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Research Article

Impact of 6-week yogic practices on AAHPERD speed spot shooting ability of college basket ball women players

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ABSTRACT

Practice of yoga teaches the ability to face challenges in life and holds the key for a better living. It began as a spiritual practice, but, in coming days, yoga has become popular as a way of promoting physical as well as mental well-being. In this view, the researcher has made an effort to find out the effect of asana on skill-related variables of women college players of basketball for this, achievement players were randomly assigned into two groups; one experimental and the other is control group. Each group consisted of 100 players and was, further, divided into 50 each for the experimental and control group. Experimental group practicing yoga for 6 weeks, while control group was not assigned.

Keyword: Control group, experimental group, skill variables, test, yogic practice

INTRODUCTION

Practice of yoga for long term is aimed to improve the capacity of long living. Most of the people are aware of yoga and other physical exercises which are essential to overcome the psychological and physiological issues due to complex life style of human beings in this era of modern gadgets. General exercise practices in addition with yoga can help to overcome with stress and lead to free happiness. In addition, practice of yoga gives more self-confidence to mental well-being of a person.

OBJECTIVES OF THE STUDY

The objectives of this study were to find out the effect of yogic practice on skill performances of women basketball players.

THE STATEMENT OF THE PROBLEM

The purpose of the study is to compare the effect of yogic practices on skill-related parameters of women basketball.

HYPOTHESIS

The following hypotheses are drawn from the study.

H₁: There would be a significant difference in skill related performance variables like speed spot shooting ability, and playing ability in basketball players as a result of intervention of yoga practices.

THE SIGNIFICANCE OF THE STUDY

The study will be significant in the following respects.

The study will help to understand the relationship between the levels of performance of control and experiments group of basketball players.

RESEARCH DESIGN

Hundred college level women basketball players were selected for the study. The subjects were divided randomly into two Groups A and B. They were further divided into 50 each for the experimental (A) and control group (B). Group A underwent a program of selected yogic practices, whereas Group B was not given any intervention on yogic practices. Speed spot basketball shooting test was performed by the

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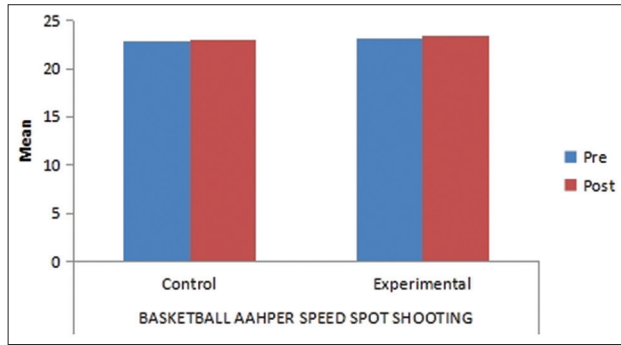


Figure 1: The pre-test and post-test performance of basketball players in AAHPERD speed spot shooting test

players of basketball Groups A and B before and after the intervention of 6-week period all pre-test and post-test score was recorded.

YOGIC PRACTICE PROTOCOL

The present study was designed for 6 weeks durations. The selection of asanas on the premises that all the body should involve in performing asanas. It includes all aspects of yoga, that is, meditation, pranayama, and asanas. Experimental group practiced yoga for alternative days in a week for the duration of 6 weeks, while a control group of basketball players was not assigned any yogic practices.

OBJECTIVE OF BASKETBALL SPEED SPOT SHOOTING TEST

AAHPERD speed spot shooting basketball skill test is used to measure the skill of rapid shooting from different positions and to a limited extent, to measure the agility and ball handling skills of the age group of ten through college age.

EQUIPMENT

Basketball, stopwatch, floor, wall marking tape, tape measure, six cones.

After the pre-test and post-test score was shown below.

Table 1 represents the effects of yogic practice on the level of performance of basketball speed spot goal shooting test. The BEG before the yoga practice is 23.06 and in post-test is 23.40 which is statistically not significant with $t = 0.671$, $P = 0.505 > 0.05$ and in Control group, the pre-test score is 22.90 and post-test score is 22.98 which is not significant with $t = 0.238$, $P = 0.813 > 0.05$. However, slight improvement was seen in the experimental group when compared to control group and one can say that yoga practice may affect the

Table 1: Statistical values of performance of basketball subgroups (BCG and BEG) in shooting skill (AAHPERD speed spot shooting test)

Subgroup	Test	n	Mean±SD	"t" value	"P" value
Control	Pre	50	22.90±0.32	0.238	0.813 ^{NS}
	Post	50	22.98±0.30		
Experimental	Pre	50	23.06±0.33	0.671	0.505 ^{NS}
	Post	50	23.40±0.49		

Values are given as Mean±SD for groups of 50 subjects each. The level of significance is taken at 0.5 with df 49. The values are expressed in points

Table 2: Comparison of effect the of yoga practices on the speed spot shooting skill between the control and experimental groups of basketball

Test	Subgroups	n	Mean±SD	"z" value	"P" value
Pre-Post	BCG	50	-0.08±2.38	0.427	0.670 ^{NS}
	BEG	50	-0.34±3.58		

Values are given as Mean±SD for groups of 50 subjects each. The level of significance is taken at 0.5

performance and skills. Since the improvement does not show statistical significance, it can be concluded that AAHPERD speed spot shooting skill may require more than 6 weeks of yogic practice.

Therefore, the H_0 that yogic practices do not result in improvement in speed spot shooting of basketball players is accepted and H_1 is rejected.

CONCLUSION

The results of the basketball skill test indicated that there was a no significant difference between the means of experimental group and control group of basketball speed spot shooting in the skill test performances. Result shows that among basketball players, change in BEG (-0.34) is not significantly different in comparison to the BCG, where the mean is -0.08. There is no significant difference in the effectiveness of yoga between BCG and BEG [Table 2]. The results indicates that practice of yogic Asanas for 6 weeks was resulted in statistically no significant improvement in skill-related variables like speed shooting of basketball players.

RECOMMENDATIONS

Based on the result of the study, the following recommendations were drawn by the investigator.

- The result suggest that more than 6 weeks of regular yoga practice may increase the shooting ability of a player.

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Research Article

Characteristic and correlations between soma to type with the performance of elite junior female swimmers

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ABSTRACT

The aim of the study was to evaluate the correlations of the somatotype variables with freestyle performance of six elite junior female swimmers (mean \pm SD: age 15.33 \pm 1.63 years, height 158.8 \pm 4 cm, and weight 57.1 \pm 4.4 kg). The subject volunteered for participating in this study, which was approved by Ho Chi Minh city Sports University and Ho Chi Minh city National Sports Training Center. Result showed that there were very high negative correlations between freestyle performance and meso ($r = -0.836$ – -0.911) and were significant different $P < 0.05$. There were not correlations significant different $P > 0.05$ of freestyle performance with endomorphs ($r = 0.385$ – 0.636) as well as with ectomorphs ($r = -0.372$ – -0.567). These findings indicate that mesomorphs variable should be used to evaluate the effects of training and to predict performance for junior female swimmers.

