

## CHAPTER 2

# Self-Efficacy Theory

### STUDENT LEARNING OUTCOMES

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After reading this chapter, the student will be able to:

- Explain the concept of self-efficacy theory.
- Define the constructs of self-efficacy theory.
- Explain how vicarious experience influences self-efficacy.
- Describe the influence of mastery experience on self-efficacy.
- Discuss how verbal persuasion affects self-efficacy.
- Compare how the physiological and emotional states affect self-efficacy.
- Use self-efficacy theory to explain one health behavior.

### THEORY CONCEPT AND CONSTRUCTS

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#### Theory concept “essence sentence”

People will only try to do what they think they can do and won't try what they think they can't do.

#### Constructs

**Mastery experience:** Prior success at having accomplished something that is similar to the new behavior

**Vicarious experience:** Learning by watching someone similar to ourselves be successful

**Verbal persuasion:** Encouragement by others

**Physiological and emotional states:** Effects of thinking about undertaking the new behavior

### In the Beginning

For eons of time, we have been trying to understand and explain why people do what they do. Early on, the theories used to explain behavior were based on psychology and shared three characteristics—that behavior is

regulated physically at a subconscious level; that behaviors diverging from the prevailing norm are symptoms of a disease or disorder; and that behavior changes as a result of gaining self-insight through analysis with a therapist (Bandura, 2004). These theories formed the foundation of the “lie on the couch” approach

of talk therapy thought to be the magic bullet of behavior change. Unfortunately, research on the outcome of talk therapy showed that although people did gain insight into their behavior, their behavior usually didn't change (Bandura, 2004).

In the 1960s, an alternative behaviorist approach to explain human behavior was introduced. This new approach viewed behavior as the result of an interplay between personal, behavioral, and environmental factors rather than an unconscious process with psychodynamic roots, and it did not consider deviant behavior a disease symptom (Bandura, 2004).

A shift in treatment also occurred at this time in terms of content, location, and (behavior) change agent. Treatment content became action oriented and focused on changing the actual deviant behavior rather than trying to find the psychological origins of the behavior. Experiences were used to help people gain mastery of skills and belief in themselves to adopt healthier behavior. Treatment occurred in the settings where the behavior occurred—in homes, schools, workplaces, and communities—rather than in a therapist's office. And this new approach did not limit treatment change agents to only mental health professionals. For example, teachers were trained to assist in reducing problem behaviors in the school setting; peers or role models who had overcome the problem behavior themselves were also used as change agents (Bandura, 2004).

Although both approaches were very different, research done on phobias showed that both were equally as effective. Since both worked, it was apparent some underlying mechanism connected them. It was Albert Bandura in the late 1970s who proposed self-efficacy theory as the unifying mechanism (Bandura, 1977, 2004).

## Theory Concept

If you were given the opportunity to fund your college education by swimming 10 laps in a pool, you surely would give it a try, assuming

you can swim. Now imagine you were given the same opportunity to raise tuition money, but you had to swim the English Channel instead. Would you still go for it? If your swimming ability is like the average person's, there's no way you'd even attempt it. Why the difference? In the first case, you believe you can swim 10 laps. In the second, you don't believe you can swim the English Channel, and so you won't even try. Think back to your childhood and the book, *The Little Engine That Could*: "I think I can. I think I can." This is the concept of self-efficacy.

Self-efficacy is the belief in one's own ability to successfully accomplish something, achieve a goal. It is a theory by itself as well as being a construct of social cognitive theory. Self-efficacy theory tells us that people generally will only attempt things they believe they can accomplish and won't attempt things they believe they will fail. It makes sense—why would you try doing something you don't think you can do? However, people with a strong sense of efficacy believe they can accomplish even difficult tasks. They see these as challenges to be mastered rather than threats to be avoided (Bandura, 1994).

Efficacious people set challenging goals and maintain a strong commitment to them. In the face of impending failure, they increase and sustain their efforts to be successful. They approach difficult or threatening situations with confidence that they have control over them. Having this type of outlook reduces stress and lowers the risk of depression (Bandura, 1994).

Conversely, people who doubt their ability to accomplish difficult tasks see them as threats. They avoid those tasks based on their own personal weaknesses or the obstacles preventing them from being successful. They give up quickly in the face of difficulties or failure, and it doesn't take much for them to lose faith in their capabilities. An outlook like this increases stress and the risk of depression (Bandura, 1994).

## Theory Constructs

Self-efficacy theory introduces the idea that the perception of efficacy is influenced by four factors: mastery experience, vicarious experience, verbal persuasion, and physiological (somatic) and emotional states (Bandura, 1994, 1997; Pajares, 2002).

### Mastery Experience

We all have mastery experiences. These occur when we attempt to do something and are successful; that is, we have mastered something. Mastery experiences are the most effective way to boost self-efficacy because people are more likely to believe they can do something new if it is similar to something they have already done well (Bandura, 1994). Perhaps you never thought about this, but babysitting is a significant mastery experience. Women who have experience taking care of infants before they become mothers, for example, by living with extended family, being an aunt, or in other ways participating in childcare, have increased self-efficacy or confidence in their abilities when they do become mothers (Abuhamad, 2020). Fathers, however, tend to have very little prior experience with infants and children before they become parents. Consequently, their mastery experiences come from practicing parenting skills and being involved in the care of their own children (Leerkes & Burney, 2007).

Mastery experiences contribute to the self-efficacy of school nurses in their ability to care for students with asthma. These experiences include, for example, demonstrating to students how to use an inhaler (a device that releases a prescribed dose of medication into the lungs when inhaled) and a peak flow meter (a device that measures how much air a person can rapidly exhale) (McCabe et al., 2019).

