

## Original Article

# Comparison of self-efficacy and self-esteem in athlete and non-athlete blind and visually impaired individuals

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## Abstract

**Background:** Several studies have investigated the role of physical activity (PA) in self-efficacy (S-EF) and self-esteem (S-ES) of people, especially visually-impaired individuals. Therefore, the goal of this research was to compare the S-EF and S-ES in athlete and non-athlete blind and visually impaired individuals.

**Methods:** In this study, the population comprised all blind and visually impaired people in Arak, among whom 92 participants with the mean age of  $32.42 \pm 11.46$  were selected as the sample of the study by purposive sampling method. Based on a demographic questionnaire, they were divided into two groups of athletes and non-athletes. The research instruments included a self-esteem index (SEI) and a general self-efficacy scale (GSES) which were completed by an interview. The results were analyzed using one-sample and independent samples *t*-tests. SPSS version 26 was used to analyze the data at a significance level of  $P = 0.05$ .

**Results:** The results indicated that overall in athletes, the average S-EF and S-ES were higher than those in non-athletes. The results also showed that the S-ES of athletes was significantly higher than the theoretical average ( $P = 0.001$ ) and there was a significant difference between the overall S-ES of the visually impaired and blind athletes and non-athletes ( $P = 0.001$ ).

**Conclusion:** In general, the results showed that exercise and PA, especially group PA, may play an effective role in increasing S-EF and S-ES of the blind and visually impaired people.

**Keywords:** Athletes; Self-efficacy; Self-esteem; Visual Impairment.

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## Introduction

Visual impairment (VI) is one of the world's health problems, especially in developing countries. At least 2.2 milliard individuals worldwide are involved with a near or distance vision impairment. In at least 1 milliard or about half of them, VI could have been prevented or it has yet to be addressed. Most of the blind or visually impaired people are more

than 50 years old. However, losing sight can affect individuals at any age (1). Over 90% of all blind and partially sighted people live in developing countries. (2).

Some theorists suggested that losing vision reduces self-esteem (S-ES) (3). S-ES refers to a person's beliefs about their own worth and value (4). Negative interactions in visually impaired individuals lead to lower

S-ES compared to their sighted peers (5). Losing vision is linked with psychological outcomes such as decreased S-ES and levels of social interaction (6, 7). Studies have shown that people with VI have less S-ES compared to the sighted people (8). Some other studies have also indicated that in fact, visually impaired teenagers experience more S-ES compared to the sighted teenagers (9). There are relatively few research studies done on S-ES among visually impaired adults. The existing studies show that visually impaired young adults experience average levels of S-ES (10).

self-efficacy (S-EF) is another important psychological variable in the blind and visually impaired individuals (11). It is a key concept in Bandura cognitive-social theory as well. According to Bandura, S-EF strongly affects the person's ability to deal with probable challenges and choices of the individual. As said by Albert Bandura, S-EF is regarded as the person's belief in his/her ability to succeed in a specific condition. Besides, he maintained that individuals with high S-EF consider life barriers and bad experiences as a challenge and determine high goals for themselves and keep trying despite obstacles and failures. Teenagers with low S-EF are subject to mental disorders and behavioral difficulties, but properly guiding teenagers can change potential stimuli into chances to develop self-control and avoid future problems (12). In visually impaired adults, beliefs about S-EF are linked with declined levels of anxiety and depression (13) and high levels of visually specific mental health (14). Furthermore, determining the role of S-EF in dealing with stressful situations among people especially visually impaired ones is of specific sensitivity (15). Some researchers have reported that blind people feel more loneliness and have lower S-ES compared to their normal peers (16).

One of the important variables associated with S-ES and S-EF in people is PA. Previous studies have shown that PA can

have a positive effect on people's mental health (17, 18). Unfortunately, visually impaired people are physically less active compared to their sighted peers and depending on the type of activity, they may assume it hard to take part in physical activities with sighted people owing to sensory disorders and psychosocial barriers (19). They tend to spend their spare time doing different sedentary activities (such as utilizing a personal computer, watching TV) (20). Furthermore, prior research have indicated that PA plays an important role in psychological components (21).

