

CHAPTER 1

Introduction to Theory

STUDENT LEARNING OUTCOMES

After reading this chapter the student will be able to:

- Describe how theories and models are different but related.
- Explain why theories are used to effect health behavior change.
- Explain concepts, constructs, and variables.
- Discuss factors that influence health and health behavior.
- Explain how theories are developed.

The idea of studying theory can be a bit daunting. But, understanding and being able to use theories is essential because they provide the foundation for professional practice. They help us solve problems and formulate interventions to best provide the services we offer. In fact, research tells us that health interventions based on theories are more effective than those without a theoretical base (Bluethmann, Bartholomew, Murphy, & Vernon, 2016; Tebb et al., 2016).

► What Is Theory?

So, what is theory? A theory is “a set of statements or principles devised to explain a group of facts or phenomena, especially one that has been repeatedly tested or is widely accepted and can be used to make predictions about natural phenomena” (*American Heritage Dictionary of the English Language*, 2015). “A theory is a set of interrelated concepts, definitions, and propositions that present a systematic view of events or situations by specifying relations among variables in order to *explain* and *predict* events or situations” (Glanz, Rimer, & Viswanath, 2008, p. 26).

From a health promotion and disease prevention perspective, “the term *theory* is used to represent an interrelated set of propositions that serve to explain health behavior or provide a systematic method of guiding health promotion practice” (DiClemente, Crosby, & Kegler, 2002, p. 8). “Theory, then, provides a framework for explaining phenomena and may serve as the basis for further research as well

as practice application” (Baumgartner, Strong, & Hansley, 2002, p. 18). Simply put, theories *explain* behavior and thus can suggest ways to achieve behavior change (Glanz et al., 2008). By understanding why people engage in unhealthy behaviors, we can better develop interventions that will enable them to change their behavior and adopt healthier lifestyles, if they choose.

In addition to theories, there are also *models*. A model is a composite, a mixture of ideas or concepts taken from any number of theories and used together. Models help us understand a specific problem in a particular setting (Glanz et al., 2008), which perhaps one theory alone can't do.

Theories and models help us explain, predict, and understand health behavior. Understanding the determinants of health behavior and the process of health behavior change provides the basis upon which interventions can be developed to improve the public's health and their effectiveness evaluated (Noar & Zimmerman, 2005).

Theory is also the driving force behind research. It guides the variables to be studied, how they should be measured, and how they might be combined (Noar & Zimmerman, 2005).

► Types of Theories

Theories and models can be separated into three different levels of influence: intrapersonal, interpersonal, and community. Theories at each of these levels attempt to explain behavior by looking at how different factors at these different levels influence what we do and why we do it.

Intrapersonal Theories

At the intrapersonal or individual level, theories focus on factors within the person that influence behavior, such as knowledge, attitudes, beliefs, motivation, self-concept, developmental history, past experience, and skills (National Cancer Institute [NCI], 2005). These theories and models include, among others, the Health Belief Model, Theory of Reasoned Action, Self-Efficacy Theory, Attribution Theory, and the Transtheoretical Model.

Interpersonal Theories

Theories addressing factors at the interpersonal level operate on the assumption that other people influence our behavior. Other people affect behavior by sharing their thoughts, advice, and feelings and by the emotional support and assistance they provide. These other people may be family, friends, peers, healthcare providers, or coworkers (NCI, 2005). Social Cognitive Theory is a very commonly used theory addressing behavior at this level.

Community-Level Theories

Community-level models and theories focus on factors within social systems (communities, organizations, institutions, and public policies), such as rules, regulations,

legislation, norms, and policies. These theories and models suggest strategies and initiatives that can be used to change these factors (Cottrell, Givram, & McKenzie, 2009; NCI, 2005). These are change theories more than explanatory theories. Changing a social system from one that maintains and supports *unhealthy* behaviors to one that supports healthy behaviors ultimately supports individual behavior change (McLeroy, Bibeau, Steckler, & Glanz, 1988). A commonly used community-level theory is Diffusion of Innovation. More recent additions to this category are the Social Ecological Model and Social Capital Theory.

In health promotion, theories and models are used to explain why people behave, or don't behave, in certain ways relative to their health. They help us plan interventions to support the public's adoption of healthier behaviors. However, in order to understand how theories explain health behavior and support behavior change, it is important to understand where theories come from in the first place.

► Where Do Theories Come From?

Theories are born from the need to solve a problem or find an explanation that would account for some repeatedly observed occurrence. The goal of theory development then, is to identify a few principles that can account for (explain) a large range of phenomena (Bandura, 2005).

