The term "self-efficacy" refers to your beliefs about your ability to effectively perform the tasks needed to attain a valued goal. Self-efficacy does not refer to your abilities but to how strongly you believe you can use your abilities to work toward goals. Self-efficacy is not a unitary construct or trait; rather, people have self-efficacy beliefs in different domains, such as academic self-efficacy, problem-solving self-efficacy, and self-regulatory self-efficacy. Stronger self-efficacy beliefs are associated with positive outcomes, such as better grades, greater athletic performance, happier romantic relationships, and a healthier lifestyle.

Learning Objectives

- Define self-efficacy.
- List the major factors that influence self-efficacy.
- Explain how self-efficacy develops.
- Understand the influence of self-efficacy on psychological and physical health and well-being as well as academic and vocational success.
- Define collective efficacy and explain why it is important.

Introduction: What Is Self-Efficacy?

Imagine two students, Sally and Lucy, who are about to take the same math test. Sally and Lucy have the same exact ability to do well in math, the same level of intelligence, and the
same motivation to do well on the test. They also studied together. They even have the same brand of shoes on. The only difference between the two is that Sally is very confident in her mathematical and her test-taking abilities, while Lucy is not. So, who is likely to do better on the test? Sally, of course, because she has the confidence to use her mathematical and test-taking abilities to deal with challenging math problems and to accomplish goals that are important to her—in this case, doing well on the test. This difference between Sally and Lucy—the student who got the A and the student who got the B-, respectively—is self-efficacy. As you will read later, self-efficacy influences behavior and emotions in particular ways that help people better manage challenges and achieve valued goals.

A concept that was first introduced by Albert Bandura in 1977, self-efficacy refers to a person’s beliefs that he or she is able to effectively perform the tasks needed to attain a valued goal (Bandura, 1977). Since then, self-efficacy has become one of the most thoroughly researched concepts in psychology. Just about every important domain of human behavior has been investigated using self-efficacy theory (Bandura, 1997; Maddux, 1995; Maddux & Gosselin, 2011, 2012). Self-efficacy does not refer to your abilities but rather to your beliefs about what you can do with your abilities. Also, self-efficacy is not a trait—there are not certain types of people with high self-efficacies and others with low self-efficacies (Stajkovic & Luthans, 1998). Rather, people have self-efficacy beliefs about specific goals and life domains. For example, if you believe that you have the skills necessary to do well in school and believe you can use those skills to excel, then you have high academic self-efficacy.

Self-efficacy may sound similar to a concept you may be familiar with already—self-esteem—but these are very different notions. Self-esteem refers to how much you like or “esteem” yourself—to what extent you believe you are a good and worthwhile person. Self-efficacy, however, refers to your self-confidence to perform well and to achieve in specific areas of life such as school, work, and relationships. Self-efficacy does influence self-esteem because how you feel about yourself overall is greatly influenced by your confidence in your ability to
perform well in areas that are important to you and to achieve valued goals. For example, if performing well in athletics is very important to you, then your self-efficacy for athletics will greatly influence your self-esteem; however, if performing well in athletics is not at all important to you, then your self-efficacy for athletics will probably have little impact on your self-esteem.

**How Do We Measure Self-Efficacy?**

Like many other concepts in psychology, self-efficacy is not necessarily measured in a straightforward manner and requires much thought to be measured accurately. Self-efficacy is unlike weight, which is simple to objectively measure by using a scale, or height, which is simple to objectively measure by using a tape measure. Rather, self-efficacy is an abstract concept you can’t touch or see. To measure an abstract concept like self-efficacy, we use something called a **self-report measure**. A self-report measure is a type of questionnaire, like a survey, where people answer questions usually with answers that correspond to numerical values that can be added to create an overall index of some construct. For example, a well-known self-report measure is the Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983). It asks questions like, “In the last month, how often have you been upset because of something that happened unexpectedly?” and “In the last month, how often have you been angered because of things that were outside of your control?” Participants answer the questions on a 1 through 5 scale, where 1 means “not often” and 5 means “very often.” Then all of the answers are summed together to create a total “stress” score, with higher scores equating to higher levels of stress. It is very important to develop tools to measure self-efficacy that take people’s subjective beliefs about their self-efficacy and turn them into the most objective possible measure. This means that one person’s score of 6 out of 10 on a measure of self-efficacy will be similar to another person’s score of 6 out of 10 on the same measure.

