Self-leadership differences between athletes with and without physical disability

Proios Ioannis [1ABCE] **, Fotiadou Eleni** [1A]**, Batsiou Sophia** [2A]**, Doganis George** [1A]**, Balasas Dimitris** [1B]**, Proios Miltiadis** [1DE]

[1] Department of Physical Education and Sport Science, Aristotle University of Thessaloniki, Greece
[2] Department of Physical Education and Sport Science, Democritus University, Komotini, Greece

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Abstract

Introduction: Self-leadership is a psychological concept that display an impressive potential in the enhance of individual performance. The purpose of this study was to examine the perceived levels of use of self-leadership strategies by athletes and to explore the existence of potential individual differences in self-leadership strategies by athletes with and without physical disability. *Material and methods:* Participants were a sample of 469 athletes, 245 with physical disability and 224 without physical disability (n = 312 men, and n = 157 women). Participants' ages were 16-51 years old (age 24.82±7.32 yrs). The subjects filled a validated Greek version of the Revised Self-leadership Questionnaire (RSLQ). *Results:* Results showed some positive self-leadership tendencies, and significant individual differences in the use of self-leadership strategies (self-reward $p<0.001$; ES=0.029, self-punishment $p<0.01$; ES=0.017, natural rewards $p<0.001$; ES=0.026, visualizing $p<0.001$; ES=0.023, and self-talk $p<0.001$; ES=0.032) between athletes with and without physical disability. *Conclusions:* In conclusion, the findings of the present study support that athletes with different physical abilities are not exactly alike in the self-leadership abilities. It is considered useful when a coach is concerned about their athletes' self-leadership training.

Keywords: self-leadership, individual differences, athletes, physical disability

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Author for correspondence: Ioannis Proios, e-mail: johnyproios@gmail.com

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INTRODUCTION

Self-leadership is a psychological concept that display an impressive potential in the enhance of individual performance [1]. Studies have shown that self-leadership skills training has a positive impact on individual performance outcomes [2]. The function of self-leadership is based on theoretical frameworks of several classical theories of self-influence, such as self-regulation theories [3,4], self-control [5-8], intrinsic motivation [9], and social cognitive theory [10].

Self-leadership is defined as an inner leading process to achieve self-direction and self-motivation necessary to perform [11]. This self-leading process contains specific behavioral and cognitive strategies designed to positively influence personal effectiveness. Self-leadership strategies are grouped into the three general categories labeled behavior-focused strategies, natural reward strategies and constructive thought pattern strategies [12-14]. Behavior-focused strategies include self-observation, self-goal setting, self-reward, self-punishment and self-cueing. Natural reward strategies incorporate two strategies building pleasant, enjoyable features into a task, and focusing attention away from the unpleasant aspects of a task. Constructive thought pattern strategies include identifying and replacing dysfunctional beliefs and assumptions, mental imagery and positive self-talk.

In the literature is observed that interest of researchers for study of self-leadership focused, mainly, in the work contexts for improving the performance of employees in enterprises of the wider social domain (see, [1,15-18]). Despite increasing awareness of the importance of self-leadership it is supported that the self-leadership model can be applied to sociopsychological research with the analysis of empirical relationships between sport participants' self-leadership, and their commitment and adherence to exercise [19]. However, researchers' interest for the self-leadership in sport settings is strongly limited. Recently, studies using a sample of athletes investigated the perceived extent of competence of self-leadership of participants in physical activities (competitive and recreational) [20], the self-leadership levels of volleyball players and the relationship with their competition achievement [21], the influence of self-leadership strategies on the beliefs of general self-efficacy [22], and self-leadership development programs [23,24]. Other studies using employees in sports organizations investigated the direct and indirect relationship between self-leadership strategies and career success, using self-efficacy as a mediator [25] and the structural relationships between self-leadership, exercise commitment, and exercise adherence intention [19].

Self-leadership is argued that to be a learned behavior rather than as a fixed trait [26]. This shows that people differ from one another, for example relation to activities where they participate. The existence of individual differences in the self-leadership is a topic that it is discussed in literature [1]. The study of individual differences in the self-leadership is important because the cognition of innate or learned self-leadership abilities and skills can help to shape of the characteristics and tendencies in what one wants to be. In this direction, the contribution of interaction of self-leadership with distinct characteristics of individuals is important.

As a distinct characteristic can be the physical disability of people. Among the people, group of individuals with characteristics different than other people can be found. Among the people there are groups of individuals with different characteristics than other individuals. Today, a large number of people with physical disability participate in sports activities. So, the examination of individual differences in self-leadership between athletes with and without physical disabilities present a clearer picture for the design of trainings for the improvement of self-leadership.