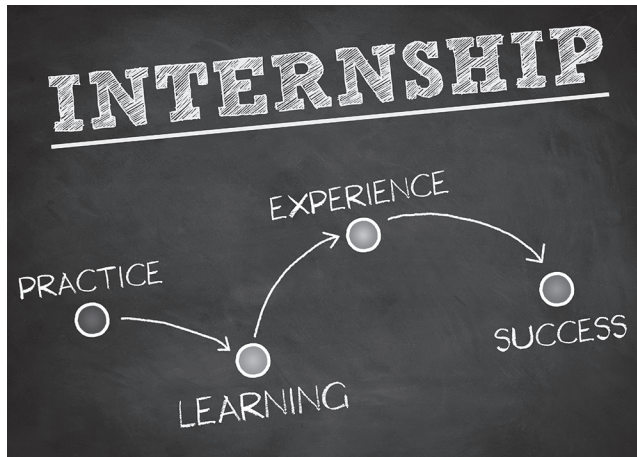
In people with intellectual disabilities who have type 2 diabetes, mastery experiences increase their self-efficacy to manage their disease. Examples of these experiences include

successfully learning about diet, medication administration, and blood sugar monitoring. Other experiences are related to overcoming individual barriers to diabetes self-management, such as using calendars for keeping track of appointments and organizers for making sure medications are taken as prescribed (Maine et al., 2017).

Providing opportunities for people to gain mastery is the aim of workshops, training or apprentice programs, internships, and clinical experiences. These opportunities are ways people can practice and become proficient at new skills, thereby increasing their self-efficacy. For example, hours in clinical practice areas provide opportunities for student nurses to master nursing skills, and internships provide public health students the chance to master the competencies needed for their professional practice. (See **Figure 2.1**.)

However, not all past mastery experiences are applicable to a person's self-efficacy in a new situation, even if the situation is the same or similar to the prior one. Smoking cessation is an example of just such a situation. Mastery experiences from a previous attempt to quit smoking do not help people quit another time. They need new mastery experiences on a daily basis to support their self-efficacy (Warner et al., 2018).

Similarly, parents of children with autism, even if they have other children, usually do not have mastery experiences to support their parenting self-efficacy of the child with autism. The experiences gained from parenting children without autism are not applicable to parenting a child with autism (Raj & Kumar, 2010). It would seem that mastering something new is relatively simple: all you have to do is practice. However, this isn't always the case. If the new tasks are always easy and similar to ones already mastered, and difficult, unfamiliar ones are avoided, then a strong sense of efficacy does *not* develop. To develop a strong sense of efficacy, difficult tasks also need to be attempted, and obstacles worked through (Bandura, 1994). In reality, it's great



**Figure 2.1** Internships provide mastery experiences.

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if you tried to make brownies, were successful, and now make them all the time. But you can't live on brownies alone. At some point, you need to try making a meal.

## Vicarious Experience

Another factor influencing perception of self-efficacy is vicarious experience or the observation of the successes and failures of others (models) who are similar to one's self. Watching someone like yourself successfully accomplish something you would like to attempt increases self-efficacy. Conversely, observing someone like yourself fail detracts or threatens self-efficacy. The extent to which vicarious experiences affect self-efficacy is related to how much like yourself you think the model is (Bandura, 1994). The more one associates with the person being watched, the greater the influence on the belief that one's self can also accomplish the behavior being observed (**Figure 2.2**).

This construct can be used to explain how group weight loss programs work. When overweight people see others like themselves lose weight and keep it off by following a sensible diet and exercising, this strengthens their belief in their own ability to do the same.

Watching friends who have taken a nutrition course choose healthy foods at a fast-food establishment may increase your belief in your ability to also choose healthy foods: "If they can do it, so can I."

Not only do workshops and training sessions increase mastery, they can provide vicarious experiences as well. Watching others in a training session, a class, or during role playing can provide observational experiences that enhance self-efficacy, especially if the person performing or learning the behavior is similar to the observer. This is what happens when vicarious learning is used to teach medical students how to communicate with patients. As it turns out, medical students learn as much and sometimes more by watching other students practice talking with patients as they do from practicing it themselves (Stegmann et al., 2012).

Sometimes vicarious learning situations are not readily available or don't present themselves. In these cases, vicarious learning can take place by watching others on a video. This approach was used for a pilot program aimed at promoting responsive feeding practices to a group of parents (Ledoux et al., 2018). Responsive feeding during childhood is the foundation for the development of lifelong healthy eating behaviors. It entails having the



**Figure 2.2** Learning by watching others.

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caregiver (parent, grandparent, childcare provider) respond appropriately to the hunger or satiety cues of children so they only eat when they're hungry and only as much as they need rather than being pushed to eat when they aren't hungry or to eat more than they want (McCarthy, 2017).

After viewing a responsive eating video in which actors demonstrated both unresponsive and responsive feeding practices in the same situation, parental knowledge about proper feeding practices increased. Perhaps more importantly, there was a decrease in the extent to which parents believed it was beneficial to encourage children to eat, pressure them to eat, and restrict certain foods (Ledoux et al., 2018).

In a healthcare setting, vicarious learning is an effective way for health professionals to gain knowledge and enhance their ability to provide care. Although done on a limited basis, vicarious learning through teleconferencing occurred during the early months of the COVID-19 pandemic between medical professionals in China and Italy (Myers, 2020) as Italian cases were beginning to surge.

Vicarious learning is at the core of coach/trainer–student/client instruction. The coach or trainer demonstrates the skill, and the student/client then copies. This is also how you learned to tie your shoes, brush your teeth, and eat with a fork. You watched, observed your parents or older siblings, and then copied what they did.

