

# 7. Self-Efficacy and Social Cognitive Theories

## Contents

- OVERVIEW OF SOCIAL COGNITIVE AND SELF-EFFICACY THEORIES
- SOCIAL COGNITIVE THEORY
- SELF-EFFICACY THEORY
- FUNDAMENTAL HUMAN CAPABILITIES
- RELATIONSHIP BETWEEN SELF-EFFICACY AND PERFORMANCE
- SELF-EFFICACY THEORY AND RELATED IDEAS
- HOW SELF-EFFICACY BELIEFS ARE CREATED
- THE INTERACTION OF SELF-EFFICACY THEORY WITH THE ENVIRONMENT
- ATTRIBUTES OF SELF-EFFICACY AND SOCIAL COGNITIVE THEORIES
- APPLICATION OF SELF-EFFICACY AND SOCIAL COGNITIVE THEORIES IN THE WORKPLACE
- MEASURING SELF-EFFICACY
- RESEARCH ON SELF-EFFICACY AND SOCIAL COGNITIVE THEORIES
- CRITICISM OF SELF-EFFICACY
- CONCLUSION
- REFERENCES

## Overview of Social Cognitive and Self-Efficacy Theories

Social Cognitive Theory proposes that individuals do not simply respond to environmental influences, but rather they actively seek and interpret information (Nevid, 2009). Individuals “function as contributors to their own motivation, behavior, and development within a network of reciprocally interacting influences” (Bandura, 1999, p. 169). Although Social Cognitive Theory covers many topics such as moral judgment and physiological arousal, research has been primarily focused on self-efficacy, or the beliefs regarding one's capabilities of successfully completing tasks or goals (Locke & Latham, 2002).

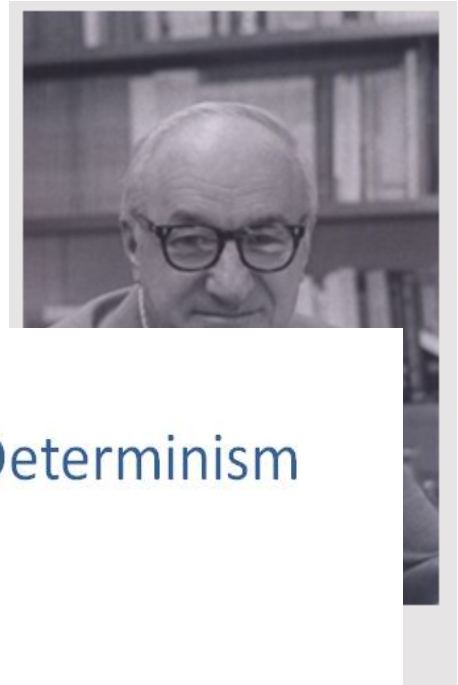
According to Bandura (2005), social cognitive theory takes on an agent-like perspective to change, development and adaptation. Bandura describes an agent as someone who intentionally influences one's functioning and life circumstances; “In this view, people are self organizing, proactive, self-regulating, and self-reflecting. They are contributors to their life circumstances not just products of them” (Bandura, 2005, p. 1).

Self-Efficacy was developed by Albert Bandura's as part of a larger theory, the Social Learning Theory (Ashford & LeCroy, 2010), which has progressed into the Social Cognitive Theory (Levin, Culkun, & Perrotto, 2001). Social Cognitive Theory was presented by Bandura in response to his dissatisfaction with the principles of behaviorism and psychoanalysis. In these two theories, the role of cognition in motivation and the role of the situation are largely ignored (Bandura, 1977; as cited in Redmond, 2010). “Unidirectional environmental determinism is carried to its extreme in the more radical forms of behaviorism” but humanists and existentialists, who stress the human capacity for conscious judgment and intentional action, contend that individuals determine what they become by their own free choices.

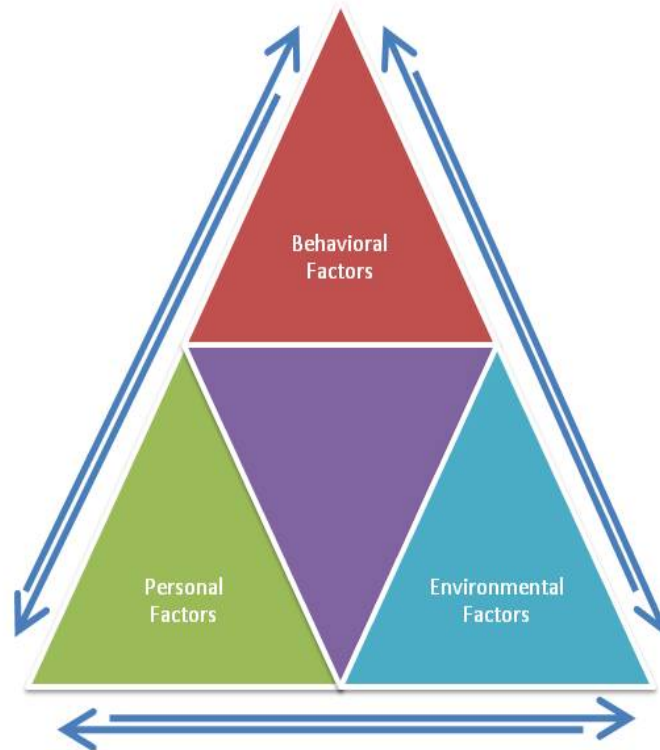
Most psychologists find conceptions of human behavior in terms of unidirectional personal determinism as unsatisfying as those espousing unidirectional environmental determinism. To contend that mind creates reality fails to acknowledge that environmental influences partly determine what people attend to, perceive, and think” (Bandura, 1978, pp.344-345).

## Social Cognitive Theory

Albert Bandura's Social Cognitive Theory emphasizes how cognitive, behavioral, personal, and environmental factors interact to determine motivation and behavior (Crothers, Hughes, & Morine, 2008). According to Bandura, human functioning is the result of the interaction among all three of these factors (Crothers et al., 2008), as embodied in his Triadic Reciprocal Determinism model (Wood & Bandura, 1989). While it may seem that one factor is the majority, or lead reason, there are numerous factors that play a role in human behavior. Furthermore, the influencing factors are not of equal strength, nor do they all occur concurrently (Wood & Bandura, 1989). For example, employee performances (behavioral factors) are influenced by how the workers themselves are affected (cognitive factors) by organizational strategies (environmental factors). The figure below illustrates Triadic Reciprocal Determinism as portrayed by Wood and Bandura (1989).



## Bandura's Triadic Reciprocal Determinism



The Social Cognitive Theory is composed of four processes of goal realization: self-observation, self-evaluation, self-reaction and self-efficacy. These components are interrelated, each having an effect on motivation and goal attainment (Redmond, 2010).

**Self-observation:** Observing oneself can inform and motivate. It can be used to assess one's progress toward goal attainment as well as motivate behavioral changes. There are two important factors with regards to self-observation: regularity and proximity. Regularity means the behavior should be continually observed, whereas proximity means the behavior should be observed while it occurs, or shortly after. Alone, self-observation is insufficient because motivation depends on one's expectations of outcomes and efficacy (Zimmerman & Schunk, 2001).

