SECTION I

On Health and Behavior—An Introduction

CHAPTER 1

Introduction: Links Between Health and Behavior

LEARNING OBJECTIVES

By the end of this chapter, the reader will be able to:

- Understand that there are multiple influences on health behavior.
- Define what is meant by the *ecological model*.
- Explain the types of factors influencing health that are covered in an ecological model.

"Life is a voyage…."

—**Victor Hugo,** *The Toilers of the Sea*, 1866

▶ The Setting: Daily Life

Any in-depth discussion of health behavior is, of necessity, going to involve a certain amount of wrestling with abstractions about motives, causal and contributing factors, contexts, cues, and other issues related to why people do what they do. To help make sense of such discussions, it may help to begin with a simple scenario about a health behavior that would seem to be mundane—brushing teeth. It's the sort of thing that would *not* ordinarily be the object of much introspection, to say the least. This kind of behavior is, for the most part, habit, far below the radar of our thinking selves, which makes it an ideal starting point for considering the issues raised in this text.

Suppose a friend of yours—we'll call him Sam—was brushing his teeth and doing so vigorously. If you asked him why he was doing this, your conversation might go as follows:

YOU: Hey Sam, why are you brushing your teeth like that?

SAM: What do you mean, why am I brushing my teeth? Don't you brush yours? I don't wanna get cavities or have my teeth fall out, okay? What kind of a question is that?

Well, that's that, then, right? End of story. Sam is brushing his teeth (and doing it well) to maintain healthy teeth. Makes perfect sense.

But now suppose, as you continue watching Sam perform his tooth-brushing ritual, you see, lying

conveniently on the sink, a copy of *GQ* magazine with a cover photo showing what appears to be the model of hip maleness—a chiseled figure leaning nonchalantly against a wall, with comfortably worn leather jacket open and loose, hair just right even while a few strands display a defiant anarchy, and a carefully casual, unshaven jaw and chin. Punctuating this icon's studied hip gestalt is a set of perfect, strong, gleaming white teeth.

Hmm. The plot thickens. So, maybe he is also trying, in his own way, to look like Mr. Ultimate Male. By brushing his teeth?

Whatever.

Now, suppose, after completing the tooth-brushing scene, Sam, looking intense and preoccupied, digs through his closet for some clothes to wear. Clearly, he is not looking for just any clothes. He is looking through his meager and often rumpled wardrobe for something that will display just the right sense of *je ne sais quoi.**

By this time, your curiosity can no longer be contained.

> **YOU:** Okay, Sam, out with it. You going somewhere (heh, heh)?
>
> **SAM (trying to pretend that nothing out of the ordinary is going on):** Uh, whaddya mean?
>
> **YOU:** C'mon, Sam. What am I, an idiot? Going out? To dinner? A movie? A party? Whatever it is, it looks to me like it's no ordinary party.
>
> **SAM (letting down his guard):** Okay, okay. I was invited to this party, all right? And it's actually at her parents' house.
>
> **YOU (interrupting):** Wait a minute. *Whose* parents' house?
>
> **SAM:** Well, you remember a few weeks ago I mentioned that I met someone I think is … kinda special.
>
> **YOU:** Okay, now I understand. The tooth brushing, all of it.
>
> **SAM:** Here's the thing. I'm not exactly going to be the only person there, ya know what I mean? She didn't invite just me.
>
> **YOU:** So you want to … stand out.
>
> **SAM:** Yeah.
>
> **YOU:** Got it. Lookin' sharp. Good luck.

After this, the plot is now more complete. If you were asked to explain the motivations behind Sam

brushing his teeth (vigorously), you now have at least three possibilities:

1. For health reasons
2. To look as much as possible like the male icon in the magazine (a cultural factor)
3. To stand out from the crowd and be as attractive as possible to a person of the opposite sex, and a special person at that (related to #2, with a little biology thrown in)

We can get more complicated with another question: Which of these three motivations do you think was dominant in the scenario just described? Probably number 2 or 3, right? This time, anyway. But if you ask Sam the same question tomorrow, when, for example, he is barely awake and perhaps on his way to work, you might find that motivation number 1 is actually the most important, or even another one yet unnamed (e.g., "habit," or "so my breath won't smell bad").