The purpose of this study is to examine the perceived levels use of self-leadership strategies athletes and to explore the existence of potential individual differences in self-leadership strategies athletes with and without physical disability. The hypothesis, in the present study, is that self-leadership strategies interacts with individual traits of athletes. The individual traits are personality characteristics that help to shape a person's behavior and make the person unique. Psychological research suggests that personality is related to self-leadership in important and interesting ways [27-29]. Our personality characteristics play a large role in determining whether we are predisposed to be natural self-leaders or will have to learn, practice, and work a little harder to develop our self-leadership skills [1].

MATERIALS AND METHODS

Participants

Participants were a sample of 469 athletes, 245 with physical disability and 224 without physical disability (n = 312 men and n = 157 women). Participants' age were 16-51 years old (M = 24.82, SD = 7.32).

Procedure

Prior institutional permission was granted before conducting the research. In addition, before the beginning of the research, ethical approval and relevant permissions were asked from the participants. For individuals that participated in competitive sport activities in public sports organizations, special requests for permission were made for their participation to relevant authorities. Same process was followed for individuals without physical disability. These were undergraduate physical education students and data were collected after permission granted by the competent Professors and after the participants were informed of the nature of the study. Participation was voluntary, and no incentives were provided.

Measurement

Self-leadership. A validated Greek version [30] of the Revised Self-leadership Questionnaire (RSLQ; [31]) was used. It was 25 items to be answered on a 5-point Likert-type scale with anchors 1: Totally disagree and 5: Totally agree. The Greek version of the Revised Self-leadership Questionnaire (RSLQ-Gr) consist eight distinct sub-scales representing the three primary self-leadership dimensions (1) Behavior-focused consists four strategies: Self-goal setting (four items, e.g., I establish specific goals for my own performance), Self-reward (three items; e.g., When I do an assignment especially well, I like to treat myself to some thing or activity I especially enjoy). Self-punishment (four items; e.g., I tend to get down on myself in my mind when I have performed poorly). Self-cueing (two items; e.g., I use written notes to remind myself of what I need to accomplish). (2) Natural reward strategies consist by single sub-scale with two items (e.g., I seek out activities in my work that I enjoy doing). (3) Constructive thought pattern consists three strategies: Visualizing (four items; e.g., I visualize myself successfully performing a task before I do it). Self-talk (three items; e.g., Sometimes I find I'm talking to myself (out loud or in my head) to help me deal with difficult problems I face). Evaluating beliefs and assumptions (three items; e.g., try to mentally evaluate the accuracy of my own beliefs about situations I am having problems with). The reliability of the RSLQ-Gr was calculated using alpha coefficient. Alpha coefficients for the self-goal setting were (α = 0.73), self-reward (α = 0.85), self-punishment (α = 0.62), self-cueing (α = 0.78), natural rewards (α = 0.54), visualizing (α = 0.76), self-talk (α = 0.91), and beliefs (α = 0.64), indicating good reliability for each. The values (0.62, 0.54, and 0.64) can be considered satisfactory since these factors comprises less than ten items (viz. four, two and three items respectively) [32,33].

Data analyses

Descriptive statistics were obtained, and preliminary data analyses were conducted to estimate the responses of people' on self-leadership strategies. Inferential statistic (MANOVA) was used to analyze the extent to which self-leadership varied based on physical competency.

For the needs of this study an effort has been made interpreting of scores (see, [1]). The interpreting of scores based on the separate evaluation of scores for each strategy, and the set of ratings each self-leadership as a whole. In particular, to understand the current trend of each strategy of self-leadership the scores range from 2 for a strategy with 2-item, 3 for a 3-item, 4 for a 4-item (a total absence of the strategy in current behavior) to 10 for a strategy with 2-item, 15 with 3-item, 20 with 4-item (a very high level of the strategy in current behavior). The scores of each strategy were divided into five levels: very low, low, moderate, high and very high.

RESULTS

Descriptive statistics

Descriptive statistics (Table 1) showed that scores for "self-goal setting strategy" athletes without physical disability (M = 16.93, SD = 2.04) was higher than athletes with physical disability (M = 16.78, SD = 2.63). Both athlete groups were distinguished by a relatively high-level self-leadership. In "self-reward strategy" athletes with physical disability scored higher (M = 9.67, SD = 3.23) than athletes without physical disability (M = 8.66, SD = 2.47). Both athlete groups were distinguished by a relatively moderate-level self-leadership. In "self-punishment strategy" was showed a predominance of the scores of athletes without physical disability (M = 14.46, SD = 2.58) than athletes with physical disability (M = 13.65, SD = 3.58). Both athlete groups were distinguished by a relatively moderate-level self-leadership. In "self-cueing strategy" athletes without physical disability scored higher (M = 5.96, SD = 2.12) than athletes with physical disability (M = 5.57, SD = 2.40). Both athlete groups were distinguished by a relatively low-level self-leadership. In "natural rewards strategy" showed that scores athletes with physical disability (M = 8.17, SD = 1.36) was higher than athletes without physical disability (M = 7.73, SD = 1.32). Both athlete groups were distinguished by a relatively high-level self-leadership.