**Self-evaluation:** Self-evaluation compares an individual's current performance with a desired performance or goal. It is affected by the standards set and the importance of the goals. Goals must be specific and important; therefore, goals such as, "do your best" are vague and will not motivate. Schunk and Zimmerman (1994) state that "specific goals specify the amount of effort required for success and boost self-efficacy because progress is easy to gauge." If one has little regard for his goal, he will not evaluate performance. There are two types of self-evaluation standards: absolute and normative. For example, a grading scale would be an example of a fixed or absolute standard. A social comparison such as evaluating one's behavior or performance against other individuals is an example of a normative standard (Zimmerman & Schunk, 2001). People gain satisfaction when they achieve goals that they value. When individuals achieve these valued goals, they are more likely to continue to exert a high level of effort, since sub-standard performance will no longer provide satisfaction (Bandura, 1989).

**Self-reaction:** Reactions to one's performance can be motivating. If the progress made is deemed acceptable, then one will have a feeling of self-efficacy with regard to continuing, and will be motivated towards the achievement of their goal. A negative self-evaluation might also be motivating in that one may desire to work harder provided that they consider the goal to be valuable. Self-reaction also allows a person to re-evaluate their goals in conjunction with their attainments (Bandura, 1989). If a person has achieved a goal, they are likely to re-evaluate and raise the standard (goal); whereas, if a person has not achieved the goal, they are likely to re-evaluate and lower the standard (goal) to an achievable goal.

**Self-efficacy:** One's belief in the likelihood of goal completion can be motivating in itself (Van der Bijl & Shortridge-Baggett, 2002). "Self-efficacy refers to people's judgements about their capability to perform particular tasks. Task-related self-efficacy increases the effort and persistence towards challenging tasks; therefore, increasing the likelihood that they will be completed" (Barling & Beattie, 1983, as cited in Axtell & Parker, 2003, p. 114).

## The Social Cognitive Theory - Process of Goal Realization



### Goal Attainment and Motivation

There are four cognitive processes that encompass the Social Cognitive Theory; Self-Evaluation, Self-Observation, Self-Reaction, and Self-Efficacy (Redmond, 2010). These processes are dependent on one another. To successfully complete a goal, a person goes through these cognitive processes.

**Self-Evaluation:** the process of a person cognitively comparing their performance to the desired performance needed to achieve their goal (Bandura, 1991).

**Self-Observation:** the cognitive process of a person observing and monitoring themselves as they work towards their goal (Zimmerman, 2001).

**Self-Reaction:** the cognitive process a person goes through in which they modify their behavior based on their evaluation of their progress towards their goal (Bandura, 1991).

**Self-Efficacy:** an individual's belief in his or her capacity to execute behaviors necessary to produce specific performance attainments (Bandura, 1997).

## Self-Efficacy Theory

Self-efficacy beliefs are an important aspect of human motivation and behavior as well as influence the actions that can affect one's life. Regarding self-efficacy, Bandura (1995) explains that it "refers to beliefs in one's capabilities to organize and execute the courses of action required to manage prospective situations" (p. 2). More simply, self-efficacy is what an individual believes he or she can accomplish using his or her skills under certain circumstances (Snyder & Lopez, 2007). Self-efficacy has been thought to be a task-specific version of self-esteem (Lunenburg, 2011). The basic principle behind Self-Efficacy Theory is that individuals are more likely to engage in activities for which they have high self-efficacy and less likely to engage in those they do not (Van der Bijl & Shortridge-Baggett, 2002). According to Gecas (2004), people behave in the way that executes their initial beliefs; thus, self-efficacy functions as a self-fulfilling prophecy. For example, Employee A has high ability and a great deal of experience in creating graphs, but does not have confidence that he can create a high quality graph for an important conference. Employee B has only average ability and only a small amount of experience in creating graphs, yet has great confidence that she can work hard to create a high quality graph for the same conference. Because of Employee A's low self-efficacy for graph creation, he lacks the

motivation to create one for the conference and tells his supervisor he cannot complete the task. Employee B, due to her high self-efficacy, is highly motivated, works overtime to learn how to create a high quality graph, presents it during the conference, and earns a promotion. Self-efficacy has influence over people's ability to learn, their motivation and their performance, as people will often attempt to learn and perform only those task for which they believe they will be successful (Lunenburg, 2011).

Judgments of self-efficacy are generally measured along three basic scales: magnitude, strength, and generality.

- **Self-efficacy magnitude** measures the difficulty level (e.g. easy, moderate, and hard) an individual feels is required to perform a certain task (Van der Bijl & Shortridge-Baggett, 2002). How difficult is my class work? Are the quizzes easy or hard?
- **Self-efficacy strength** refers to the amount of conviction an individual has about performing successfully at diverse levels of difficulty (Van der Bijl & Shortridge-Baggett, 2002). How confident am I that I can excel at my work tasks? How sure am I that I can climb the ladder of success?
- **Generality of self-efficacy** refers to the "degree to which the expectation is generalized across situations (Lunenburg, 2011). How sure am I that what I have learned will apply to my new tasks?

The basic idea behind the Self-Efficacy Theory is that performance and motivation are in part determined by how effective people believe they can be (Bandura, 1982; as cited in Redmond, 2010). The theory is clearly illustrated in the following quote by Mahatma Gandhi:

**"If I have the belief that I can do it, I shall surely acquire the capacity to do it even if I may not have it at the beginning" - Mahatma Gandhi**



Bandura (1977) outlined four sources of information that individuals employ to judge their efficacy: performance outcomes (performance accomplishments), vicarious experiences, verbal persuasion, and physiological feedback (emotional arousal). These components help individuals determine if they believe they have the capability to accomplish specific tasks. Williams and Williams (2010) note that “individuals with high levels of self-efficacy approach difficult tasks as challenges to master rather than as threats to be avoided” (Williams & Williams, 2010, p. 455).

- **Performance Outcomes:** According to Bandura, performance outcomes or past experiences, are the most important source of self-efficacy. Positive and negative experiences can influence the ability of an individual to perform a given task. If one has performed

well at a task previously, he or she is more likely to feel competent and perform well at a similarly associated task (Bandura, 1977).

- **Positive example:** If an individual performed well in a previous job assignment, they are more likely to feel confident and have high self-efficacy in performing the task when their manager assigns them a similar task. The individual's self-efficacy will be high in that particular area, and since he or she has a high self-efficacy, he or she is more likely to try harder and complete the task with much better results.
- **Negative example:** If an individual experiences a failure, they will most likely experience a reduction in self-efficacy. However, if these failures are later overcome by conviction, it can serve to increase self-motivated persistence when the situation is viewed as an achievable challenge (Bandura, 1977).

"Mastery experiences are the most influential source of efficacy information because they provide the most authentic evidence of whether one can muster whatever it takes to succeed. Success builds a robust belief in one's personal efficacy. Failures undermine it, especially if failures occur before a sense of efficacy is firmly established" Albert Bandura (1997).