Keywords: Correlation, Ectomorphs, Endomorphs, Mesomorphs, Somatotype

INTRODUCTION

First data on human somatotype, or constitution, originate from the time of ancient Greece, from Hippocrates (460–377 BC). The Roman physician Galen in the first century AD also addressed issues of the constitution. Significant scientific names who have addressed the issue of the constitution in the 19th and 20 centuries are Rosten and Sigaud (French School), De Giovanni, Viola and Pende (Italian School), and Conrad Kretschmer (German School), Sheldon, Rice and Ejzenk (American School), and Černorckí, Serebrovskaja and Krylov (Russian school) (Raković, 2015). The above authors and some others who will not be mentioned here contributed to the emergence of currently valid and commonly applied Heath-Carter method for the determination of human somatotype. The data on the three components of somatotype, endomorphic, mesomorphic, and ectomorphic originate from Sheldon (Sheldon *et al.*, 1940) and were approved and modified by the American scientists, Heath and Carter. The above authors, on the basis of certain anthropometric parameters, determined somatotype using formulas, tables, and nomograms. The

endomorph component is associated with the amount of body fat, muscle mass with mesomorphic, ectomorphic, and the ratio of height and weight. If one of the components is dominant, then it is a “pure type” (endomorph 7-1-1, 1-7-1, and 1-1-7 mesomorphic ectomorphic).

According to Faulkner (1967), “Body structure can play an important part when determining the swimming performance level.” Somatotype is a structural factor when increasing the aerobic preparedness and may be helpful when identifying the talented individuals for long-distance swimming disciplines (Chaquachi *et al.*, 2005). However, it is not simple to exactly determine the influence of the somatotype training interaction effect on the aerobic capacity factors.

According to Smerecká (2014), swimming performance is mostly determined by the anatomic factors, such as the body dimensions and proportions, water resistance influenced by the size of a body intersection, the appropriate strength, especially that of arms and torso, explosiveness (short distances), and endurance abilities (long distances). Smerecká (2014, cited in Grasgruber and Cacek, 2008) notes “Mastering the swimming technique and coordination of movements is important, along with the flexibility of a shoulder joint (backstroke, front crawl, and especially butterfly), femoral joint, ankle, and

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torso.” “Timely determination of the somatotypes of athletes helps to improve their performance and body development according to their needs, especially according to the individual sports and disciplines” (Nigam, 2011). Smerecká (2014, cited in Urban and Kandrác, 2012) “Certain somatotypes have particular morphological predispositions for kinetic activity, whereas the variety of reactions to a physical load provides diversified outcomes, so it is manifested with various somatotypes miscellaneously.” Hence, finding correlations between somatotype variables and swimming performance are necessary to evaluate the effects of training as well as to predict performance for junior female swimmers.

METHODS

Six elite females junior swimmers (mean \pm SD: age 15.33 ± 1.63 years, height 158.8 ± 4 cm, and weight 57.1 ± 4.4 kg) volunteered for and gave written informed consent to participate in this study, which was approved by Ho Chi Minh city Sports University and Ho Chi Minh city National Sports Training Center. These swimmers had average 5–6 years experienced. Basic ten anthropometric dimensions are needed to calculate the anthropometric somatotype: body height (cm), body weight (kg), four skinfolds (triceps, subscapular, supraspinale, and medial calf), two bone breadths (epicondylar humerus and femur), and two limb girths (arm flexed and tensed, calf). The following descriptions are adapted from Carter *et al.* (1990). Further, details are given by Ross and Marfell-Jones (1991), Carter (1996), Ross *et al.* (1999), Duquet and Carter (2001), and the ISAK Manual (2001). To gain the data, we used a standard Martin anthropometric set, consisting of a scales, a little adjustable caliper, a skinfold caliper measuring, and a rolling meter. The anthropometric somatotype variables and the 100 m, 200 m, and 400 m freestyle performance were measured in the pre-post-training year cycle.

Statistical Analysis

The data were analyzed using descriptive statistics for somatotype and performance variables. Pearson correlation coefficient (r) was analyzed for finding the correlation of somatotype variables with the 100 m, 200 m, and 400 m freestyle performance. Statistical analysis: SPSS was used to apply formulas statistical by calculating: average, standard deviation, and correlation.

RESULTS

The result showed that having a change in endo indices after a training year cycle, most of the athletes are on the ectomorphic-mesomorph category of the somatochart, the mean somatotype variables were 2.58–3.83–3.08. Endo category was significant different $P < 0.05$, Meso and Ecto were not significantly different $P > 0.05$ after training year cycle.

The result in Table 2 showed that the subject’s somatotype is in the ectomorphic-mesomorph category of the somatochart, mean somatotype variables were 2.58–3.83–3.08. There were very high negative correlations between freestyle performance and meso ($r = -0.836$ – -0.911) and were significant different $P < 0.05$. The result also revealed there were not correlations significant different $P > 0.05$ of freestyle performance with endomorphs ($r = 0.385$ – 0.636) as well as with ectomorphs ($r = -0.372$ – -0.567).

DISCUSSION

The main finding of this study was that correlations coefficient between somatotype variables and the 100 m, 200 m, and 400 m freestyle performance. Only there were very high correlations between freestyle performance and meso variable ($r = -0.836$ – -0.911). According to Carter-Ackland (1994), in endurance and strength-speed sports, the body fat values are lower when compared to sports, in which the training is focused on kinetic abilities. According to Sprague (1976) the somatotypes of swimmers in various specializations, the differences were determined not only between the swimming disciplines but also between the swimming distances. Smerecká (2014, cited in Urban, 2010) “Based on the anthropometric indicators, we gain the quantitative data about the individual body segments and on the basis of the morphological state of an individual, so-called merfo-phenotype, we can, to some extent, predict his/her performance.” According to Ackland (2009) for swimmer measured at the 1991 World Swimming Championship, the swimmer’s somatotype was 2-5-3, which placed these athletes in the Ectomorphic-Mesomorph category of the somatochart. This group was characterized by a low level of adiposity, moderate-to-high musculoskeletal robustness and moderate linearity. Most studies on high-level swimmers

Table 1: Somatotype variables of subjects and changes over a training year cycle

Somatotype variables	Post season		Change	P-values
	\bar{X}	\pm SD		
Endo	2.58	± 0.58	-0.75	0.001*
Meso	3.83	± 0.93	1.5	0.08
Ecto	3.08	± 0.2	0.17	0.576

Table 2: The correlations coefficient (Pearson) between the somatotype variables and the 100 m, 200 m, and 400 m freestyle performance

Performance	Endo	Meso	Ecto
100 m	0.636	-0.911*	-0.555
200 m	0.533	-0.890*	-0.567
400 m	0.385	-0.836*	-0.372

