

Effect of Self-Efficacy on the Performance of Athletes

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Abstract

Athlete is an excellent portrayal of the complex interaction between the mind and the body that interest sports psychologists from time to time. Research in the field of psychological traits like self efficacy in athletes are of vital significance to get the information needed by the Sports trainer and coaches who are loaded with the responsibility for selection, counseling and also training of athletes for the competition. Thus the purpose of the study was to investigate the effect of the psychological trait self-efficacy on the sports performance of the male and female athletes in the age group of 13 to 19 yrs from the schools of Punjab and Chandigarh. The subjects comprised of 200 athletes from the disciplines of Cricket, Kho-Kho, Volleyball, Softball and Athletics. Out of them 100 belonged to Inter-School level and 100 to School National level. The data was collected using Self-efficacy Questionnaire developed by *Bandura (1977)*. The results were drawn using 2x2 ANOVA which showed that School National Level athletes were significantly better on perceived physical ability and self-efficacy than the School District Level athletes.

Key Words: Self Efficacy, Sports Performance, Perceived Physical Ability, Athletes, School Level, District Level

Introduction

Sports psychology in many ways is a fortunate scientific field of inquiry as it provides an arena for the study of human performance and emotions spanning the “thrill of victory to the agony of defeat” as well as group dynamics, organizational behavior and individual personality characteristics. Overall the literature supports, the idea that the mental preparation strategies have a positive effect on the performance as it is assumed that physical ability of an individual are related to his psychological structure because the environment in which the physical abilities are displayed constitute an ideal setting for the development of psychological characteristics as well. The rationale of this research work circles around the

factors like self-efficacy which is the axis of human traits and to a large extent affects the outcome of the specific behavior.

Self-efficacy is people’s belief in their capabilities to perform in ways that give them control over events that affect their lives. Bandura (1977) used self-efficacy to denote a situationally specific variable which influences performance and determines how much efforts individual will expand and how long they will persist in the face of obstacles and difficult experiences. Therefore, higher the self efficacy more will be the intensive effort while lower the self-efficacy less will be the effort and difficult tasks will be viewed as threats.

Moritz et al (2000) examined the relationship between self-efficacy and performance in sport. Based on 45 studies (102 correlations), the average correlation between self-efficacy and sport performance was observed to be 0.38. Given the heterogeneity of findings, follow-up univariate and multivariate moderator analyses were conducted by them. Results indicated that the most important moderator was concordance, thereby highlighting the importance of matching the self-efficacy and performance measures. Additional moderators examined by them included the types of self-efficacy measures, the types of performance measures, the nature of the task, and the time of assessments. These variables accounted for approximately 44% of the variance in the self-efficacy-performance relationship.

Weinberg and Yukelson, Jackson (1980) have conducted a series of experiments testing self-efficacy prediction in a competition and found that high self-efficacy subjects persist significantly longer in an aversive muscular endurance task than low self-efficacy subjects,

McAuley (1993) reported the role played by exercise self-efficacy in the maintenance of exercise participation of previously sedentary middle-aged adults 4 months after the termination of a formal exercise program. He examined the influence of self-efficacy, physiological (aerobic capacity, sex, body composition), and behavioral (past exercise frequency and intensity) parameters in the maintenance of exercise participation through correlational and multiple regression analyses. He observed that self-efficacy significantly predicted exercise behavior at follow-up when

controlling for biological and behavioral influences. Aerobic capacity, exercise efficacy, and exercise behavior in combination were significantly related to current energy expenditure in aerobic physical activity. Similarly McAuley and Courneys (1992) also found that more efficacious sedentary older adults reported greater positive affect during graded exercise testing than did individuals with low self-efficacy.

The study was conducted to investigate the effect of self-efficacy on the performance of athletes.

Material & Method

The subjects consisted of 200 male and female athletes ranging between 13 to 19 yrs from the schools of state of Punjab and Chandigarh. The athletes were from the disciplines of Cricket, Kho-kho, Volleyball, Softball and Athletics. Out of the total sample of 200 athletes, 100 belonged to Inter-school level and 100 to School national level.