- **Vicarious Experiences:** People can develop high or low self-efficacy vicariously through other people's performances. A person can watch someone in a similar position perform, and then compare his own competence with the other individual's competence (Bandura, 1977). If a person sees someone similar to them succeed, it can increase their self-efficacy. However, the opposite is also true; seeing someone similar fail can lower self-efficacy.
  - **Increase in self-efficacy example:** Mentoring programs, where one individual is paired with someone on a similar career path who will be successful at raising the individual's self-efficacy beliefs. This is even further strengthened if both have a similar skill set, so a person can see first-hand what they may achieve.
  - **Decrease in self-efficacy example:** Smoking cessation program, where, if individuals witness several people fail to quit, they may worry about their own chances of success, leading to low self-efficacy for quitting, or a weight-loss program where others do not achieve the results you are hoping for.
- **Verbal Persuasion:** According to Redmond (2010), self-efficacy is also influenced by encouragement and discouragement pertaining to an individual's performance or ability to perform.
  - **Positive example:** A manager telling an employee: "You can do it. I have confidence in you." Using verbal persuasion in a positive light generally leads individuals to put forth more effort; therefore, they have a greater chance at succeeding.
  - **Negative example:** A manager saying to an employee, "This is unacceptable! I thought you could handle this project" can lead to doubts about oneself resulting in lower chances of success.

Also, the level of credibility directly influences the effectiveness of verbal persuasion; where there is more credibility, there will be a greater influence. In the example above, a pep talk by a manager who has an established, respectable position would have a stronger influence than that of a newly hired manager. Although verbal persuasion is also likely to be a weaker source of self-efficacy beliefs than performance outcomes, it is widely used because of its ease and ready availability (Redmond, 2010).

- **Physiological Feedback(emotional arousal):** People experience sensations from their body and how they perceive this emotional arousal influences their beliefs of efficacy (Bandura, 1977). Some examples of physiological feedback are: giving a speech in front of a large group of people, making a presentation to an important client, taking an exam, etc. All of these tasks can cause agitation, anxiety, sweaty palms, and/or a racing heart (Redmond, 2010). Although this source is the least influential of the four, it is important to note that if one is more at ease with the task at hand they will feel more capable and have higher beliefs of self-efficacy.

The following video is an animation of Albert Bandura giving a lesson in social cognitive theories, particularly self-efficacy. Throughout this video he discusses the definition of self-efficacy and why it is important. This video provides an educational and entertaining way to learn about self-efficacy from Albert Bandura himself:

## Fundamental Human Capabilities

According to Pajares, "rooted within Bandura's social cognitive perspective is the understanding that individuals are imbued with certain capabilities that define what it is to be human. Primary among these are the capabilities to symbolize, plan alternative strategies (forethought), learn through vicarious experience, self-regulate, and self-reflect. These capabilities provide human beings with the cognitive means by which they are influential in determining their own destiny." The following chart illustrates these ideas:

Capability	Summary
Symbolize	Symbols are the vehicle of thought, and it is by symbolizing their experiences that they can provide their lives with structure, meaning, and continuity. Symbolizing also enables people to store the information required to guide future behaviors. It is through this process that they are able to model observed behavior.
Forethought	People plan courses of action, anticipate the likely consequences of these actions, and set goals and challenges for themselves to motivate, guide and regulate their activities. It is because of the capability to plan alternative strategies that one can anticipate the consequences of an action without actually engaging in it.

<b>Vicarious learning</b>	Permits individuals to learn a novel behavior without undergoing the trial and error process of performing it. In many situation, it keeps them from risking costly and potentially fatal mistakes. The observation is symbolically coded and used as a guide for future action.
<b>Self-regulatory mechanisms</b>	The manner and degree to which people self-regulate their own actions and behavior involve the accuracy and consistency of their self-observation and self-monitoring, the judgments they make regarding their actions, choices, and attributions, and, finally, the evaluative and tangible reactions they make to their own behavior through the self-regulatory process.
<b>Self-reflection</b>	A prominent feature of social cognitive theory. Through self-reflection, people make sense of their experiences, explore their own cognitions and self-beliefs, engage in self-evaluation, and alter their thinking and behavior accordingly.

## Relationship Between Self-Efficacy and Performance

Self-efficacy theory states that the combination between the four factors of developing self-efficacy and three assessment processes used to interpret self-efficacy will determine the level of self-efficacy which directly effects the performance outcomes. The three assessment processes for self-efficacy are the analysis of task requirements, attributional analysis of experience, and assessment of personal and situational resources/constraints (Gist & Mitchell, 1992).

**Analysis of Task Requirements** - An individual's determination of what it takes to perform a task (Gist & Mitchell, 1992).

**Attributional Analysis of Experience** - An individual's judgment about why a performance level occurred (Gist & Mitchell, 1992).

**Assessment of Personal and Situational Resources/Constraints** - An individual's consideration of personal and situational factors. Personal factors could include such things as skill level and available effort. Situational factors could include factors such as competing demands (Gist & Mitchell, 1992).

### Self-Efficacy and Academic Success

Academic success depends fully on the three assessment processes of self-efficacy.

*Analysis of Task Requirements:* This is the amount of determination that a student has to do whatever it takes to perform/complete a task.

- Student belief to accomplish the task
- How much time and effort is dedicated to the course work
- The quality of notes that are taken

*Attributional Analysis of Experience:* This is the personal perception and understanding that a student has in regards to why they accomplished a specific performance level.

- Was there enough time put into completing the task at hand - Did the time spent or lack there of affect the outcome?
- Was there enough energy put into completing the task at hand - Did the student do minimal work or go above and behind to get the end result?
- Was there enough communication between student and professor if there were questions and/or concerns regarding the materials - Did asking or not asking affect the outcome?

*Assessment of Personal and Situational Resources/Constraints:* This is the student's consideration of personal and situational factors that may affect their education

- Quality and quantity of work could be affected by surrounds, environment and emotions - Where is studying occurring? Is the student surrounded by calm or chaotic individuals and/or environment?
- Does the student feel comfortable and confident in completing all tasks at hand?
- Is the student taking courses at a level in which they can succeed? Are they taking courses that are too easy or too difficult for their skill level and abilities?

## Self-Efficacy and Related Ideas

**Personality Traits** - Personality is considered a fairly stable pattern of psychological behavior (thoughts, feelings, and actions) and influences

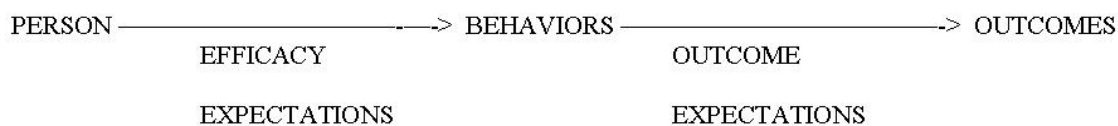
how one will act in response to diverse circumstances (Quinn, Faerman, Thompson, & McGrath, 2003). Personality does not determine behavior; behavior arises in a context, such as work. According to Berens et al. (2001), "personalities reflect the requirements of the contexts as well as our innate tendencies and how we have adapted to these contexts over time". In other words, an individual's behavior is determined by the requirements of the situation. "Efficacy beliefs do not share the major properties ascribed to personality traits" (Bandura, 1997). While self-efficacy is not considered a personality trait, it is considered a situation-specific construct. This is context dependent and functions as, a "cognitive mediator of action" (Bandura, 1982). "Self-efficacy is a related but subtly different personality characteristic. Self assessments of ability contribute to self-efficacy but so does the individual's personality" (Griffin, et al., 2010). For example, an employee may have a high self-efficacy for performing a job, but due to a personality trait such as shyness, has low self-efficacy for training a new employee to do the same job. According to the self-efficacy theory, the employee would exert more effort on performing the job themselves than on training a new employee on how to perform the job. Bandura (1977) upholds that efficacy beliefs can be changed and that, "psychological procedures, whatever their form, serve as a means of creating and strengthening expectations of personal efficacy". An efficacy expectation is defined by Bandura (1977) as, "the conviction that one can successfully execute the behavior required to produce the outcomes."