*Sig < 0.05

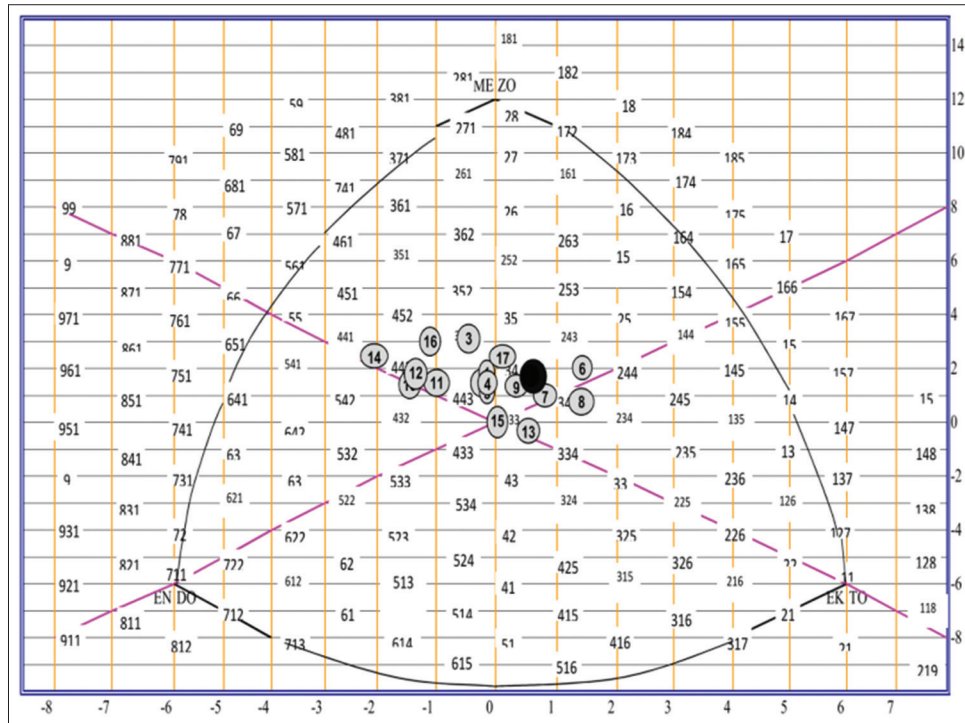


Figure 1: Mean somatotype chart of world elite swimmers were counted by Carter (1990-graypoint) and Vietnam junior female swimmers (2017-blackpoint). 1: Mexico City Olympics (1968); 2: Moreal Olympics (1976); 3: Munich Olympics (1972); 4: Venezuela (1981); 5: Brazil (1975); 6: Manchester club (1977); 7: Austin, club (1982); 8: Meleski *et al.*; 9: Chula Vista club (1976); 10: San Diego State University (1976); 11: San Diego State University (1978); 12: San Diego State University (1980); 13: Belgium (1981); 14: Ontario, University; 15: Ontario, Club (1980); 16: Bolivar Games (1981); and 17: Cuba (Alonso,1986)

during the past 20 years have revealed the similar result. Siders *et al.* (1993) studied on 43 collegiate female sprint swimmers showed that there were moderate correlations between 100 yard event times and meso ($r = 0.392$) and ecto ($r = 0.441$) were significantly different $P < 0.05$.

Somatotype of Word Elite Swimmers (Carter, 1990) and Vietnam elite junior female swimmers (2017) is demonstrated in Figure 1.

Figure 1 demonstrates that the Vietnam junior female swimmer's characteristic of somatotype is consistent with the somatotype of World elite swimmers (Carter, 1990). There was not big difference in somatotype of World elite swimmers (from 1968 to 1986) and Vietnam junior female swimmers (2019).

CONCLUSION

The result of the present study showed that having a change in endo indices after a training year cycle, most of the athletes are on the ectomorphic-mesomorph category of the somatochart, the mean somatotype variables were 2.58–3.83–3.08. This data recorded the high correlation between freestyle performance (100 m, 200 m, and 400 m) and Meso ($r = -0.836$ – -0.911);

therefore, mesomorphs variable should be used to evaluate the effects of training and to predict performance for junior female swimmers. There were no correlations significantly different ($p > 0.05$) between 100 and 400 m freestyle performance and endomorphs ($r = 0.385$ – 0.636) and ectomorphs ($r = -0.372$ – -0.567).

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Research Article

Factors affecting the athletic performance of student-athletes of selected secondary schools in Olongapo city

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ABSTRACT

This study determined and analyzed the factors affecting the athletic performance of student-athletes of selected secondary school in Olongapo City. This study used the descriptive research design with the questionnaire as the main instrument in gathering data. That majority of student-athletes respondents' age belong to the adolescent period. Male athletes are more active in sport and they dominated the survey. Team sports are played often than individual or dual sports and they play ball games at the most that they used to play. There are factors affecting the student-athletes athletic performance like self as athletes, sports-coach, family, school, and community. Results of the study accept the null hypotheses of the researcher and found out that there is no significant relationship between the factors affecting the athletic performance and the level of athletic performance of selected secondary schools in Olongapo City based on the regional athletic competitions as perceived by the student-athletes. The correlation analysis between Factors and Level of Athletic Performance as perceived by the student-athletes was not significant. The researcher recommended that institutions should support sports activities specially promising athletes who could contribute through satisfactory performance. Secondary schools together with the sports department must have a sound systematic approach toward training and development when it comes to athletes to have a sound success. The school, community, and their own family should hand in hand share all possible resources to work for the common goal and that it achieving the highest potential of their athlete. Conduct an in-depth, wider in scope, and parallel study with inclusion of athletic performance and satisfaction to validate the findings.

Keywords: Athletic performance, Coach, Community, Family, Peer group, School, and Self

INTRODUCTION

The role of athletics on high school campuses has been a matter of intense controversy for years. As the two authoritative books by Bowen *et al.* (2008) make clear, athletics affects nearly every facet of campus life. The impact of sports on secondary school finances has been a particularly contentious issue. Sport is widely regarded as having the therapeutic potential to contribute positively to a number of areas closely related to factors associated with social exclusion (Greeves, 2011).

The prediction of sporting performance is clearly important to athletes and coaches because their performance in sports competitions will mark as their beginning or maybe the end of

their career. Filipinos made histories in different sports events as they were known for being patient, quick, and sturdy. Most of Filipinos lack in height but their focus, speed, and tenacity give life to their movements and bring all the best of their capabilities as an athlete. As so-called tacticians, Filipino athletes used to calculate their speed, motion, force, and space to determine their target at their maximum potentials. Compared to Western athletes, they are not as disciplined as others are but they have agility to compensate all things in line with their specialization or their sports-event.