In relation to the importance of this study, it can be held that participation in various sports can have a positive effect on individual's self-perception. This issue has been emphasized in different studies (22, 23). However, little research has been done on S-EF and S-ES in visually impaired adults. Research has revealed that PA improves a person's efficiency and has a positive effect on S-ES in adults (24). Regarding the variable of S-EF, Haegele et al. (2018) showed that there is a beneficial and significant relationship between S-EF and PA (25). Therefore, previous studies found that S-EF in visually impaired adults was positively correlated with PA behavior. (26).

Thus, based on the studies conducted, PA play an important role in developing S-EF and S-ES in people especially visually impaired ones. On the other hand, there are few studies examining S-EF and S-ES in visually impaired adults, and hence examining S-EF and S-ES in people especially, the blind and visually impaired people is of great significance. Reviewing the literature and background of the study indicate that no study has been done in the field of comparing S-EF and S-ES in athlete and non-athlete blind and visually impaired individuals. Therefore, the current study attempted to investigate and compare these two variables in blind and partially sighted athletes and non-athletes.

## Methods

In this study, we used a causal-comparative research design. The statistical sample comprised 44 athlete (mean age:  $31.16 \pm 9.80$ ) and 48 non-athlete (mean age:  $33.50 \pm 12.54$ ) blind and visually impaired people in the city of Arak. The sample size was calculated using G\*Power software, considering alpha of 0.05 and statistical power of 0.80. The participants who had regular sports activities for two years and were members of the sports team were included in the athletes group, and the participants who did not have regular sports activities and were not members of the team were included in the non-athletes group. The participation in the present study was voluntary and the participants were selected by purposive sampling method. The inclusion criteria included having a VI, age range of 25-45 years, having regular sports activities and being a member of a sports team for the athletes group, and not having sports activities and a history of being a member of sports teams for the non-athletes group. The exclusion criteria included non-cooperation in completing the questionnaires. The degree of blindness of the people was determined based on the personal information questionnaire and based on their file in the welfare organization. After making coordination with the association of the blind and visually impaired in Arak, the questionnaires were completed in the form of interviews.

The instruments used in the research were as follows.

***The questionnaire of personal information:*** A questionnaire of personal information with 8 questions including gender, age, occupation, educational degree, being an athlete or not, sports field and degree of blindness was used.

***The questionnaire of S-ES by Coopersmith (1967):*** This questionnaire includes 58 items that describe a person's feelings and the subject should answer them

using yes or no (27). The answers to the questions are yes or no, and so they receive the score of one or zero. The range of scores for the dimensions of educational, family, social S-ES is between 0 and 8, and for general, it is between 0 to 26 and for overall S-ES, which is a set of obtained scores in 4 subscales, it is scored from zero to 50. This questionnaire is widely used in the research studies and has been mentioned to be of high validity and reliability (28). In this study, confirmatory factor analysis (CFA) showed that all fit indices were higher than the acceptance criteria (over 0.90). Besides, to estimate reliability, Cronbach's alpha was implemented, with the resulting value being 0.73 in this study.

***Sherer's General Self-Efficacy Scale (1982):*** Sherer's General Self-Efficacy Scale (1982) has 17 questions, which is based on a 5-point scale ranging from "strongly disagree" to "strongly agree" with no subscales. In this questionnaire, the highest possible score is 85 and the lowest possible score is 17. According to Asgharnejad et al. (2006), the psychometric properties of this scale are acceptable in an Iranian sample with a Cronbach's alpha reliability estimation of 0.83 (28). In this study, CFA showed that all fit indices were higher than the acceptance criteria (over 0.90). Besides, to estimate reliability in this study, Cronbach's alpha was implemented, with the resulting value being 0.78.

