

## IS A STRONG SENSE OF SELF-EFFICACY ALWAYS BENEFICIAL?

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**Abstract:** *The concept of self-efficacy, introduced by Albert Bandura, has received a lot of attention in psychological research. This comes as no surprise, as it encompasses a person's beliefs about his or her capabilities to successfully do what is necessary for desired goals, which is a central mechanism in human agency. The concept has been linked to many outcomes (e.g. motivation and performance), almost exclusively yielding positive results. Recently, however, arguments have risen that a strong sense of self-efficacy may not always be as beneficial as presumed until now. In this article, I review the core of the positive literature on self-efficacy and highlight studies that question and oppose the dominance of these positive self-efficacy associations. Implications for future research, emphasizing the need of a different research approach, are mentioned.*

**Key words:** *self-efficacy, motivation, performance.*

### 1. Introduction

Human behaviour is not organized at random way. It is structured and directed by goals. We set goals that are important to us and choose actions and paths in order to achieve them. Some of these goals and their actions, for example the goal of nutrition, are chosen and achieved without being fully aware of them. But as we all know, our behaviour and the choice of goals and actions do not always happen automatically. Rather, it often involves conscious processes. Sometimes, we deliberately think about our lives and decide to strive after a new goal, re-evaluate the importance of a goal or even abandon one after weighing pros and cons. Cognitions therefore play an important role in our goal-setting and behaviour in general. Affect plays an important role

here as well, since we may be afraid to engage in a particular action, or be emotionally preoccupied with other events demanding our attention. Another important factor in determining our behaviour is motivation. A goal may be very valuable to someone, but if this person is not motivated to invest effort, the goal may never be achieved.

Human beings can exert some degree of control over all these behavioural processes. This process of influencing one's own motivation, thought processes, emotional states and behavioural paths is called self-regulation [7], [8]. Within self-regulation, a key role is played by perceived self-efficacy. This concept has been defined by Albert Bandura as one's judgments of how well one can execute the courses of action required to deal with prospective situations [3].

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As Bandura [5] says, a major function of thought is to enable us to predict the occurrence of events (e.g. the achievement of a goal) and to create means of controlling the events that affect our daily lives (e.g. the actions we execute in order to achieve our goals). Therefore, people also have the ability to form themselves expectancies about the probability of achieving a particular outcome. If the estimated probability of achieving the outcome is expected to be low, there is little incentive to invest effort in striving after it. One of the factors that decreases this probability is of course a lack of beliefs in one's ability to do what is necessary for a particular outcome. Relating to this, Bandura [5] refers to research showing that many activities are not pursued if people doubt whether they can do what it takes to succeed, even though these activities may guarantee valuable outcomes if performed well [11], [12], [33].

To summarize Bandura's self-efficacy theory: high expectations of one's self-efficacy for a particular behavior or situation will lead a person to approach the behaviour or situation, perform better at it and show more persistence when confronted with obstacles, while low expectations on the other hand will likely cause someone to avoid a situation, perform worse at it and show less or no persistence at all in the face of adversity.

Thus it is clear that beliefs of self-efficacy are some of the main determinants of human behaviour. Individuals are less likely to engage in tasks when they are doubtful about their abilities to complete the tasks. On the other hand, a strong belief in one's abilities to meet the requirements for successful task or goal achievement gives individuals an incentive to work towards them. Self-efficacy thus becomes a critical factor in directing the lives of humans.

## **2. Self-efficacy, performance and motivation**

The pioneering work on the concept of self-efficacy was done by Bandura [2-6]. Individuals with a snake phobia received treatments to increase their self-efficacy in dealing with situations involving snakes. Results showed that participants who perceived themselves as more able to overcome their fears after the treatment, indeed showed less fearful behaviour. Since this finding, the utility of the concept of self-efficacy in describing and predicting behaviour has been demonstrated in various domains of human behaviour.

