

IMPACT OF COACHING BEHAVIOR ON THE PERFORMANCE OF FEMALE ATHLETES: A CORRELATIONAL STUDY

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Abstract:

The study was conducted to examine coaching behavior towards female athletes like their physical training & conditioning, technical skills, mental preparation, goal setting and its impact on athlete's performance. Eighty female athletes were selected from different universities of Lahore, through simple random sampling technique. Correlational study had been conducted among subscale of coaching behavior and performance. A model was developed to examine the impact of these behaviors on performance of athletes by using significant level of 0.05. Correlation and multiple regression analysis showed that coaching behavior had highly positive effect on athlete's performance. It is concluded that coaching behavior strongly affects the performance of athletes. And most important is mental preparation of athletes as it highly effects on the performance. So the coaches should be trained enough to prepare the athletes according to requirements to achieve desired outcomes.

Keywords: Performance, Coaching, behavior, Athletes

Introduction:

Coaching can be defined as a form of development in which a person called a coach support a learner in learning or achieving a specific goal, training, advice and guide the learner.¹ Coaching can also be defined as an informal relationship between two people in which one has more experience and expertise than the other. According to authors coaching is directly concerned with improvement of performance and development of skills by a form of instruction.²

A successful coach will develop well defined coaching behavior and learning environment that will aid the athletes to develop and play to their potential. The coaching behavior that coaches need to develop includes managing, teaching and communication.³

Coaching behavior has major influence on athlete's performance towards sports, as positive behavior leads positive impact on performance. On contrary negative behavior results decline in

performance.⁴ Sports are necessary part of all kinds of development in athlete's performance because sports have great potential to engage the youth and adults in positive activities which is constructive approach. For the implementation and to promote sports coach has the ability of group leader and give the lesson of unity to athletes.

In other study researcher indicate that experience and education makes a huge difference between coaches. Educated and experienced coaches provide constructive and developmental services to athletes while uneducated coaches fail to communicate with athletes. Hence coaches' education plays a vital role in athlete's performance.⁵ Further the researchers concluded that coaches' behavior significantly affects athlete's performance. In another study researchers concluded that some athlete's undesired or negative actions are associated with coaches' behavior.⁶ Respective literature had acknowledged that out of many approaches influencing coaches, three primarily approaches are central to current viz. Coaches' behavior, coaches' characteristics and coaches' leadership.⁷

There is less effort on coaching behavior and athlete's performance in Pakistan. The study will attract research community to make the study effective and useable. Whenever the teams do not win the matches, media and sports experts blame the coaches for poor performance in the matches. So, this study is a guide for sports institutions to minimize this problem.

This whole paper has been established on these grounds. Section 2 has the comprehensive detail of experimentation. Section 3 based on the data analysis and results, while in section 4, revolves around the discussion of the results. Finally, in last section concluding remarks and findings for future directions have been given.

2. Methods and Martials

2.1. Study Design

The study is descriptive and cross-sectional

2.2. Population of the Study

Targeted respondents of this research included the individuals whose information was analyzed in this study. The respondents were the 80 female athletes of different games from dif-

ferent universities of Lahore, Punjab, Pakistan. The nature of the study was linked with the coaching behavior and performance of the athletes. So in this study, the researcher selected the respondents of the university athletes who were interviewed to fill the questionnaires related to coaching behavior and the performance of the athletes. Their opinion and view regarding the study were deeply analyzed and examined based on the questionnaires through which data was conducted.

2.3. Instrumentation

There are many tools for data collection that include questionnaire, interview and observation etc. Essentially the researcher must ensure that the instrument chosen is valid and reliable. The validity and reliability of any research plan depends to a large scope on the suitability of the instruments.

In this research, two scales were used for data collection. The first Coaching Behavior Scale for Sports and the second was Test of Performance Strategies scale.

To get data on coaching behavior for sports, the researcher Cote et al. ⁹ used this scale in his

study. Through this scale, he assessed the coaching behavior. It had a questionnaire comprising of 26 questions. This scale has further four sub scales:

Physical Training & Conditioning (PTC) which has seven questions, Technical Skills (TS) which has eight questions, Mental Preparation (MP), has five questions and Goal Setting (GS) consisting of six questions.