Or suppose Sam was the first person to go to college from his small rural town, and his family had little income and no health insurance. Because of the precariousness of his (and his family's) position, he was very concerned about maintaining his health lest he might have to go to a doctor with no money to pay. And a dentist? That would be out of reach. So, as a result, he was very, even overly, concerned about preventing such a situation.

Here is another wrinkle: suppose Sam's mother instructed him, when he was very young, to brush his teeth religiously after every meal. Every day, his mother drilled into Sam's head that he just was not *clean* or presentable to the world without doing so. The reason for her intense dental vigilance was that she herself lost most of her teeth at an early age because, as a child, neither she nor her parents knew much about teeth or the role of brushing. Of course, Sam would not likely know the reasons behind her admonitions; all he would know was that it was a big thing for his mother, and that he had grown up not feeling very presentable unless his teeth were brushed.

▶ The Questions

The moral of the story is this: There is an entire field of study and practice concerning the complex nature of health behavior, with a goal of implementing programs and interventions that seek to promote *change* in behavior to improve the health of the public or a segment of the public. You are undoubtedly familiar with

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* French phrase meaning, literally, "I don't know what," but used to refer to someone who is cool and has a "special something" about them.

these types of programs—campaigns to stop smoking, warnings on advertisements and cigarette packaging, and lawsuits against tobacco companies; TV advertisements and school programs warning young people about drug and alcohol use, or drinking and driving; public campaigns, including billboard ads, metro and bus ads, Internet pop-ups, social media and mobile phone ads, and TV ads, about the risks of transmitting HIV or the risks of smoking; and public campaigns about cardiovascular health and diet, low-carb diets, or low-cholesterol food choices. There are many more such examples.

Most of these programs and interventions rely on a body of knowledge about *what motivates and influences human behavior*. In other words, the public health question might be: Why do people behave in healthy (or unhealthy) ways? This question is really just a more focused way of asking: Why do people do what they do?

Thus, to understand human behavior as it relates to health, we have to think about this subset of behavior in the context of what generally motivates or influences human behavior. Moreover, as you saw in the example of Sam and brushing teeth, behavior that is often categorized as "health behavior" is not necessarily motivated or influenced by concerns about health. It may be, in some cases. Or it may be health concerns mixed together with other concerns. Or it may be based on concerns that have nothing to do with "health" per se. Or it may be based on ideas about being healthy that are different from the standards of health common to Western medicine. A case in point: For many cultures, being thin is not viewed as healthy. A large man—one that we might call overweight—is viewed as healthy and "doing well." This is particularly true for peoples who have experienced food shortages throughout their history.[1] Being thin is a reminder, a symbol, of starvation.

And that is only part of the story. Often, what people do or don't do related to health has more to do with socioeconomic circumstances, environmental conditions, or public policies and regulations. A woman may not get routinely screened for breast cancer simply because she lives in a rural area and healthcare providers who do the screenings are not easily accessible. This doesn't have as much to do with her motivation as it does her social and geographic situation. People living downstream from a factory that is polluting the waterway may suffer health consequences from eating fish or other animals contaminated by the pollutant, or from drinking contaminated water. It may be the case that they are not sufficiently aware of the risk. Yet, they may also be heavily dependent on fishing for their livelihood and may have been dependent on fishing for many generations—enough to build up a local culture related to the fishing life. If you were trying to pinpoint where to start in reducing the health risk for these people, what would you address first?

In some parts of the rapidly developing world, economies and societies that were once rural and agrarian have experienced a dramatic shift to urban and more industrialized economies. This process has many implications for health and social conditions in general. In their former rural life pattern, people may have lived in small villages that did not put much pressure on the local environment, and food may have been relatively easy to obtain. Once in the urban context, the picture changes. Living conditions are more crowded (**FIGURE 1-1**). Food is not as easily obtained. Water and sanitary systems may be overwhelmed by the number of people. Housing is hard to come by. Diseases like tuberculosis spread more easily. Women may come to the cities from rural areas and find themselves forced to engage in the sex trade in order to survive, placing themselves and their partners at great risk for HIV/AIDS or other sexually transmitted infections. Knowledge about some of these risks may be limited, and attitudes about gender roles may restrict women from seeking other types of work. Where, then, would you begin to address the health problems that arose? What would you point to as key influencing factors?

