that are used by health promotion professionals: the *PRECEDE-PROCEED model*, *intervention mapping*, the *community readiness model*, and *social marketing*. These represent a wide range of models that share the three basic elements of planning, implementation, and evaluation.

PRECEDE-PROCEED Model

One of the most well-known approaches to planning, implementing, and evaluating health promotion programs is the PRECEDE-PROCEED model (Green & Kreuter, 2005). The PRECEDE portion of the model (phases 1–4) focuses on program planning, and the PROCEED portion (phases 5–8) focuses on implementation and evaluation. The eight phases of the model guide planners in creating health promotion programs, beginning with more general outcomes and moving to more specific outcomes. Gradually, the process leads to creation of a program, delivery of the program, and evaluation of the program. (Figure 3.2 presents the PRECEDE-PROCEED model for health program planning and evaluation; the direction of the arrows shows the main lines of progression from program inputs and determinants of health to outcomes.)

Phase 1: Social Assessment

In the first phase, the program staff are looking for quality of life outcomes—specifically, the main social indicators of health in a specific population (for example, poverty level, crime rates, absenteeism, or low education levels) that affect health outcomes and quality of life. For example, at a worksite where there is a high rate of smoking among employees, absenteeism might be high due to illness.

Phase 2: Epidemiological Assessment

In this second phase, after specifying the social problems related to poor quality of life in the first phase, the program staff need to identify which

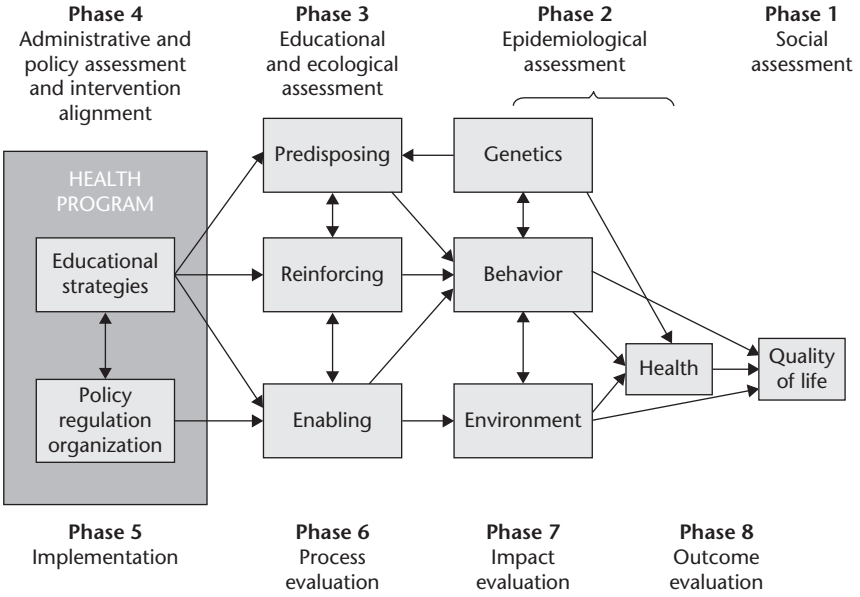

Figure 3.2 PRECEDE-PROCEED Model

Source: Green and Kreuter, 2005, p. 10. Reproduced with permission.

health problems or other factors play a role in impaired quality of life. The health problems are analyzed according to two factors: importance in terms of how related the health problems are to the social indicator identified in the social assessment and how amenable to change the health problems are. After a first-priority health problem is established, identification of the determinants that can lead to that health problem occurs. Specifically, which environmental factors, behavioral factors, and genetic indicators lead to a specific health problem? The same importance and changeability analysis would be performed to identify which factors to focus on a health promotion program. For example, the program staff would gather data on health problems in the population that might lead to absenteeism, such as obesity, heart disease, cancer, and communicable disease. After ranking the diseases according to importance and amenability to change, the planner might select one health problem. The next step in this assessment would be to investigate the underlying causes of these diseases, such as environmental factors (for example, toxins, stressful working conditions, or no control over working conditions), behavioral factors (for example, lack of physical activity, poor diet, smoking, or alcohol use), and genetic factors (for example, family history). Data on importance and changeability would be analyzed, and then one or several of these risk factors might be selected. To complete this phase, a measurable health

status objective (or objectives), behavioral objective (or objectives), and environmental objective (or objectives) would be constructed.

