

# Physical Factors that Influence Training and Performance of Female Athletes in Sports in Teacher Training Colleges in Central Region of Kenya

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**Abstract** The purpose of this study was to investigate the physical factors that influence the training and performance of female athletes in sports in teacher training colleges in central region of Kenya. The study assessed the extent to which the concern for body shape, academic demands, and freedom to choose the mode of training influences training and performance of female athletes in sports. The study adopted the descriptive survey research design. The target population for the study comprised female athletes in certificate and diploma teacher training colleges. Stratified random sampling technique was used to obtain the sample size. The study selected 444 (21.6%) respondents from the two randomly selected certificate teacher colleges and the one diploma training college. The Statistical Package for Social Sciences (SPSS) was used to code and analyze the data. The hypothesis was tested using chi-square ( $\chi^2$ ) at significance level of 0.05. The study results revealed that the female athletes' involvement in training activities is influenced by the concern for body shape, academic demands and freedom to choose the mode of training. As a result, the researcher has recommended expansion of awareness and education on benefits of physical activities to female athletes, training of female athletes by coaches who understand female athletes' physical needs, as well as addressing the physical factors influencing coaching of female athletes through the curriculum.

**Keywords** Physical Factors, Participation, Performance, Female athletes and Coaches

## 1. Introduction

Female athletes have special concern about their bodies when engaging in sports [12, 16]. The body image influences their choice and participation in sports [4, 6]. Researchers argue that female athletes feel conflict about how participation in competitive sport and exercise affects their femininity [3, 5, 16]. Female athletes report across sports a preoccupation with their appearance and a concern with avoiding masculinity of the body that some believe inevitably follows sports participation [5, 13]. Researchers argue that a female's lacks of muscular development are features of attractiveness [10]. Girls and women are hesitant about participating in sport for fear of becoming too muscular [13].

Female athletes prefer a coaching style which includes participation in decision-making [18]. Indeed, female athletes feel most comfortable in relationships where power is shared equally by all [16]. Female athletes prefer a

democratic and participatory coaching style that allows them to help make decisions [1, 18].

The female athlete combines two roles, that of an athlete and that of a student. She must establish a style that allows her to function comfortably in both roles. Student athletes by definition must deal with the role conflict inherent in acting as both students and athletes [7]. Student athletes face challenges of individual nature including their personal involvement in academic-oriented activities, time constraints, class attendance, personal goal setting, physical and emotional fatigue, coach's demands and institutional policies [15]. These college environmental factors may influence the way the female athletes respond to their coaches and the way they would want to be coached.

In Kenya, the teaching of physical education is compulsory in teacher training colleges. Therefore, female athletes are compelled to be involved in sports. However, scholars and researchers have highlighted some factors that influence their coaching such as concern for body shape, freedom to choose what to play and academic demands [10, 13, 14, 17]. It is in the light of this situation that this study was designed to assess the extent to which these physical factors influence the training and performance of female athletes in sports in teacher training colleges in

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central region of Kenya. This paper therefore, discusses the physical factors that influence the training and performance of female athletes in sports in teacher training colleges in central region of Kenya.

## 2. Purpose of the Study

The purpose of the study was to assess the physical factors that influence the training and performance of female athletes in sports in teacher training colleges in central region of Kenya. The specific physical factors that were assessed include concern for body shape, academic demands, and freedom to choose the mode of training.

## 3. Objectives of the Study

The objectives of the study were:

- i. To examine if the extent to which the concern for body shape affects female athletes involvement in training activities prescribed by coaches is the same between diploma and certificate teacher training colleges.
- ii. To find out the extent to which academic demands and freedom to choose the mode of training influence female athletes' participation in sports in teacher training colleges in central region of Kenya.

## 4. Research question

- i) Is the extent to which the concern for body shape affects female athletes involvement in training activities prescribed by coaches the same between diploma and certificate teacher training colleges?
- ii) To what extent does academic demands and freedom to choose the mode of training influence participation of female athletes in physical training activities prescribed by their coaches?

## 5. Hypothesis

The following null hypothesis guided the study:

Ho<sub>1</sub> – The extent to which concern for body shape influences female athletes' participation in sports training activities in diploma teacher training college would not significantly differ from that of female athletes in certificate teacher training colleges.

## 6. Significance of the Study

The findings of the study may help female athletes understand what affects their coaching and the areas of concern they need to address. It may also help the coaches to understand their female clients and hence be better equipped to provide them with a satisfying experience that will ensure

their long-term participation in the sports classes, sessions or programmes. The research is expected to contribute to the existing body of knowledge on issues dealing with coaching of female athletes. The findings of the study could also be used as a point of reference for future researchers. The findings may be used to upgrade the training programmes for coaches so that they are able to effectively handle female athletes.