▶ The Complex Social-Ecological Web

These examples illustrate the complexity of factors that influence human behavior with respect to health and other issues. Until the late 1970s and early 1980s, health promotion professionals and programs focused primarily on the knowledge, attitudes, and motivations of *individuals*, without much attention devoted to the social, cultural, and economic circumstances that are also major determinants of behavior.[2] The more recent focus on the multiplicity of influences on behavior is called the *ecological model*.[2] Using this model or approach for understanding health behavior, it is assumed that no single factor influences people's behavior; instead, the complex interaction between individuals and an environment is a process that, taken together, influences behavior. In other words, *behavior doesn't exist in a vacuum*.

This is very much in keeping with a perspective on public health problems advocated by the World Health Organization known as the *social determinants*
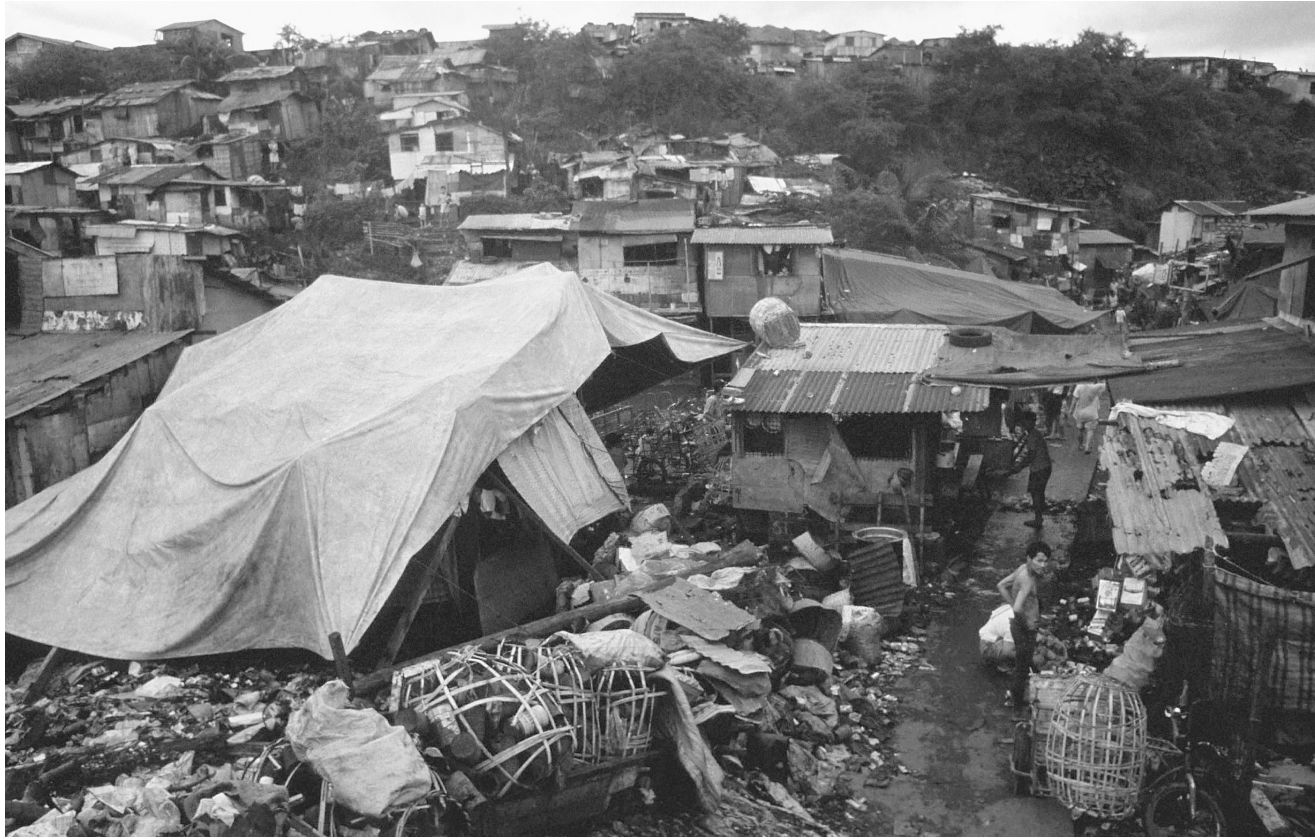
FIGURE 1-1 Shanty town in Manila, Philippines.
© Flat Earth/FotoSearch