Phase 3: Educational and Ecological Assessment

The focus of phase 3 shifts to mediating factors that help or hinder a positive environment or positive behaviors. These factors are grouped into three categories: predisposing factors, enabling factors, and reinforcing factors (Green & Kreuter, 2005). Predisposing factors are those that can either promote or detract from *motivation* to change, such as attitude or knowledge. Enabling factors are those that can promote or detract from change, such as resources or skills. Reinforcing factors are those that help continue motivation and change by providing feedback or rewards. These factors are analyzed according to importance, changeability, and feasibility (that is, how many factors is it feasible to include in a program). Factors are then selected to serve as a basis for program development, and educational objectives are composed.

Phase 4: Administrative and Policy Assessment and Intervention Alignment

The main focus of the administrative and policy assessment and the intervention alignment in the fourth phase is a reality check, to be sure that at the setting (the school, workplace, health care organization, or community) all of the necessary support, funding, personnel, facilities, policies, and other resources are present to develop and implement the program. For example, site policies and procedures are reviewed, revised, created, and implemented. Likewise at this point, there is an assessment at the site to clarify exactly what staff are needed to implement the program as well as to determine funding levels, space requirements (e.g. classroom, a gym, changing rooms, or showers might be needed), required materials. Finally as part of this phase examined is how best to recruit, retain, and recognize program participants.

Phase 5: Implementation

Delivery of the program occurs during phase 5. Also, the process evaluation (phase 6), which is the first evaluation phase, occurs simultaneously with implementation of the program.

Phase 6: Process Evaluation

The process evaluation is a formative evaluation, one that occurs during implementation of the program. The goals of this type of evaluation are

to collect both quantitative and qualitative data to assess the feasibility of the program as well as to ensure quality delivery of the program. For example, participant attendance and attitudes toward the program might be recorded, as well as an assessment of how well the written lesson plans (describing what content is to be delivered, how it will be delivered, and how much time is allotted) align with actual delivery of the lesson (what content actually was delivered, how it was delivered, and how much time it took to deliver it). Achievement of educational objectives can also be measured in this phase.

Phase 7: Impact Evaluation

The focus of phase 7's summative evaluation, which occurs after the program ends, is to determine the intervention's impact on behaviors or environment. Timing may vary from immediately after the completion of all the intervention activities to several years later, depending on the objective and/or the sensitivity to change of the variable being assessed.

Phase 8: Outcome Evaluation

The focus of the last evaluative phase is the same as the focus when the entire process began—evaluation of indicators of quality of life and health status.

APPLICATION ACTIVITY: LEVELS OF EVALUATION

Locate one article for each level of evaluation—process, impact, and outcome. Read and prepare a summary, including how you have identified which level of evaluation is reported in the article. In small groups, discuss:

- Common activities/methodology in a process evaluation.
- Common activities/methodology in an impact evaluation.
- Common activities/methodology in an outcome evaluation.
- What is the value of each level of evaluation? What does it tell you? What does it not tell you? How do the levels of evaluation interact?

Intervention Mapping

Intervention mapping is another approach to planning health promotion programs. According to Bartholomew, Parcel, Kok, and Gottlieb (2011), the purpose of intervention mapping is to provide health promotion program

planners with a framework for effective decision making at each stage of intervention planning, implementation, and evaluation. Interventions using this model have addressed health issues such as nutrition and physical activity, sexually transmitted infections, and mental health (Wisenthal & Krupa, 2014; Belansky et al., 2013; Wolfers, van den Hoek, Brug, & de Zwart, 2007). The intervention mapping process consists of six steps: (1) needs assessment, (2) matrices, (3) theory-based methods and practical strategies, (4) program, (5) adoption and implementation plan, and (6) evaluation plan. Although the model is presented in steps, program planners often go back and forth between steps as needed (Bartholomew, Markham, Mullen, & Fernandez, 2015).

Step 1 is a needs assessment of the priority population is conducted. Based on the needs assessment of the health issues, quality of life, and behavioral and environmental concerns of the priority population, the desired program outcomes are established. Step 2 involves creating a logic model and stating who and what will change at each ecological level as a result of the intervention. This step also involves crossing performance objectives for each ecolog-ical level with personal and external determinants in matrices in order to help write the change objectives (Bartholomew, Markham, Mullen, & Fernandez, 2015).

In Step 3, theory-based methods for bringing about changes at each ecological level are identified. In addition, practical strategies for realizing the change objectives are selected or designed. Step 4 involves consulting the intended program participants and implementers for their input, delineating the program's scope and sequence, compiling a list of needed materials, and developing and pretesting program materials with the priority population (Bartholomew, Markham, Mullen, & Fernandez, 2015).

