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# Self-Efficacy

Chapter · March 2015

DOI: 10.1016/B978-0-08-097086-8.25033-2

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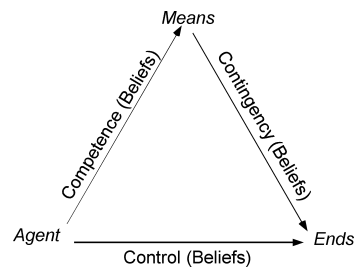
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S. Harter



**Figure 1**  
 Means–ends relations and agency as components of control (adapted from Skinner et al. 1988 and Flammer 1990)

## Self-efficacy

Self-efficacy refers to the individual’s capacity to produce important effects. People who are aware of being able to make a difference feel good and therefore take initiatives; people who perceive themselves as helpless are unhappy and are not motivated for actions. This article treats the main concepts related to self-efficacy, their theoretical and historical contexts, their functions and practical uses, as well as developmental and educational/therapeutic aspects.

### 1. Concepts

Everything that happens is caused to happen (Aristotle). Making changes means being a cause or providing a cause that produces a change. As the true causes are difficult to identify, the terms *conditions* and *contingencies* are often used instead. An effect is contingent upon a condition or a set of conditions if it always occurs if the condition or the set of conditions is met. Such conditions are sufficient but not necessary for producing the effect.

Here we are interested in human actions as necessary conditions of change (see *Motivation and Actions, Psychology of*). Actions, too, depend on conditions. Considering person-related conditions of effective actions, we can differentiate aspects like knowledge, initiative, perseverance, intelligence, experience, physical force, help from others, and more. Thus, instead of saying that an actor is able to produce a certain effect, we can say more elaborately that an actor is endowed with certain means or conditions that enable him or her to attain certain goals (Fig. 1).

We say that individuals (or groups) are in *control* of a specific goal if they are able to produce the corresponding changes (horizontal line of Fig. 1). More elaborately, they are in control of a specific goal if they are aware of the necessary *contingencies* and if they are *competent* enough to make these contingencies work (both diagonal lines in Fig. 1). Control is complete if these contingencies are necessary and sufficient; control is partial if the contingencies are necessary but not sufficient. Instead of control, Bandura (1977) introduced the word *efficacy*, more specifically *self-efficacy*. We use control and self-efficacy interchangeably.

*Controlling* means putting control into action. This is not equivalent to having control or being in control: People are in control of certain states of affairs, if they can put control into action, even if they do not. For example, somebody has control over buying a new bicycle, even if he or she does not buy it.

People can have control over certain events without knowing it; they will then probably miss possible chances to activate such control. On the other hand, people may believe that they have some control, but in fact do not. That may make them feel good as long as there is no need to put this control into work. Obviously, it is important that people do not only have control, but that they also know that they have control. Not being in control of an important situation is equivalent to being helpless in this respect (Seligman 1975). It has been proved that the psychological effects of helplessness (HL) are different depending on whether the helpless person believes themselves to be helpless for ever (chronic HL), whether being helpless is unique (personal vs. universal HL), and whether helplessness is related to a specific domain or to most domains of life (specific vs. global HL). In the worst case, helpless people are (a) deeply sad about not having control, (b) demotivated to take initiatives or to invest effort and perseverance, (c) cognitively blind for any alternative or better view of the state of the world, and (d) devalue themselves.

Obviously, at least in subjectively important domains, we prefer self-efficacy to helplessness: self-efficacy beliefs provide us with security and pride. When we lack self-efficacy in important domains we either strive for self-efficacy (by fighting, learning, or training) or search for compensation. A common type of compensation consists of seeking help or delegating personal control (= *indirect control* or *proxy control*), e.g., to pay a gardener caring for one’s garden or to put a doctor in charge with one’s health or to pray to God for a favor in a seemingly hopeless situation. Another way of compensating lacking (primary) control is to use *secondary control* (Rothbaum et al. 1982). While control (i.e., primary control) consists of making the

world fit with one's goals and aspirations, secondary control accommodates personal aspirations or personal interpretations of the actual state in order to make them fit with the world (see *Coping across the Lifespan*).

## 2. History of the Concept of Self-efficacy

In the 1950s, Rotter (1954) suggested the concept *locus of control*, meaning the place where control of desired reinforcement for behavior is exerted. Internal control means control within the person, external control means control outside the person, possibly in powerful others, in objective external conditions, or in chance or luck. Rotter and his associates have developed valid measuring instruments that have been used in thousands (!) of studies demonstrating that internal locus of control is positively correlated with almost all desirable attributes of humans.

Fritz Heider (1944) who studied the subjective attributions for observed actions had already suggested the concepts of internality and externality. The true origin, i.e., the 'cause' of an observed action, is either attributed to the person (internal, personal liability) or to person-independent conditions (external, no personal liability). Heider's work has triggered a large research tradition on causal attributions. Results of this research were of use for successful differentiations of subjective interpretations concerning experiences of helplessness (see above; see also *Attributional Processes: Psychological*). Consequently, attribution theory remains an important element of self-efficacy theory.