**Self-esteem** - Self-esteem and self-efficacy are often thought of as being synonymous, however they vary greatly. Self-efficacy differs from self-esteem in that it's a judgment of specific capabilities rather than a general feeling of self-worth (Beck, 2008). For example, an employee may have low self-efficacy for training a new employee, but this will not cause any negative feelings of perceived self-worth. Even though the two concepts are different, they are connected. The philosophy behind Bandura's Triadic Reciprocal Determinism is that all determinants of motivation are functionally dependent, interacting and influence one another (Bandura, 1997). Therefore, an individual who has high self-efficacy and is successful in most of the tasks he/she undertakes will most likely develop high self-esteem. Alternatively, self-esteem could also influence self-efficacy. "It is true, however, that people tend to cultivate their capabilities in activities that give them a sense of self-worth. If empirical analysis are confined to activities in which people invest their sense of self-worth, they will inflate correlations between self-efficacy and self esteem, because the analysis ignore both domains of functioning in which people judge themselves inefficacious but could not care less and those in which they feel highly efficacious but take no pride in performing the activity well because of its socially injurious consequences" (Bandura, 1997).

**Equity** - Self-efficacy theory utilizes an important construct of equity theory. Like equity theory, motivation can be influenced by how an individual perceives themselves when compared to another. The difference between the two theories is that equity theory illustrates that an individual's motivation is influenced by the perceived equality of input/output ratios of the comparison-other, where in contrast, self-efficacy theory predicts that an individual's motivation can be influenced by the positive/negative vicarious experiences of the comparison-other. In truth, both theories have been proven to be correct.

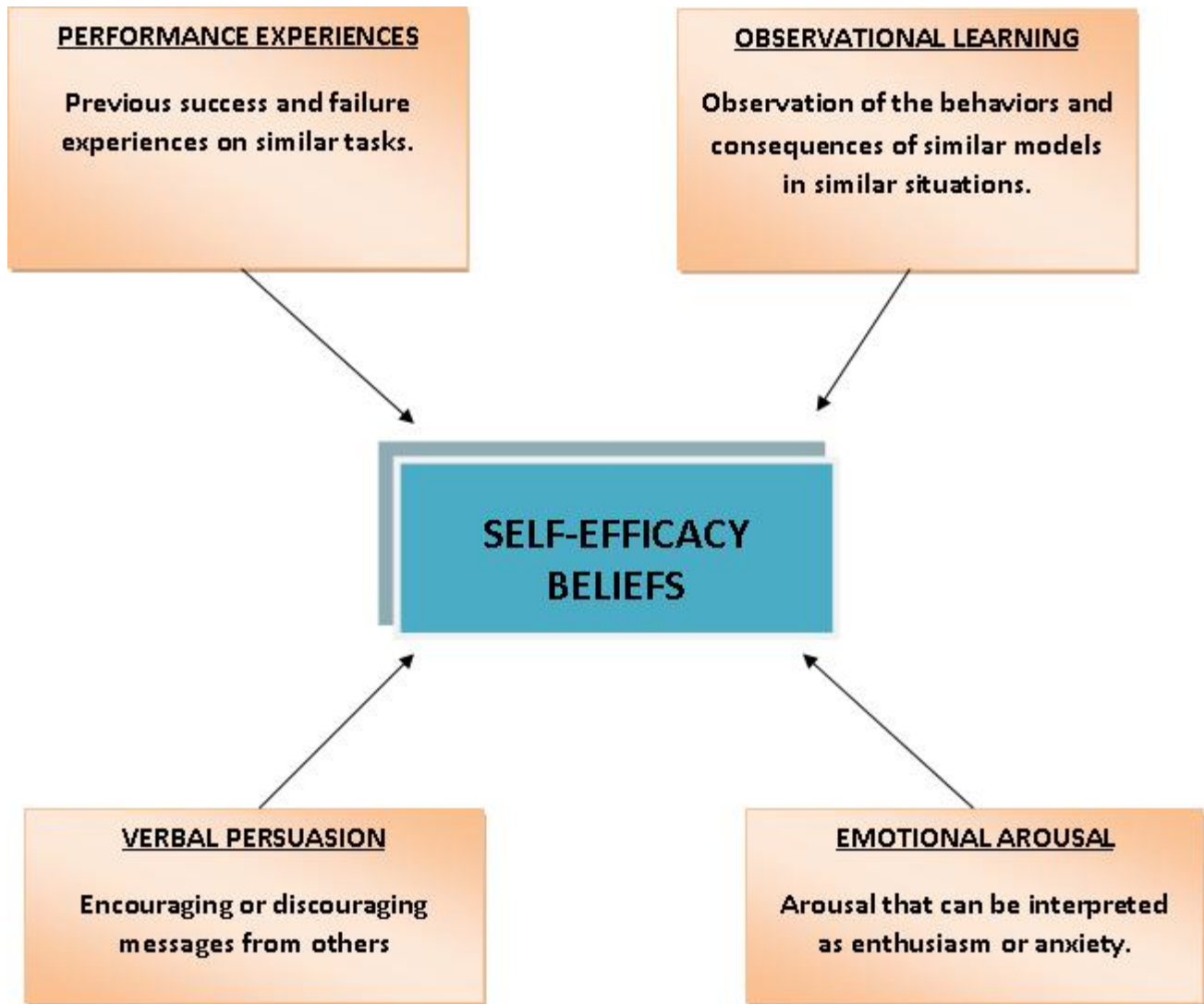
**VIE theory** - The expectancy theory, also known as the VIE (expectancy, instrumentality, and valence) theory, is based on the beliefs that an individual's effort will lead to performance, which in turn, will lead to a specific outcome. Comprehensively, self-efficacy is based on an individual's belief about their ability to perform specific behaviors. Expectancy theory explores how rewards affect motivation, whereas self-efficacy explores how beliefs about capabilities affect motivation. According to Bandura (1997), "People take action when they hold efficacy beliefs and outcome expectations that make the effort seem worthwhile. They expect given actions to produce desired outcomes and believe that they can perform those actions." To successfully achieve the desired outcome, individuals must possess the necessary skills as well as a buoyant self-belief that they are capable of controlling the specific situational factors (Bandura, 1989). People with high self-efficacy are more likely to respond with renewed effort (expectancy) when feedback shows that they are not reaching their goals by developing more successful strategies (Smith, et al., 2005). However, individuals with low self-efficacy, given the same circumstances, may perform poorly because their low self-efficacy impairs their motivation and effort. For example, an employee with high self-efficacy and ability for performing a job, but low self-efficacy for training a new employee will most likely be an inadequate trainer. On the whole, perceived self-efficacy can be distinguished as being competence-based, prospective, and action-related as opposed to related ideas that only share some these elements (Bandura, 1997).

The figure below is a diagram representing the difference between efficacy expectations and outcome expectations (Bandura, 1977).



## How Self Efficacy Beliefs are Created

Individuals form their self-efficacy beliefs by interpreting information from four sources. The most influential source is the interpreted result of one's previous performance, or **mastery experience**. In addition to interpreting results of their actions, people form their self-efficacy beliefs through the **vicarious experience** of observing others. Individuals then also create and develop self-efficacy beliefs as a result of **social persuasions** they receive from others and **somatic and emotional states** such as anxiety, stress, arousal, and mood states (Pajares).