Think about all the things you learned by watching others and how successfully accomplishing the skill increased your self-efficacy.

## Verbal Persuasion

The third factor influencing self-efficacy is verbal or social persuasion. When people are verbally persuaded that they can achieve or master a task, it goes a long way in boosting their self-efficacy and making it more likely they will do the task. Coaches frequently use this tactic with their teams. They psych them up verbally, before a game or a meet (**Figure 2.3**). They tell the players they are going to win, that the other team is no match for them, that they are stronger, faster, better prepared, and so on.

If a team performs poorly, the coach's reaction is paramount in the effect the loss has on the players' self-efficacy. For example, the coach saying, "We lost the game today because you are all lousy players," doesn't do much for self-efficacy, whereas saying, "We lost because we need more practice," does (Brown et al., 2005).

Conversely, when people are told they do not have the skill or ability to do something, they tend to give up quickly (Bandura, 1994). Imagine the same coach telling his team they can't possibly win against the opposition. What would the likely outcome be?

Verbal persuasion was one approach used in a program aimed at increasing the



**Figure 2.3** Coaches use verbal persuasion to psych up players.

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self-efficacy of women with hypertension to reduce their salt intake. The program consisted of two in-person 60–90 minute sessions and two follow-up phone calls. It was during these phone calls that participants were encouraged (verbal persuasion) to resist the temptation to use more than the recommended daily amount of salt (Cornelio et al., 2012).

In another program, participants who were successful in maintaining their diet and exercise changes and controlling their blood pressures were praised by the program presenters. Additionally, family members were invited to one of the four program sessions and urged to provide encouragement for their relatives in their blood pressure control efforts (Farazian et al., 2019).

College CHEF, a program intended to help students make healthier food choices by teaching them cooking skills, used verbal persuasion to increase cooking self-efficacy. This was done by having cooking instructors praise students (provide positive verbal feedback) in the class when they did something correctly (McMullen & Ickes, 2017). This praise addressed not only the construct of verbal persuasion but also vicarious learning as other students in the class saw what their peers did correctly.

## Physiological and Emotional States

The physical and emotional reactions that occur when someone contemplates doing something provide clues as to the likelihood of success or failure. Stress, anxiety, worry, and fear all negatively affect self-efficacy and can lead to a self-fulfilling prophecy of failure or inability to perform the feared tasks (Pajares, 2002). Stressful situations create emotional arousal, which in turn affects a person's perceived self-efficacy in coping with the situation (Bandura & Adams, 1977).

People new to exercising at a gym, especially if they perceive that others are watching them, can become anxious in anticipation of an exercise session. This negative emotional or physical response can be detrimental to their exercise self-efficacy and, in turn, threaten their continued exercising. Faced with this situation, a fitness professional can help minimize negative responses by teaching relaxation techniques and encouraging the use of positive self-talk in an effort to reduce anxiety and support exercise self-efficacy (Jackson, 2010). A classic example of how the emotional state affects self-efficacy and, ultimately, health behavior is fear of the dentist (**Figure 2.4**).



**Figure 2.4** Fear of the dentist can lead to avoidance behavior.

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For millions of people in this country, the mere thought of going to the dentist is associated with intense pain and anxiety. As a result, they cannot bring themselves to make appointments or keep appointments for even routine, preventive dental care. This avoidance behavior results in decayed or missing teeth, a poorer quality of life, the need for more extensive treatment, and the very pain they wanted to avoid (Heidari et al., 2017).

Being afraid of the dentist is also related to poor daily dental health habits, as a study of more than 8,000 university students found. Students who reported being very fearful of the dentist brushed their teeth once a day or less and used tobacco, as compared to those less fearful or not fearful at all who brushed their teeth twice a day or more and used tobacco less frequently or not all. As it turned out, the more fearful students were at greater risk of dental problems, which was consistent with their need for frequent dental treatment or treatment at every dental checkup (Pohjola et al., 2016).

As is evident from this example, emotional arousal affects self-efficacy, and self-efficacy affects the decisions people make. If the emotional state improves—that is, emotional arousal

or stress is reduced—a change in self-efficacy can be expected (Bandura & Adams, 1977).

While we tend to think about negative examples of how the emotional state impacts self-efficacy and health behavior, sometimes the emotional state is positive. Think about the effect of the “runner’s high” on health behavior. In this case, the emotional state that results is pleasurable rather than uncomfortable. This would positively impact self-efficacy and support continued engagement in the behavior that created it.

This is the situation that occurs with cancer survivors and exercise self-efficacy. While physical activity is important for everyone’s overall health, it’s particularly important to the physical, psychological, and psychosocial health of cancer survivors. One factor found to contribute to increased exercise self-efficacy among these individuals is their physiological and emotional response to physical activity. People who have more positive emotional responses for example, feel refreshed, tranquil or relaxed, and less intense physical sensation (aches, soreness, fatigue), have greater exercise self-efficacy, which in turn encourages them to engage in daily physical activity (Liao et al., 2020).

The constructs of self-efficacy theory are widely applied in sports. Following are some tips adapted from a sport orientation (Head, 2017) that can be applied to health promotion programs aiming to increase self-efficacy:

- *Mastery experience tip*  
Use repetition to allow for practice of a skill or application of information previously presented before moving on to another skill or other information (Head, 2017).  
For example, in a child safety seat program, participants would practice putting the safety seat in the car until they do it successfully (gain mastery) before moving on to putting the child in the seat.
- *Vicarious learning tip*  
Demonstrate a skill or the application of information exactly as it should be performed by breaking it down step-by-step (Head, 2017).  
For example, when teaching people how to reduce the amount of sodium in their diets, start by showing them where to find the sodium content on a package nutrition label, then where to find the serving size, followed by determining the number of servings their portion size is, and then how to compute the amount of sodium they're eating based on the number of servings they eat.