Self-efficacy

- (a) Perceived physical ability
- (b) Confidence in physical self presentation

A standardized questionnaire on Self efficacy developed by *Bandura (1977)* was used for the collection of the data. The scale consisted of 22 items in the form of a questionnaire which was required to be answered by keeping in a view the situation. Each response was rated on a 6 points scale from strongly agree to strongly disagree. Three scores were computed viz (i) total physical self efficacy (sum of all items), (ii) perceived physical ability (sum of first 10 items) (iii) confidence in physical self presentation (sum of last 12 items).

Higher score reflected a stronger sense of physical self-efficacy, a greater confidence in presentation of physical skills and a higher physical ability.

All the subjects were assembled in the groups at their respective schools and the purpose of the test was explained to them. They were made to understand the procedure to fill up the questionnaire and were told to record the answers without any delay and the sheets were later segregated as per their achievements and the data was compiled strictly according to the instructions in the test manuals and scoring keys.

The data obtained was compared and statistically treated at two different level of sports performance of male and female athletes to obtain results on the basis of the findings and observation

Result and Discussion

Table 1: Mean and SD Values of Group Based On Performance (School National and School District Level) and Gender on the Variable Perceived Physical Ability (Self –Efficacy)

		MEAN	±S.D
Performance	National	32.04	5.51
	District	30.03	4.76
Gender	Male	34.19	4.31
	Female	27.83	4.04

Table 1, compares the mean and SD values of perceived physical ability (PPA) scores among the national and district level school athletes. National level athletes exhibit higher mean physical ability score (Mean 32.04, SD±5.51) as compared to the district level athletes (Mean 30.03, SD±4.76). The statistical analysis indicates that the school national level athletes were found significantly better on perceived physical ability than the district level.

A similar analysis related to the sex revealed significantly greater PPA score in case of male athletes (Mean 34.19, SD±4.31) as compared to the females (Mean 27.83, SD±4.04). The results of the study are in agreement with the similar findings reported by *Eccles et al (1993)* who also observed that boys had more competence beliefs and values than girls.

Table 2: Result of 2x2 ANOVA of Group Based on Performance (School National and School District Level) and Gender and their interaction effect on the Perceived Physical Ability (Self –Efficacy)

SOURCE OF VARIANCE	SS	DF	MS	F-VALUE
Performance (National & District)	201.99	1	201.99	12.53**
Gender (Male & Female)	2054.39	1	205.39	127.40**
Performance x Gender	37.87	1	37.87	2.35
Within	16.12			

*P<0.05, **P<0.01

Table 2 presents results of ANOVA of group based performance (School national and School district level) on the variable (self efficacy) perceived physical ability. The F value demonstrates that the difference between School National and School District Level athletes with regard to their performance on the variable perceived physical ability (self-efficacy) was found to be significant (p<0.01). The statistical value with regard to the groups based on gender also differed significantly on perceived physical ability (self-efficacy)

The result with respect to the performance x gender interaction were SS=37.87, DF=1, MS=37.87 and f-value+2.35 which is not significant. It shows that the inter-action effects of 2x2 ANOVA design are not significant with regards to variable perceived physical ability.

Table 3: Mean and SD Values of Group Based On Performance (School National and School District Level) and Gender on The Variable Confidence in Physical Self – presentation (Self –Efficacy)

	SUBJECTS	MEAN	S.D
Performance	National	38.23	6.76
	District	34.55	6.46
Gender	Male	39.90	6.77
	Female	32.88	4.85

Table 3, presents the mean score of school national and school district level athletes on the confidence in physical self-presentation. National level athletes having mean values 38.23 and 34.55 respectively. The difference between School national level athletes and School district level athletes on confidence in physical self –presentation was statistically significant ($p < 0.01$). The mean result indicate that the school national level athletes were having better confidence in their physical self presentation than School District level athletes. The SD values of both groups were 6.76 & 6.46, which demonstrates that the group had some different intra-group variability among the subjects.