## The Interaction of Self-Efficacy with the Environment

According to Bandura (1997), two levels of efficacy (low and high) interact with two types of environment (responsive and unresponsive) to produce the following four predictive variables:

1. **Success (H, R)** - A person with a high level of self-efficacy in a responsive environment will be successful. Their positive attitude toward their abilities coupled with environmental change promotes success and improves long-term motivation.
2. **Depression (L, R)** - A person with a low level of self-efficacy in a responsive environment may fall into a depressed state. They know the environment will change but their lack of belief in their own abilities stops them from trying and succeeding.
3. **Apathy and helplessness (L, UR)** - A person with low self-efficacy and an unresponsive environment will feel helpless and decide that all efforts are pointless thus causing them to be completely inactive.
4. **Effort intensification or change of course (H, UR)** - A person with high self-efficacy in an unresponsive environment will either increase their efforts toward change or decide they need to change their goals.

## Attributes of Self-Efficacy and Social Cognitive Theories

### Constructive Attributes:

- When faced with a difficult task, people who have high self-efficacy will face the challenge as something to be learned and mastered. Their interest and motivation in mastering the task will drive them to succeed in their difficult, yet approachable goal (Pajares & Schunk, 2001).
- While striving to complete a challenging task or difficult goal, individuals with high self-efficacy may face failures or setbacks, but they will not give up. Where people with low self-efficacy may decide the task is impossible, people with high self-efficacy strive to develop a



higher amount of knowledge and increase their effort in order to overcome their failures and setbacks (Pajares & Schunk, 2001).

- People with high self-efficacy are more likely to set more challenging goals for themselves and be more committed to the goal, which enhances self-efficacy (Bandura, 1995).
- Researchers have demonstrated the positive effects of self-efficacy beliefs on effort, persistence, goal setting, and performance (Pajares, 2009).

**"People who regard themselves as highly efficacious act, think, and feel differently from those who perceive themselves as inefficacious. They produce their own future, rather than simply foretell it" - Albert Bandura**

#### **Potential Detrimental Attributes:**

- Very high self-efficacy can sometimes lead to degradation in performance of a particular task. This is because high self-efficacy can lead to overconfidence in one's aptitude, which creates a false sense of ability. Overconfidence can lead to employing the wrong strategy, making mistakes, refusal to take responsibility for mistakes, and rejecting corrective feedback (Clark, 2001). Overconfidence can also result in lower effort and attention being devoted to the task (Stone, 1994).
- Verbal and tangible rewards can have both positive and negative effects on self-efficacy depending on the context and environment in which the reward or praise is delivered (Manderlink & Harackiewicz, 1984).

## **Application of Self-Efficacy and Social Cognitive Theories in the Workplace**

Self-efficacy and social cognitive theories both provide a number of suggestions that can be applied in the work setting. They can be used in almost any work environment, with any task, and any demographic of individuals. These theories can be applied in a basic form or specific to an employer's leadership style. They are cheap, easily attainable, and can be used outside the workforce as well. Efficacy beliefs can be changed, depending on the particular circumstance, the task, or an individual's prior experience (Bandura, 1977). This can be attractive to organizations because it can be applied to any type of individual regardless of background or work history.

Self-efficacy theory suggests that increasing the self-efficacy of employees will boost motivation and performance. This basic idea behind this theory is that motivation and performance are determined by how successful people believe they can be (Bandura, 1982). This is extremely useful in the workplace because employers can develop and improve self-efficacy beliefs in their employees by focusing on the four primary sources (Bandura, 1977; Gist & Mitchell, 1992). Utilizing the sources of self-efficacy (performance outcomes, vicarious experiences, verbal persuasion, and emotional arousal) can improve employee's effort, persistence, goal setting, and performance on specific tasks. Applying vicarious experiences can be as simple as a waitress shadowing another experienced server or an apprentice learning his trade. Verbal persuasion can be used by showing praise for a job well done or by giving positive feedback on a specific task. Verbal persuasion can be used at any time and requires almost no effort.

According to Bandura (1982), self-efficacy affects both learning and performance in employees in the following three ways:

- Self-efficacy effects the goals that employees choose. For example, employees with low levels of self-efficacy are more likely to set lower goals for themselves than employees with higher self-efficacy.
- Self-efficacy impacts learning as well as the effort that employees exert on the job. For instance when an employee has high self-efficacy they are more likely to work harder to learn a new task as they will be more confident in their abilities than an employee with low self-efficacy.
- Self-efficacy will influence the persistence for which a person will attempt to learn a new and difficult task. Employees who are high in self-efficacy are thought to be more confident and therefore will persist in their efforts when learning a new task even when encountering a problem.

Support of the applicability of self-efficacy to work motivation has been established by numerous studies performed in organizational settings. The following section highlights only a few of the studies performed:

#### **1986: Effects of employees' self-efficacy beliefs on productivity**

P. Christopher Earley has conducted a study of employee beliefs in their capabilities, and the affect on their productivity in manufacturing organizations in the United States and in England. Earley (1986; as cited in Bandura, 1988) found that when employees are taught better production techniques and are given production goals, their belief in their capabilities increases. Consequently, as an employee increases his/her self-belief of efficacy, he/she more robustly accepts the production goals and has a higher level of productivity (Early, 1986; as cited in Bandura, 1988).

#### **1987: Effects of self-regulation training on absenteeism**

Research by Frayne & Latham (1987) on employee absenteeism led to the development of a program to reduce employee absenteeism (as cited in Bandura, 1988). Groups of employees who often missed work were taught how to more effectively manage their motivation and behavior, in addition to strategies to overcome obstacles that prevented them from attending work (Frayne & Latham, 1987; as cited in Bandura, 1988). The study found that as individuals raised their self-efficacy, their work attendance also increased. In addition, by setting short-term goals for work attendance, individuals increased their work attendance and were personally rewarded (Frayne & Latham, 1987; as cited in Bandura, 1988).

#### **1988: Effects of self-efficacy beliefs on organizational productivity**

Wood & Bandura (1990) conducted a series of simulated studies on the level of organizational productivity as a function of managerial perceived self-efficacy. In a simulation organization, MBA graduates assumed manager positions and were tasked with matching employees to sub-functions, motivating the employees, and establishing and applying rules. The study found that perceived self-efficacy and personal goals

have a direct effect on organizational performance (Wood, Bandura, & Bailey, 1990). In addition, challenging goals have a positive effect on performance in a low complexity organization, but not in a high complexity organization (Wood, Bandura, & Bailey, 1990). Furthermore, the study confirmed that, "the interaction of cognitive and motivational processes is important to an understanding of how managers approach the daily stream of decisions that must be made in complex and uncertain decision environments" (Wood & Bandura, 1989).

### **1993: Effects of training on self-efficacy beliefs**

A study by Eden & Aviram (1993) to evaluate the effects of training intended to boost self-efficacy on reemployment. The training provided unemployed workers intensive workshops and job search training, as well as the opportunity to build positive performance outcomes. The study found that individuals with low self-efficacy were able to build higher self-efficacy through training. As a result, these individuals were equally successful in finding jobs as the individuals who began the training with high self-efficacy. Furthermore, the treatment increased reemployment among the individuals who began with low self-efficacy, but did not increase reemployment among the individuals who began with high self-efficacy (Eden & Aviram, 1993). This study demonstrates the importance of self-efficacy and shows that self-efficacy perceptions can be changed (Redmond, 2010).