Although they lack in experience and training due to unavailable tools/equipment's, facilities and support from the government organization in line with sports, still, they are inspired to bring out the best in them because the most important to them is being loved by their loved ones or their family. The country is proud of Filipino athletes for being disciplined, they marked a big leap on the performance of the country in different field, as

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Manny Pacquiao set standards in the history of international boxing arena and achieved his maximum athletic performance in his boxing career having been called as the “pound per pound king.” In the line of worldwide bowling competition, the countries’ pride, Rafael “Paeng” Nepomuceno, who won 6 times World Bowling Champion and also recognized by the Guinness book of records. Paeng is the only athlete in the Philippines who has been given the highest award to a Filipino by three Philippine Presidents.

Given the chance to represent the country, a few acclaimed Filipino athletes have never made their history on the international arena rather they only played for the local crowd like Lydia De Vega. She was recognized as the fastest woman in Asia. She made history in the 100-m dash in the 1982 Asian Games. She did even better in the 1986 Asian Games in Seoul, where she won the gold in the 100-m event and silver in the 200-m race. In basketball event, Ramon Fernandez was considered by many as the best Philippine basketball association (PBA) player of all time; Robert Jaworski is arguably the Philippines’ most popular basketball player of all time, where he is also credited with being the oldest player ever to play the game and James Yap, the current PBA Most Valuable Player, rose to popularity not just as an athlete, but also as a celebrity who happened to marry a prominent local actress but ended in separate ways and many other Filipino basketball players. With all these high performing athletes, who were trained and developed by sports-coaches to achieve their maximum potentials, student-athletes in tertiary level became a one-step higher and closer to a big leap of international dream. In achieving their goals when it comes to sports, coaches and athletes should become one. The most important successful factor of a coach is to help athletes to improve their athletic skill in a wide range of tasks from sequential development and mastery of basic skills, to the more specialized physical, technical, tactical, and psychological preparation. Student athletes with a strong sense of efficacy are more likely to challenge themselves with difficult tasks and be intrinsically motivated (Bandura, 2007).

Sport is only one of the many programs offered by different institutions and there were sports or athletic associations that help boost the skills of collegiate/tertiary students. Behind all the successes of athletes’ in different competition either it is a regional or national competition is the coach who gave proper trainings to them in different sports event that with all the efforts and support inside and outside the school, coaches could possibly perform his/her maximum capacity to train and be trained. With all those efforts of a sports-coach, there are other factors that affect athletic performances but are there really improvements in line with sports that as of the records from the past Olympic competition that the country had joined do not really have a very good result that was expected.

From all the sports competitions in and out of the country, the researcher has chosen this study to check if the division where she is presently teaching really set goals with proper programs in sports and have it achieved with all the factors affecting athletes’ performances. The sports-coaches, student-athletes, school, family, community, and peer groups are only factors in achieving athletes’ goal, but bringing all the best and challenge athletes how to focus on becoming a history would be a big question to all, depends on how dedicated an individual to be a great “change.”

CONCEPTUAL FRAMEWORK

The major concept of this study is focused on the factors affecting the athletic performance of student-athletes of selected secondary schools in Olongapo City. One of the learning theories that support this study is the attribution theory as cited by Lubina (2004). This theory holds that performance like a test could be attributed to lack of hard work. The theory predicts the behavior of students depend on their responses.

In the same vein, the Vector Topological Theory as cited by Villanueva (2009) explains that the behavior of an individual is the result of forces operating simultaneously within his environment and life. With this theory, it could be the self, family, school, coach, community, and peer group as related factors, determinants within the learner’s environment that affect their Athletic performance.

Figure 1 presents the research paradigm where the independent variable consists of the student-athletes’ personal characteristics in terms of age, sex, year level, no. of CLRAA playing years, number of family member engaged in sports, sports event, trainings/seminars and sports icon, the perceived athletic performance during CLRAA meet, and the athletic performance of students affecting different factors such as the self, coach, family, school, community, and peer group.

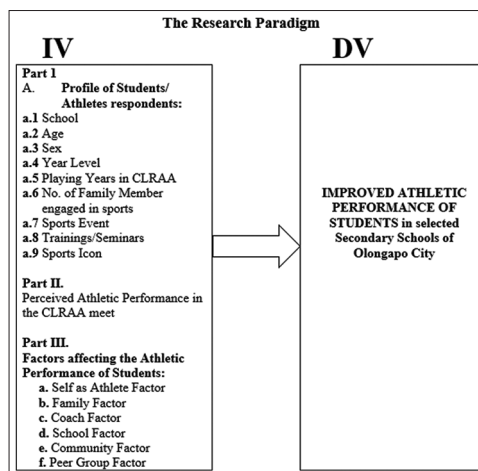


Figure 1: Paradigm of the study

The dependent variable consists of the athletic performance of selected secondary schools in Olongapo City.

DESIGN AND METHODOLOGY

This study used the descriptive research design with the questionnaire as the main instrument in gathering data to determine the factors affecting athletic performance of selected secondary schools in Olongapo City. Descriptive research is used to describe characteristics of a population or phenomenon being studied. The characteristics used to describe the situation or populations are usually some kind of categorical scheme also known as descriptive categories. According to Cherry (2005), descriptive research seeks to depict what already exists in a group or population. Descriptive studies do not seek to measure the effect of a variable; they seek only to describe.

Jackson (2009) said that in survey method research, participants answer questions administered through interviews or questionnaires. After participants answer the questions, researchers describe the responses given. In order for the survey to be both reliable and valid, it is important that the questions are constructed properly. Questions should be written so they are clear and easy to comprehend. He also added that many researchers prefer to use a Likert-type scale, because it is very easy to analyze statistically.

Respondents of the study were student-athletes of selected secondary school in Olongapo City with a total of 145 from the computed number of respondents using the Slovin’s formula. It was conducted during the CLRAA meet 2018 on February 24, 2018, to March 02, 2018, at Calumpit National High School, the billeting area of the Division of Olongapo City Delegation. The names of the participants were not revealed to maintain privacy and confidentiality of their responses as per ethics in research explained by Fraenkel (2003).

RESULTS AND DISCUSSION

Statistical analyses of data, corresponding interpretation, and discussion of findings based on the conceptual framework that became the basis of this study are presented below. The tables present the feedback of student-athletes in terms of attendance and punctuality, preparations before and during the game, and engagement and behavior before and during the game. Furthermore, it presents the extent of influence of the factors as to the athletic performance such as self as athletes, family, coach, school, community, and peer group.

Table 1 shows the frequency and percentage distribution on profile of the respondents in terms of school age, sex, and year level. School. There were 41 or 28.2% of athlete who came from Olongapo City National High School; 20 or 13.8% from

St. Joseph College; 13 or 9% from Gordon Heights National High School and Tapinac National High School; 12 or 8.3% from Regional Science High School; 11 or 7.6% athletes from Columban College Inc.; 9 or 6.2% from Gordon College and Kalalake National High School; 6 or 4.1% from Little Angel Study Center; 5 or 3.4% from New Cabalan National High School; and 3 or 2.1% from Old Cabalan Integrated School and the Manila Times College with a total of 145 student-athlete respondents. Age. There were 40 or 27.6% under the age group of 13–14 years old, 77 or 53.1% under the age group of 15–16 years old, and there were 28 or 19.3% under the age of 17–18. Sex. There were 80 or 55.2% male student-athletes and there were 65 or 44.8% female student-athletes. Year Level. There were 22 or 15.2% who are Grade 7; 26 or 17.9% from Grade 8; 23 or 15.9% from Grade 9; 34 or 23.4% from Grade 10; 30 or 20.7% from Grade 11; and 10 or 6.9% from Grade 12.