Step 5 focuses on developing a program implementation plan. Matrices are created, similar to those in Step 2, by crossing adoption and implementation performance objectives with personal and external determinants. Last, Step 6 is to finalize the evaluation plan for the program. This step involves describing the program and its intended outcomes, writing questions for the process evaluation based on the matrices from Step 2, developing indicators and measures, and specifying the evaluation design (Bartholomew, Markham, Mullen, & Fernandez, 2015).

Community Readiness Model

The community readiness model is designed both to assess and to build a community's capacity to take action on social issues (Donnermeyer, Plested, Edwards, Oetting, & Littlethunder, 1997). It can and is applied in any setting (for example, school, workplace, healthcare organization, or

Table 3.7 Community Readiness Model

Stage	Description
1. Community tolerance	Issue is not generally recognized by the individuals at the site or leaders as a problem (or it may truly not be an issue).
2. Denial, resistance	There is recognition by individuals at the site that there is a local problem, but little concern is occurring locally.
3. Vague awareness	There is recognition by individuals at the site that there is a local problem but little or no specific knowledge of its extent. Leadership to do something about the problem is minimal.
4. Preplanning	There is clear recognition that there is a local problem; however, efforts to address it are not focused and detailed.
5. Preparation	Individuals at the site are actively engaged in developing a plan of action to address an issue.
6. Initiation	Enough information is available to justify efforts to address an issue.
7. Institutionalization	A program to address a social issue is up and running. Staff either are in training or have recently been trained to lead the effort.
8. Confirmation, expansion	Program continues to receive support and is perceived by individuals and leaders as useful. Data on the extent of the problem locally are collected regularly.
9. Professionalism	Data on prevalence rates and risk factors are collected periodically and used by staff to adjust program goals and target high-risk groups.

community). It provides a framework for assessing the social contexts in which individual behavior takes place by measuring changes in readiness related to community-wide efforts. The model integrates a community's culture, resources, and level of readiness to more effectively address an issue. The model consists of nine stages that are used as a guide to assess readiness and to determine the best intervention (or interventions) that align with a particular stage (see Table 3.7). Using the community readiness model will help increase community (as well as other settings) partnership, participation, and investment in the delivery of interventions at a site.

Social Marketing

Social marketing is not a theory but an approach to promoting health behavior that is used in conjunction with existing theoretic approaches (Luca & Suggs, 2013). Social marketing uses commercial marketing techniques to influence the voluntary behavior of specific audience members for a health benefit. Social marketing promotes a behavior change to a targeted group of individuals in several ways. It encourages persons to accept a new behavior, reject a potential behavior, modify a current behavior, or

abandon an old behavior. Helping individuals to increasing walking (accept a new behavior) can aid in weight loss (Coulon et al., 2012). Discouraging the use of toxic fertilizers (rejection of a potential behavior) would enhance water supply and quality. Encouraging regular dental hygiene to including flossing regularly (modification of a current behavior) can reduce cavities (Brocklehurst, Morris, & Tickle, 2012). Encouraging smokers to quit smoking (abandon an old behavior) would reduce the incidence of lung illnesses (Green & Kreuter, 2005).

It is important to differentiate social marketing from commercial marketing. Marketing, in general, focuses on the process in which goods or services are exchanged for a profit, which is financial or for other goods and services. Social marketing, however, focuses on behavior rather than goods and services. Both conduct market research, which is research on a specific audience to understand their behaviors—for example, to understand how they perceive their needs, benefits to change, barriers, and opportunities (Green & Kreuter, 2005). Additionally, both require voluntary exchange, the idea that people will accept, reject, maintain, or modify a new behavior if the benefits exceed the cost of the behavior (Storey, Hess & Saffitz, 2015). Social marketing is similar to commercial marketing in that both have a customer-centered approach (Storey, Hess & Saffitz, 2015). Audience segmentation is the process of dividing larger markets of dissimilar individuals into a smaller market of more similar individuals for which an appropriate intervention is designed (Rogers, 2003). After an audience is segmented, then marketing principles are used to create a message tailored to each specific audience.

Table 3.8 outlines the differences between commercial and social marketing (Storey, Hess & Saffitz, 2015).

There are four basic marketing principles: product, price, place, and promotion. These elements are known as the *four P's of marketing*.