We will discuss two broad types of self-
report measures for self-efficacy. The first category includes measures of general self-efficacy (e.g., Schwarzer & Jerusalem, 1995; Sherer et al., 1982). These scales ask people to rate themselves on general items, such as “It is easy for me to stick to my aims and accomplish my goals” and “I can usually handle whatever comes my way.” If you remember from earlier in this module, however, self-efficacy is not a global trait, so there are problems with lumping all types of self-efficacy together in one measure. Thus, the second category of self-efficacy measures includes task-specific measures of self-efficacy. Rather than gauge self-efficacy in general, these measures ask about a person’s self-efficacy beliefs about a particular task. There can be an unlimited number of these types of measures. Task-specific measures of self-efficacy describe several situations relating to a behavior and then ask the participant to write down how confidently he or she feels about doing that behavior. For example, a measure of dieting self-efficacy would list a variety of situations where it can be hard to stick to a diet—such as during vacations, when bored, or when going out to eat with others who are not on a diet. A measure of exercise self-efficacy would list a variety of situations where it can be hard to exercise—such as when feeling depressed, when feeling tired, and when you are with other people who do not want to exercise. Finally, a measure of children's or teens' self-regulatory self-efficacy would include a variety of situations where it can be hard to resist impulses—such as controlling temper, resisting peer pressure to smoke cigarettes, and defying pressure to have unprotected sex. Most studies agree that the task-specific measures

<table>
<thead>
<tr>
<th>Influence</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance Experiences</td>
<td>When you do well and succeed at a particular task to attain a valued goal, you usually believe that you will succeed again at this task. When you fail you often expect that you will fail again in the future if you try that task.</td>
</tr>
<tr>
<td>Vicarious Performances</td>
<td>If someone who seems similar to you succeeds, then you may come to believe that you will succeed as well.</td>
</tr>
<tr>
<td>Verbal Persuasion</td>
<td>This involves people telling you what they believe you are and are not capable of doing. Not all people will be equally persuasive.</td>
</tr>
<tr>
<td>Imaginal Performances</td>
<td>What you imagine yourself doing and how well or poorly you imagine yourself doing it.</td>
</tr>
<tr>
<td>Affective States &amp; Physical Sensations</td>
<td>When you associate negative moods and negative physical sensations with failure, and positive physical sensations with success.</td>
</tr>
</tbody>
</table>

Table 1: Major Influences on Self-efficacy
of self-efficacy are better predictors of behavior than the general measures of self-efficacy (Bandura, 2006).

What Are the Major Influences on Self-Efficacy?

Self-efficacy beliefs are influenced in five different ways (Bandura, 1997), which are summarized in Table 1.

These five types of self-efficacy influence can take many real-world forms that almost everyone has experienced. You may have had previous performance experiences affect your academic self-efficacy when you did well on a test and believed that you would do well on the next test. A vicarious performance may have affected your athletic self-efficacy when you saw your best friend skateboard for the first time and thought that you could skateboard well, too. **Verbal persuasion** could have affected your academic self-efficacy when a teacher that you respect told you that you could get into the college of your choice if you studied hard for the SATs. It's important to know that not all people are equally likely to influence your self-efficacy though verbal persuasion. People who appear trustworthy or attractive, or who seem to be experts, are more likely to influence your self-efficacy than are people who do not possess these qualities (Petty & Brinol, 2010). That's why a teacher you respect is more likely to influence your self-efficacy than a teacher you do not respect. **Imaginal performances** are an effective way to increase your self-efficacy. For example, imagining yourself doing well on a job interview actually leads to more effective interviewing (Knudstrup, Segrest, & Hurley, 2003). Affective states and physical sensations abound when you think about the times you have given presentations in class. For example, you may have felt your heart racing while giving a presentation. If you believed your heart was racing because you had just had a lot of caffeine, it likely would not affect your performance. If you believed your heart was racing because you were doing a poor job, you might believe that you cannot give the presentation well. This is because you associate the feeling of anxiety with failure and expect to fail when you are feeling anxious.