### **2.1. Positive perspective**

Bandura's preliminary finding showing a beneficial effect of high self-efficacy inspired the majority of the following research to investigate the topic of personal efficacy beliefs from a positive perspective. According to this view, a strong sense of self-efficacy is beneficial to our behaviour, and more specific to performance and motivation. Within the positive perspective, many beneficial effects of highly self-efficacious judgments were found in areas ranging from clinical to athletic and organizational functioning [2]. The emphasis of the research on this construct has been on the positive consequences of a strong sense of self-efficacy. One of the main focuses of this positive perspective is that self-efficacy not only enhances motivation but also performance, and that performance attainments positively influence one's self-efficacy judgments, thus creating a reciprocal relationship [3].

In a longitudinal study [1], occupational self-efficacy was measured after graduation, three years later and seven years later. One of the results was a positive impact of self-efficacy measured after graduation on career satisfaction

seven years later. Betz and Hackett [13] refer to studies reviewing 15 years of literature about self-efficacy and career-related behaviour (Hackett & Lent, 1992; Lent, Brown, & Hackett, 1994), that strongly support the role of career self-efficacy as a predictor of educational and career preferences, academic performance, and persistence in the pursuit of desired career options [20]. For example, the meta-analysis by Lent, Brown and Hackett (1994) showed that self-efficacy is positively related to people's outcome expectations, interests, choices, ability and performance within a career context.

Further positive influences of self-efficacy are found on skill acquisition [19] and burn-out [16]. The concept is also related to managerial performance [34]. In a longitudinal field study [25], initial self-efficacy of newcomers in an organization measured at their entry, was positively correlated with ability to cope with problems 6 months later and job performance 10 months later, as judged by their supervisors.

Bandura and Locke [10] provide another overview of evidence from various empirical settings and methodological strategies in support of Bandura's theory that self-efficacy relates positively to motivation and performance. Among this evidence are two meta-analyses that show a significant positive correlation between work-related performance and self-efficacy [24], [28]. Reviewing 114 laboratory as well as field studies concerning this relationship, Stajkovic and Luthans found a positive correlation,  $G(r+) = .38$ . Supported by this corroborative finding, these authors hoped to shift the focus from the question of whether self-efficacy is related to performance, to more specific questions regarding the nature of this relationship.

## 2.2. Negative perspective

In a series of studies, Jeffrey Vancouver addresses the issue of focusing on the

nature of the relationship between self-efficacy and performance, as suggested by Stajkovic and Luthans [28]. However, this author examines this relation from a different perspective. He challenges the rather one-way view of self-efficacy as a beneficial construct, and argues that often-ignored aspects of self-regulation theories suggest that self-efficacy may decrease, instead of increase, the amount of resources allocated to performance [29].

In accordance with the majority of the existing literature, Vancouver agrees that there is a positive influence of performance on self-efficacy, because successful past performance enhances personal efficacy beliefs. He also recognizes that higher self-efficacy leads to higher goal setting. Therefore, he acknowledges that a strong personal sense of efficacy can play an important and beneficial role in behaviour.

On the other hand however, Vancouver also claims that self-efficacy could have no or even a negative effect on performance. Based on control theory [22], he states that when someone has to allocate resources towards achieving or maintaining some level of performance, the perception of how much effort is required may be derived from past performance levels. A strong sense of self-efficacy may lead to a biased, more positive inferred level of performance, especially when the level of self-efficacy is inflated. In turn, these results in perceptions about required efforts that underestimate the situation, as well as in lower resources applied as compared to when these inferences are made when someone is not feeling very self-efficacious.

Another way to think of this is as follows: according to Carver & Scheier [15], people move towards goals by reducing the discrepancies between reference values (the goals that drive people at a given moment) and their present states (the actual state of their

behaviour). Individuals with generally strong beliefs in their efficacy are likely to have a history of successful attainments which enables them to feel that efficacious - remember the positive relationship between past performance and self-efficacy. When deciding on how much resources they need to invest to achieve a pursued goal, they may rely too much on this general sense of being able to deal with situations. It is possible that this leads individuals with high self-efficacy to overestimate themselves and to underestimate tasks and their requirements. Moreover, the current goal could bring about a more complex and demanding situation than past ones. In other words, these individuals risk underestimating the discrepancy between their present state and the reference value that is directing their behaviour, and in doing so, allocate too few resources for a particular goal. As a consequence, people with a strong sense of efficacy can become too confident in such a way that they do not do what has to be done, resulting in a substandard performance.