Related to every question, the respondent will have to give his answer according to Likert Scale which has 1-5 options (strongly disagree, disagree, neutral, agree, strongly agree).

Lane et al.¹⁰ used the scale on Performance Strategies through which he checked athlete's performance.

2.4. Objectives

- To quantify the impact of coaches' physical training and conditioning on athlete's performance.
- To measure the impact of coaches' technical skills on athlete's performance.
- To identify the impact of coaches' mental preparation on athlete's performance.

- To determine the impact of coaches' goal setting on athlete's performance

2.5. Study Hypotheses

The study hypotheses are:

H₀: Coaches physical training & conditioning have negative impact on athlete's performance.

H₁: Coaches physical training & conditioning have positive impact on athlete's performance.

H₀: Coaches technical skills have negative impact on athlete's performance.

H₁: Coaches technical skills have positive impact on athlete's performance.

H₀: Coaches mental preparations have negative impact on athlete's performance.

H₁: Coaches mental preparations have positive impact on athlete's performance.

H₀: Coaches goal setting have negative impact on athlete's performance.

H₁: Coaches goal setting have positive impact on athlete's performance.

2.3. Sample Size

In the study, simple random sampling technique was used. From the sampling frame of 100 university athletes, a sample of 80

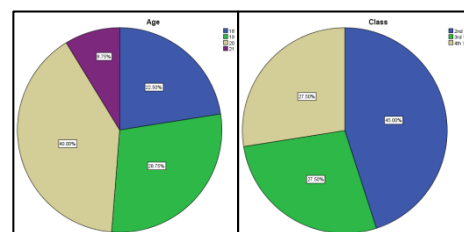
respondents was selected by using Yamane's formula ⁸.

$$n = \frac{N}{1 + Ne^2}$$

3. Data Analysis and Results

Descriptive statistics are used to explore the variables. Correlation analysis is applied to find out the strength and direction of the relationship of the variables. Multiple Regression analysis will be used for data analysis by using SPSS version 23.0. Figure-1 and Figure-2 represents the age and education level of the participants

Figure-1.
Age and education level of the participants



The Cronbach alpha statistics for each scale were listed in Table 1. The alpha values for all scales were in very good range as they all were greater than 0.80. Hence one can rely on the results obtained by using these scales.

Table-1:
Reliability statistics of the scales

Scales	α	Items
Physical Training and Conditioning Scale	0.85	07
Technical Skills Scale	0.81	08
Mental Preparation Scale	0.87	05
Goal Setting Scale	0.87	06
Athlete's Performance Scale	0.96	20
Overall	0.97	46

α = Cronbach alpha

The results of Table 2 show that the independent variables *PTC*, *TS*, *MP* and *GS* are positively and significantly ($p < 0.05$) correlated with dependent variable *AP*. It is also observed that the variable *MP* is highly correlated ($r = 0.98$) to *AP* as compare to the other independent variables. The same table also indicates that independent variables *PTC*, *TS*, *MP* and *GS* are also highly and significantly ($p < 0.05$) correlated with each other's. The multicollinearity problem may exist in regression analysis because independent variables are highly correlated. Table 2 also justify all the alternative hypotheses as well.

Table-2:
Descriptive statistic and Correlation

Measure	Mean	SD	PTC	TS	MP	GS	AP
PTC =Physical Training & Conditioning Scale	3.72	1.30	1	0.766**	0.763**	0.788**	0.804**
TS =Technical Skills Scale	3.80	1.18		1	0.928**	0.859**	0.923**
MP =Mental Preparation Scale	3.76	1.16			1	0.918**	0.985**
GS =Goal Setting Scale	3.69	1.22				1	0.953**
AP =Athletes Performance Scale	3.73	1.17					1

To measure the empirical impact of independent variables *PTC*, *TS*, *MP* and *GS* on dependent variable *AP*, the multiple regression technique was applied. For this purpose the partial regression plots with linear model of *AP* with *PTC*, *TS*, *MP* and *GS* variables were drawn, which show that linear and logical relationships between the variables exist