Regarding "visualizing strategy" the athletes without physical disability presented higher scores (M = 15.17, SD = 2.86) than athletes with physical disability (M = 14.22, SD = 3.29). The strategy-level on both athlete groups were high and moderate, respectively. In "self-talk strategy" the results showed a superiority of scores athletes without physical disability (M = 11.23, SD = 2.73) than athletes with physical disability (M = 10.07, SD = 3.56). The strategy-level on both athlete groups were high and moderate, respectively. In "beliefs strategy" revealed that the scores athletes with physical disability (M = 11.20, SD = 2.26) were predominated on the scores of athletes without physical disability (M = 10.96, SD = 1.78). The strategy-level on both athlete groups were high and moderate, respectively.

Effect of physical competency in the self-leadership strategies

Separate multivariate analysis used the hypothesis that self-leadership varies strategies depending on physical competency. To determine physical competency-related changes in self-leadership strategies, a one-way multivariate analysis of variance was performed with the use of the eight strategies as dependent variables and the Physical competency as independent variable. The multivariate test revealed a significant main effect of physical competency (Wilks = 0.845, $F_{(8.460)}$ = 10.53, $p < 0.001$, $n^2 = 0.155$). According to J. Cohen [34] guidelines for interpreting an eta-square (n^2) is that .01 indicates a small effect, .09 indicates a moderate effect, and 0.25 indicates a large effect. Therefore, our finding n^2 =155, indicates that 15.5% of the total variance in variables of self-leadership is accounted for by physical competency differences and as such it can be classified as a moderate effect. Univariate results (Table 1) showed significantly different effects for strategies "self-reward" [$F_{(1, 467)}$ = 14.15, $p < 0.001$, $n^2 = 0.029$], "self-punishment" [$F_{(1.467)}$ = 7.87, $p < 0.01$, $n^2 = 0.017$], "natural rewards" [$F_{(1, 467)}$ = 12.35, $p < 0.001$, $n^2 = .026$], "visualizing" [$F_{(1, 467)}$ = 11.01, $p < 0.01$, $n^2 = .023$], and "self-talk" [$F_{(1.467)}$ = 15.54, $p < .001$, $n^2 = 0.032$]. On the other hand, scores for the strategies "self-goal setting", "self-cueing" and "beliefs" showed no significant differences between athletes with and without physical disability [($F_{(1.467)}$ = 0.47, $p > 0.05$, ($F_{(1.467)}$ = 3.41, $p > 0.05$ and ($F_{(1.467)}$ = 1.50, $p > 0.05$, respectively].

Table 1. Descriptive Statistics of Scores Self-leadership Strategies.

Strategy	Physical Disability	Mean	SD	Strategy Level	Statistical significance
Self-goal setting	With	16.78	2.63	High	$F(1.467) = 2.61$; $p>0.05$
	Without	16.93	2.04	High	
Self-reward	With	9.67	3.23	Moderate	$F(1.467)=14.15$; $p<0.001$
	Without	8.66	2.47	Moderate	
Self-punishment	With	13.65	3.58	Moderate	$F(1.467)=7.87$; $p<0.01$
	Without	14.46	2.58	Moderate	
Self-cueing	With	5.57	2.4	Low	$F(1.467)=3.41$; $p>0.05$
	Without	5.96	2.12	Low	
Natural rewards	With	8.17	1.36	High	$F(1.467)=12.35$; $p<.001$
	Without	7.73	1.32	High	
Visualizing	With	14.22	3.29	Moderate	$F(1.467)=11.01$; $p<0.001$
	Without	15.17	2.86	High	
Self-talk	With	10.07	3.56	Moderate	$F(1.467)=15.54$; $p<0.001$
	Without	11.23	2.73	High	
Beliefs	With	11.2	2.26	High	$F(1.467)=2.61$; $p>0.05$
	Without	10.96	1.78	Moderate	

SD - Standard Deviation

DISCUSSION

Sport is an environment where people with different abilities participate, for example people with or without physical disability. In both cases participants are interested in improving their performance in sports settings. One factor that has been suggested to contribute to improved performance is self-leadership [35]. The use of self-leadership strategies is reported to be related to higher performance, with an exception of self-punishment strategy (e.g. [1]).