In order to collect the data, first the necessary coordination was made with the welfare organization in the city of Arak, and after visiting, the researcher collected the necessary data by convenience sampling method. During data collection, the necessary information about the purpose of the researcher behind asking questions and the objectives of the research were clarified to the participants; in this vein, a person read the questions to the participants and recorded their answers. In case there was any ambiguity in the questions, the researcher provided the necessary explanations as well. After

presenting descriptive statistics, the data were analyzed using the Smirnov-Kolmogorov test, one-sample and independent-samples *t*-tests. Finally, the results were analyzed using SPSS software version 26, considering a significance level of  $\alpha = 0.05$  for all statistical tests.

## Results

Table 1 presents the demographic characteristics of the participants including gender, marital status, and visual status of the participants. By comparing the mean age of two groups of athletes and non-athletes using independent samples *t*-test, it is revealed that there is no significant difference between the two groups ( $P = 0.41$ ). In Table 2, the mean and SD of the S-ES and S-EF in the participants are presented.

Table 2 shows that athletes gained higher scores than non-athletes in the variables of S-EF and overall S-ES and also all dimensions of S-ES. After that, to check the normal distribution of the research variables, the Kolmogorov–Smirnov test was used. The results showed that the *P*-value of all dimensions of the variables was more than 0.05. As the mentioned variables were normal, parametric tests were run. Then, to examine the status of the variables in the sample and to compare it with the theoretical mean, one-sample *t*-test was used. Based on the scoring method used in the questionnaire of S-ES, the individuals who have a mean below 26 have low S-ES; the individuals who have a mean between 27 and 43 have moderate S-ES, and the individuals who have an average of 44 and

above have high S-ES. In this study, the mean of S-ES of both groups appeared to be moderate. However, this mean was close to low. To examine the overall S-ES among the visually impaired and blind people and to compare it with the theoretical mean (35), a one-sample *t*-test was used.

Results showed that the athlete's mean overall S-ES did not differ significantly from the theoretical mean ( $p=0.44$ ). However, the average S-ES of non-athletes was significantly lower than the theoretical average ( $P=0.001$ ). Considering the variable of S-EF, the smallest score was 17 and the highest score was 85. In this study, the average S-EF of the sample was moderate.

Comparison of the average S-EF score of visually impaired and blind people with the theoretical average (51) showed that there is no significant difference in both athletes ( $P = 0.44$ ) and non-athletes ( $P = 0.89$ ). In addition, independent-samples *t*-tests were used to compare mean S-ES, overall S-ES, and S-EF between athletes and non-athletes. Results are shown in Table 3.

As indicated in Table 3, there are significant differences in the dimensions of general S-ES, family S-ES, and overall S-ES between blind and visually impaired athletes and non-athletes. However, there is no significant difference in S-EF variables between athletes and non-athletes. On the other hand, when comparing mean scores, athletes score higher in all dimensions than non-athletes.

Table 1. Demographic characteristics of the participants

Demographic variables		Athletes		Non-athletes	
		number	percentage	number	percentage
gender	male	22	50	23	47.9
	female	22	50	25	52.1
marital status	single	29	65.9	26	54.2
	married	15	34.1	22	45.8
visual condition	severe blindness	7	15.9	10	20.8
	moderate blindness	6	13.6	6	12.5
	mild blindness	29	70.5	32	66.7

Table 2. Mean and SD of the dimensions of variables

Dimensions of Variables	Athletes (M ± SD)	Non-athletes (M ± SD)
General self-esteem	17.34±3.35	16.08±3.04
Family Self-esteem	6.02±1.51	5.10±1.94
Educational self-esteem	5.34±1.47	5.10±1.27
Social self-esteem	5.56±1.53	5.33±1.46
Overall self-esteem	34.27±6.26	31.62±5.84
Self-efficacy	51.70±6.44	50.86±6.99

Table 3. Comparison of the mean of the variables in athlete and non-athlete visually impaired and blind individuals