Table 2 frequency and percentage distribution on profile of the respondents in terms of no. of playing years in CLRAA, no. of family member engaged in sports, and sports event. No. of playing years in CLRAA. There were 42 or 29% who are first timers in the CLRAA meet; 46 or 31.7% of athletes have their 2–3 playing years; 38 or 26.2% athletes who have

Table 1: Frequency and percentage distribution on profile of the respondents in terms of school, age, sex, and year level

Student-Athletes:	FREQUENCY	PERCENT	
School	C.C.Inc.	11	7.6
	GC	9	6.2
	GHNHS	13	9
	KNHS	9	6.2
	NCNHS	5	3.4
	L.A.S.C	6	4.1
	4-5	3	2.1
	OCABIS	41	28.2
	OCNHS	12	8.3
	RSHS	20	13.8
	SJC	13	9
	TSHS	3	2.1
TMFC	3	2.1	
Total	145	100	
Age	13-14	40	27.6
	15-16	77	53.1
	17-18	28	19.3
	Total	145	100
Sex	Male	80	55.2
	Female	65	44.8
	Total	145	100
Year Level	Grade 7	22	15.2
	Grade 8	26	17.9
	Grade 9	23	15.9
	Grade 10	34	23.4
	Grade 11	30	20.7
	Grade 12	10	6.9
	Total	145	100

Table 2: Frequency and percentage distribution on profile of the respondents in terms of no. of playing years in CLRAA, no. of family member engaged in sports, and sports event

Student-Athletes:	FREQUENCY	PERCENT	
Playing Years in CLRAA	0-1	42	29
	2-3	46	31.7
	4-5	38	26.2
	6 and above	19	13.1
	Total	145	100
No. of Family Member engaged in Sports	2 and below	98	67.6
	3-4	34	23.4
	5 and above	13	9
Total	145	100	
Sports Event	Archery	4	2.8
	Arnis	9	6.2
	Athletics	24	16.6
	Badminton	8	5.5
	Basketball	16	11
	Billiard	2	1.4
	Boxing	3	2
	Chess	4	2.8
	Football/Futsal	19	13.1
	Gymnastics	4	2.8
	Scrap Takraw	8	5.5
	Swimming	12	8.3
	Table Tennis	6	4.1
	TaeKwondo	4	2.8
	Tennis	6	4.1
	Volleyball	16	11
Total	145	100	

4-5 playing years; and 19 or 13.1% who have experienced playing in CLRAA Meet for 6 year and above. Family Member engaged in Sports. There were 98 or 67.6% who have 2 and below family member who are engaged to sports; 34 or 23.4% who has 3-4 family members; and 13 or 9% who have 5 and above members of the family who are engaged in sports. Sports Event. There were 4 or 2.8% in Archery, Chess, Gymnastics, and Taekwondo; 9 or 6.2% in Arnis; 24 or 16.6% in Athletics; Badminton and Sepak Takraw have 8 or 5.5%; 16 or 11% in Basketball and Volleyball; 2 or 1.4% in Billiard; 3 or 2% in Boxing; 19 or 13.1% in Football/Futsal; 12 or 8.3% in Swimming; and 6 or 4.1 in Table Tennis and Tennis.

Table 3 shows the frequency and percentage distribution on profile of the respondents in terms of trainings/seminars and sports icon. Trainings/Seminars. There were 29 or 20% athlete-respondents who have school level trainings/seminars; 65 or 44.8% who have division level trainings/seminars; 41 or 28.3% who have regional level; 8 or 5.5 who have national level; and 2 or 1.4 athletes who have international trainings/seminars. Sports Icon. There were 3 or 2.1% who idolized D. Lin; L. De Vega has 14 or 9.7%; L. James has 8 or 5.5%; LA. Tenorio has 7 or 4.8%; M. Pacquiao has 84 or 57.9%; RL. Nguyen has 6 or 4.1%; and S. Curry ha 23 or 15.9% athletes' population who considered him as an icon.

Table 4 shows the athletic performance of selected secondary schools in Olongapo City as perceived by student-athlete respondents in terms of attendance and punctuality. Indicators

Table 3: Frequency and percentage distribution on profile of the respondents in terms of trainings/seminars and sports icon

Student-Athletes:		FREQUENCY	PERCENT
Trainings/Seminars	School Level	29	20
	Division Level	65	44.8
	Regional Level	41	28.3
	National Level	8	5.5
	International Level	2	1.4
	Total	145	100
Sports Icon	D. Lin	3	2.1
	L. De Vega	14	9.7
	L. James	8	5.5
	L.A. Tenorio	7	4.8
	M. Pacquiao	84	57.9
	RL. Nguyen	6	4.1
	S. Curry	23	15.9
	Total	145	100

Table 4: Athletic performance of selected secondary schools in Olongapo city as perceived by student-athlete respondents in terms of attendance and punctuality

As an Athlete I.....	Student-Athletes	
	Weighted Mean	Descriptive Rating
ATTENDANCE AND PUNCTUALITY		
1. Perform well in my attendance in all the games played in the recent CLRAA Meet.	4.41	Excellent
2. Attend throughout the duration of CLRAA Meet.	4.28	Very Satisfactory
3. Perform well for the past CLRAA years as an athlete in my own event.	3.83	Very Satisfactory
4. Attend all the meetings before and after every game in the CLRAA Meet.	4.08	Very Satisfactory
5. Value my time during the duration of every CLRAA Meet.	4.03	Very Satisfactory
6. Attend the regular practices/trainings	4.21	Excellent
7. Give respect and importance to the allotted time for practices/trainings.	4.21	Excellent
8. Attend all trainings/meetings on time.	4.14	Very Satisfactory
9. Encourage my team mates to be on time during practices/trainings and games.	4.08	Very Satisfactory
10. Attend trainings/practices on time even my coach is not around.	4.19	Very Satisfactory
OVER-ALL MEAN	4.15	Very Satisfactory

1, 6, and 7 have a descriptive rating of excellent (E); and Indicators 2, 3, 4, 5, 8, 9, and 10 have a descriptive rating of very satisfactory (VS) with an over-all rating of VS. These denote that student-athletes have given their best attending their scheduled activities punctually that will enhance their ability to be a good athlete representing the City.