approach,[3] as embodied in the Rio Declaration of 2011.[4] This declaration states, in part (p. 2, point 6), that

> health inequities arise from the societal conditions in which people are born, grow, live, work and age, referred to as social determinants of health. These include early years' experiences, education, economic status, employment and decent work, housing and environment, and effective systems of preventing and treating ill health. We are convinced that action on these determinants, both for vulnerable groups and the entire population, is essential to create inclusive, equitable, economically productive and healthy societies.[4(p2)]

So, for example, think of the following factors as a sampling of potential contributors to the behavior of individuals.

Individual Factors
- Awareness and knowledge (about health risks, ways to prevent health problems, etc.)
- Biophysical characteristics (e.g., genetics, systemic vulnerabilities)
- Personal attitudes and motivations
- Developmental stage (e.g., adolescent, adult)
- Behavior/habit socialization (e.g., from parents, family)

Social/Cultural/Group Factors
- Social/peer group lifestyle patterns
- Cultural attitudes, beliefs, practices (and their implications for health)
- Level of social support
- Social influence via groups and social networks

Socioeconomic and Structural Factors
- Poverty/socioeconomic status
- Education
- Access to health care and prevention services/information
- Social stressors such as civil strife, neighborhood violence, racial and other discrimination
- Access to clean water
- Presence of discrimination

Political Factors
- Policies and funding for health promotion programs, including broad programs that support, for example, healthy communities (including food access, access to recreational space, etc.)
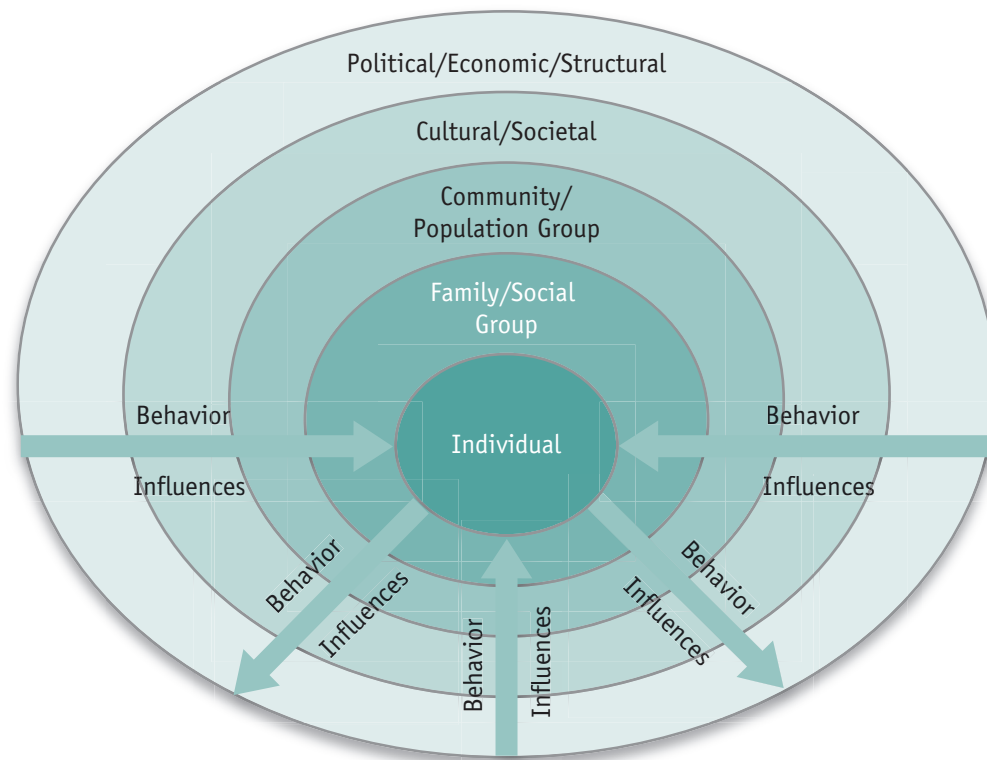
FIGURE 1-2 Levels of influence within a social ecology of behavior.