When and How Does Self-Efficacy Develop?

Self-efficacy begins to develop in very young children. Once self-efficacy is developed, it does not remain constant—it can change and grow as an individual has different experiences throughout his or her lifetime. When children are very young, their parents’ self-efficacies are important (Jones & Prinz, 2005). Children of parents who have high parental self-efficacies perceive their parents as more responsive to their needs (Gondoli & Silverberg, 1997). Around the ages of 12 through 16, adolescents’ friends also become an important source of self-
efficacy beliefs. Adolescents who associate with peer groups that are not academically motivated tend to experience a decline in academic self-efficacy (Wentzel, Barry, & Caldwell, 2004). Adolescents who watch their peers succeed, however, experience a rise in academic self-efficacy (Schunk & Miller, 2002). This is an example of gaining self-efficacy through vicarious performances, as discussed above. The effects of self-efficacy that develop in adolescence are long lasting. One study found that greater social and academic self-efficacy measured in people ages 14 to 18 predicted greater life satisfaction five years later (Vecchio, Gerbino, Pastorelli, Del Bove, & Caprara, 2007).

What Are the Benefits of High Self-Efficacy?

Academic Achievement

Consider academic self-efficacy in your own life and recall the earlier example of Sally and Lucy. Are you more like Sally, who has high academic self-efficacy and believes that she can use her abilities to do well in school, or are you more like Lucy, who does not believe that she can effectively use her academic abilities to excel in school? Do you think your own self-efficacy has ever affected your academic ability? Do you think you have ever studied more or less intensely because you did or did not believe in your abilities to do well? Many researchers have considered how self-efficacy works in academic settings, and the short answer is that academic self-efficacy affects every possible area of academic achievement (Pajares, 1996).

Students who believe in their ability to do well academically tend to be more motivated in school (Schunk, 1991). When self-efficacious students attain their goals, they continue to set even more challenging goals (Schunk, 1990). This can all lead to better performance in school in terms of higher grades and taking more challenging classes (Multon, Brown, & Lent, 1991). For example, students with high academic self-efficacies might study harder because they believe that they are able to use their abilities to study effectively. Because they studied hard,
they receive an A on their next test. Teachers’ self-efficacies also can affect how well a student performs in school. Self-efficacious teachers encourage parents to take a more active role in their children’s learning, leading to better academic performance (Hoover-Dempsey, Bassler, & Brissie, 1987).

Although there is a lot of research about how self-efficacy is beneficial to school-aged children, college students can also benefit from self-efficacy. Freshmen with higher self-efficacies about their ability to do well in college tend to adapt to their first year in college better than those with lower self-efficacies (Chemers, Hu, & Garcia, 2001). The benefits of self-efficacy continue beyond the school years: people with strong self-efficacy beliefs toward performing well in school tend to perceive a wider range of career options (Lent, Brown, & Larkin, 1986). In addition, people who have stronger beliefs of self-efficacy toward their professional work tend to have more successful careers (Stajkovic & Luthans, 1998).

One question you might have about self-efficacy and academic performance is how a student’s actual academic ability interacts with self-efficacy to influence academic performance. The answer is that a student’s actual ability does play a role, but it is also influenced by self-efficacy. Students with greater ability perform better than those with lesser ability. But, among a group of students with the same exact level of academic ability, those with stronger academic self-efficacies outperform those with weaker self-efficacies. One study (Collins, 1984) compared performance on difficult math problems among groups of students with different levels of math ability and different levels of math self-efficacy. Among a group of students with average levels of math ability, the students with weak math self-efficacies got about 25% of the math problems correct. The students with average levels of math ability and strong math self-efficacies got about 45% of the questions correct. This means that by just having stronger math self-efficacy, a student of average math ability will perform 20% better than a student with similar math ability but weaker math self-efficacy. You might also wonder if self-efficacy makes a difference only for

people with average or below-average abilities. Self-efficacy is important even for above-average students. In this study, those with above-average math abilities and low math self-efficacies answered only about 65% of the questions correctly; those with above-average math abilities and high math self-efficacies answered about 75% of the questions correctly.