Table 5 shows the athletic performance of selected secondary schools in Olongapo City as perceived by student-athlete respondents in terms of engagement and behavior before and during the game. Indicators 3, 5, and 10 have a descriptive rating of excellent (E), and indicators 1, 2, 4, 6, 7, and 8 have a descriptive rating of VS with an over-all rating of VS. These only implies that student-athletes submits their self with proper behavior in all the activities that they have especially during trainings or practices which enable them to have a smooth relationship with their team mates.

Table 6 shows the athletic performance of selected secondary schools in Olongapo City as perceived by student-athlete respondents in terms of preparations before and during the game. Indicators 2, 3, 5, 7, 8, and 9 have a descriptive rating of excellent (E), and indicators 1, 4, 6, and 10 have a descriptive rating of VS with an over-all rating of VS. These only implies that student-athletes do give priority to their health. Nourishing the body entitles you to a whole day alertness and responsive

Table 5: Athletic performance of selected secondary schools in Olongapo city as perceived by student-athlete respondents in terms of engagement and behavior before and during the gam

ENGAGEMENT AND BEHAVIOR BEFORE AND DURING THE GAME As an Athlete I.....	Student-Athletes	
	Weighted Mean	Descriptive Rating
1. Give original thoughts for our team plays from practices up to the game time.	3.69	Very Satisfactory
2. Participate during the game and executing all game plays learned from practices.	3.94	Very Satisfactory
3. Comply with the athletic policies, rules and regulations set by the governing body of CLRAA.	4.46	Excellent
4. Prepare for the game or whenever duty as an athlete calls me.	3.99	Very Satisfactory
5. Keep myself updated and work cooperatively and well with my team mates.	4.24	Excellent
6. Make sure to settle things whenever we have team disagreements.	3.99	Very Satisfactory
7. Give suggestions that are helpful to the team and not only to myself.	4.08	Very Satisfactory
8. Empower myself with clear communication responsive to the team's/coach's inputs.	4.06	Very Satisfactory
9. Work hand in hand with others in the same environment or across environments.	4.22	Excellent
10. Develop positive coach-athlete's relationship.	4.21	Excellent
OVER-ALL MEAN	4.09	Very Satisfactory

Table 6: Athletic performance of selected secondary schools in Olongapo City as perceived by student-athlete respondents in term of their preparations before and during the game

PREPARATIONS BEFORE AND DURING THE GAME As an Athlete I.....	Student-Athletes	
	Weighted Mean	Descriptive Rating
1. Secure all the needed documents as an athlete ready for screening.	4.19	Very Satisfactory
2. Sleep properly to have a good bed time rest ready for every training and game.	4.26	Excellent
3. Eat plenty of foods which will give me proper nutrition to keep me going as an athlete.	4.40	Excellent
4. Drink a lot of water to suffice the need of my body and hydrate me during game-time.	4.14	Very Satisfactory
5. Take vitamins needed to maintain good body condition.	4.23	Excellent
6. Keep myself updated by reviewing all the game plans prepared by my coach after training/practices	3.94	Very Satisfactory
7. Drink energy drink which is not prohibited to us athletes to keep me energize.	4.26	Excellent
8. Wash and change my clothes regularly to prevent bad smell or odor which will affect my performance.	4.21	Excellent
9. Check my bag with all the things needed before the game and secured those things after playing.	4.27	Excellent
10. Review all the rules and regulations set by the Board of the CLRAA meet if I am at home.	3.18	Very Satisfactory
OVER-ALL MEAN	4.11	Very Satisfactory

to the needs of every situation to become a better individual or athlete in your own specialization.

Athlete. Table 7 shows the descriptive rating of the factors affecting athletic performance in terms of athlete. Indicators 1, 2, 5, 6, 7, 8, 9, and 10 have a descriptive rating of strongly agree (SA), indicator 4 has a descriptive rating of agree (A) and indicator 3 has a descriptive rating of moderately agree (MA) with an over-all rating of SA.

Family. Table 8 shows the descriptive rating of the factors affecting athletic performance in terms of family. Indicator 10 has a descriptive rating of SA, indicators 1, 8, and 9 have a descriptive rating of agree (A), Indicators 2, 3, 4, 5, and 6 have a descriptive rating of MA, and Indicator 7 has a descriptive rating of disagree (D), with an over-all rating of MA.

Coach. Table 9 shows the descriptive rating of the factors affecting athletic performance in terms of coach. Indicators 2,

3, 5, 7, 9, and 10 have a descriptive rating of SA, Indicators 1, 4, and 8 have a descriptive rating of Agree (A), and Indicator 6 has a descriptive rating of MA with an over-all rating of Agree (A) from the student-athletes.

School. Table 10 shows the descriptive rating of the factors affecting athletic performance in terms of school. Indicators 2 and 9 have a descriptive rating of strongly agree (A), Indicators 1, 3, 4, 5, 6, 7, 8, and 10 have a descriptive rating of agree (A) with an over-all rating of agree (A) from student-athletes.

Community. Table 11 shows the descriptive rating of the factors affecting athletic performance in terms of community. All indicators have a descriptive rating of agree (A) and with an over-all rating of agree (A).

Peer group. Table 12 shows the descriptive rating of the factors affecting athletic performance in terms of peer group. Indicator 10 has a descriptive rating of SA, Indicators 1, 8, and 9 have a

Table 7: Descriptive rating of the factors affecting athletic performance in terms of athlete

	AS AN ATHLETE, I.....	Student-Athletes	
		Weighted Mean	Descriptive Rating
1.	Maintain self-discipline.	4.63	Strongly Agree
2.	Keep focused during practices and games.	4.54	Strongly Agree
3.	Easily get distracted by their worries.	3.05	Moderately Agree
4.	Attend meetings and training in exchange of incentive offered by the school.	4.16	Agree
5.	Exhibit enthusiasm during practices and games.	4.26	Strongly Agree
6.	Encourage other athletes/varsity players to achieve their goals	4.51	Strongly Agree
7.	Manage time spent with family, sport training and classes.	4.47	Strongly Agree
8.	Comply with the school athletic policies, rules and regulations	4.40	Strongly Agree
9.	Use praise and encouragement to influence other players behavior	4.34	Strongly Agree
10.	Keep athletic director/coach informed of other academic activities	4.34	Strongly Agree
OVER-ALL MEAN		4.27	Strongly Agree

Table 8: Descriptive rating of the factors affecting athletic performance in terms of family

	AS AN ATHLETE, MY FAMILY.....	Student-Athletes	
		Weighted Mean	Descriptive Rating
1.	Influenced me in entering the varsity team.	3.67	Agree
2.	Affected my decision on what course to take and what activity I should enter/join.	3.05	Moderately Agree
3.	Who is presently coaching a varsity team encouraged me in joining the team	2.89	Moderately Agree
4.	Raced and trained me through sports culture.	3.14	Moderately Agree
5.	Were closely related to Sports Official/s from the Institution that I am motivated to join the varsity team.	2.72	Moderately Agree
6.	With my friends, influenced me in the application of my membership in the varsity team of our school.	2.79	Moderately Agree
7.	Owens a business/school which is related to sports and fitness that leads me in joining the varsity team.	2.10	Disagree
8.	Inspired and motivated me to join the varsity team.	3.44	Agree
9.	Expected so much from me and I have to make my family proud and continue their services as an athlete.	3.75	Agree
10.	Supported me in my own decision of joining the varsity team.	4.64	Strongly Agree
OVER-ALL MEAN		3.22	Moderately Agree