- Health insurance (policies, cost, availability)
- Regulations that affect health risk (e.g., prohibiting sale of cigarettes to minors)

Environmental Factors
- Presence of an environmental risk, such as air or water pollution
- Disasters
- Conditions for spread of an infectious disease
- Climate change

This list of factors, however, doesn't operate in the world as simply a collection of separate items. The factors tend to operate *together*. The term *ecology* is thus useful to describe this system of relationships. Its origin is in biology, where it generally refers to the following:

- A system of interactions between organisms and an environment
- The complex relationships among organisms in the system (e.g., niches)
- The dependent relationships among members/components of the system, where if one part of the system is disturbed, other parts will be affected

Although the concept originates in biology, the basic idea is useful in thinking about human behavior in context. **FIGURE 1-2** may help. It shows the linkages and connections among people, an environment,[†] and behavior. That does make the task of understanding behavior more complicated, doesn't it?

Clearly, answering the question, "Why do people do what they do?" or its public health version, "Why do people behave in healthy (or unhealthy) ways?" is no easy matter. Yet, to know this is good. Gaining a certain respect for the complexity of the task is, well, *healthy*. Because if you think it's simple, then you are more likely to implement a standardized or cookie-cutter program without much thought as to whether it is appropriate to the situation. And it is one goal of this text that you emerge with more wisdom than that.

However, lest you throw up your hands and claim that behavior is just too complicated to do anything about, consider that a long tradition of researchers and practitioners has built up a considerable store of scientific knowledge, interpretive understanding, and practical application with respect to changing human behavior. There are, of course, many different

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† Here we are defining *environment* as that which exists outside the individual, so it could mean the social as well as the physical environment.

schools of thought, many different applied traditions, and, in keeping with the complexity of the endeavor, many disagreements about basic scientific truths, approaches, strategies, and just what should be the focus of attention.

▶ In This Text

We will review some of these different approaches and theoretical traditions (to understand and change human behavior), with an eye toward providing you with enough tools so that you can make informed judgments about what theories and approaches make sense in a given situation. In doing this, first, we want you to understand some of the assumptions underlying the theory and to take a look at where the various theories come from. Second, we present a general planning approach for (1) assessing a public health or social problem; (2) making a decision, based on your assessment, about what type of program might work best to change it; and (3) determining whether you have succeeded. Third, you will become acquainted with a range of settings in which you can apply social/behavioral theory to address a spectrum of health problems both in the United States and worldwide, including smoking, cancer, cardiovascular disease, HIV/AIDS, maternal and child health, youth violence, and obesity.

Treat this text not as a compendium of answers to all the questions posed but as a resource that can help guide you in the ongoing search for answers—a resource that is based on a sampling of what is currently known in the field.

Chapter Questions

1. What is the goal of the field of study concerned with health behavior?
2. What is the relationship between health behavior and behavior in general?
3. List the ways in which a shift from an agrarian economy to an industrialized economy may affect health conditions.
4. What is the main assumption of the ecological model?
5. What types of broad factors exist in the ecological model?

Your Thoughts

1. In the example of Sam and brushing teeth, what do you think were the most important factors behind his behavior?
2. Pick five things you do that could be called "health behavior." List three possible motivators for each of them. What's your pattern?

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