### **2015: Effects of feedback on self-efficacy and performance**

Feedback is another way to improve self-efficacy in the workplace. Three studies exploring feedback and its role on self-efficacy and performance were reported in an American Psychological Association article. Varying ranges of feedback were provided to participants with either little feedback or a wide range of feedback. The results indicate the higher, more detailed levels of performance feedback positively related to subsequent performance (Beattie, Woodman, Fakehy, Dempsey, 2015).

## **How to Build Self-Efficacy**

According to Bandura's social cognitive (learning) theory, an important source of motivation comes through the many links between goal setting and self-efficacy. Managers can begin by setting up small, basic goals leading up to larger, more difficult ones in order for the employee to develop beliefs of efficacy as each one that is successfully completed (Bandura, 1982). For example, if a new employee is assigned an extremely difficult task, the employee will likely experience self-doubt, stress, and threat of performing an unfamiliar task, resulting in an unsuccessful performance. However, if they are assigned a simple task and are able to experience initial success, with more difficult tasks being introduced slowly they are building high self-efficacy along the way (Bandura, 1982). These tasks are examples of performance outcomes, which are the most significant sources, used to develop self-efficacy. As stated by Bandura (1988), competencies are superbly developed when, "modeling is combined with guided practice and success experiences".

Additional steps to building self-efficacy begins with taking one step at a time. As mentioned, start with small successes and build upon those. Second, review past successes. Looking back on what you have accomplished will give you confidence in what you can accomplish. Third, visualize your success. See yourself completing the task or project and imagine the results being beyond successful. Fourth, find a role-model. This touches on the vicarious experiences and verbal persuasion factors that help build self-efficacy. A mentor will build you up while you witness their successes to help you realize that you can be successful as well. Fifth, recognize that thoughts of self-doubt will come and have a plan for addressing them. One way is to develop a list of positive thoughts, put them in writing, and keep them handy. Finally, find positive social support. Spend time around people who are positive and will build you up through verbal persuasion and stay clear of those who may want to bring you down (LeVan, 2010).

In the workplace, self-efficacy, self-esteem, job-satisfaction, and workplace environment interact to establish employee engagement. This means that the employee engages either positively or negatively with the company. Building positive engagement will help build self-efficacy, self-esteem, and job-satisfaction. The methods described by Arnold Bakker (2009) involved extensive interviews with each employee to measure their positive and negative views about their role and function. Albeit small, one aspect of the research points to modifying the job at the individual level with the goal of building confidence through successes.

### **1999: Effects of employees' self-efficacy on working in a team; and the satisfaction with teams and individual performance**

Application of self-efficacy theory in the workplace is evidenced in a case study conducted by Sanjib Chowdhury and Thomas Lanis at East Central University in 1999. This case study examined the relationship between employees' self-efficacy of team membership and their satisfaction in regards to this membership and individual performance. The study demonstrated dependencies on the teams' performance. The subjects of the case study were junior and senior students enrolled in a business course that required team projects that were similar in nature to workplace projects.

### **2003: Task control, breadth of training raise self-efficacy**

Research by Axtell & Parker (2003) prove that increasing task control (autonomy) and training phases of increasing generalizability increase the transfer of self-efficacy to the workplace. The study also finds that job enlargement can lower self-efficacy if task control is not also increased.

## **Measuring Self-Efficacy**

There are many ways to measure self-efficacy. One such scale is the Skill Confidence Inventory scale (SCI). The SCI scale measures perceived confidence to successfully complete several tasks, activities, and coursework. The SCI scale measures self-efficacy in the vocational domain and is used in career counseling. The SCI is usually combined with the Strong Interest Inventory scale (SII). The SCI consists of six 10 item General Confidence Themes (GCT scales) (sixty items total). Each 10 item scale is scored by taking the mean of responses of each scale. GCT scales measure perceived level of confidence and range from 1 to 5; 1= No Confidence and 5= Complete Confidence. A score of 3.5 or higher implies a high skill confidence for that scale (Betz, Borgen, and Horman, 1996).

The SCI scale is written in an eighth grade reading level and can be administered to high school students, college students, or working professionals. The SCI is offered in pencil and paper format via mail in tests, and in the Entrepreneur Report. The SCI is also available via the

internet through the Consulting Psychologists Press (Betz et al., 1996).

Self-efficacy is described as domain specific. Indeed the SCI measures self-efficacy for the vocational domain. Another such example of a scale that measures self-efficacy in a specific domain is the Mathematics Self-Efficacy Scale (MSES). The MSES measures self-efficacy in the domain of math. This is the most commonly used scale to measure self-efficacy in math related tasks. It was created by Betz and Hackett (1983). The scale ranges from 0 to 9; 0= Not at all difficult and 9= Extremely difficult.

Another interesting measurement of self-efficacy is the Generalized Self-Efficacy scale (GSE). One could say that it measures self-efficacy in adaptation, optimism, and coping in regards to facing adversity or everyday problems. The purpose of the GSE is to measure confidence in goal setting, effort, and persistence. The complete guide to GSE is located below (Schwarzer and Jerusalem, 1995):

The General Self-Efficacy Scale (GSE)

<b>Authors</b>	Ralf Schwarzer & Matthias Jerusalem
<b>Languages</b>	The scale is available in 33 languages at <a href="http://userpage.fu-berlin.de/~health/selfscal.htm">http://userpage.fu-berlin.de/~health/selfscal.htm</a>
<b>Origin</b>	German version developed in 1979 by Matthias Jerusalem and Ralf Schwarzer, and later revised and adapted to 26 other languages by various co-authors. Citation: Schwarzer, R., & Jerusalem, M. (1995). Generalized Self-Efficacy scale. In J. Weinman, S. Wright, & M. Johnston, <i>Measures in health psychology: A user's portfolio. Causal and control beliefs</i> (pp. 35-37). Windsor, UK: NFER-NELSON.
<b>Purpose</b>	The scale was created to assess a general sense of perceived self-efficacy with the aim in mind to predict coping with daily hassles as well as adaptation after experiencing all kinds of stressful life events.
<b>Population</b>	The scale is designed for the general adult population, including adolescents. Persons below the age of 12 should not be tested.
<b>Administration</b>	The scale is usually self-administered, as part of a more comprehensive questionnaire. Preferably, the 10 items are mixed at random into a larger pool of items that have the same response format. Time: It requires 4 minutes on average. Scoring: Responses are made on a 4-point scale. Sum up the responses to all 10 items to yield the final composite score with a range from 10 to 40. No recoding.
<b>Description</b>	The construct of Perceived Self-Efficacy reflects an optimistic self-belief (Schwarzer, 1992). This is the belief that one can perform a novel or difficult tasks, or cope with adversity -- in various domains of human functioning. Perceived self-efficacy facilitates goal-setting, effort investment, persistence in face of barriers and recovery from setbacks. It can be regarded as a positive resistance resource factor. Ten items are designed to tap this construct. Each item refers to successful coping and implies an internal-stable attribution of success. Perceived self-efficacy is an operative construct, i.e., it is related to subsequent behavior and, therefore, is relevant for clinical practice and behavior change.
<b>Coverage</b>	The scale can be applied, for example, to patients before and after surgery to assess changes in quality of life. Also, it can be used in patients with chronic pain or those within a rehabilitation program.
<b>Reliability</b>	In samples from 23 nations, Cronbach's alphas ranged from .76 to .90, with the majority in the high .80s. The scale is uni-dimensional.
<b>Validity</b>	Criterion-related validity is documented in numerous correlation studies where positive coefficients were found with favorable emotions, dispositional optimism, and work satisfaction. Negative coefficients were found with depression, anxiety, stress, burnout, and health complaints. In studies with cardiac patients, their recovery over a half-year time period could be predicted by pre-surgery self-efficacy. More at: <a href="http://userpage.fu-berlin.de/~health/self/selfeff_public.htm">http://userpage.fu-berlin.de/~health/self/selfeff_public.htm</a>