Table 3.8 Differentiating Social Marketing from Commercial Marketing

	Social Marketing	Commercial Marketing
Goal	Resolve certain social problems	Financial profit
Focus	Behaviors	Selling goods and services
Product	Often intangible (ideas)	Tangible (physical goods)
Funding	Taxes, donations (often limited)	Investments
Accountability	Public	Private
Performance	Hard to measure	Measured by financial profits

Product: the good, service, or idea being marketed in order to change behavior (for example, hand washing, safe sex, wearing a seat belt)

Price: the costs of and barriers to behavior change (for example, money, time, discomfort)

Place: the physical location and time in which the behavior change will take place (for example, at home, at school, in the car)

Promotion: the tactics used to communicate the message of behavior change (for example, media, brochures, billboards)

Using Health Theories and Planning Models

Developing health promotion programs can be an overwhelming task. Health theories and planning models have been developed and tested to guide professionals in the development of health promotion programs. Program staff members, stakeholders, and participants need to consider the setting, population, behavior, their desired level of influence, and practical issues such as resources when planning health promotion programs.

The planning models for developing health programs focus on the big picture. By becoming familiar with the theories and models, program staff, stakeholders, and participants gain access to tools that will allow them to generate creative solutions to unique situations. They are able to go beyond acting on instinct or repeating earlier ineffective interventions to adopt a systematic, scientific approach to their work. Theories and models help staff, stakeholders, and participants to ask the right questions and zero in on factors that contribute to a problem. The theories help everyone to understand the dynamics that underlie real situations and to think about solutions in new ways.

Summary

Health theories and planning models provide guidance and support throughout the planning, implementing, and evaluating of health promotion programs. No theory or model is perfect, and not all theories and their concepts are appropriate for all settings and behaviors. Each was designed to address a particular need or with a specific conceptualization of how best to address a health problem. Practitioners typically combine elements from different theories and models in their work. The theories and models are critical to effective health promotion programs and provide the foundation for evidence-based programs based on science, research, and practice across settings.

Health theories and models are dynamic, and the range of theories and models available for application in health promotion programs is rapidly expanding. Health theories describe, explain, and predict behavior at the intrapersonal, interpersonal, and population levels. Health theories reflect the ecological perspective of health promotion, which emphasizes the interaction between and interdependence of factors within and across all levels of a health problem. Health planning models can guide the creation and delivery of health promotion programs through planning, implementing, and evaluating. The strongest health promotion programs will use both health theories and planning models.

For Practice and Discussion

1. As a health educator in a community agency, you have been asked to develop a program to reduce bullying in the local schools. Use the social cognitive theory concept of reciprocal determinism and the constructs of environment, situation perceptions, outcome expectations and expectancies, self-control, observational learning, self-efficacy, and emotional coping to discuss potential intervention points for the program activities.
2. Adolescents engaging in sexual behaviors often do not feel susceptible to infection with a sexually transmitted infection. How might you use the health belief model to address this issue, and to motivate adolescents to abstain from sexual behavior or practice safer sex?
3. A local manufacturing company asks you to serve as a consultant to provide a healthy nutrition program for its 250 employees. The plan is to offer nutrition education activities (for example, cooking classes and home gardening workshops), personal nutrition counseling, a group weight management program, and improved employee food services (for example, low-calorie vending machine options) to employees at varied times. Several months pass, and only 50 employees have participated. The manager is concerned. She wants you to explain why 200 employees are not participating. She also wants you to change or revise the nutrition education program to make sure it is helping employees maintain and improve their nutritional health. Using the stages of change model, propose questions to assess employees' stages of change in regard to nutritional health in order to answer the manager's questions.
4. A group of stakeholders want to plan an innovative diabetes prevention program focused on elementary school students and uses a range of

activities and strategies. Using the PRECEDE-PROCEED model, discuss what would be involved with each phase of planning the program. In addition, discuss key concepts from the other planning models and how they might clarify for the stakeholders what to expect as they plan, implement, and evaluate their program.

5. Using the same innovative diabetes prevention program discussed in Question 4, apply the concepts from the diffusion of innovations model to discuss strategies the program developers can use to ensure that the program will be adopted and will change elementary school practices.
6. A hospital that serves a large farming population wants to increase childhood vaccinations among the families it serves. Using the four P's of marketing (product, price, place, promotion), design a social marketing mix for the hospital to use in order to increase childhood vaccinations among children living in rural farming communities.

KEY TERMS

Behavior	Model
Communication theory	PRECEDE-PROCEED model
Community mobilization	Social capital
Community readiness model	Social cognitive theory
Concept	Social marketing
Construct	Social network and social support theory
Diffusion of innovations model	Stages of change
Health belief model	Theory
Integrated behavioral model	Transtheoretical model
Intervention mapping	Variable

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