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Self-efficacy and its effect on physical stamina of selected male sports persons

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Abstract

The present study intended to find out the relationship between self-efficacy and level of physical stamina in sports persons. The study was conducted on 200 male athletes at National Institute of Sports, Patiala. The Perceived physical ability, Physical self-presentational confidence and Total self-efficacy of the sportspersons was measured with Ryckmann *et al.* self-efficacy scale. Physical stamina was administered and assessed with the help of computerized bicycle ergo meter manufactured by Ergoline. The bicycle ergometer is set for body sizes ranging between 120cm and 200 cm. The study was conducted in two phases. In the first phase self-efficacy scale was administered and in the second phase the level of physical stamina was analyzed. The results of the study indicated that a positive relationship exists between self-efficacy and physical stamina capacity of sportspersons. Sportspersons who had higher perceived physical ability, higher perceived self-presentational confidence and a high level of Total self-efficacy showed higher stamina capacity as compared to athletes who showed a lower score for efficacy variables.

Keywords: Physical stamina, sports persons, national institute of sports

Introduction

Self-efficacy is the situation-specific form of self-confidence and it involves the appraisal of one's competence to achieve whatever needs to be done in a specific situation. It is concerned with the judgments of what an individual can do with existing skills. It is specific to a given time and setting and may vary greatly. Self-efficacy can be considered to be a person's perception of his or her abilities to successfully perform in a specific sporting activity.

Self-efficacy is the strength of one's belief in one's own ability to complete tasks and reach goals. This can be seen as the ability to persist and the ability to succeed with a task. Self-efficacy directly relates to how long someone will stick to a workout. High and low self-efficacy determines whether or not someone will choose to take on a challenging task or write it off as impossible. Self-efficacy affects every area of human endeavor. By determining the beliefs a person holds regarding his or her power to affect situations, it strongly influences both the power a person actually has to face challenges competently and the choices a person is most likely to make. These effects are particularly apparent, and compelling, with regard to behaviors affecting health.

Feelings of high self-efficacy enhance the duration and strength of effort during aversive situations whereas low feelings lead to lowered efforts even to giving up or not engaging in the threatening situation (Bandura, 1977) ^[1]. This means that when athletes go through very difficult sporting challenges it is essential for them to have a higher self-efficacy to produce a sustained effort. Self-efficacy influences an individual's effort and persistence while facing difficult challenges, potentially aversive situations and events with high probabilities of failure as well.

If an athlete believes that he or she will not succeed due to an incapability to complete a spirited task or because of past performances on the same task, he or she will probably avoid the contest or will give up after the first difficult challenge. Self-efficacy is lowered strikingly if failures happen at the beginning of the learning process.

Psychologist Albert Bandura has defined self-efficacy as one's belief in one's ability to succeed in specific situations. One's sense of self-efficacy can play a major role in how one approaches goals, tasks, and challenges.

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Because self-efficacy is developed from external experiences and self-perception and is influential in determining the outcome of many events, it is an important aspect of social cognitive theory. Self-efficacy represents the personal perception of external social factor. 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 (Gist & Mitchell, 1992). People with high levels of self-efficacy see problems as challenges to overcome, or tasks to be mastered. Even completing small tasks is a source of satisfaction. They are active participants in various activities. Their interests grow and develop and the world seems big. They don't go half-way, or start projects and give up quickly. Recover quickly from setbacks and disappointments. Whereas people with low levels of self-efficacy: Avoid challenges (or inconveniences) – big or small (or even very small). They believe difficult things are beyond their abilities. They see other people doing things and assume the position of observer, not participant. These people focus on their personal failures.

Goal Setting also provides direction and intensity to behavior, and awareness that one is capable of performing certain skills if goals are achieved. Behavioral accomplishment is the strongest means for acquiring self-efficacy. A negative relationship was found between self-efficacy and performance but these studies did not take a look at the confidence of the individuals. Vancouver, J.B., Thompson, C.M., Tischner, E.C., & Putka, D.J. (2002) [13] feel 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. Stone in 1994 [4] 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.

Objectives of the study

- To find out the relationship between perceived physical ability and physical stamina of sportspersons.
- To find out the relationship between perceived self-confidence and physical stamina.
- To study the relationship between total self-efficacy and level of physical stamina of sportspersons.

Methodology

The data was collected on the athletes at the National Institute of Sports, Patiala. The subjects were 200 in number belonging to different games and were between the age ranges of 18to 25 years. The study was accomplished in two phases. In the first phase the self -efficacy was assessed and The subjects were administered on the self-efficacy scale. And in the second phase the physical stamina of the athlete was assessed. The level of physical endurance was assessed with help of computerized bicycle ergo meter.

Tools used

- Self-efficacy scale by Ryck mann *et al.* This scale consists of 22 items and it is a six point choice scale. This scale assesses:

- a) Perceived physical ability of the individual.
 - b) Physical self-presentational confidence of the individual and
 - c) Total self-efficacy.
- The computerized bicycle ergo meter (Ergo-metrics 900) manufactured by Ergoline. The ergometer is set for body sizes ranging between 120 and 200 cm. The load unit works independently of rotational speed in a rotational speed range of between 30 to 130 revolutions Per minute (n/min) it allows for load ranging from 25 up to 900 watts (W), and works within a 2%+ - 2w accuracy.