Dimensions of Variables	Mean difference	t	Degree of freedom	p
General self-esteem	1.34	2.02	90	0.04
Family Self-esteem	0.91	2.50	90	0.01
Educational self-esteem	0.23	0.82	90	0.41
Social self-esteem	0.23	0.75	90	0.45
Overall self-esteem	2.64	2.09	90	0.03
Self-efficacy	0.84	0.60	90	0.54

## Discussion

The goal of this study was to compare S-ES and S-EF in blind and partially sighted athletes and non-athletes. The results indicated that considering the variable of S-ES, the mean of overall S-ES was moderate and there was no significant difference with the theoretical mean in athletes; but in non-athletes, the mean of S-ES was significantly smaller than the theoretical mean. Considering the variable of S-EF, no significant difference was observed between the sample and theoretical means for athletes and non-athletes. Comparing the S-ES showed significant differences in dimensions of general S-ES, family S-ES, and overall S-ES between athletes and non-athletes, blind and visually impaired. However, considering the variable of S-EF, no significant difference was observed, while the comparison of the means showed that the athletes gained higher scores than the non-athletes.

The results showed that the overall S-ES of the blind and visually impaired people was moderate and it was lower than the mean found in the studies that examined the S-ES of the sighted people. This finding can be considered consistent with the results of the studies done by Huurre, Komulainen and Aro (8), Cardinali and D'Allura (10) and Mousavi Gilani and Dashipour (29).

Generally, the results of these studies showed that visually impaired and blind people have lower levels of S-ES. Sacks (30) declared that adults with poor vision show more negative perceptions compared with visually impaired adults and sighted adults. Moreover, visually impaired people tend to conceal their debility because they are undesirably related to their VI (31). Therefore, visually impaired people have lower S-ES because of their lower interaction in society and negative self-perception.

The results also revealed that visually impaired and blind people who participate in PA have higher levels of S-ES compared to the non-athletes. These results are consistent with the results of Kavosi et al. (32), Zamani Sani et al. (33), Mousavi Gilani and Dashipour (29). The findings of the study done by Augestad and Jiang (19) showed lower levels of overweight and obesity in visually impaired children compared to the sighted children. Sonstroem et al. (34) proposed Exercise and Self-Esteem Model (EXSEM) based on which PA affect S-ES. According to EXSEM, partaking in PA augments the sense of S-EF, improves the understanding of sports capability and physical recognition, and the increase in these

variables increases general S-ES. Fernández-Bustos et al. (34) declared that PA can assist people to achieve a constructive self-concept and endorse mental health in adolescents by improving their physical perception and body satisfaction. Studies have shown that visually impaired people are less physically active compared to their sighted peers, and they may find it problematic to take part in PA along with the sighted people owing to their sensory disorders, psychosocial limitations, and relying on the type of activity.

Comparing S-EF in athlete and non-athlete visually impaired and blind people showed no significant difference between them. However, comparing the means showed that, athletes obtained higher scores compared to non-athletes. This finding is in line with other studies done by Haegele et al. (25) and Barz et al. (26). Haegele et al. (25) showed that participants' sport S-EF was significantly related with the weekly time they spent on moderate to severe PA. This result can provide more support of the effectiveness of S-EF in upholding PA among visually impaired adults. In another study, Haegele and Zhu (35) indicated that S-EF is directly and indirectly associated with health-related quality of life. This relationship was mediated by moderate to severe PA of the participants. This study provided the support of using self-efficacy-based interventions to enhance PA and consequently, its effect on quality of life among visually impaired adults. Bandura considers S-EF as individuals' beliefs and judgments on their abilities to perform a specific task in particular situations. He defines a special form of expectation as S-EF and declares that S-EF refers to the views and beliefs of individuals to implement their controls over events affecting on life, and those with a strong sense of S-EF, are more likely to cope with perplexing situations and achieve their goals. Therefore, S-EF for sport can be a significant paradigm for improving PA.