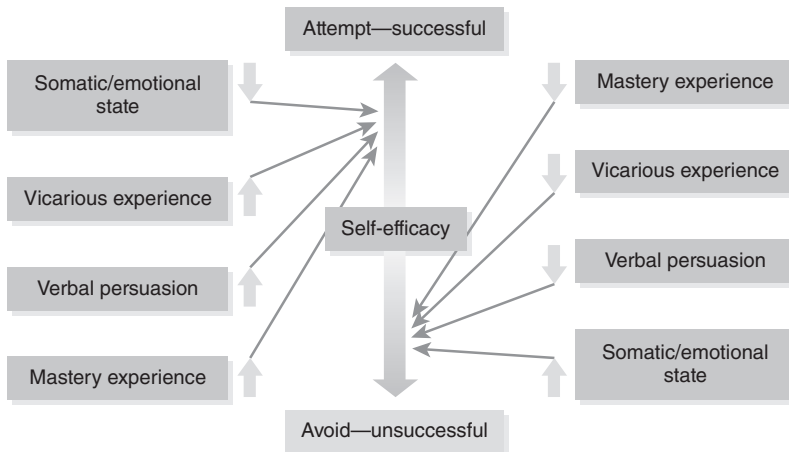
- *Verbal persuasion tip*  
Always include some positive feedback about an aspect of the performance, even when correcting errors (Head, 2017).

For example, in a worksite wellness program aimed at increasing physical activity throughout the day, complement workers for any increase in activity, even if it does not meet the goal. Acknowledging that they made some improvement recognizes their effort and encourages them to try to do better.

- *Physiological and emotional state tip*  
Use a stress reduction technique such as box breathing (inhaling for a count of four, holding for a count of four, exhaling for a count of four, and holding for a count of four) (Head, 2017) to counteract stress and anxiety and improve self-efficacy.

For example, before patients in a dental clinic see the dentist, guide them through box breathing to lessen their anxiety.

In summary, according to self-efficacy theory, verbal persuasion, mastery experiences, vicarious experiences, and somatic and emotional states affect our self-efficacy and, therefore, our behavior (**Figure 2.5**).



**Figure 2.5** Self-efficacy theory.



## THEORY IN ACTION—CLASS ACTIVITY

Lifestyle behaviors can facilitate or prevent disease. Consequently, lifestyle changes are often “prescribed” to those at risk of preventable diseases.

Imagine you are a member of the healthcare team at the student center of a large university that is planning a program for the students to address unhealthy lifestyle behaviors. For example, poor diet, lack of exercise, insufficient sleep, excessive drinking, or unprotected sex. Using this as the basis, answer the following questions:

1. How would mastery experiences contribute to the students’ success in changing their behavior, and how would you know if they had them?
2. How would vicarious experiences increase the students’ self-efficacy to make the lifestyle change?
3. “Who” could say “what” that would persuade students that they have the ability to make the lifestyle change?
4. How might the student healthcare team address the emotional or physical reactions students might have related to their behavior change efforts?

Now, read the following article and answer the questions at the end.

## Medication Adherence, When Lifestyle Is the Medicine.

Mark Faries and Alyssa Abreu

### Abstract

Giving patients insight, knowledge, and skills, although important, may not alone be enough for behavior change maintenance. Rather, the health care provider (HCP) has an important role in fostering behavior change and maintenance by asking, “Why do people change?” and “What can I do to help?” This review highlights 4 evidence-based factors related to medication adherence, when lifestyle is the medicine. (1) Autonomy is the belief that one is the origin of his or her own actions, and must be supported by the HCP (e.g., “My HCP listens to how I would like to do things regarding my health”). (2) Competence and confidence ensure that patients believe they can succeed. These are gained through mastery experience, vicarious experience, and through positive and constructive feedback on

past performance (e.g., “My HCP conveys confidence in my ability to make changes regarding my health”). (3) Coping planning is being able to formulate a plan of intention, with the awareness of barriers and emotional regulation that can inhibit patient behavior (e.g., “I feel able to share my feelings with my HCP”). (4) Personal values of the patients are used to understand how and why they cope when there is a threat to these values (e.g., “My HCP tries to understand how I see my health before suggesting any changes”).

**Keywords:** patient behavior, maintenance, value, autonomy, coping, self-efficacy

‘Similarly, there is an assumption that if one knows what successful maintainers do, one can simply tell others

who struggle with maintenance to adopt those same tendencies . . . ?

As with any medicine, those who practice lifestyle medicine hope that the patient will adhere to the prescription. However, lifestyle change is a big pill to swallow for many patients, despite their motivation to do so.<sup>1</sup> Behavioral and lifestyle medicine research and practice is at a crux, where evidence abounds on the promotion of health behavior change in patients, but many desire an answer to the question, “How does one get patients to maintain their behavior change?”

Historically, practitioners have focused their efforts on encouraging behavior change and maintenance.<sup>2</sup>

1. Give insight: If you can just make patients see, then they will change.
2. Give knowledge: If patients just know enough, then they will change.
3. Give skills: If you can just teach people how to change, they will do it.
4. Give patients a hard time: If one can make people feel badly or afraid enough, they will change.

Clearly, it is helpful to provide the insight, knowledge, and skills that people need, but one must also recognize the limitations in this approach alone. Similarly, there is an assumption that if one knows what successful maintainers do, one can simply tell others who struggle with maintenance to adopt those same tendencies (eg, exercise, eat breakfast, self-weight, watch less TV, set realistic goals).<sup>3-5</sup> However, such efforts commonly fall short. Practitioners should be asking questions, such as, “Why do people change?” and “What can a provider do to help?” The present review will highlight factors that help answer these questions.