Table 9: Descriptive rating of the factors affecting athletic performance in terms of coach

	AS AN ATHLETE, MY COACH.....	Student-Athletes	
		Weighted Mean	Descriptive Rating
1.	Is able to act on a problem even if I am uncertain and tell me what to do in every situation.	4.12	Agree
2.	Possesses knowledge about the sport that I coached and trained.	4.32	Strongly Agree
3.	Understands the fundamentals of the sport and legal duties of coaching.	4.34	Strongly Agree
4.	Demonstrates sound sport strategies for competition and implements an appropriate conditioning program to promote sport specific fitness.	4.17	Agree
5.	Teaches positive sportsmanship and to be proud but humble in victory	4.41	Strongly Agree
6.	Easily got distracted by worries which can get in the way of my success.	3.26	Moderately Agree
7.	Sets challenging performance standards for the team and encourages each player to achieve their goals	4.23	Strongly Agree
8.	Emphasizes academic success with players and monitors student athlete academic performance	4.19	Agree
9.	Manages conflict in a positive manner and learn from their mistakes	4.22	Strongly Agree
10.	Emphasizes the team approach - Together Everyone Achieves More!	4.49	Strongly Agree
OVER-ALL MEAN		4.18	Agree

Table 10: Descriptive rating of the factors affecting athletic performance in terms of school

	AS AN ATHLETE, MY SCHOOL.....	Student-Athletes	
		Weighted Mean	Descriptive Rating
1.	Set priorities and provides fund for its sports development program.	4.06	Agree
2.	Set standards in selecting student athletes/varsity players.	4.28	Strongly Agree
3.	Conducts pre-season meeting with coaches, student athletes and parents to communicate philosophy and seasonal expectations	4.10	Agree
4.	Provides proper training equipment's suited for every sport.	4.07	Agree
5.	Supports sport activities in and out the campus and give funds for every sports event.	4.08	Agree
6.	Provides good facilities for trainings/practices.	4.05	Agree
7.	Provides sports development program for athletes with proper incentives	4.13	Agree
8.	Sets challenging performance standards for the team and encourages each player to achieve their goals with incentives.	4.12	Agree
9.	Approve scholarship grants for student Athlete/Varsity players.	4.34	Strongly Agree
10.	Select student athletes/varsity players who can bring out the best in them that they may help in their future employment.	4.07	Agree
OVER ALL MEAN		4.13	Agree

Table 11: Descriptive rating of the factors affecting athletic performance in terms of community

	AS AN ATHLETE, MY COMMUNITY.....	Student-Athletes	
		Weighted Mean	Descriptive Rating
1.	Supports all sports activities of the school.	4.10	Agree
2.	Provides additional facilities for athletes/players trainings/practices.	3.91	Agree
3.	Allows student athletes to actively participate in sports and community activities.	4.05	Agree
4.	Encourages athletes/varsity players to achieve their goals by providing outside sports activities that could enhance and challenge student athlete's activities.	4.18	Agree
5.	Formulates programs which will assist school during sports activities such as security assistance.	3.99	Agree
6.	Provides additional funds/ incentives for student athletes.	3.79	Agree
7.	Give priority to student athletes in using available barangay facilities.	3.82	Agree
8.	Encourages every youth to support DepEd programs such as promoting sports activities to prevent drug use and addiction	3.86	Agree
9.	Provides sports activities that would tap student athletes for community involvement such as coaching and officiating events.	4.07	Agree
10.	Promotes sports in the community and enhance cooperation, unity and coordination between families.	4.07	Agree
OVER-ALL MEAN		3.98	Agree

Table 12: Descriptive rating of the factors affecting athletic performance in terms of peer group

	AS AN ATHLETE, MY PEER GROUP.....	Student Athletes	
		Weighted Mean	Descriptive Rating
1.	Support me in all sports activities I have in the school.	3.75	Agree
2.	Provide additional information's to help me in my sporting career.	3.12	Moderately Agree
3.	Help me in participating and engaging myself in sports and community activities.	3.02	Moderately Agree
4.	Encourage me to achieve my goals in every game I have.	3.20	Moderately Agree
5.	Assist me in all school/sports activities.	2.83	Moderately Agree
6.	Provide additional funds for the benefit of all athletes.	2.94	Moderately Agree
7.	Give ample time to listen whenever there are emergency situations in my sports events.	2.39	Disagree
8.	Encourage me every time I am in despair or in my lonely moments to be tough and keep my feet on the ground.	3.55	Agree
9.	Understand my sports activities that would tap them also for community involvement.	3.81	Agree
10.	Supports me in promoting sports in the community and that we may practice more what we have learned in sports.	4.66	Strongly Agree
OVER-ALL MEAN		3.33	Moderately Agree

descriptive rating of Agree (A), Indicators 2, 3, 4, 5, and 5 have a descriptive rating of MA, and Indicator 7 has a descriptive rating of Disagree (D), with an over-all rating of MA from the sports-coaches.

Table 13 shows the differences on the factors affecting the athletic performance when grouped according to school. The differences on the factors affecting the athletic performance when grouped according to school give a big impact on the significance of family, school, and peer.

Table 14 shows the differences on the factors affecting the athletic performance when grouped according to age where the family, school, and peer group are significant.

Table 15 shows the differences on the factors affecting the athletic performance when grouped according to sex where the family and peer group are significant.

Table 16 shows the differences on the factors affecting the athletic performance when grouped according to year level where the family, coach, school, and peer group are significant.

Table 17 shows the differences on the factors affecting the athletic performance when grouped according to playing years in CLRAA meet where the family, school, and peer group are significant.

Table 18 shows the differences on the factors affecting the athletic performance when grouped according to the no. of

family members engaged in sports where the family and peer group are significant.

Table 19 shows the differences on the factors affecting the athletic performance when grouped according to sports event.

Table 20 shows the differences on the factors affecting the athletic performance when grouped according to trainings/seminars.