Despite its strengths, every study has its own limitations. One of the limitations of this study was using a larger range of age to examine the research variables because the number of subjects was small in a certain age range. Another limitation of the present study was making use of convenience sampling; therefore, generalizing the results to other groups would be somehow difficult. Moreover, it was not possible to precisely control all variables related to S-EF and S-ES in the present study and this was another limitation of this study, which makes it difficult to attain more definitive causal results.

### ***Conclusion***

In general, the results of this study indicate that overall S-ES in athlete and non-athlete visually impaired and blind individuals is significantly different from each other. Moreover, considering the S-EF variable, despite the lack of significant differences between the two groups, athletes gained higher scores than non-athletes. This study confirms to the role of PA in S-EF and S-ES of visually impaired adults. Analogous studies in the future can examine the effect of various physical activities in long and short-term periods in the form of a quasi-experimental study.

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### ***Authors' contribution***

Research idea and study design: JM; data analysis and interpretation: JM and HS; statistical analysis: HS; supervision or mentorship: JM and HS. Each author contributed important intellectual content during manuscript drafting or revision and accepts accountability for the overall work

by ensuring that questions pertaining to the accuracy or integrity of any portion of the work are appropriately investigated and resolved. JM and HS take responsibility that this study has been reported honestly, accurately, and transparently; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned have been explained.

### **Ethical considerations**

All ethical considerations were taken into account and the participants answered the questions in a mentally relaxed state. Participants volunteered to participate through informed written consent, and we carried out the research in accordance with ethical considerations presented in the Declaration of Helsinki.

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### **Conflicts of interest**

The authors declare that they have no conflict of interest.

### **References:**

1. Organization WH. Blindness and vision impairment: World Health Organization; 2021.
2. Tabbara KF, El-Sheikh HF, Shawaf SS. Pattern of childhood blindness at a referral center in Saudi Arabia. *Annals of Saudi medicine*. 2005;25(1):18-21.
3. Ponchillia PE, Ponchillia SKV. Foundations of rehabilitation teaching with persons who are blind or visually impaired: American Foundation for the Blind; 1996.
4. Alexander FE. Self-Concepts of Children with Visual Impairments. *Re: view*. 1996;28(1):35-43.
5. Tuttle DW, Tuttle NR. Self-esteem and adjusting with blindness: The process of responding to life's demands: Charles C Thomas Publisher; 2004.
6. Branch LG, Horowitz A, Carr C. The Implications for Everyday Life of Incident Self-Reported Visual Decline Among People Over Age 65 Living in the Community. *The Gerontologist*. 1989;29(3):359-65.
7. Papadopoulos K, Montgomery AJ, Chronopoulou E. The impact of visual impairments in self-esteem and locus of control. *Research in developmental disabilities*. 2013;34(12):4565-70.
8. Huurre TM, Komulainen EJ, Aro HM. Social support and self-esteem among adolescents with visual impairments. *Journal of Visual Impairment & Blindness*. 1999;93(1):26-37.
9. Kef S. Psychosocial adjustment and the meaning of social support for visually impaired adolescents. *Journal of Visual Impairment & Blindness*. 2002;96(1):22-37.
10. Cardinali G, D'Allura T. Parenting styles and self-esteem: A study of young adults with visual impairments. *Journal of visual impairment & blindness*. 2001;95(5):261-71.
11. Moradi J, Ebadi M, Shahrjerdi S, Golpayegani M. Relationship between postural abnormalities with quality of life and self efficacy of blinds and partially sighted people. *Koomesh*. 2020;22(1):78-84.
12. Bandura A. Self-efficacy: toward a unifying theory of behavioral change. *Psychological review*. 1977;84(2):191.
13. Horowitz A, Reinhardt JP, Kennedy GJ. Major and subthreshold depression among older adults seeking vision rehabilitation services. *The American Journal of Geriatric Psychiatry*. 2005;13(3):180-7.
14. Talbert-Kipasa L. The relationship between general self-efficacy and vision-targeted health-related quality of life in adults diagnosed with vision impairment: Walden University; 2008.
15. Ahmadi R, Sharifidaramadi P. Comparison of Self-Efficacy Components between normal and partially sighted Adolescents. *Psychol Except Individuals*. 2014;4:1-14.
16. Hadidi MS, Al Khateeb JM. Loneliness among students with blindness and sighted students in Jordan: A brief report. *International Journal of Disability, Development and Education*. 2013;60(2):167-72.
17. Erikssen G, Liestøl K, Bjørnholt J, Thaulow E, Sandvik L, Erikssen J. Changes in physical fitness and changes in mortality. *The Lancet*. 1998;352(9130):759-62.
18. Sharma A. Exercise for mental health. *The Primary Care Companion for CNS Disorders*. 2006;8(2):249-19.
19. Augestad LB, Jiang L. Physical activity, physical fitness, and body composition among children and young adults with visual impairments: A systematic review. *British Journal of Visual Impairment*. 2015;33(3):167-82.
20. Starkoff BE, Lenz EK, Lieberman L, Foley J. Sedentary behavior in adults with visual