## 1. Autonomy

Autonomy is 1 of 3 basic psychological needs of all humans (alongside relatedness or meaningful relationships and competence).

It represents the belief that one is the origin of his or her own actions (ie, volition, freedom, self-determination).<sup>6</sup> Autonomy is essential in understanding the what and why of patients’ goal pursuits, especially because it is integrated with one’s values and sense of self—of which goals are derived. So, if autonomy is satisfied, growth, well-being, and behavioral effort toward goals can be maintained. However, if autonomy is not satisfied, then goal pursuits are theoretically thwarted while also increasing the risk of pathology and ill-being.<sup>6-8</sup> Practitioners must then determine what prescriptions and efforts support autonomy.

## 2. Autonomy Support

First, autonomy requires the power to choose. For example, a patient trying to adopt a healthier eating pattern might believe that she does not have much choice. Rather, she may feel forced to eat from a short and unappealing list of vegetables. Autonomy is not satisfied, potentially undermining her motivation to eat healthy. However, if she is provided with a much longer list of options and recipes, and perhaps is able to try new dishes, her autonomy could then be satisfied.

Patients prescribed to increase physical activity can face a similar concern, in that they perceive few options. Our example patient from above might perceive that the only choice that she has is to use the dreaded elliptical machine. Her autonomy is not satisfied. To avoid this, the practitioner could provide a list of moderate intensity physical activities (3-6 METs) from the Physical Activity Compendium (<https://sites.google.com/site/compendiumofphysicalactivities/home>). The patient could use this list to highlight the activities that she already enjoys, perhaps intrinsically, while choosing other new activities.

Options become especially important when barriers challenge the patient’s choices. For example, a patient, “Susan,” has chosen to walk outside in her neighborhood for the past

week at 7:00 AM. However, on this particular morning, it is cold and raining. What does Susan do? Too commonly, if she is like others trying to adopt an active lifestyle, her only choice might be to do nothing. On the other hand, if she had options (ie, alternatives), such as going to the gym, walking at the mall, watching a free exercise video online, or walking on her treadmill, she could then maintain her activity behavior without interruption or potential relapse.

Individuals living in rural and urban areas who perceived 4 places to exercise had a 3.8 and 5.3 times increased odds of meeting physical activity guidelines, respectively, than those who perceived zero places to exercise.<sup>9</sup> In addition, the odds increased with each perceived place of exercise. A single perceived place to exercise doubled the odds of meeting physical activity guidelines. Thus, the practitioner might ensure that patients perceive that at least 4 options for the respective behavior (eg, physical activity) are available. This could be done in a way that enables the patient to perceive his or her current options while also facilitating the patient to discover new options. In this way, options are provided, but behavior is not forced on the patient.

To support autonomy, the goal is “to reduce resistance by assuring the patient that you know that you cannot make them do anything—it is their choice.”<sup>2(p23)</sup> Practitioners can use the simple, 15-item Healthcare Climate Questionnaire to gauge how well their current practice is supporting autonomy.<sup>10</sup> Consider how your patients would answer the following items:

1. I feel that my health care provider (HCP) has provided me choices and options about my health.
2. I am able to be open with my HCP about my health.
3. My HCP listens to how I would like to do things regarding my health.

Clearly, if patients rate these items highly, they feel support to be autonomous, which

can affect their motivation to maintain. The weight loss maintenance research has provided clear evidence of the importance of ensuring an environment that supports autonomy. Williams et al<sup>10</sup> found that the effect of a weight loss program on maintaining weight loss after 2 years was positively related to the patients’ autonomous (self-determined) motivation to stay in the program. Yet patients’ motivation was directly affected by how much they perceived support from the program to be autonomous in their weight loss behavior. Similar findings have been shown with physical activity and weight loss maintenance after 3 years.<sup>11</sup> This highlights the importance of perceptions of autonomy support to influence self-determined motivation and subsequently influence maintenance of health behavior.

### 3. Competence and Confidence

Like autonomy, competence is thought to be a basic human need. The aforementioned Healthcare Climate Questionnaire also contains the following items.

1. My HCP conveys confidence in my ability to make changes regarding my health.
2. My HCP has made sure I really understand my health risk behavior and the benefits of changing these behaviors without pressuring me to do so.
3. I feel a lot of trust in my HCP.

There is a saying, “If I believe I can, I might. If I believe I can’t, I probably won’t.” Providers try to ensure that patients believe that they can succeed. When these feelings of competence or confidence are undermined, the patient is less likely to initiate and maintain lifestyle changes.

Just as the perceptions of options improve the odds of meeting physical activity guidelines, so does self-efficacy—the belief in one’s ability to do a specific task or behavior. Compared with no confidence

in meeting physical activity guidelines (150 minutes per week of moderate intensity activity), those who were “very confident” had 3 times the odds of meeting physical activity guidelines.<sup>12</sup> Even those who were “somewhat confident” had twice the odds of meeting the guidelines.

#### 4. Mastery Experience

The first way to improve self-efficacy is through experiences of mastery, which arise from effective personal performance.<sup>13</sup> Certain performances of behaviors enhance perceptions of personal mastery, but others do not. One’s own accomplishments, especially those that are perceived as successful, provide an authentic experiential foundation for confidence and successful expectations.

