Once we add the person to the biomedical model, we have a different and broader picture of how health and illness come about. This new perspective, called the **biopsychosocial model**, expands the biomedical view by adding to *biological* factors connections to *psychological* and *social* factors (Engel, 1977, 1980; Kazarian & Evans, 2001). This new model proposes that all three factors *affect* and *are affected by* the person's health.

THE BIOPSYCHOSOCIAL PERSPECTIVE

We can see elements of the biopsychosocial perspective in the story about Ana at the beginning of the chapter. A possible biological contribution to her becoming overweight might be her inheritance, since her mother is overweight and was heavy as a child. Psychological factors are probably important, as shown in Ana's behavior—she eats too much fattening food and gets little exercise. And, although the story did not describe how social factors play a role in her weight problem, they are probably there—for example, if she imitates her mother's dietary and exercise habits. But we *did* see social factors relating to Ana's condition when her schoolmates taunted her and her parents expressed concern and urged her to join a recreation program. Let's look at the elements of the biopsychosocial model in more detail.

The Role of Biological Factors

What is included in the term *biological factors*? This terr includes the genetic materials and processes by which w inherit characteristics from our parents. It also include the function and structure of the person's physiology For example, does the body contain structural defects such as a malformed heart valve or damage in the brair that impair the operation of these organs? Does th body respond effectively in protecting itself, such as b fighting infection? Does the body overreact sometime in the protective function, as happens in many allergi reactions to harmless substances, such as polle or dust?

The body is made up of enormously complex physica systems. For instance, it has organs, bones, and nerves and these are composed of tissues, which in turn consis of cells, molecules, and atoms. The efficient, effective and healthful functioning of these systems depends o

the way these components operate and interact with each other.

The Role of Psychological Factors

When we discussed the role of lifestyle and personality in health and illness earlier, we were describing behavior and mental processes. Behavior and mental processes are the focus of psychology, and they involve cognition, emotion, and motivation.

Cognition is a mental activity that encompasses perceiving, learning, remembering, thinking, interpreting, believing, and problem solving. How do these cognitive factors affect health and illness? Suppose, for instance, you strongly believe, "Life is not worth living without the things I enjoy." If you enjoy smoking cigarettes, would you quit to reduce your risk of getting cancer or heart disease? Probably not. Or suppose you develop a pain in your abdomen and you remember having had a similar symptom in the past that disappeared in a couple of days. Would you seek treatment? Again, probably not. These examples are just two of the countless ways cognition plays a role in health and illness.

Emotion is a subjective feeling that affects and is affected by our thoughts, behavior, and physiology. Some emotions are positive or pleasant, such as joy and affection, and others are negative, such as anger, fear, and sadness. Emotions relate to health and illness in many ways. For instance, people whose emotions are relatively positive are less disease-prone and more likely to take good care of their health and to recover quickly from an illness than are people whose emotions are relatively negative. We considered these relationships

when we discussed the role of personality in illness. Emotions can also be important in people's decisions about seeking treatment. People who are frightened of doctors and dentists may avoid getting the health care they need.

Motivation is the process within individuals that gets them to start some activity, choose its direction, and persist in it. A person who is motivated to feel and look better might begin an exercise program, choose the goals to be reached, and stick with it. Many people are motivated to do what important people in their lives want them to do. Parents who quit smoking because their child pleads with them to protect their health are an example.

The Role of Social Factors

People live in a social world. We have relationships with individual people—a family member, a friend, or an acquaintance—and with groups. As we interact with people, we affect them, and they affect us. For example, adolescents often start smoking cigarettes and drinking alcohol as a result of peer pressure (Murphy & Bennett, 2004). They want very much to be popular and to look "cool" or "tough" to schoolmates and others. These social processes provide clear and powerful motivational forces. But our social world is larger than just the people we know or meet.

On a fairly broad level, our *society* affects the health of individuals by promoting certain values of our culture, such as that being fit and healthy is good. The mass media—television, newspapers, and so on—often reflect these values by setting good examples and urging us to eat well, not to use drugs, and not to drink

and drive. The media can do much to promote health, but sometimes they encourage unhealthful behavior, such as when children see jazzy TV commercials for sweet, nutrient-poor foods (Harris et al., 2009). Can individuals affect society's values? Yes, by writing our opinions to the mass media and lawmakers, selecting which television shows and movies to watch, and buying healthful products, for example.

Our *community* consists of individuals who live fairly near one another, such as in the same town or county, and organizations, such as government. The influence of communities is suggested in the research finding that they differ in the extent to which their members practice certain health-related behaviors, such as smoking cigarettes or consuming fatty foods (Diehr et al., 1993). There are many reasons for these differences. For instance, a community's environmental characteristics seem to influence residents' physical activity and diets (Sallis et al., 2006; Story et al., 2008). Residents tend to be more physically active and have healthier diets in communities that have parks, are safe, and have stores and restaurants with large selections of high-quality fruits, vegetables, and low-fat products.

The closest and most continuous social relationships for most people occur within the *family*, which can include nonrelatives who live together and share a strong emotional bond. As individuals grow and develop in childhood, the family has an especially strong influence (Murphy & Bennett, 2004). Children learn many health-related behaviors and ideas from their parents, brothers, and sisters. Parents can set good examples for healthful behavior by using seat belts, serving and eating nutritious meals, exercising, not smoking, and so on. Families can also encourage children to perform

healthful behaviors and praise them when they do. And as we have said, an individual can influence the larger social unit. A family may stop eating certain nutritious foods, such as broccoli or fish, because one member has a tantrum when these foods are served.

The role of biological, psychological, and social factors in health and illness is not hard to see. What is more difficult to understand is how health is affected by the *interplay* of these components, as the biopsychosocial model proposes. The next section deals with this interplay.