Scientific inquiry is a cyclical process where theory and data can be regarded as either starting points or endpoints. In a spiral-shaped process of research, inductive and deductive phases of inquiry follow each other. The starting points are ideas, hypotheses or conceptual frameworks that guide future research. Endpoints are attained when there is a well-substantiated explanation of a particular facet of reality, based upon empirical evidence.

(Schwarzer, 2014, p. 53)

The development of a theory in this manner begins with inductive reasoning and qualitative methods (Mullen & Iverson, 1982; Thomas, 1992). Inductive reasoning, if you recall, starts with specific observations or evidence and moves to a conclusion. For example, using inductive reasoning we observe that HIV is transmitted through sexual activity and we observe that condoms prevent the transmission of diseases through sexual activity. Therefore, we conclude that condoms prevent the transmission of HIV.

In deductive reasoning we start with the conclusion—condoms prevent the transmission of HIV—and seek the observations to support the conclusion—condoms prevent transmission of diseases through sexual activity. HIV is transmitted through sexual activity.

With this as the basis, let's look at visits to the student health service on campus. Suppose every year it is observed that the number of students needing treatment for alcohol overdose is greater during the month of September than any other time of the academic year. Suppose it is also observed that all of the students needing treatment are freshmen. Through inductive reasoning it might be concluded

that risky behavior (drinking) occurs when environmental controls (parents) are absent. This is a reasonable conclusion based on the observations or evidence. However, this may or may not be true, which means the conclusion drawn from the observations needs to be verified, that is, tested to find out how accurate it is in predicting or explaining the behavior. Can risk-taking behavior be explained by the lack of external controls? To further develop this theory, research would be done to determine what happens, why, and under what conditions (Mullen & Iverson, 1982).

Observation, inductive reasoning, and qualitative research methods are what led to the development of the Health Belief Model. The Health Belief Model was developed by researchers at the U.S. Public Health Service in the late 1950s as a means to understand why so few people were being screened for TB. Triggered by the observation of poor screening utilization, possible reasons why people might or might not utilize these screenings were identified and research conducted to determine if the reasons proposed did in fact explain the behavior (Hochbaum, 1958; Rosenstock, 1960). They did explain the behavior and the outcome was the Health Belief Model, one of the most widely used theories in health education and health promotion (Glanz et al., 2008).

Sometimes the starting point of a theory is a problem that sparks a researcher's interest. This is followed by some hunches as to the behavioral causes of the problem, which suggest experiments that might be carried out to test if the hunches are accurate. The results of the experiments lead to refinements of the theory, which leads to more testing and more refinement, and so on. This is a long haul process as human behavior is caused by a number of factors all intricately interwoven and constantly changing (Bandura, 2009).

Sometimes new theories are developed when existing ones are revised, as in the case with the Theory of Reasoned Action. This theory was not very useful in predicting or explaining behaviors that were not under a person's volitional (willful) control. To make the theory more useful for these types of behaviors, the perception of behavioral control (ease or difficulty of doing something) was added and the Theory of Reasoned Action became the Theory of Planned Behavior.

► **Health Behavior**

Health behavior includes all of those things we do that influence our physical, mental, emotional, psychological, and spiritual selves. These behaviors range from brushing our teeth every day to having unprotected sex, from practicing yoga for stress management to smoking for weight management. A myriad of factors influence the types of behaviors we engage in, whether they are helpful or harmful to our health. Some of these factors are socioeconomic status, skills, culture, beliefs, attitude, values, religion, and gender.

Socioeconomic Status

Socioeconomic status (SES) makes a significant contribution to health since it encompasses education, income, and occupation. Education, in particular, affects health because of its relationship to income and occupation. The more education,

the better the job, the greater the income. People with more education and money tend to live in safer homes (communities), have better health insurance, and access to healthier foods. These factors are related to less disease risk, especially from chronic illnesses like heart disease, diabetes, and obesity, and more positive health behaviors (Robert Wood Johnson Foundation, 2013).

However, behavior is driven by more than just education. For example, university students know a lot about HIV/AIDS transmission and how to decrease the risk, yet they don't use what they know and continue to engage in risky sexual practices (Ndabarora & Mchunu, 2014). Consider this—if education, and by extension knowledge, was the driving force behind health behavior, then physicians, nurses, dentists, and other healthcare professionals wouldn't smoke. Yet, some do. Why?