Healthy Behaviors

Think about a time when you tried to improve your health, whether through dieting, exercising, sleeping more, or any other way. Would you be more likely to follow through on these plans if you believed that you could effectively use your skills to accomplish your health goals? Many researchers agree that people with stronger self-efficacies for doing healthy things (e.g., exercise self-efficacy, dieting self-efficacy) engage in more behaviors that prevent health problems and improve overall health (Strecher, DeVellis, Becker, & Rosenstock, 1986). People who have strong self-efficacy beliefs about quitting smoking are able to quit smoking more easily (DiClemente, Prochaska, & Gibertini, 1985). People who have strong self-efficacy beliefs about being able to reduce their alcohol consumption are more successful when treated for drinking problems (Maisto, Connors, & Zywiak, 2000). People who have stronger self-efficacy beliefs about their ability to recover from heart attacks do so more quickly than those who do not have such beliefs (Ewart, Taylor, Reese, & DeBusk, 1983).

One group of researchers (Roach Yadrick, Johnson, Boudreaux, Forsythe, & Billon, 2003) conducted an experiment with people trying to lose weight. All people in the study participated in a weight loss program that was designed for the U.S. Air Force. This program had already been found to be very effective, but the researchers wanted to know if increasing people's self-efficacies could make the program even more effective. So, they divided the participants into two groups: one group received an intervention that was designed to increase weight loss self-efficacy along with the diet program, and the other group received only the diet program. The researchers tried several different ways to increase self-efficacy, such as having participants read a copy of Oh, The Places You'll Go! by Dr. Seuss (1990), and having them talk to someone who had successfully lost weight. The people who received the diet program and an intervention to increase self-efficacy lost an average of 8.2 pounds over the 12 weeks of the study; those participants who had only the diet program lost only 5.8 pounds. Thus, just by increasing weight loss self-efficacy, participants were able to lose over 50% more weight.

Studies have found that increasing a person's nutritional self-efficacy can lead them to eat more fruits and vegetables (Luszczynska, Tryburcy, & Schwarzer, 2006). Self-efficacy plays a large role in successful physical exercise (Maddux & Dawson, 2014). People with stronger self-efficacies for exercising are more likely to plan on beginning an exercise program, actually
beginning that program (DuCharme & Brawley, 1995), and continuing it (Marcus, Selby, Niaura, & Rossi, 1992). Self-efficacy is especially important when it comes to safe sex. People with greater self-efficacies about condom usage are more likely to engage in safe sex (Kaneko, 2007), making them more likely to avoid sexually transmitted diseases, such as HIV (Forsyth & Carey, 1998).

**Athletic Performance**

If you are an athlete, self-efficacy is especially important in your life. Professional and amateur athletes with stronger self-efficacy beliefs about their athletic abilities perform better than athletes with weaker levels of self-efficacy (Wurtele, 1986). This holds true for athletes in all types of sports, including track and field (Gernigon & Delloye, 2003), tennis (Sheldon & Eccles, 2005), and golf (Bruton, Mellalieu, Shearer, Roderique-Davies, & Hall, 2013). One group of researchers found that basketball players with strong athletic self-efficacy beliefs hit more foul shots than did basketball players with weak self-efficacy beliefs (Haney & Long, 1995). These researchers also found that the players who hit more foul shots had greater increases in self-efficacy after they hit the foul shots compared to those who hit fewer foul shots and did not experience increases in self-efficacy. This is an example of how we gain self-efficacy through performance experiences.