Following this thought, it makes sense to assume that self-efficacy may not always have a beneficial effect on subsequent performance. But then how can we explain the dominance of positive effects of self-efficacy found in the literature? Vancouver attributes this to the use of between-persons, correlational designs in most of these studies. These designs may hide the true processes occurring within the individual over time. The multiply replicated relationship between self-efficacy may be positive due to the fact that the positive relationship of past performance with self-efficacy is stronger than the association between self-efficacy and subsequent performance, and also that past research has not attempted to discriminate between these two effects.

To test this idea of methodological biases as underlying the effects of self-efficacy,

Vancouver and his colleagues [29] examined the relationship at a within-person, across-time level of analysis. They instructed 56 undergraduate students to play a computerized Mastermind game 10 times, in which they had to determine the colour and position of four pegs in a row. The participants had 10 (2 practice and 8 experimental) trials per game to make guesses about the correct position/colour solution, based on the feedback they received regarding previous guesses. Performance (the row on which the solution was found) was measured at every game, and self-efficacy and personal goals beginning after the second practice trial.

In line with previous research, they hypothesized and found a significant positive relationship between on the one hand past performance and on the other self-efficacy and personal goals. In contrast with most of the previous research, they also predicted a negative within-person effect of past performance, personal goals and self-efficacy on future performance. The results supported their prediction, although past performance only had a marginally significant effect on future performance. To summarize, they found that whereas an individual's past performance positively related to subsequent self-efficacy, self-efficacy negatively related to subsequent performance. A second study of the same article replicated this finding, giving reason to believe that high self-efficacy judgments also produce 'something like complacent self-assurance that undermines motivation to adversely affects a person's performance across time' [29]. So whereas the majority of the research regarding self-efficacy has been conducted hypothesizing and finding positive effects on performance, which supports a positive perspective (high self-efficacy beliefs lead to high motivation), Vancouver provides evidence for a negative perspective as well.

Vancouver found more evidence for this negative perspective. In the two previously mentioned studies, self-efficacy was not manipulated. However, in a next study [34] self-efficacy judgments of an experimental group playing the same Mastermind game were artificially increased by adjusting the correct solution to their guess at certain trials. The results indicated that inducing high feelings of self-efficacy before a certain trial, led to a decrease in performance on that trial. This manipulation allows us to affirm the causal role of self-efficacy in predicting performance.

In another study from the same publication, Vancouver and colleagues [34] attempted to discover more about the process underlying this negative effect. They found that participants' confidence was inflated by self-efficacy and that self-efficacy led to a higher likelihood of committing errors. The authors' explanation is that highly self-efficacious participants reached the moment on which they felt confident about thinking through the received feedback quicker than those with low self-efficacy, resulting in overconfidence and more errors. This explanation is also in line with Powers' [26] and Carver and Scheier's [16] thinking about resource allocation and discrepancy reduction. Both positions have in common that high feelings of self-efficacy may influence how people think about the efforts they need to spend to successfully perform a task.

Vancouver's studies [33], [34] provide new insight in the self-efficacy-performance relationship. However, the use of the Mastermind games in these studies has been criticized [10]. It is possible that the obtained results are caused by the characteristics of the specific task that was used in these studies. So in order to verify if these findings are generalizable to other performance and/or motivation contexts, they need to be

replicated in studies with different task settings. Vancouver himself, together with Kendall [31], addressed this issue in a study about students preparing for exams. Given Vancouver's proposition of an unfavourable influence (at least sometimes) of self-efficacy on behaviour, the authors hypothesized a negative relationship between self-efficacy and motivation. Motivation was conceptualized as resource allocation (by planned study time). The results indicated a positive relation between self-efficacy and performance at the between-persons level, but also a negative relation at the within-person level between self-efficacy on the one hand and performance and motivation on the other. This means that as self-efficacy within a participant increased, the resources allocated (motivation) decreased, as well as their exam performance, once again providing support for a negative influence of high self-efficacy. Individuals with high self-efficacy have also been shown to spend less time practicing a recently learned task than those with low self-efficacy [18].