Skills

In the grand scheme of things, it's relatively easy to teach people new information, thereby increasing their knowledge. But without the skill or ability to use that knowledge, it's almost useless. So, behavior is influenced by having both knowledge and skill. Going back to the HIV/AIDS example, unless people know how to use condoms, all the knowledge in the world about how to decrease HIV/AIDS transmission risk is not going to make a difference. Another example where knowledge alone is insufficient is with child safety seats. Parents know the importance of using child safety seats. What they don't know is how to use them correctly. In fact, a study conducted by the National Highway Traffic Safety Administration found that 72.6% of them are *not* used correctly (Decina, Lococo, & Block, 2005). An even greater rate of misuse was found among parents of newborns. In this 2015 study, 95% of car seats were used incorrectly (Hoffman, Gallardo, & Carlson, 2015).

Culture

Sometimes, even armed with information and skills, people still don't use what they know and do what they know how to do. That's because behavior is significantly influenced by culture. In every culture there are norms, or expected, accepted practices, values, and beliefs that are the foundation for behavior.

Think about some of the American cultural norms that dictated what you did this morning in preparing for the day. In our culture, people typically shower every day and follow it with a daily application of deodorant. These behaviors are not necessarily based on knowledge because bathing every day is actually not the best thing for our skin, and using deodorant has no health benefit and in fact can cause problems for people who are allergic to the ingredients.

Looking at this scenario, why do we bathe every day? Other cultures bathe much less frequently and don't use deodorant. So, there must be something else that underlies these behaviors—that something else is our culture. Bathing every day and using deodorant is culturally expected if we are mainstream Americans.

Imagine, if you will, that there was a movement underway to change these behaviors to the more health-enhancing ones of bathing less frequently and not using deodorant. Imagine this campaign was based on the factual information

that daily bathing is bad for the skin and that deodorants and antiperspirants inhibit a natural bodily process. Would you adopt these new behaviors? Would you simply stop taking that morning shower and stop rolling on that deodorant? Why or why not?

Beliefs

Beliefs are intimately woven with culture. Beliefs are one's own perception of what is true, although they might not be viewed as being true by others. A very common health belief is that going outside with a wet head causes pneumonia. Certainly knowledge, based on our Western medicine, tells us pneumonia has many causes, but a wet head is not one of them. However, if one's belief is that a wet head causes pneumonia, then the behavior it supports is not going out of the house with a wet head. This seems like a very innocuous behavior on the surface. But take it one step further: an elderly woman with this belief would not get a pneumonia vaccine, believing instead that staying indoors until her hair is dry is all that is needed to avoid "catching pneumonia."

Attitude

When there are a series of beliefs, you have an attitude. Add to the previous belief about a wet head causing pneumonia the belief that wet socks also lead to pneumonia, as does "getting a chill." This results in an attitude that pneumonia can be easily avoided by drying your hair, quickly changing your wet socks, and keeping warm.

Values

Along with attitudes are values. Values are what people hold in high regard, things that are important to them, such as nature, truth, honesty, beauty, education, integrity, friendship, and family. What we value influences the types of behaviors we adopt. For example, if someone values nature, she might be more likely to recycle, use organic fertilizers, feed the birds, and plant trees. If someone values health, he might be more likely to exercise, maintain a normal weight, and drink in moderation.

Religion

Values and beliefs are often reflective not only of a culture, but of a religion. So, religion is another enormously important factor in health behavior. Take for example, the practice of male circumcision; there is no question in Judaism that a male infant will be circumcised. In the Muslim faith, followers will fast from sunrise to sunset during Ramadan. Religion dictates diet, as in Hinduism, whose followers adhere to a strict vegan diet, or Orthodox Judaism, whose followers obey strict kosher laws. Religion influences the way we handle stress, such as by prayer or meditation, and our family planning—whether or not we use contraception.

Gender

Gender is another important determinant of health behavior. Research consistently shows that men engage in fewer health-promoting behaviors and have less healthy lifestyles than women. Women are more likely to have an annual physical, attend health education classes, ask for advice from their health provider, and have their blood pressure checked (Deeks, Lonnard, Michelmore, & Teede, 2009), eat the recommend number of fruit and vegetable servings a day, get more exercise, and smoke less (Harvard Medical School, 2010).

► Putting It All Together: Concepts, Constructs, and Variables

The factors we have been discussing not only influence health behavior, but are also the concepts of the theories we use to explain behavior. For example, we saw that beliefs influence health behavior. Beliefs form the concept (or idea) of the Self-Efficacy Theory and Health Belief Model, while attitudes are the basis of the Theory of Reasoned Action and the Theory of Planned Behavior. As the concept of a theory develops and evolves, and as it becomes less nebulous and more concrete, constructs emerge. *Constructs* are the ways concepts are used in each specific theory (Kerlinger, 1986).