<p><b>Strengths</b></p>	<p>The measure has been used internationally with success for two decades. It is suitable for a broad range of applications. It can be taken to predict adaptation after life changes, but it is also suitable as an indicator of quality of life at any point in time.</p>
<p><b>Weaknesses</b></p>	<p>As a general measure, it does not tap specific behavior change. Therefore, in most applications it is necessary to add a few items to cover the particular content of the survey or intervention (such as smoking cessation self-efficacy, or physical exercise self-efficacy). How to write such items is described in Schwarzer and Fuchs (1996).</p>
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research assistants observed the interactions between the mothers and their children during a ten minute feeding and play session which included three colorful toys, and the observed amounts of maternal sensitivity, warmth, flatness of affect, disengagement, and anger were rated by the assistants and recorded (Teti & Gelfand, 1991).

After analyzing and compiling the results of the study, Teti and Gelfand (1991) concluded that maternal self-efficacy is a "central mediator of relations between mothers' competence with their infants and factors such as maternal perceptions of infant difficulty, maternal depression, and social-marital supports" (p. 925). Support for this conclusion was based on the finding that maternal self-efficacy was strongly associated with maternal capability. In addition, maternal self-efficacy was the factor most strongly related to parenting behavior, and it remained that way when all other predictors were controlled for (Teti & Gelfand, 1991). Beliefs regarding infant difficulty, which are related to maternal ability, were also strongly associated with self-efficacy when demographic variables were controlled (Teti & Gelfand, 1991). The authors found that depression affected maternal competence only in that it affected maternal self-efficacy (Teti & Gelfand, 1991).

These findings support the premise of Self-Efficacy Theory, which is that beliefs regarding one's abilities are strongly associated with the amount of motivation and resulting performance (Van der Bijl & Shortridge-Baggett, 2002). The mothers who had high maternal self-efficacy felt more competent as a result of their confidence and displayed positive parenting behaviors during the study (Teti & Gelfand, 1991). There were many variables analyzed and discussed in this study, but it illustrates well how important self-efficacy is in parenting.

Additional research findings in support of self-efficacy:

- High self-efficacy individuals persist longer in the face of difficulty and are extremely resilient in the face of failure (Bandura, 1982; as cited in Redmond, 2010).
- High self-efficacy individuals are generally more content with their work and lives (Judge, Locke, Durhamn, & Kluger, 1998; as cited in Redmond, 2010).
- High self-efficacy individuals set higher goals for themselves (Bandura & Cervone, 1986; as cited in Redmond, 2010).
- High self-efficacy individuals are more committed to their goals (Locke, Frederick, Lee, & Bobko, 1984; as cited in Redmond, 2010).
- High self-efficacy individuals generate more effective task strategies to facilitate goal attainment and respond more optimistically to negative feedback than low self-efficacy individuals (Locke & Latham, 1990; as cited in Redmond, 2010).
- Strengthening self-efficacy augments goal attainment motivation (Bandura, 1986; as cited in Redmond, 2010).
- Feedback and self-efficacy are necessary for effective goal-setting (Latham & Locke, 1991; as cited in Redmond, 2010).
- Self-efficacy has been found to lead to higher performance (McIntire & Levine, 1991; Mathieu, Martineau, & Tannenbaum, 1993; Eden & Zuk, 1995; Locke & Latham, 1990; Stajkovic & Luthans, 1998; as cited in Redmond, 2010).
- High self-efficacy individuals succeed often and better than individuals with low self-efficacy (Mitchell, Hopper, Daniels, George-Falvy, & James, 1994; as cited in Redmond, 2010).
- High self-efficacy individuals habitually work harder and persevere while low self-efficacy individuals frequently quit (Bandura, 1986); as cited in Redmond, 2010).
- Individuals who perform well develop high self-efficacy (Davis, Fedor, Parson, & Herold, 2000; as cited in Redmond, 2010).

## Criticism of Self-Efficacy

Eastman and Marzillier (1984) outlined three main criticisms to Bandura's Self-Efficacy Theory. The first was ambiguity and lack of definition in self-efficacy. The second included methodological deficiencies which could cast doubt on the "published relationship between the empirical findings and self-efficacy." The third stated that claims and conclusions made by Bandura were not adequately evaluated, and more precise definitions and modification of assessment procedures are needed.

In regards to the conceptual problems of self-efficacy, it was thought that "efficacy expectations were definite in such a way that included within them expectations of outcome, and thus could not be regarded as conceptually distinct" (Eastman and Marzillier, 1984). Bandura had sought to make a distinction between self-efficacy and outcomes but others found some of his statements to be misleading in this regard. One specific statement, "the conviction that one can successfully execute the behavior to produce the outcomes," was the focus of much criticism and debate over the true difference between outcomes and efficacy. Kazdin (1978) found the concepts of self-efficacy and outcome expectations to be "very closely related." Bandura has replied to this criticism by stating that the outcomes are conditional upon the behavior and that the critics were "misreading the definition of efficacy" (Bandura, 1978).

The scale used in Bandura's experiment studies is further subject to criticism. The scale provided to Eastman and Marzillier by Bandura is shown below:

"Rate your degree of confidence by recording a number from 10-100 using the scale given below:

10	20	30	40	50	60	70	80	90	100
quite uncertain				moderately certain					certain

Remember, rate what you would expect you could do and your confidence if you were asked to perform the tasks \_now" (\_Eastman and Marzillier, 1984)

This scale was criticized for two main reasons. The first is that the scale is not clear and a 10 can be interpreted at varied levels. While one may consider a 10 to be very uncertain, another may interpret it as "virtually impossible." A second criticism was the use of a 100 point probability scale with the ability to only select between 10 possible numbers. While there is no zero on the scale, the scale also does not allow for numbers between the numbers listed on the scale which can account for a large difference on a 100 point probability scale.

Further criticism of self-efficacy provides that it is, "impossible to exclude outcome considerations from efficacy expectations." It is human nature to be aware and concerned with the outcomes in performing a task. While Bandura's studies focused on discrete tasks, the applications

for self-efficacy move beyond discreet tasks with limited outcomes. While critics of Bandura and self-efficacy agree that there is value in his experiments, it is doubted that self-efficacy and outcomes can be limited and distinct on a larger scale or in application of the theory.

## High Self-efficacy, Over-confidence and Possible Negative Repercussions

Vancouver, Thompson, Tischner, and Putka did two studies to examine how high self-efficacy would relate to a person's performance. The findings of these studies were reported in the Journal of Applied Psychology in 2002. What they found was that when a person had a high level of self-efficacy, this did not mean they had a high level of performance. In fact, it could lead to a low level of performance.