Figure-2.
Relationships of athletes' performance with Physical Training & Conditioning

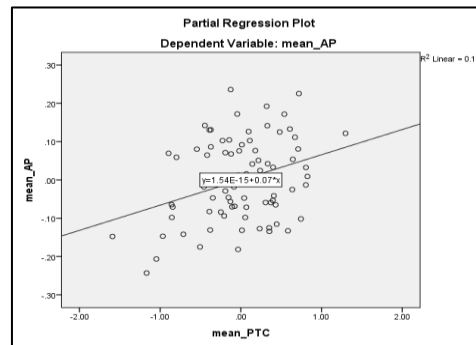


Figure-3.
Relationships of athletes' performance with Technical Skills

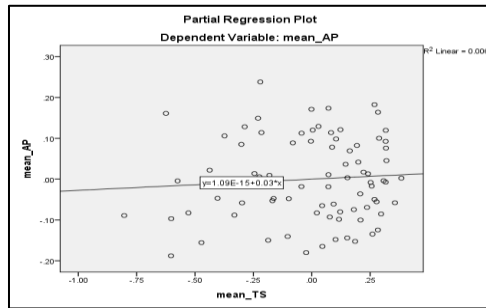


Figure-4:
Relationships of athletes' performance with Mental Preparation

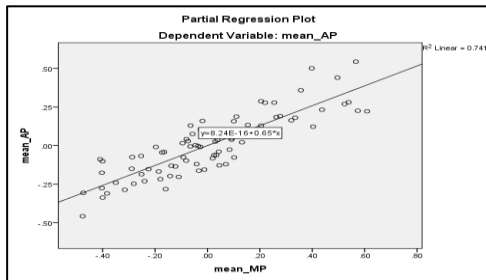
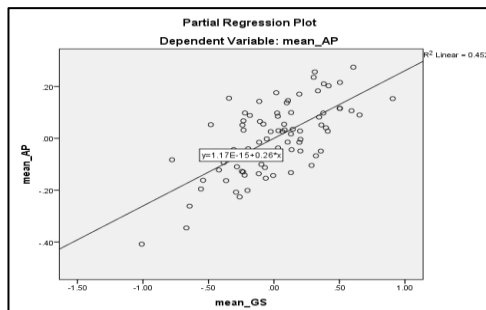


Figure-5.
Relationships of athletes' performance with Goal Setting



Figures 2-5 shows that response variable athletes' performance had positive and linear relationship with all independent variables. The relationship of AP with TS was much scattered while with MP it was much closer to the straight line as compared to other variables. Thus the multiple regression analysis might be applied to examine or to establish the empirical relationship of AP with PTC, TS, MP and GS variables. The predictive multiple regression model that will be fitted to the collected data may be written as:

$$AP = \alpha + \beta_1 (PTC) + \beta_2 (TS) + \beta_3 (MP) + \beta_4 (GS) + e(1)$$

where, α = Intercept, β_i =

Slope of the line, e =

Random error term

Athlete's Performance (AP) is a response variable while Physical Training & Conditioning (PTC), Technical Skills (TS), Mental Preparation (MP) and Goal Setting (GS) are predictors.

Table-3:
Regression results summary for model 1

Variable	Beta (Model 1)	VIF
Constant	-0.03	-----
Physical Training & Conditioning	0.066*	2.88
Technical Skills	0.024	7.71
Mental Preparation	0.661*	12.15
Goal Setting	0.274*	7.24
R ²	0.98	
F	1470.14	

* Significant Impact at the 0.05 level

R^2 = Coefficient of Determination ,
 F = Test – Statistic ,
 VIF = Variation Inflation Factor

From Table 3 it can be seen that the value of R^2 was 0.98, which indicate that the multiple regression model (1) was good fit. The value of R^2 indicates that 98% of the variability of athlete's performance (AP) can be explained by the fitted regression model. From variance inflation factor it was clear that only one variable had this value more than 10. Since constant term and one of the variables found insignificant the reduced model can be expressed as:

$$AP = \alpha + \beta_1 (PTC) + \beta_2 (MP) + \beta_3 (GS) + e \quad (2)$$

The variable *TS* was excluded from the multiple regression model (1) because of its insignificance.