The purpose of the present study was to explore the trends in the use of self-leadership by athletes with and without physical disability and to examine the existence of possible differences between these groups of athletes in the use of self-leadership strategies. The findings of this study initially indicated that both groups of athletes in general showed some positive self-leadership tendencies. In particular, both groups were found to have a positive tendency to use self-goal setting and natural rewards strategies. This finding suggests that both groups of athletes are likely to engage in personal behaviors management in the context of adverse reactions [12,31], but also to create such motivational situations to achieve pleasant aspects of their activities without some external effects [12,26,27,36].

Similar positive trends were found only in athletes without physical disability in visualizing and self-talk strategies, and in athletes with physical disability in evaluating beliefs strategy. This finding indicates that athletes without physical disabilities exhibit a stronger tendency than athletes with physical disabilities in the use constructive thought strategies that positively influence their performance [12,37].

Furthermore, the findings of this study revealed the existence of significant differences in the use of self-leadership strategies between athletes with and without physical disability. This finding confirmed the hypothesis that personality trait physical ability influences the behavior of athletes regarding the use of self-leadership. This finding also reinforces the claim that no two people are exactly alike, and that each person is unique, a fact that reveals that we all possess certain qualities, ways of thinking that help determine how we see the world and what we do with our lives [1].

Examining, in particular, athletes with physical disabilities, the findings of this study revealed that they use significantly stronger, self-reward and natural rewards strategies than athletes without physical disability. That is, for athletes with physical disabilities the activation of the efforts needed to

improve their performance in sports seems to be accomplished by using rewards strategies (internal and external) significantly stronger than those by athletes without physical disability. This suggests that for athletes with physical disabilities an important motivation for achieving seems to be rewarding themselves, for example with things that enjoy when accomplish desired objectives [1], as well as externally awarded rewards such as praise, pay raises, awards, and monetary bonuses.

On the contrary, athletes without physical disability appear to be significantly stronger activated than the athletes with physical disability by using more self-punishment, visualizing and self-talk strategies than athletes with physical disability. This finding indicates that normal athletes in relation to athletes with physical disabilities, in the context of activation to improve their performance, use a significantly higher degree of self-criticism in cases of failure to correct undesirable behaviors through their sense of guilt, the processes of visualizing a successful action before a real action in order to experience the successful execution of the real action, and positive thoughts for reinforce of constructive thoughts. Researchers have suggested that having a disability may lower self-concept [38]. This assertion may to some extent justify the above finding of this study. That is, participants in this study athletes with physical disability with reduced, possibly, self-perception led to a lower degree of use of behaviors such as those mentioned above. Self-concept refers to an important mediating variable that causally influences a variety of desirable outcomes [39].

Finally, the findings of this study revealed the absence of individual differences in self-leadership strategies, self-goal setting, self-cueing, and evaluating beliefs. This indicates that the activation of the necessary efforts to improve performance is done in the same way for athletes with and without physical disability in the context of developing and using specific goals, using reminders and attention focusers, and identifying and replacing dysfunctional beliefs, and claims. For example, Martin [38] states that goal setting is a strategy that can be used by athletes with disabilities like all competitors. Similar reports have been supported by other scholars [40-42]. In the context of socio-cognitive theory as advocated by Bandura [10,43], behavioral organization involves face-behavior-environment interaction. This indicates that non-apparent cognitive processes that are likely applied to sport settings affect substantially all aspects of social learning, and these cognitive processes have an important impact with a similar how athletes behave (with and without physical disability) in relation to the use of the above self-leadership strategies. Carver and Scheier [4], Davis and Luthans [44], and Goldfried and Merbaum [45] emphasize the mediating role of cognitive processes in the relationship between the individual and the environment in self-regulation. behavioral control functions. For example, a cognitive process in sport can refer to the sport achievement motivations found in athletes with disabilities [38] as well as athletes without disabilities.

CONCLUSIONS

In conclusion, the findings of the present study concluded that self-goal setting and natural rewards strategies exhibit a high level of use by athletes with and without physical disability, and visualizing and self-talk strategies by athletes without physical disabilities, whereas strategy evaluating beliefs only by athletes with physical disabilities. The characteristic trait of physical personality is the effect of athletes' self-leadership. Individual differences in self-leadership strategies (self-reward, self-punishment, natural rewards, visualization and self-talk) exist between athletes with and without physical disability.

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