Modern self-efficacy theory goes beyond Rotter's theory insofar as it is more differentiated (e.g., contingency vs. competence, primary vs. secondary), distinctively referred to specific domains of actions (e.g., health, school), and elaborated to also include aspects other than personality (e.g., motivation, development).

## 3. Self-efficacy as an Important Element of a Happy and Successful Person

Individuals with high self-efficacy beliefs also report strong feelings of well-being and high self-esteem in general (Bandura 1997, Flammer 1990). They are willing to take initiative in related domains, to apply effort if needed, and persevere in efforts as long as they believe in their efficacy. Potentially stressful situations produce less subjective stress in highly self-efficient individuals. However, while self-efficacy acts as a buffer against stress, it can also—indirectly—produce stress insofar as it can induce overly ambitious individuals to assume more responsibilities than they are able to cope with in sheer quantity.

Moreover, self-efficacy has been reported to exert a positive influence on recovery from surgery or illness

and on healthy lifestyles. It is not surprising that high self-efficacy beliefs enhance school success; likewise, school failure inhibits relative self-efficacy beliefs, again partly depending on the individual's attributional patterns. Interestingly, it has been demonstrated repeatedly and in several cultures that in most domains healthy and happy individuals tend to slightly overestimate themselves. Realistic estimation of self-efficacy is rather typical for persons vulnerable to depressed mood, and clear underestimation increases the chance for a clinical (reactive) depression. On the other hand, major overestimation might result in painful and harmful clashes with reality.

## 4. The Development of Self-efficacy Beliefs

Evidently, the newborn baby does not have self-efficacy beliefs in our sense. The basic structure of the self-efficacy beliefs develops within the first three or four years. According to Flammer's (1995) analysis, the infant's development towards the basic understanding of self-efficacy proceeds through a developmental sequence consisting of the acquisition of (a) the basic event schema (i.e., that classes of events happen), (b) the elementary causal schema (conditions, i.e., actions, events), (c) the understanding of personally producing effects, (d) the understanding of success and failure in aiming at nontrivial goals (visible as pride and as shame, respectively), and (e) the discovery of being not only the origin of one certain change but also capable of producing such changes.

Obviously, this development proceeds in domains that are accessible by the infant so far. Later on, this development will have to be extended to further domains. As to the domain of school success, within the second half of the first decade of life, the child learns more and more differentiations of means towards the same ends. Thus, he or she gradually abandons a *global concept* of simply being or not being able and singles out—probably in this sequence—the factor *effort* (more effort is needed to solve tasks—a typical lesson to be learned early in school), the factors individual ability and task difficulty (higher difficulty requiring more ability), and finally the understanding of the compensatory relation between effort and ability (it is possible to reach the same goals by being less capable but more hard-working).

In adolescence and early adulthood more lessons have to be learned. More and more domains become accessible to personal control due to increased cognitive, physical, or economic strength and social power. This is exciting, indeed. However, individuals have permanently to select from the choices which are offered to them (Flammer 1996). Trying to control everything results in overburdening. One thing is to deselect control domains because they compete with higher priority control domains; another thing is to be forced to renounce control because no accessible

contingencies seem to exist. As long as there are enough attractive alternatives available, it is not painful, but it can severely hurt handicapped individuals and old people when they lose control of important domains. Old people are well advised both not to resign too early and to search for compensations. Such compensations consists of artifacts of all kinds (from memory aids to hearing aids), but they also include the above mentioned compensations like indirect control (social resources) and secondary control. Indeed, it seems that the extent and the importance of secondary control increases with the lifetime (Heckhausen and Schulz 1995). Under certain conditions, Baltes and Silverberg (1994) have even suggested that people in old people's homes adjust better if in certain domains they give up personal control at all. Alluding to the concept of learned helplessness, they called such behavior *learned dependency*. Learned dependency helps to avoid certain social conflicts; the only remaining personal control may be the control of giving in.

### 5. Educational and Therapeutic Aspects

According to the development of the basic structure of self-efficacy, contingent behavior by the caregivers is crucial already within the first weeks of life. Caregivers' behavior should be predictable, i.e., contingent at least upon the baby's actual behavior, and as far as ever possible upon the baby's perceptions, feelings, and intentions. This requires an enormous potential of sensitivity towards the child. Fortunately, researchers have demonstrated that parental empathy is partly a natural gift with the majority of attentive parents. Studies have shown that contingent behavior fosters children's happiness, but also their willingness to learn and their curiosity. If caregivers are judged as not reacting contingently enough, we also have to consider that some babies show quite unorganized behavior and make the caregiver's task very difficult ('difficult babies'). In such cases it is difficult to decide whether the noncontingency has originated from the caregiver or from the baby.