The goal for the practitioner is to help patients choose behaviors that are perceived as challenging, yet attainable. If the lifestyle prescription is perceived as too challenging or difficult, confidence can be diminished. At the same time, if the prescription is too easy, patients might not gain any confidence in their abilities. In addition, patient expectations of personal mastery can affect both their initiation and persistence with behavior, even in the face of challenges.<sup>13</sup>

In physical activity, for example, a graded mastery experience with an increasingly difficult exercise prescription was not associated with greater adherence.<sup>14</sup> Thus, self-efficacy might not be the mere accomplishment of tasks or behaviors, as is commonly seen with goal-setting strategies. Rather, a key component of mastery experience is the patient’s perspective that the personal behavioral performance has been successful. Notice the perception of success is that of the patient, not the HCP. For example, a patient who is trying to adopt an active lifestyle might say, “I only did 30 minutes of physical activity this week.” The patient does not perceive his or her efforts to be successful. The HCP

could incorrectly confirm this unsuccessful attempt, because it did not meet the predetermined standard of the lifestyle prescription of 150 min/wk. Alternatively, the HCP could help the patient see the 30 minutes as quite successful in light of other challenges. This approach could potentially enhance mastery experience.

#### 5. Vicarious Experience

Patients can perceive lifestyle prescriptions as intimidating or threatening, which will undermine their confidence. However, they can gain confidence by seeing others perform the same behaviors without the adverse consequences that they believe might occur.<sup>13</sup> They might also believe that they will improve if they persist in their efforts, encouraging them to model the other person’s behavior and intensity. Modeling can be strengthened when patients view models as credible, similar to themselves, valuing the same outcome, and someone they aspire to be.

Modeling also includes practitioners “practicing what they preach.” Lobelo et al<sup>15</sup> examined how physical activity habits of physicians and medical students influence their own counseling practices and stated, “In conclusion, we have shown compelling evidence indicating that physicians’ health matters, and that physicians’ personal physical activity practices influence their clinical physical activity attitudes and practices.”<sup>15(p2)</sup> Interestingly, they found that the effect of the practitioner’s own health habits on counseling practices was independent of many demographic, training, and clinical practice factors.

In a study by Frank et al,<sup>16</sup> patients entering a general medical clinic waiting room were randomly assigned to either a control or disclosure group. In the control group, patients watched a physician give a brief educational video about improving diet and exercise. In the disclosure group, the physician disclosed an additional 30 s of information about her

own personal healthy dietary and exercise habits. There was also the added touch of a bike helmet and an apple visible on her desk, which was not present in the control video. A significantly higher percentage of patients in the disclosure group (vs the control group) reported higher ratings on how healthy the doctor seemed, how much they believed what the doctor said about exercise and diet, and being more motivated and encouraged by the doctor to exercise or eat a healthy diet in their own life. These studies suggest that HCPs have an important role in modeling a healthy lifestyle for the patient. However, it is not that the HCP should be free of barriers or struggles to maintain a healthy lifestyle; rather their own efforts can provide a foundation for patient confidence through vicarious experience and modeling.

## 6. Verbal Persuasion

With verbal persuasion, people can be prompted to believe that they can successfully handle and cope with challenges that occur while changing a behavior that might have overwhelmed them in the past.<sup>13</sup> An encouraging word can go a long way. To provide an increase in a patient's sense of confidence, the practitioner can help the patient locate and amplify the more positive, persuasive voice, "You can do it." In addition, one important aspect is teaching the patient to locate this voice internally when they need it. Imparting this skill has the added benefit of limiting the constant use of the HCP.

However, verbal persuasion alone might not be enough to provide long-term benefits to self-efficacy.<sup>14</sup> The persuasiveness might come in the form of constructive feedback on past performance, rather than a simple reassurance. As mentioned with mastery experience, patients should be made aware of their personal successes. In-depth informative feedback can be used to clarify and provide

rationale as to why some strategies to change and maintain behavior were successful and others were not.

## 7. Emotional Arousal

Emotions that come from stressful and taxing situations, such as lifestyle change and maintenance, provide valuable information regarding one's sense of personal competency.<sup>13</sup> High or aversive arousal can debilitate or undermine healthy behavioral efforts. For example, monitoring one's weight can be distressing, and there are a number of ways to cope that do not include physical activity or healthy eating (eg, avoidance, comfort food, suppressing appetite, using supplements).<sup>17</sup> The emotions provide feedback that must be interpreted in a positive fashion to build the confidence needed to behave in a particular way. As previously discussed, the HCP can be aware of how the patient is responding, to adjust prescriptions in order to maximize confidence and motivation.<sup>1</sup> Also, more recent research suggests that helping patients see difficult situations in a more flexible, mindful, and nonjudgmental way could aid in coping.<sup>18</sup>

Health behaviors can lead to negative feelings as well. Research supports that lower levels of positive affective responses to exercise (eg, pleasure, energy), especially in patients classified as obese, account for low levels of physical activity maintenance.<sup>19</sup> Furthermore, the response to a single bout of moderate-intensity aerobic exercise in inactive adults has been shown to predict physical activity 6 and 12 months later.<sup>20</sup>

A major reason for the interindividual differences in affective responses to behaviors, such as exercise, is the perceived confidence in one's own personal abilities (eg, self-efficacy). Previous research illustrates how perceptions of self-efficacy (ie, how well they think they did) directly influence how one feels and subsequently interprets an exercise session.<sup>21</sup>

In addition, this research supports structuring lifestyle prescriptions in a way that maximizes both mastery experience and positive feedback, which will subsequently support self-efficacy.<sup>22</sup> Changes (increase or decrease) in perceptions of self-efficacy over time relate to changes in exercise behavior, including long-term maintenance.<sup>23</sup>

## 8. Coping Planning

Feelings and emotions clearly play a role in the adoption of healthy lifestyle behaviors. The Healthcare Climate Questionnaire confirms the role of the HCP in emotional regulation.