**Self-Regulation**

One of the major reasons that higher self-efficacy usually leads to better performance and greater success is that self-efficacy is an important component of self-regulation. Self-regulation is the complex process through which you control your thoughts, emotions, and actions (Gross, 1998). It is crucial to success and well-being in almost every area of your life. Every day, you are exposed to situations where you might want to act or feel a certain way
that would be socially inappropriate or that might be unhealthy for you in the long run. For example, when sitting in a boring class, you might want to take out your phone and text your friends, take off your shoes and take a nap, or perhaps scream because you are so bored. Self-regulation is the process that you use to avoid such behaviors and instead sit quietly through class. Self-regulation takes a lot of effort, and it is often compared to a muscle that can be exhausted (Baumeister, Bratslavsky, Muraven, & Tice, 1998). For example, a child might be able to resist eating a pile of delicious cookies if he or she is in the room with the cookies for only a few minutes, but if that child were forced to spend hours with the cookies, his or her ability to regulate the desire to eat the cookies would wear down. Eventually, his or her self-regulatory abilities would be exhausted, and the child would eat the cookies. A person with strong self-efficacy beliefs might become less distressed in the face of failure than might someone with weak self-efficacy. Because self-efficacious people are less likely to become distressed, they draw less on their self-regulation reserves; thus, self-efficacious people persist longer in the face of a challenge.

Self-efficacy influences self-regulation in many ways to produce better performance and greater success (Maddux & Volkmann, 2010). First, people with stronger self-efficacies have greater motivation to perform in the area for which they have stronger self-efficacies (Bandura & Locke, 2003). This means that people are motivated to work harder in those areas where they believe they can effectively perform. Second, people with stronger self-efficacies are more likely to persevere through challenges in attaining goals (Vancouver, More, & Yoder, 2008). For example, people with high academic self-efficacies are better able to motivate themselves to persevere through such challenges as taking a difficult class and completing their degrees because they believe that their efforts will pay off. Third, self-efficacious people believe that they have more control over a situation. Having more control over a situation means that self-efficacious people might be more likely to engage in the behaviors that will allow them to achieve their desired goal. Finally, self-efficacious people have more confidence in their problem-solving abilities and, thus, are able to better use their cognitive resources and make better decisions, especially in

Self-efficacy is all about your belief of control over your environment. But when cookies that look this good are nearby, you may feel like you have no control to resist eating one (or more). [Image: CC0 Public Domain, https://goo.gl/m25gce]
the face of challenges and setbacks (Cervone, Jiwani, & Wood, 1991).

**Collective Efficacy**

Collective efficacy is a concept related to self-efficacy. Collective efficacy refers to the shared beliefs among members of a group about the group's ability to effectively perform the tasks needed to attain a valued goal (Bandura, 1997). Groups and teams that have higher collective efficacies perform better than groups and teams with lower collective efficacies (Marks, 1999). Collective efficacy is especially important during tasks that require a lot of teamwork (Katz-Navon & Erez, 2005). For example, when you have to do a group project that involves each group member contributing a portion of the final project, your group's performance will be much better if all members share the belief that your group can perform the necessary tasks together. Collective efficacy plays a role in romantic relationships. Married couples who strongly believe in their ability to accomplish shared goals are happier than couples with weaker efficacy beliefs (Kaplan & Maddux, 2002). Although collective efficacy is an important part of how well a team or group performs, self-efficacy also plays a role in team situations. For example, better decision-making self-efficacy predicts better performance in team sports, such as baseball (Hepler & Feltz, 2012).

**Conclusion**

Self-efficacy refers to your beliefs about your ability to effectively perform the tasks needed to attain a valued goal and it affects your daily life in many ways. Self-efficacious adolescents perform better at school and self-efficacious adults perform better at work. These individuals have happier romantic relationships and work better in teams. People with strong self-efficacies have better health than those with weak self-efficacies; they are more likely to engage in behaviors that prevent health problems and actually increase their health. They are more likely to begin and continue exercise, have safer sex, and eat better foods. Higher self-efficacy is also useful for getting out of bad habits. People with strong self-efficacies are able to lose weight, quit smoking, and cut down on alcohol consumption more successfully than can people with low self-efficacies. As illustrated by the well-known children's book *The Little Engine That Could* (Piper, 1930), telling yourself “I think I can” can be a powerful motivator and can increase your chances for success.