## 7. Methodology

The research adopted the descriptive survey research design. The variables were studied without manipulation or introducing any control group. The location of the study was central region of Kenya. Central region was chosen as the area of study because it has a cross-section of various levels of teacher training colleges. These colleges include both certificate and diploma teacher training colleges. The population for the study comprised female athletes in public teacher training colleges in central region of Kenya. There are five public teacher training colleges in central region of Kenya. Four are certificate teacher training colleges and one is a diploma teacher training college. There are a total of 2056 female students in the five colleges; 1733 in certificate teachers training colleges and 323 in diploma teacher training college. The sample size was obtained using stratified random sampling procedure. The teacher training colleges were stratified into two strata; certificate teacher training colleges and diploma teacher training college. A proportion of 50% of certificate teacher training colleges was randomly selected using simple random sampling technique. The sample size for certificate teacher training colleges was therefore 2 (50%). Since there was only one diploma teacher training college in central region of Kenya, it was purposively selected. A proportion of 50% of female athletes from each of the colleges was then selected using simple random sampling. The study selected 444 (21.6%) respondents from the two randomly selected certificate teacher colleges and the one diploma training college. A proportion of 20% sample size is acceptable in surveys [8].

## 8. Research instrument

The study used the questionnaire as the main instrument for data collection. A questionnaire is very useful as it eliminates bias since respondents are given the same questions [2]. The questionnaire was constructed by the researcher. However, it was validated by the academic staff in the Department of Physical and Health Education of Kenyatta University. Pre-testing of the instrument for data collection was conducted prior to the main study. Both certificate and diploma teacher training students were represented. The certificate teacher training college used in the pilot study was not included in the actual research. A few athletes in diploma teacher training college were used in the

pilot study but were not included in the main study. In diploma teacher training college, a pretest sample of 5% of the total female athletes population was used while in certificate teacher training college a pretest sample of 3% was used. Normally, the pretest sample is between 1% and 10% depending on the sample size [11]. The pre-testing was conducted to help determine the suitability, appropriateness and clarity of the questionnaire items in addressing the variables under investigation and at the same time determine the reliability of the instruments.

## 9. Results

Table 1 indicates that certificate category had the highest number of respondents (336, 75.7%) while diploma category had the least (108, 24.3%). A total of 444 female athletes participated in the study.

**Table 1.** Distribution of Respondents in Relation to Category of their Colleges

Category of College	Frequency	Percent
Certificate	336	75.7
Diploma	108	24.3
Total	444	100

Table 2 below presents findings on the extent to which the concern for body shape of female athletes in both diploma and certificate teacher training colleges affects their involvement in training activities prescribed by their coaches.

It is evident from table 2 that majority of female athletes 41.7% (43.8% of female athletes from certificate teacher training colleges and 35.2% of female athletes from diploma teacher training college) indicated that their concern for body shape very much influences their training, 35.6% (34.2% of female athletes from certificate teacher training colleges and 39.8% of the female athletes from the diploma teacher training college) to a lesser extent, while 22.7% (22% of female athletes from certificate teacher training colleges and 25% of female athletes from diploma teacher training college) indicated that it does not affect them at all.

To test the extent to which concern for body shape influences female athletes' participation in sports training activities in diploma and certificate teacher training colleges,

Chi-square test of association was computed to test the hypothesis and the results are summarized in table 2. The chi-square analysis of the findings revealed no significant difference ( $\chi^2 = 2.474$ ,  $P = .290$ ). For example, it is evident from table 2 that 22% of female athletes from certificate teacher training colleges are not worried at all with the influence their concern for body shape might have on participation in sports training activities which compares very well with 25% of those in diploma college. Therefore, the null hypothesis that the extent to which concern for body shape influences female athletes' participation in sports training activities in diploma teacher training colleges would not significantly differ from that of female athletes in certificate teacher training colleges was not rejected. This implies that the concern for body shape influences female athletes' involvement in training activities regardless of whether they are in diploma or certificate teacher training colleges. This further suggests that games tutors and sports coaches need to create awareness to female athletes about the benefits of engaging in training activities. This will help to change female athletes' perception about the effects of exercises prescribed by coaches on their body shape and instead appreciate that training activities on the contrary helps in maintenance of an individuals' body shape. The current findings regarding the influence of female athletes concern for body shape on training activities tallies with those by [9] who contend that female athletes have special concern for body shape when participating in sports.

Table 3 shows the extent to which fear of developing muscular body features affects female athletes' involvement in training activities prescribed by the coach.