1. My HCP encourages me to ask questions.
2. My HCP handles my emotions very well.
3. I feel very good about the way my HCP talks to me about my health.
4. I feel able to share my feelings with my HCP.

The awareness of such feelings, ideally in more a mindful, nonjudgmental fashion, can allow both the practitioner and the patient to formulate a plan to cope with both the feelings and challenges that will come along with the behavioral maintenance. One such way of coping is called *coping planning*, which is making a plan that anticipates difficulties or barriers that might hinder the patient's implementation of their intentions to live a healthy lifestyle.<sup>24,25</sup> As previously highlighted,<sup>1</sup> a gap exists between people's intentions and actual lifestyle behavior. *Action planning*, or implementation intentions, are first made to provide "if . . . then" statements to help connect a patient's intention to actually following through with the behavior.

For example,

"If I wake up at 6:00 AM tomorrow morning, then I will get ready and immediately go jogging in the neighborhood."

On the other hand, a *coping planning* statement would look like,

"If it is raining or too cold in the morning, then I will go to the gym instead of jogging in the neighborhood."

Notice how the action plan is a simple statement, while the coping plan anticipates personal challenges or barriers to completing the action plan. In this way, the patient can create a sense of control over unwanted concerns or distractions to their behavior. Coping planning might be more effective because difficulties that must be self-regulated are common and coping planning implies action planning.<sup>26</sup> Research in physical activity suggests that both action and coping planning could be used to help individuals connect intention to behavior in the short term; however, coping planning appears to have a larger effect on behavior over time.<sup>25</sup>

Intention and coping planning can be measured in practice. Sniehotta et al.<sup>24</sup> developed a short scale that asks patients, "I have made a detailed plan regarding . . ."

1. what to do if something interferes with my plans;
2. how to cope with possible setbacks;
3. what to do in difficult situations in order to act according to my intentions;
4. which good opportunities for action to take;
5. when I have to pay extra attention to prevent relapses;

Answers are rated on a 4-point scale: 1 = *completely disagree*; 2 = *disagree*; 3 = *agree*; 4 = *totally agree*.

Others make suggestions for specific behaviors,<sup>26</sup> such as smoking cessation, asking, "I have a detailed plan . . ."

1. how to respond when a friend offers me a cigarette;
2. how to avoid a high-risk situation where the urge to smoke might overwhelm me;
3. how to arrange my daily routines to minimize temptations to smoke.

Answers, in this case, are rated on a similar 4-point scale: 1 = *not at all true*; 2 = *barely true*; 3 = *mostly true*; 4 = *exactly true*.

In both these examples, the key is having the patient focus on potential high-risk thoughts, situations, or barriers that will challenge the consistency of a healthy lifestyle prescription. Without coping planning, the most admirable and honest of intentions can fail, preventing long-term maintenance of any health behavior.

## 9. Personal Values and Self-Worth

The Health Care Climate Questionnaire highlights:

1. I feel my HCP *understands how I see things* with respect to my health.
2. I feel that my HCP *accepts me* whether I follow their recommendations or not.
3. I feel that my HCP *cares about me as a person*.
4. My HCP *tries to understand how I see my health* before suggesting any changes.

Humanistic or values-based medicine emphasizes the values that underpin a holistic, lifestyle medicine view. This includes values, such as the importance of individuals and communities, human security and flourishing, and the value of individual human life (both quantity and quality),<sup>27</sup> adding “years to life and life to years.”<sup>28</sup> Common descriptions of evidence-based medicine emphasize research evidence, clinical expertise, and patient values. Thus, practicing evidence-based, lifestyle medicine assumes a relevant understanding of patient values.

To understand the values of each patient, one must first consider the patients’ view of their *actual self* (or self-concept), vision for a hoped *ideal self*, and concern to conform to an *ought self* out of duty or obligation.<sup>29</sup> Patients who feel discrepant between their actual and ideal self, can experience disappointment, dissatisfaction, or sadness. On the other hand, perceived discrepancies between one’s actual self-view and ought self-state can lead to more agitated-related emotions, such as fear, threat,

or restlessness.<sup>7</sup> The practitioner can be aware of such feeling states to gain better insight into the patient’s view of self. An awareness of the patient’s feelings might also allow the practitioner to help protect against the patient creating an inappropriate ought self, in which the patient feels he or she must comply out of obligation or responsibility.<sup>1</sup>

Patients’ self-concept helps them develop standards and values. These standards and values help guide the creation of particular goals, which then drive particular behaviors to reach these goals. Specifically, “We are motivated to reach a condition where our self-concept matches our personally relevant self-guides.”<sup>29(p321)</sup> To understand patient goals and behavior (or lack thereof), one must understand the standards or values set by a patient’s self-concept.

To illustrate with a patient example: Maria wants to be healthier, but is having difficulty adopting a healthy dietary intake. Maria shares how much she values her strong cultural heritage and her role of passing these values and behaviors to her children, including dietary behaviors. By asking Maria to give up certain foods that might not have a favorable macronutrient or caloric content, one is really asking her to give up a part of her values and, potentially, a part of her self-concept. The prescription should be one that does not undermine, and potentially enhances, her values, role in her family, and sense of self.

In addition, people are motivated to sustain or restore their view of self—commonly referred to as self-preservation. One clinical tactic for behavior change is to help the patient see that their behavior is incongruent, incompatible, or discrepant with their personal core values. Those who maintain behavior changes, especially before behavior reaches a habitual level requiring little self-regulatory effort, are able to see their behavior in the shadow of their personal values and standards. In a way, they can transcend the immediate situation, with its challenges and difficulties, to stay in line with goals, values, and standards that they have.<sup>30</sup> One might pass up on the dessert today for a

longer-term health goal (ie, how he or she will look in a bathing suit next summer, or to stay in line with their self-concept or identity as a “healthy eater”). Generally speaking, when one becomes immersed in the present moment, without consideration of their values, ideals, and longer-term goals, they are at risk of self-regulatory failure.<sup>30</sup>

Self-concept theoretically exists in a hierarchy, where one’s overall view of self is affected by numerous lower-level self-views and values (eg, professional, social, academic, or physical self-concept). However, if the HCP does not know what value is perceived as threatened, then proper value-based counseling is not possible. In addition, the HCP cannot assume that a particular diagnosis (e.g., obese classification) threatens a particular domain of self-views.