Our own final words on self-efficacy also draw from children's literature. Many people receive a copy of *Oh, The Places You'll Go!* when they reach a major milestone, such as graduating high school to go on to college or graduating college to enter the workforce. Whether or not you or whoever gave you the book knew it, *Oh, The Places You'll Go!* is all about self-efficacy. This
book speaks directly to readers by talking about all of the challenges they might face on their journeys. Throughout the book, the narrator continues to assure readers that they will be able to use their abilities to effectively handle these challenges. So, we leave you with Dr. Seuss’ wise words: “You’re on your own. And you know what you know. And you are the guy who’ll decide where to go…. And will you succeed? Yes! You will, indeed! 98 and 3/4 percent guaranteed.”
Outside Resources

Video: Association for Psychological Science presents an interview with Albert Bandura
http://www.youtube.com/watch?v=_U-pSZwHy8

Video: Self-efficacy's role and sources
http://www.youtube.com/watch?v=wrzzbaomLmc

Web: Professor Frank Pajares' self-efficacy site.
http://www.uky.edu/~eushe2/Pajares/self-efficacy.html

Discussion Questions

1. Can you think of ways your own self-efficacy beliefs play a role in your daily life? In which areas do you have strong self-efficacy? In which areas would you like your self-efficacy to be a bit stronger? How could you increase your self-efficacy in those areas?

2. Can you think of a time when a teacher, coach, or parent did something to encourage your self-efficacy? What did he or she do and say? How did it enhance your self-efficacy?

3. What are some ways that you can help strengthen the self-efficacies of the people in your life?

4. Can you think of a time when collective efficacy played a role in your team or group activities? What did you notice about being on a team or in a group that had high collective efficacy? What about a team or group with low collective efficacy?
Vocabulary

Collective efficacy
The shared beliefs among members of a group about the group's ability to effectively perform the tasks needed to attain a valued goal.

Imaginal performances
When imagining yourself doing well increases self-efficacy.

Performance experiences
When past successes or failures lead to changes in self-efficacy.

Self-efficacy
The belief that you are able to effectively perform the tasks needed to attain a valued goal.

Self-regulation
The complex process through which people control their thoughts, emotions, and actions.

Self-report measure
A type of questionnaire in which participants answer questions whose answers correspond to numerical values that can be added to create an overall index of some construct.

Task-specific measures of self-efficacy
Measures that ask about self-efficacy beliefs for a particular task (e.g., athletic self-efficacy, academic self-efficacy).

Verbal persuasion
When trusted people (friends, family, experts) influence your self-efficacy for better or worse by either encouraging or discouraging you about your ability to succeed.

Vicarious performances
When seeing other people succeed or fail leads to changes in self-efficacy.
References


Seuss, Dr. (1990). *Oh, the places you’ll go!* New York: Random House.


About Noba

The Diener Education Fund (DEF) is a non-profit organization founded with the mission of re-inventing higher education to serve the changing needs of students and professors. The initial focus of the DEF is on making information, especially of the type found in textbooks, widely available to people of all backgrounds. This mission is embodied in the Noba project.

Noba is an open and free online platform that provides high-quality, flexibly structured textbooks and educational materials. The goals of Noba are three-fold:

- To reduce financial burden on students by providing access to free educational content
- To provide instructors with a platform to customize educational content to better suit their curriculum
- To present material written by a collection of experts and authorities in the field

The Diener Education Fund is co-founded by Drs. Ed and Carol Diener. Ed is the Joseph Smiley Distinguished Professor of Psychology (Emeritus) at the University of Illinois. Carol Diener is the former director of the Mental Health Worker and the Juvenile Justice Programs at the University of Illinois. Both Ed and Carol are award-winning university teachers.

Acknowledgements

The Diener Education Fund would like to acknowledge the following individuals and companies for their contribution to the Noba Project: The staff of Positive Acorn, including Robert Biswas-Diener as managing editor and Peter Lindberg as Project Manager; The Other Firm for user experience design and web development; Sockeye Creative for their work on brand and identity development; Arthur Mount for illustrations; Chad Hurst for photography; EEI Communications for manuscript proofreading; Marissa Diener, Shigehiro Oishi, Daniel Simons, Robert Levine, Lorin Lachs and Thomas Sander for their feedback and suggestions in the early stages of the project.
How to cite a Noba chapter using APA Style