Further the mean values of male athletes was 39.90 with SD being 6.77 where as female athletes had a mean value of 32.88 and SD 4.85. The difference between the mean value of two groups was significant and the results demonstrated male having an edge over females on the said variable. The SD values of both the group demonstrated that the two samples had a different intra-group variability.

Table 4: Results of 2x2 ANOVA of Group Based On Performance (School National and School District Level) and Gender And Their Inter-action Effect on The Variable Confidence in Physical Presentation (Self –Efficacy)

SOURCE OF VARIANCE	SS	DF	MS	F
Performance(National & District)	677.13	1	677.13	22.16**
Gender(Male & Female)	2464.03	1	24.64	80.62**
Performance x Gender	199.98	1	199.98	6.44**
Within	30.56			

* $P < 0.05$, ** $P < 0.01$

Table 4 presents results of ANOVA (2x2 factorial design) of group based performance (School national and School district level) on the variable (self efficacy) confidence in physical self presentation. The value with regard to performance were $SS = 677.13$, $DF = 1$, $MS = 677.13$ and $F\text{-value} = 22.16$. The F value demonstrates that the difference between School National and School District Level athletes with regard to their performance on the variable confidence in physical self presentation was found to be significant ($p < 0.01$)

The statistical values with regard to the groups based on gender are: $SS = 2464.03$, $DF = 1$, $MS = 24.64$ and $F\text{-value} = 80.62$ which was significant ($p < 0.01$). The result with respect to the performance x gender interaction were $SS = 199.98$, $DF = 1$, $MS = 199.98$ and $f\text{-value} = 6.54$. The result relating to the main effect of interaction was significant indicating that the dependent variable was influenced by above mentioned condition of inter-action.

Table 5: Mean and SD Values of Group Based On Performance (School National and School District Level) and Gender on The Variable Self –Efficacy (TOTAL)

	SUBJECTS	MEAN	S.D
Performance	National	70.27	10.35
	District	64.58	8.33
Gender	Male	74.14	7.45
	Female	60.71	6.46

Table 5, presents the mean and SD score of school national and school district level athletes on the self-efficacy (Total). However, the School district level athletes had 64.58 as the mean value and 8.33 as SD value. Whereas, School national level having mean values of 70.27 and SD value of 10.35. The mean result indicate that the school national level athletes were found more self-efficacious. The standard deviation values demonstrate the intra-group variability

among the subjects. Further the mean values of male athletes was 74.14 with SD being 7.75 where as female athletes had a mean value of 60.71 and 6.46. The SD value demonstrated the intra-group variability among the subjects.

Table no 6 Result of 2x2 ANOVA of Group Based On Performance (School National and School District Level) and Gender and Their Inter-action Effect on The Variable Self-Efficacy (TOTAL)

SOURCE OF VARIANCE	SS	DF	MS	F-VALUE
Performance (National & District)	1618.77	1	1618.77	39.44**
Gender (Male & Female)	9018.21	1	9018.21	219.74**
Performance x Gender	411.86	1	411.86	10.04**
Within	41.04			

*P<0.05, **P<0.01

Table 6 presents results of ANOVA (2x2 factorial design) of group based performance (School national and School district level) on the variable self efficacy. The total value with regard to performance were SS=1618.77, DF=1, MS=1618.77 and F-value=39.44. The F value demonstrates that the difference between School National and School District Level athletes with regard to their performance on the variable self efficacy. It was found to be significant (p<0.01)

The statistical values with regard to the groups based on gender are: SS=9018.21, DF=1, MS=9018.21 and F-value being 219.74. This shows that groups based on gender differed significantly on self-efficacy (total). The result with respect to the performance x gender interaction were SS=411.86, DF=1, MS=411.86 and f-value=10.04 which was found to be significant. It

shows that dependent variable was affected by the above interaction paradigm.

Conclusion

School national level athletes were found significantly better on perceived physical ability, confidence in physical presentation and self-efficacy total as compared to School district level athletes.

Male athletes were found significantly better on the variable confidence in physical self-presentation and self-efficacy total except for the perceived physical quality as a source of self-efficacy.

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