The subsequent steps in the development of self-efficacy require that caregivers provide freedom for experimentation, let the child try by himself or herself, and comment on the successes and failures in a way that the child can establish and maintain confidence in his or her efficacy (Schneewind 1995). Nevertheless, caregivers should try to prevent the child from dangerous and frequent hopeless experiences. Psychotherapy with individuals who have severely undermined self-efficacy beliefs is difficult. Teaching and trying to convince them that they are really capable even when they believe not to be does not help much. Helping them to recall from memory prior success experiences instead of being impressed by failures only is more efficient. Even more efficient are new and successful experiences. Helpless individuals not only

interpret failures to their disadvantage, they also play down their contribution to eventual success. Parallel to these findings, memory research has demonstrated that depressed people's memories of own actions are biased towards recalling more of their failures than their own success.

This leaves us with an important contrast: while children and healthy adults tend to overestimate their self-efficacy, individuals who have lost confidence in themselves immunize such devastating beliefs by not trying anymore, by self-damaging attributions, and by recalling their biography in a way that is consistent with their beliefs. Given the pervasive influence of positive beliefs in self-efficacy, it is important to help individuals with establishing and maintaining self-efficacy beliefs at a high level, and to guide failure-expecting persons to positive experiences.

### 6. Conclusion

Within the last decades, theory and research have established self-efficacy beliefs as important elements in the understanding of human action and human well-being in a very large sense. However, little is known so far about differences in self-efficacy beliefs in different life domains and among different cultures. Further research should include more systematic comparisons between cultures, between life domains, and—if possible—between historical times. In addition, it is suggested that in the future investigators consider more seriously the fact that all changes are due to a multitude of necessary conditions. More specifically, there is a need for researchers to consider the efficacy and efficacy-beliefs of interacting people, that is, to examine concepts such as shared control or 'common efficacy.'

*See also:* Control Behavior: Psychological Perspectives; Learned Helplessness; Motivation and Actions, Psychology of; Self-efficacy and Health; Self-efficacy: Educational Aspects; Self-regulation in Adulthood; Self-regulation in Childhood

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## Self-efficacy and Health

The quality of human health is heavily influenced by lifestyle habits. By exercising control over several health habits people can live longer healthier and slow the process of aging (see *Control Beliefs: Health Perspectives*). Exercise, reduce dietary fat, refrain from smoking, keep blood pressure down, and develop effective ways of coping with stressors. If the huge health benefits of these few lifestyle habits were put into a pill it would be declared a spectacular breakthrough in the field of medicine. The recent years have witnessed a major change in the conception of human health and illness from a disease model to a health model. It is just as meaningful to speak of levels of vitality as of degrees of impairment. The health model, therefore, focuses on health promotion as well as disease prevention. Perceived self-efficacy plays a key role in the self-management of habits that enhance health and those that impair it.

### 1. Perceived Self-efficacy

Perceived self-efficacy is concerned with people's beliefs in their capabilities to exercise control over their own functioning and over environmental events. Such beliefs influence what courses of action people choose to pursue, the goals they set for themselves and their commitment to them, how much effort they put forth in given endeavors, how long they persevere in the face of obstacles and failure experiences, their resilience to adversity, whether their thought patterns are self-hindering or self-aiding, how much stress and depression they experience in coping with taxing

environmental demands, and the level of accomplishments they realize (Bandura 1997, Schwarzer 1992).

In social cognitive theory, perceived self-efficacy operates in concert with other determinants in regulating lifestyle habits. They include the positive and negative outcomes people expect their actions to produce. These outcome expectations may take the form of aversive and pleasurable physical effects, approving and disapproving social reactions, or self-evaluative consequences expressed as self-satisfaction and self-censure. Personal goals, rooted in a value system, provide further self-incentives and guides for health habits. The perceived sociostructural facilitators and impediments operate as another set of determinants of health habits.

Self-efficacy is a key determinant in the causal structure because it affects health behavior both directly, and by its influence on these other determinants. The stronger the perceived efficacy, the higher the goal challenges people set for themselves, the more they expect their efforts to produce desired outcomes, and the more they view obstacles and impediments to personal change as surmountable.

There are two major ways which a sense of personal efficacy affects human health. At the more basic level, such beliefs activate biological systems that mediate health and disease. The second level is concerned with the exercise of direct control over habits that affect health and the rate of biological aging.

### 2. Impact of Efficacy Beliefs on Biological Systems

Stress is an important contributor to many physical dysfunctions (O'Leary 1990). Perceived controllability appears to be the key organizing principle in explaining the biological effects of stress. Exposure to stressors with the ability to exercise some control over them has no adverse physical effects. But exposure to the same stressors without the ability to control them impairs immune function (Herbert and Cohen 1993b, Maier et al. 1985). Epidemiological and correlational studies indicate that lack of behavioral or perceived control over stressors increases susceptibility to bacterial and viral infections, contributes to the development of physical disorders and accelerates the rate of progression of disease (Schneiderman et al. 1992).

In social cognitive theory, stress reactions arise from perceived inefficacy to exercise control over aversive threats and taxing environmental demands (Bandura 1986). If people believe they can deal effectively with potential stressors, they are not perturbed by them. But, if they believe they cannot control aversive events, they distress themselves and impair their level of functioning. Perceived inefficacy to manage stressors activates autonomic, catecholamine and opioid systems that modulate the immune system in ways that

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