As an example: Following her obese classification, Karen feels like her self-view of *attractiveness* is threatened. However, another patient who receives this same obese classification, Jill, feels like her *health* is threatened, but not her attractiveness. The HCP might emphasize the health concerns to both patients, but ends up only being effective and motivating to Jill and not Karen. This occurs because the health message mirrors the salient threat to Jill’s self-view (ie, health). Now, let’s say that both Karen and Jill feel like their attractiveness is threatened from the obese classification. However, the difference in why it is a threat occurs at the higher levels or domains of self-views. Karen believes that her being unattractive threatens her views of her *physical self*, whereas Jill believes that being unattractive threatens her *professional and social selves*.

Expanding on previous research on medical triggers<sup>31</sup> and early work on appraisal stakes (what is at stake in a distressing situation),<sup>32</sup> we are developing theoretical support for specific fundamental needs that can be threatened within the process of health behavior change and maintenance:

1. *Self-esteem*: The fundamental desire to maintain self-esteem and self-integrity or to feel better about oneself.
2. *Social Status*: The fundamental need to seek social inclusion and avoid exclusion, which can be threatened by risk of exclusion or evaluation.
3. *Sex*: The fundamental need for mating relationships and strategies, alongside maximizing reproductive success (eg, physical attractiveness, body image, mate value).
4. *Survival*: The fundamental need for survival, longevity, and disease avoidance, which could include perceptions of health, energy, and physical functioning.
5. *Family*: The fundamental need for one’s role and investment as a parent, spouse, or member of a family unit.
6. *Spirituality*: The fundamental need to connect and have a relationship with a higher spiritual power. This need would also include living in a way that is representative of this identity (e.g., a Christian) or in a way that fulfills a way of life, principles, laws, or dogma (i.e., spiritual self).

These fundamental needs provide meaning and, when threatened, can promote behavior change to reduce the threat and preserve one’s self-concept. The HCP can then examine the threat, the value, the motivation, and the behavioral choices of the patients to reduce the perceived threat. When efforts and reasoning are modified to match the patient values, health behavior prescriptions have greater personal meaning, which may aid in maintenance of these behaviors.

## 10. Conclusion

Value-based lifestyle medicine has the practitioner first asking, “What does the patient value?” With this insight, the practitioner can develop a practice that emphasizes and supports key evidence- and theoretically based factors that relate to behavioral maintenance. These factors include patient perceptions of autonomy, competence, self-efficacy, relatedness, emotional regulation, and coping planning. The practitioner is encouraged to maintain awareness of the importance of psychological determinants



and patient values. This allows for modification of lifestyle prescriptions and development of practice models that maximize lifestyle adherence, when lifestyle is the medicine.

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### THEORY IN ACTION—ARTICLE QUESTIONS

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1. Why is it important to help people choose the right lifestyle behaviors to change?
2. What qualifies as a “mastery experience”?
3. Why is it important for people to have mastery experiences when changing behavior?
4. According to the article authors, how might a person’s perception of an unsuccessful mastery experience be turned around?
5. One barrier to strong self-efficacy for lifestyle behavior change is the belief that the change can lead to adverse consequences. How does vicarious experience address this?
6. How can the potential debilitating effects of emotional or physical reactions to a lifestyle behavior change be addressed?
7. In a small group, share the similarities and differences between your responses from the first set of questions and the suggestions made by the article authors.

### THEORY IN ACTION—ADDITIONAL EXAMPLES

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Article: **Self-Efficacy and Postpartum Depression Teaching by Perinatal Nurses in a Rural Setting: A Replication Study**

Article link: <https://pubmed.ncbi.nlm.nih.gov/31728110/> [open access link - read online or download PDF]  
Citation: Link, K. A., Tinius, R., Maples, J., & Logsdon, M. C. (2019). Self-efficacy and postpartum depression teaching by perinatal nurses in a rural setting: A replication study. *The Journal of Perinatal Education, 28*(4), 190–198. <https://doi.org/10.1891/1058-1243.28.4.190>

Annotation: The authors explain how self-efficacy theory guided their research into the postpartum depression teaching behaviors of nurses in a rural hospital. The results show the relationship between the constructs of self-efficacy theory and the nurses’ perception of their own ability (self-efficacy) to teach new mothers about postpartum depression.

Article: **Effects of a Problem Drinking Prevention Program Developed Based on Bandura’s Self-Efficacy Theory in Nursing Students**

Article link: <https://ijph.tums.ac.ir/index.php/ijph/article/view/19380/6645>  
Citation: Kim, J. H., & Kweon, Y. R. (2020). Effects of a problem drinking prevention program developed based on Bandura’s self-efficacy theory in nursing students. *Iran Journal of Public Health, 49*(1), 186–188.

(Continued)

**THEORY IN ACTION—ADDITIONAL EXAMPLES****(Continued)**

Annotation: In this brief, two-page article, the authors discuss how they used self-efficacy theory as the foundation for a program aimed at increasing nursing students drinking refusal self-efficacy and reducing their drinking behavior. Table 1 in the article nicely shows how the content of each of the program's six sessions addressed the theory constructs.

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