Table 3 reveals that out of the total number of respondents, majority of female athletes 40.8% (42.6% of female athletes from certificate teacher training colleges and 35.2% of female athletes from diploma teacher training college) indicated that their training to a lesser extent is influenced by fear of developing muscular body features, 30.6% (27.7% of female athletes from certificate teacher training colleges and 39.8% athletes from diploma teacher training college) indicated very much, while 28.6% (29.8% of female athletes from certificate training colleges and 25% of female athletes from diploma teacher training college) indicated the fear of developing muscular body features did not influence at all.

**Table 2.** Influence of Concern for Body Shape on Training Activities

Variable	Category of college		Options			Total	Chi-square test		
			Not at all	Lesser extent	Very much		Value	df	Sig.
Influence of concern for body shape on training activities	Certificate	F	74	115	147	336	2.474	2	.290
		%	22%	34.2%	43.8%	100%			
	Diploma	F	27	43	38	108			
		%	25%	39.8%	35.2%	100%			
Total	F	101	158	185	444				
	%	22.7%	35.6%	41.7%	100%				

**Table 3.** Influence of Fear of Developing Muscular body features on Training

Variable	Category of college	Options				Total	Chi-square test		
		Not at all	Lesser extent	Very much	Value		df	Sig.	
Fear of developing muscular body features affect your involvement in training activities prescribed by the coach	Certificate	F	100	143	93	336	5.668	2	0.59
		%	29.8	42.6	27.7	100			
	Diploma	F	27	38	43	108			
		%	25	35.2	39.8	100			
	Total	F	127	181	136	444			
		%	28.6	40.8	30.6	100			

**Table 4.** Influence of Academic Demands and Freedom to Choose the Mode of Training on Training Activities

Variable	Not at all		Lesser extent		Very much		Total	
	F	%	F	%	F	%	F	%
Academic demands	88	19.8	189	42.6	167	37.6	444	100
Freedom to choose the mode of training	94	21.2	140	31.5	210	47.3	444	100

Chi-square analysis of responses of female athletes in diploma and certificate colleges indicated no significant difference on the extent to which fear of developing muscular body features influences their involvement in training activities ( $\chi^2 = 5.668$ ;  $df = 2$ ;  $P = 0.59$ ). (Table 3). This implies that the fear of developing muscular body features influences female athletes' involvement in training activities irrespective of type or category of college. For example, it is evident from descriptive analysis that majority of female athletes indicated that the fear of developing muscular body features influences their training to a lesser extent. This finding therefore suggests that games tutors and sports coaches should reassure female athletes while training them that involvement in training activities does not contribute to the development of muscular body features. The finding also indicates that games tutors and sports coaches should also create awareness to the female athletes that they do not have the same hormones (androgens) that men have and hence, involvement in training activities prescribed by coaches cannot make them muscular. The creation of this awareness will help to change generalized misconceptions held by female athletes that involvement in training activities will make them develop muscular body features. The current findings of this study are in line with those of [13] who found that girls and women are hesitant about participating in sports for fear of becoming too muscular.

Table 4 below shows findings on the extent to which academic demands and freedom to choose the mode of training affects female athletes' involvement in training activities prescribed by their coaches.

It is clear from table 4 that most female athletes (189, 42.6%) are less influenced by academic demands, followed by 167 (37.6%) who indicated that they were very much influenced and 88 (19.8%) not at all. This finding therefore suggests that coaches should structure their training programs and sessions such that they do not tamper with the female athletes academic programs. The finding further

suggests that games tutors and sports coaches should bear in mind that beside training the female athletes in various sports activities, female athletes also double as students and thus have other academic obligations. The current findings regarding academic demands are in line with those of [15, 17] who note that student-athletes do face challenges of individual nature including their personal involvement in academic-oriented activities.

The table further indicates that a larger proportion of female athletes (210, 47.3%) are influenced most by freedom to choose the mode of training, followed by 140 (31.5%) who indicated lesser extent and 94 (21.2%) not at all. This indicates that female athletes prefer prescribing their own exercises. The finding therefore indicates that those responsible for coaching female athletes should allow them to choose the way they would want to be coached. The finding further suggests that female athletes should be involved in decision-making regarding their training. The current findings are in agreement with the literature by [18] who argue that female athletes prefer coaching style which includes participation in decision-making.

## 10. Conclusions

Female athletes' concern for body shape affects their involvement in training activities. In addition, the concern for body shape affects female athletes' involvement in training activities regardless of whether they are in diploma or certificate teacher training colleges. Further, the fear of developing muscular body features affects to a lesser extent the training of female athletes in teacher training colleges in central region of Kenya.

Academic demands do influence the training of female athletes in the teacher training colleges in central region of Kenya. In addition, the decision to choose the mode of training influences training of female athletes in the teacher training colleges in central region of Kenya.