- impairments. *Disability and Health Journal*. 2016;9(4):609-15.
21. Goodwin RD. Association between physical activity and mental disorders among adults in the United States. *Preventive medicine*. 2003;36(6):698-703.
22. Marsh HW, Papaioannou A, Theodorakis Y. Causal ordering of physical self-concept and exercise behavior: reciprocal effects model and the influence of physical education teachers. *Health psychology*. 2006;25(3):316.
23. Ouyang Y, Wang K, Zhang T, Peng L, Song G, Luo J. The influence of sports participation on body image, self-efficacy, and self-esteem in college students. *Frontiers in psychology*. 2020;10:3039.
24. Opdenacker J, Delecluse C, Boen F. The longitudinal effects of a lifestyle physical activity intervention and a structured exercise intervention on physical self-perceptions and self-esteem in older adults. *Journal of sport & exercise psychology*. 2009;31(6):743-60.
25. Haegele JA, Kirk TN, Zhu X. Self-efficacy and physical activity among adults with visual impairments. *Disability and health journal*. 2018;11(2):324-9.
26. Barz M, Lange D, Parschau L, Lonsdale C, Knoll N, Schwarzer R. Self-efficacy, planning, and preparatory behaviours as joint predictors of physical activity: A conditional process analysis. *Psychology & health*. 2016;31(1):65-78.
27. Coopersmith S. *The antecedents of self-esteem* San Francisco. H Freeman and Company. 1967.
28. Javanbakht M, Ziaee SA, Homam SM, Rahnama A. Effect of Ramadan fasting on self-esteem and mental health of students. *Journal of Fundamentals of Mental Health*. 2010;11(44):73 -266.
29. Mousavi Gilani SR, Dashipour A. The effects of physical activity on self-esteem: A comparative study. *International Journal of High Risk Behaviors and Addiction*. 2017;6(1).
30. Sacks S. Psychological and social implications of low vision. *Foundations of low vision: Clinical and functional perspectives*. 1996;2.
31. Huurre T. *Psychosocial development and social support among adolescents with visual impairment*: Tampere University Press; 2000.
32. Kavosi A, Saadati M, Movahedi A, Farahnia M, Mohammadi G, Aghababayan A, et al. Physical activity enhances self-esteem of male college students; a randomized controlled trial. *International Journal of Travel Medicine and Global Health*. 2015;3(2):49-52.
33. Sani SHZ, Fathirezaie Z, Brand S, Pühse U, Holsboer-Trachsler E, Gerber M, et al. Physical activity and self-esteem: testing direct and indirect relationships associated with psychological and physical mechanisms. *Neuropsychiatric disease and treatment*. 2016;12:2617.
34. Sonstroem RJ, Harlow LL, Josephs L. Exercise and self-esteem: Validity of model expansion and exercise associations. *Journal of Sport and Exercise psychology*. 1994;16(1):29-42.
35. Haegele JA, Zhu X. Physical activity, self-efficacy and health-related quality of life among adults with visual impairments. *Disability and rehabilitation*. 2021;43(4):530-6.