Procedure

This study was completed in two phases in the first phase the Self- efficacy scale was administered. In the second phase the level of stamina was assessed with the help Bicycle ergometer. The subject had to pedal the cycle with a certain level of effort because as the pedaling duration increased the heaviness of pedals augmented after every two minutes. The heaviness of pedals, also named as stamina or load was set according to the body weight of subject on the visual display unit of the bicycle ergometer' The load was given for e.g. if the subject have 50kg body weight, the first load will be 50 watts and will double after every two minutes of cycling, this means pedaling becomes heavier and subjects will have to put more force to pedal. It takes nearly 10 -12 minutes to reach the maximum and it depends from individual to individual that which load becomes the subject's highest level of staying power also known as maximum load.

Results and Discussion

Table 1: This table shows the scores for self-efficacy for different stamina categories.

Group Load	SE (PPA)		SE (PSPC)		SE (TSE)	
	M	SD	M	SD	M	SD
6+	43.85	5.3	45.52	6.12	89.38	8
5+	41.87	7.18	45.47	8.64	87.35	12.37
4+	43.09	7.26	46.45	6.55	89.43	11.25
3+	46.25	5.9	38.25	8.05	84.5	11.44

From the above table it is clear that the 6+ staying power (stamina) category shows the lowest perceived physical activity and total self-efficacy. Whereas they have shown the highest level of physical stamina. The stamina category 5+ showed a high score on perceived physical ability and the highest score on perceived self-presentational confidence and total self-efficacy as well. This category has shown an optimal level of physical performance as well. The 4+ endurance category showed the highest perceived physical ability, but on the contrary 3+ stamina category showed a deteriorated performance and a superior level of total self-efficacy.

There are situations when self-efficacy is not helpful. Situations where there is not a high encouragement to perform maximally say when playing with a particularly weak challenger or there are some social constraints for e.g. new rules are applied for a particular contest and they do not allow the athlete to exploit his or her skill repertoire fully. And when there are physical constraints like playing the responsibility of a specialist substitute rather than a game-

starter also serve to lower performance levels in athletes. Self-efficacy is unpredictable when a competitive situation is uncertain, lacking in information, or contains a high amount of improbability. This shows that in a sporting situation, self-efficacy becomes significant as a performance modifier when the competitive situation is fairly well defined and the level of importance of the competition is quite soaring. (Grace, 1983) ^[10]. Various events affect people in many different ways.

Self-efficacy is usually described according to three parameters.

"*Level*" refers to the anticipated standard of performance attainment (e.g., the height that will be jumped, the time for a particular distance run). When the performances are differentiated in terms of their difficulty, it is expected that self-efficacy will vary with those levels, the variation being a mainly individual response for each athlete.

"*Strength*" refers to the strength of the person's belief that performance levels can be obtained; and "*Generality*" refers to the number of domains that will be affected by the efficacy (i.e., will all skills be performed very well or only specific ones?).

Self-efficacy is a factor which must be considered when attempting to have athletes achieve their best readiness states for a competition. Its variation produces inconsistencies in performance.

Salguero *et al.* (2005) ^[14] studied the relationship between participation motives and perceived physical ability in young Spanish swimmers and to investigate whether swimmers with high or low perceived physical competence differ in their intrinsic and/or extrinsic reasons for participation involvement.

The study concluded that coaches must consider the perceived ability of the competitors to better structure the social environment within which their swimmers operate. Self-efficacy also plays a major role in the maintenance of health behaviors, which has been documented across diverse health domains including: exercise (Fuchs, 1996; Rimal, *et al.* 2005) ^[6, 16] In an example of self-efficacy's pragmatic use in health care delivery, Benight and Bandura (2004) ^[15] synthesized multiple studies on the generalized role of perceived coping self-efficacy to recover from varied traumatic experiences, such as natural disasters, technological catastrophes, terrorist attacks, military combat, and sexual and criminal assaults. They found perceived coping self-efficacy was an important mediator of post-traumatic recovery.

They state: "Verification of its independent contribution to post-traumatic recovery across a wide range of traumas lends support to the centrality of the enabling and protective function of belief in one's capability to exercise some measure of control over traumatic adversity". Individuals with comparatively higher levels of self-efficacy are more likely to sustain their healthy behaviors, probably because they construe obstacles as challenges to be overcome (Maibach & Murphy, 1995) ^[5].

Self-efficacy and behavioral control are seen as almost synonymous constructs. However, self-efficacy is more precisely related to one's competence and to future behavior. Variations in self-efficacy-performance relationships have been ascribed to methodological inconsistencies between studies rather than challenging theoretical assumptions (Moritz *et al.*, 2000) ^[12]. The way self-efficacy is measured

has been found to influence the strength of self-efficacy-performance relationship.

Conclusion

It may be concluded that there are definitely differences found in the perceived physical ability, perceived self-presentational confidence and total self-efficacy of sports persons of different stamina categories or endurance levels. The sports persons who had the endurance capacity of 6+ had a high perceived physical ability and perceived self-presentational confidence but lowest total self-efficacy as compared to 5+ and stamina endurance category which has shown optimal performance along with highest total self-efficacy. It was also found that there was a positive effect of self-efficacy and confidence on the higher stamina levels. But on the whole it can be concluded that a restrained relationship exists between level of self-efficacy and physical performance.

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