## 11. Recommendations

In light of study findings, the following recommendations are suggested:

i. The study revealed that there are physical factors that influence the coaching of female athletes. Therefore, there is need for coaches to understand the physical factors influencing female athletes' participation and performance in sports. This could enable them to understand the many factors that influence female athletes' participation in training activities and hence be better equipped to provide them with a satisfying experience that will ensure their long-term participation in training sessions and programmes. The creation of this awareness could be done through the institutions involved in training of coaches and teachers. The institutions involved in in-service training of coaches and teachers should also create awareness on the uniqueness of the female athlete through their training programmes.

ii. Teachers and coaches in the teacher training institutions should expand awareness and education of the benefits of physical activities to female athletes. This will help the female athletes avoid misconceptions about the effects of exercises on body shape. This could be done by creating the awareness that training activities on the contrary help in maintenance of individuals' body shape.

iii. There is need for female athletes to be trained only by coaches who have an understanding of physical factors affecting coaching of female athletes. The coaches who lack insight on these physical factors, or who have never been trained on how to handle female athletes before should never be allowed to coach female athletes. This is because they may have little insight into physical factors that influence the coaching of female athletes thereby denying them the satisfaction that sporting experience is supposed to offer.

iv. The management of teacher training colleges should ensure there is a good balance between academic and training programs in order to enable female athletes to be involved in sports. This will help female athletes participate in training programs without fear that this would interfere with their academic work.

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## REFERENCES

- [1] Bull, S. J (1991). *Sport Psychology: A Self-help Guide*. Great Britain: The Crowood Press.
- [2] Burton, D and Bartlett, S. (2009). *Key Issues for Education Researchers*. London: SAGE Publications Ltd.
- [3] Coakley, J. (2009). *Sports in Society: Issues and Controversies*. Boston: McGraw Hill Higher Education.
- [4] Collins, M. F & Kay, T. (2007). *Sport and Social Exclusion*. London and New York: Routledge.
- [5] Hargreaves, J. (2001). *Sporting Females: Critical Issues in the History and Sociology. of Womens' Sports*. London: Routledge.
- [6] Hoffmann, M. (2007). Why Women Should Train Differently from Men. Retrieved December, 10, 2011 From <http://www.femaleathletesfirst.com/article.aspx.navid=7>.
- [7] Hoiness, A. R. Weathington, B. L. & Cotrell, A. L. (2008). Perceptions of Female Athletes Based on Observer Characteristics. *The Online Journal of Sports Psychology*. Retrieved December 12, 2012. From <http://www.athleticsinsight.com/vol1101ss1/perceptionsoffemlae.htm>.
- [8] Hinton, P. R (1995). *Statistics Explained. A Guide to Social Science Students*. London: Routledge.
- [9] Krane, V. Waldron, J. J. Michalenok, J. Shipley, J. S. (2001). Body Image Concerns in Female Exercises: A Feminist Cultural Studies Perspective. *Women in Sports and Physical Activity Journal*. Retrieved January 27, 2012. From <http://coaching.com/volleyball-blog/wp-content/uploads/2011/01/>.
- [10] Lavallee, D. Kremer, J. Moran, A. P & Williams, M. (2004). *Sport Psychology*. Great Britain: Palgrave MacMillan.
- [11] Mugenda, O. M. & Mugenda, A. G. (2003). *Research Methods: Quantitative & Qualitative Approaches*. Nairobi: Acts Press.
- [12] Otis, C. L (2000). The Female Athlete. A Special Article for People Who Coach, Train, and Treat Athletic Women. Retrieved December 12, 2011 From <http://www.sportsdoctor.com/articles/female3.html>.
- [13] Pendleton S. (2001). Motivating Female Athletes for Success in Basketball. Retrieved June 27, 2011, From <http://findarticles.com/P/articles/mi-MoFIHis-7-70/ai-n/8611527>.
- [14] Stewart. C. & Taylor, J. (2000). Why Female Athletes Quit: Implications for Coach Education. Retrieved July 18, 2011, From [http://www.MontanaEdu/Craigs/Specialization %20art % 202. html](http://www.MontanaEdu/Craigs/Specialization%20art%202.html).
- [15] Simiyu, N. W. W. (2010). Individual and Institutional Challenges Facing Students Athletes on US Campuses. *Academic Journal*. Retrieved May24, 2011. From <http://wwwacademicjournals.org/JPSEM/abstracts2010/August/Simiyuhtm>
- [16] Weinberg, R. S. & Gould, D. (1995). *Foundations of Sport and Exercise Psychology*. United States of Americas: Human Kinetics.
- [17] Wuest, D. A & Butcher, C. A. (1995). *Foundations of Physical Education and Sport*. United States of America: Mosby Company.
- [18] Woods. B. (2001). *Psychology to Sport*. England: Hodder and Stoughton.