Each theory, then, has at least one concept at its heart, and a series of constructs that indicate how the concept is used in that theory. To use an analogy, if a theory is a house, the concepts are the bricks and the constructs are the way the bricks are used in the house (see **FIGURE 1.1**). In one house, the bricks are used for the front steps; in another house, the bricks are used for the façade.

A *variable* is the operationalized concept, or how the concept is going to be measured (Glanz et al., 2008). Going back to the house analogy, the bricks can be measured (operationalized) by square footage, number, size, or weight.

► Summary

Theories and models help us understand why people behave the way they do. They are based on concepts and take into account the many factors influencing health behavior. They enable us to focus on these factors from three different levels: intrapersonal, interpersonal, and community. In addition to providing an explanation for behavior, theories and models provide direction and justification for health education and health promotion activities.

Although many theories and models are used to explain health behavior, it is beyond the scope of this text to include them all. Rather, this text provides an introduction to the ones most commonly used for health behavior change interventions.

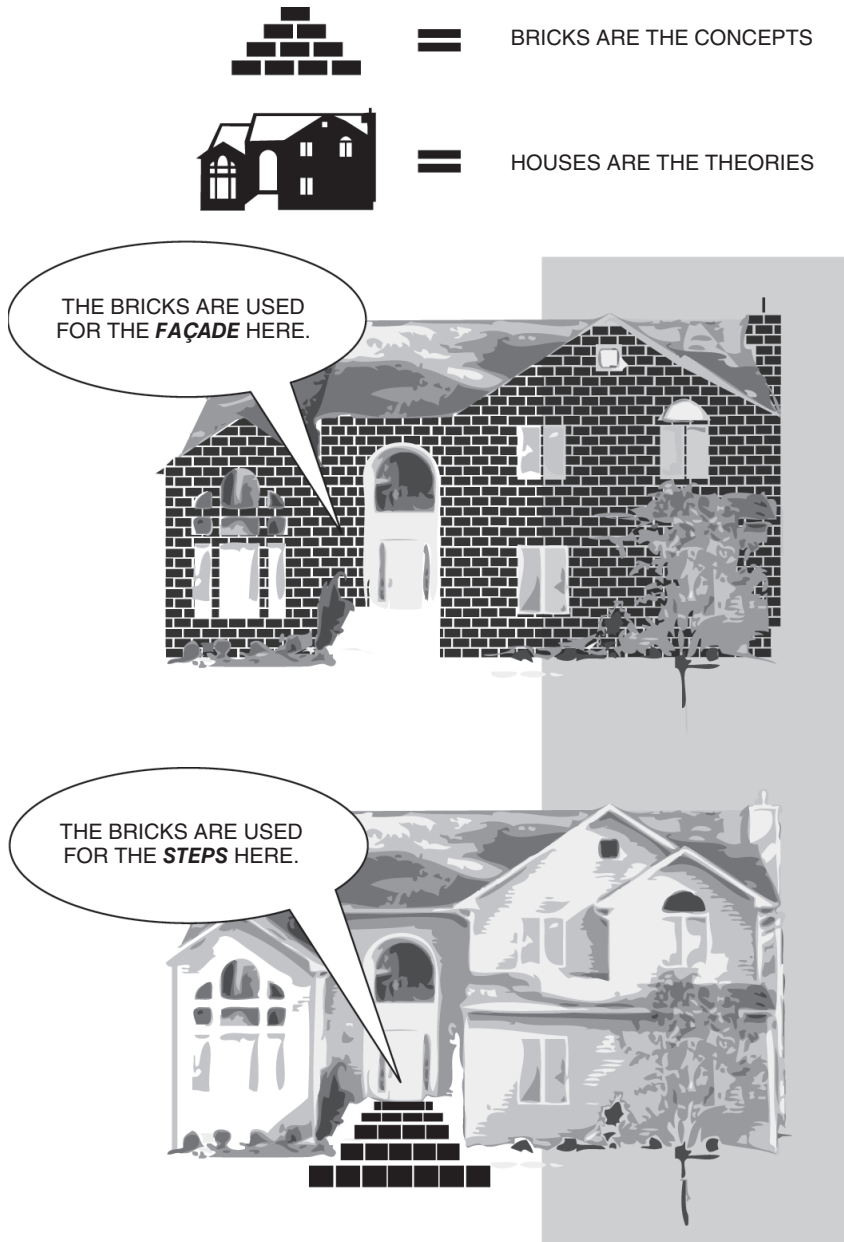


FIGURE 1.1 Theories, concepts, and constructs.

How the concepts (bricks) used in each theory (house) are the constructs (steps, walkway), and how they are measured (number, color, size) are the variables.

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