The studies were done on western college students using the Mastermind game which is a game that participants must put four colored squares in the correct order and they have ten attempts to do so. With each attempt, the participant would get feedback to use for their next attempt. 46 participants were in the experimental group and 41 in the control group. In the experimental group, during a few of the games, the participant would automatically get their third attempt correct in order to increase self-efficacy. The control group did not get any manipulations at all.

The way that they determined a person's level of self-efficacy and self-confidence was through questionnaires given between each set attempts to arrange the blocks in the correct order. One question for self-efficacy involved having the participant state how many attempts it would take them to find a solution based on a scale of 1, extremely unlikely to 6, extremely likely. The question for self-confidence involved having the participant state how confident they were in the arrangement choice they were making based on the feedback that they had received based on a scale of 0, not confident, to 100, very confident.

What the experiment found was that in the experimental groups, the manipulated games did increase the self-efficacy of the person and on some levels it also decreased the performance of the person on the next game. Once the person did not have a couple of the games manipulated, the self-efficacy lowered and the person's performance once again increased. Vancouver in 2001 found that by looking at the change with-in an individual, there was a negative affect between high self-efficacy and performance as a whole but he also felt that there needs to be more research on this for there could also be other reasons that the study did not show for these changes.

In the second study they did similar testing but this time they were looking at what the level of confidence had on the performance and the self-efficacy of the individuals. What they found surprised them. They found that there was a positive effect of self-efficacy and confidence, the higher the level of self-efficacy the higher the level of confidence and vice-versa. What they also found was that there was no effect on confidence and performance and this also did not explain the lower performance of participants with the higher levels of self-efficacy.

Powers in 1973 and 1991 also found a negative between self-efficacy and performance but these studies did not take a look at the confidence of the individuals. He feels that having high levels of self-efficacy may cause a person to set higher goals, but it can also reduce the motivation to reach the goals (Vancouver et al, 2002).

Stone in 1994 also found that a person that was over-confident in their abilities were high is self-efficacy and that these individuals also had less motivation and contributed less to reaching these goals. In 1991, Bandura and Jourdon found similar results in studies that they performed and stated "complacent self-assurance creates little incentive to expend the increased efforts needed to attain high levels of performance" (Vancouver et al, 2002).

After looking at these studies, one may conclude that high levels of self-efficacy may not be as good as Bandura once thought. Before making this conclusion, one must realize that this is what seems to happen over time and not in a short length of time. It must also be considered that people in this group are also more likely to set higher goals and to push on when the going gets tough. These individuals are less likely to stop or quit a task where as a person with low self-efficacy is more likely to set lower goals and to quit or give up when things get tough. It must also be considered that there may be other factors that have not been researched that are leading to the lower performance levels with high levels of self-efficacy and high self- confidence. These are just a few of the points that need to be considered when trying to use high levels of self-efficacy to get more and better production out of workers.

## Characteristics of Self-Esteem and Self-Efficacy

According to our lesson commentary, "Although somewhat similar, self-efficacy is distinct from self-esteem in that self-esteem refers to a more general level of self-confidence and feelings of adequacy, whereas self-efficacy refers to a person's belief that he or she can successfully perform a specific task (Gist, Schwoerer & Rosen, 1989)" (L7, p.5). While these concepts can inter-relate, it is not necessarily true that a positive relationship will always exist between these two very similar constructs.

See table below for separate characteristics that are true of self-efficacy and self-esteem:

<b>CHARACTERISTICS OF SELF-ESTEEM /SELF-EFFICACY</b>			
<b>High Self-Efficacy</b>	<b>High Self-Esteem</b>	<b>Low Self-Efficacy</b>	<b>Low Self-Esteem</b>
Self-Confidence	Responsibility	Fear of Risks	Unhappiness
Accurate Self-evaluation	Goal Commitment	Fear of Uncertainty	Anxiety

Willingness to take risks	Genuineness	Feelings of Failure	Inferiority or Superiority
Sense of accomplishment	Forgiving	Impression Management	Impatience or Irritability
	Internal Values		Externally oriented goals
	Positivity		Negativity
	Self-Improvement		

(Frank, 2011)

An individual may have a high opinion of him or herself in general and be satisfied with the person that he or she is, but still know on a given task that he or she may not be well equipped to handle it, just as easily as one can be confident on a given task but not be very satisfied with him or herself in general. In our case study, where the company in question was having trouble retaining new hires, they began to give potential employees a test that very strongly mimicked what they would be doing on a daily basis. New hires who passed the test were then informed that they had already proven they could do the job because the test was essentially the same as the work they were being hired to do. This started them out with a good dose of self-efficacy. As indicated by the table above, the process also may have increased their self-esteem as well. Also, knowing they were able to do the job could contribute to goal commitment out of pride and maintaining the standard they set for themselves, as well as positivity; however the process was primarily designed as a way to give the new hires a sense of high self-efficacy. Note: We can clearly see that simply because they improved self-efficacy for this particular job, it wouldn't necessarily hit all of the points of self-esteem, thereby demonstrating that self-efficacy and self-esteem are not directly related.

## Social Facilitation and Social Loafing Phenomena

Sanna (1992) investigates how self-efficacy theory provides an integrative framework for social facilitation and social loafing phenomena. The researcher conducted two experiments. In the first experiment, the researcher manipulated efficacy expectancies and outcome expectancies. Efficacy expectancies (high vs low) were manipulated by providing false performance feedback (successfully vs unsuccessfully) to the participants who worked on the preliminary task (the vigilance test). Outcome expectancies were manipulated by having participants work in one of three group conditions: alone, in coaching pairs (when performance was evaluated individually), and in collective pairs (performance was not evaluated individually). The results of the first experiment demonstrate that efficacy expectancy and outcome expectancy jointly affected performance on a vigilance task. Particularly, participants with high efficacy expectancy (positive feedback) and high outcome expectancy (when they were evaluated individually) performed better than participants with low efficacy expectancy (negative feedback) and low outcome expectancy (they were not evaluated individually). In the second experiment, the researcher manipulated the difficulty of the task. The hypothesis is that an easy task predicts high-efficacy expectancies, whereas a difficult task predicts developing low-efficacy expectancies. The results proved the hypothesis. The researcher argues that the participants may loaf because they believe that they are not evaluated individually by others. This research supports the idea that self-efficacy expectancy and valence of evaluation affect performance. View the video below for a further discussion of this phenomena.

## CONCLUSION

The understanding that we have gained through research on self-efficacy theory is "the employee who is given the flexibility to try a task under various conditions builds a body of knowledge that increases both his natural ability to perform the task and the self-efficacy to believe in his ability to do it" (Petersen, 2013). Human functioning may be primarily influenced by personal (self-efficacy), behavioral (social recognition), and environmental (sense of cohesion in work area) influences. What this may imply is that the core of our motivation may be extrinsically reinforced. The amount of research support for self-efficacy motivation is rather high, which shows that the theory is not only valid but reliable. Finally, self-efficacy theory is only one factor that can contribute to motivation; looking into the details of other theories or perhaps a combination of other theories may be the only way to gain a clearer idea on what ultimately motivates us. No matter what a person's status is, employees need to know that their work is not going unrecognized. By getting to know your staff and keeping them motivated, you help to increase their self-efficacy levels, which in return will produce higher productivity ratings.

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