To summarize, there is no conclusive evidence for the claim [4], [9] of a reciprocal relationship where better performance leads to higher self-efficacy, which in turn enhances future performance. From the results presented above, it only seems safe to say that the former part is true (successful performance in the past enhances feelings of efficacy). Vancouver's studies showed that a stronger sense of self-efficacy does not guarantee a better performance.

Other studies conducted independently from Vancouver and using different task settings have also failed to find the positive relation between self-efficacy and subsequent performance [23]. Another study showed that self-efficacy was positively related to subsequent attainments when prior performance was

poor or substandard, as opposed to having negative effects on performance following more successful attainments [27]. Vancouver may thus have been right when he pointed to the role of complacency as a potentially critical factor in this discussion [30]. According to the control theory [22], self-efficacy influences performance expectations, which in turn are used to anticipate discrepancies from performance goals and hence resources needed [31]. So stronger beliefs in one's personal efficacy may prevent individuals from engaging in actions that are necessary for successful performance, because as a consequence of their confidence, they may feel like they do not have to invest more effort.

However, a recent study [26] in which private stock investors had to make investment decisions based on simulated market and stock conditions, showed that in a realistic, complex and dynamic task environment, participants' self-efficacy was positively related (at a within-person level) with performance, as well as with the actual and devoted time participants spent on the task.

### 3. Conclusion and implications

It is clear that more research is needed to clarify in which conditions and circumstances a strong sense of self-efficacy has beneficial or rather detrimental effects on motivation and performance. Concerning these two outcomes, it has to be clearly defined how they are exactly conceptualized when subjecting them to research. E.g. in the case of motivation: is it merely resource allocation? Planned or actual resources allocated or both? Or also persistence in motivation? Intensity? And concerning performance, attention must be paid to the task context. Does the task involve rather performing skills that are already known? Or is the performance criteria rather the

successful acquisition of skills? It is likely that the influence of a strong sense of self-efficacy can be more negative in learning contexts than in tasks where one can rely on skills one already knows. Also, while Bandura's pioneering findings originated from clinically oriented research, Vancouver's studies are situated in academic contexts.

Furthermore, a distinction has to be made between general self-efficacy and specific self-efficacy. A general feeling of self-efficacy could have more detrimental effects in certain performance or motivation contexts than an efficacious feeling that is restricted to only one aspect of one's job. Related to this, Osipow and Temple [21] have developed a task-specific occupational self-efficacy scale, which can be used to discriminate between self-efficacy judgments about different aspects of one's occupation.

Vancouver, More and Yoder [32] remarked that previous research has examined the relationship between self-efficacy and performance/motivation from a rather simplistic point of view, only allowing for basic, usually linear relationships and thus hiding other possible relations. In their article they reintroduce, inspired by Kukla (1972), a discontinuous, non-monotonic model to represent the relationship between self-efficacy and motivation. Carver and Scheier [15] integrated this model in their self-regulation theory. The authors propose that individuals use their self-efficacy beliefs to determine how many resources are needed to achieve a goal. If the anticipated amount of resources exceeds some threshold, the individual will choose not to engage in the goal. The moment one decides to engage is represented by the point of discontinuity in the model. From that moment on however, the relationship will be negative, in the sense that less resources will be allocated with higher self-efficacy. This is where the non-monotonicity of the model comes

from. Besides taking into account different possibilities for the representation of the relationships, the design of future research could also be varied. Here I would like to refer to the potential of the experience sampling method, developed by Larson & Csikszentmihalyi [17]. This involves the immediate measurement of participants' experiences at given times, allowing for accurate and direct data [14]. This kind of research abandons simple correlational research and analyses relationships at different times within a certain interval, which can provide a more detailed and accurate image of how the variables under examination influence each other.

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