Table-4:
Regression results summary for model 2

Variable	Beta (Model 1)	VIF
Physical Training & Conditioning	0.069*	2.712
Mental Preparation	0.68*	6.538
Goal Setting	0.27*	7.24
R ²	0.98	
F	1974.880	

R^2 = Coefficient of Determination ,
 F = Test – Statistic ,
 VIF = Variation Inflation Factor

In Table 4 value of R^2 was 0.98 which was not affected by excluding the TS variable from the model, so the regression model (2) is also best fit with minimum number of parameters. Also there is no any variable with variance inflation factor more than 10 indicating the no multicollinearity, as required by the multiple regression technique. Beta coefficients reveal that mental preparation had more strength to effect on performance as its Beta=0.68 while goal setting is following it.

From these results the predictive model (2) may be written as:

$$AP = 0.069 (PTC) + 0.68 (MP) + 0.27 (GS) + e$$

Regression coefficients in this model show that all the variables Physical Training & Conditioning, Mental Preparation and Goal Setting have positive impact on athlete's performance which means these variables have direct effect on the performance that is by increasing or decreasing any of these variables score performance change accordingly.

4. Discussion

The present study was conducted with an aim to find out the impact of coaching behavior on performance of female Athletes. Mageau & Vallerand¹¹ suggest that coaches' behavior positively affects the athlete's performance. Gearity and Murray¹² describes that coaching behavior in practice have strong influence on players and can impact both players performance and continued participation. Rezania and Gurney¹³ reported that there is positive and significant relationship between coaches' behavior on information sharing, training and teamwork. The current investigation supports the above studies. This study finds that the physical training & conditioning, mental preparation and goal setting by the coaches have strongly

positive effects on athletes' performance. Salminen and Liukkonen¹⁴ concluded that coaches' behavior is correlated with athlete's performance. Horn et al.¹⁵ found that positive coaches' behavior is an important factor, which has positive effects on the athlete's performance. This study also supports the above works done.

Mental readiness or mental preparation is one of the key factors in performing any task that includes games too. An athlete who is mentally ready to take the challenge of the game performs better than the person who is not mentally prepared. Amasiatu¹⁶ studied that if an athlete improves mental preparation it effects on performance. On the other hand, Wrisberg and Loberg¹⁷ found that mental imagery helps to establish a positive performance pattern. Mental preparation to face the pressure and challenging tasks of the game can be increased by using the technique of mental imagery as Mahoney et al.¹⁸ describes that imagery and mental preparation are also valuable for the person who is seeking to improve athletic performance. It provides skills with the task at hand and also provides positive

feedback of their expected performance. The results of the present study also concludes that variables have positive and significant ($p < 0.05$) effect on athletes' performance.

Locke and Latham¹⁹ concluded that higher the goal, higher will be the performance. Goal setting technique is effective on performance of athletes. Athlete with more athletic ability set more goals frequently and effectively. Goal setting enhance perseverance because try is continued until the goal or sub goal is reached.²⁰⁻²² The regression model of the current study establishes a strong relation of goal setting with performance. The results shows that goal setting has positive and significant ($p < 0.05$) impact on athletes' performance.

5. Conclusion

It is concluded that coaches' behavior effects the performance of female athletes on large scale. From all of these behaviors the mental preparation plays vital role towards athlete's performance. For this purpose sports institutions should offer professional coaching programs to develop coaches' knowledge and skills.

The results will help the athletes, coaches and sports experts for more learning opportunity. University administration, sports institute and government department should provide professional sport trainers/instructors to improve the athletes' performance. This study examined the effect only on female athletes of a particular specified region, and thus these findings may differ to other genders of different cities or country. Moreover, all of the participants were from university athletes hence it is not known if these results can be generalized to elite athletes of national and international levels or from various other sports.

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