Table 15: Differences on the factors affecting the athletic performance when grouped according to sex

		Sum of Squares	Df	Mean Square	F	Sig.	Decision
Self as Athlete	Between Groups	.069	1	.069	.439	.509	Not Significant
	Within Groups	22.454	143	.157			
	Total	22.522	144				
Family	Between Groups	6.153	1	6.153	13.163	.000	Significant
	Within Groups	66.852	143	.467			
	Total	73.006	144				
Coach	Between Groups	.721	1	.721	1.714	.193	Not Significant
	Within Groups	60.169	143	.421			
	Total	60.891	144				
School	Between Groups	.000	1	.000	.001	.979	Not Significant
	Within Groups	63.700	143	.445			
	Total	63.700	144				
Community	Between Groups	.186	1	.186	.288	.593	Not Significant
	Within Groups	92.221	143	.645			
	Total	92.407	144				
Peers	Between Groups	6.323	1	6.323	16.341	.000	Significant
	Within Groups	55.332	143	.387			
	Total	61.656	144				

Table 16: Differences on the factors affecting the athletic performance when grouped according to year level

		Sum of Squares	Df	Mean Square	F	Sig.	Decision
Self as Athlete	Between Groups	1.262	5	.252			Not Significant
	Within Groups	21.261	139	.153	1.649	.151	
	Total	22.522	144				
Family	Between Groups	11.824	5	2.365	5.372	.000	Significant
	Within Groups	61.182	139	.440			
	Total	73.006	144				
Coach	Between Groups	5.439	5	1.088	2.727	.022	Significant
	Within Groups	55.451	139	.399			
	Total	60.891	144				
School	Between Groups	7.678	5	1.536	3.810	.003	Significant
	Within Groups	56.022	139	.403			
	Total	63.700	144				
Community	Between Groups	6.013	5	1.203	1.935	.092	Not Significant
	Within Groups	86.394	139	.622			
	Total	92.407	144				
Peers	Between Groups	11.708	5	2.360	6.579	.000	Significant
	Within Groups	49.857	139	.359			
	Total	61.656	144				

Table 13: Differences on the factors affecting the athletic performance when grouped according to school

		Sum of Squares	Df	Mean Square	F	Sig.	Decision
Self as Athlete	Between Groups	1.759	11	.160	1.024	.429	Not Significant
	Within Groups	20.763	133	.156			
	Total	22.522	144				
Family	Between Groups	18.297	11	1.663	4.044	.000	Significant
	Within Groups	54.708	133	.411			
	Total	73.006	144				
Coach	Between Groups	4.991	11	.454	1.080	.382	Not Significant
	Within Groups	55.899	133	.420			
	Total	60.891	144				
School	Between Groups	10.136	11	.921	2.288	.014	Significant
	Within Groups	53.564	133	.403			
	Total	63.700	144				
Community	Between Groups	9.432	11	.857	1.374	.192	Not Significant
	Within Groups	82.975	133	.624			
	Total	92.407	144				
Peers	Between Groups	18.588	11	1.690	5.218	.000	Significant
	Within Groups	43.068	133	.324			
	Total	61.656	144				

Table 14: Differences on the factors affecting the athletic performance when grouped according to age

		Sum of Squares	Df	Mean Square	F	Sig.	Decision
Self as Athlete	Between Groups	.698	2	.349	2.272	.107	Not Significant
	Within Groups	21.824	142	.154			
	Total	22.522	144				
Family	Between Groups	6.423	2	3.211	6.849	.001	Significant
	Within Groups	66.583	142	.469			
	Total	73.006	144				
Coach	Between Groups	.383	2	.192	.450	.639	Not Significant
	Within Groups	60.507	142	.426			
	Total	60.891	144				
School	Between Groups	5.788	2	2.894	7.096	.001	Significant
	Within Groups	57.913	142	.408			
	Total	63.700	144				
Community	Between Groups	4.437	2	2.219	3.581	.030	Not Significant
	Within Groups	87.970	142	.620			
	Total	92.407	144				
Peers	Between Groups	10.732	2	5.366	14.96	.000	Significant
	Within Groups	50.924	142	.359			
	Total	61.656	144				

Table 17: Differences on the factors affecting the athletic performance when grouped according to playing years in CLRAA meet

		Sum of Squares	Df	Mean Square	F	Sig.	Decision
Self as Athlete	Between Groups	.867	3	.289			Not Significant
	Within Groups	21.655	141	.154	1.154	.335	
	Total	22.522	144				
Family	Between Groups	11.236	3	3.745	8.530	.000	Significant
	Within Groups	61.770	141	.438			
	Total	73.006	144				
Coach	Between Groups	.444	3	.148	.345	.793	Not Significant
	Within Groups	60.446	141	.429			
	Total	60.891	144				
School	Between Groups	5.911	3	1.970	4.807	.003	Significant
	Within Groups	57.789	141	.410			
	Total	63.700	144				
Community	Between Groups	3.703	3	1.234	1.962	.122	Not Significant
	Within Groups	88.703	141	.629			
	Total	92.407	144				
Peers	Between Groups	12.939	3	4.313	12.48	.000	Significant
	Within Groups	48.717	141	.346			
	Total	61.656	144				

Table 18: Differences on the factors affecting the athletic performance when grouped according to the no. of family members engaged in sports

		Sum of Squares	Df	Mean Square	F	Sig.	Decision
Self as Athlete	Between Groups	.424	2	.212	1.363	.259	Not Significant
	Within Groups	22.098	142	.156			
	Total	22.522	144				
Family	Between Groups	10.209	2	5.104	11.542	.000	Significant
	Within Groups	62.797	142	.442			
	Total	73.006	144				
Coach	Between Groups	.507	2	.254	.596	.552	Not Significant
	Within Groups	60.383	142	.425			
	Total	60.891	144				
School	Between Groups	1.925	2	.962	2.212	.113	Not Significant
	Within Groups	61.776	142	.435			
	Total	63.700	144				
Community	Between Groups	1.088	2	.544	.846	.431	Not Significant
	Within Groups	91.319	142	.643			
	Total	92.407	144				
Peers	Between Groups	10.741	2	5.371	14.979	.000	Significant
	Within Groups	50.914	142	.359			
	Total	61.656	144				

Table 19: Frequency and percentage distribution on profile of the respondents in terms of playing years in CLRAA

		Sum of Squares	Df	Mean Square	F	Sig.	Decision
Self as Athlete	Between Groups	2.179	15	.145	.921	.543	Not Significant
	Within Groups	20.344	129	.158			
	Total	22.522	144				
Family	Between Groups	15.038	15	1.202	2.820	.001	Significant
	Within Groups	54.978	129	.426			
	Total	70.016	144				
Coach	Between Groups	13.727	15	.915	2.503	.003	Significant
	Within Groups	47.163	129	.366			
	Total	60.891	144				
School	Between Groups	10.215	15	.681	1.643	.071	Not Significant
	Within Groups	53.445	129	.415			
	Total	63.700	144				
Community	Between Groups	10.781	15	.719	1.136	.331	Not Significant
	Within Groups	81.626	129	.633			
	Total	92.407	144				
Peers	Between Groups	21.215	15	1.414	4.512	.000	Significant
	Within Groups	40.440	129	.313			
	Total	61.656	144				

Table 20: Differences on the factors affecting the athletic performance when grouped according to trainings/seminars

		Sum of Squares	Df	Mean Square	F	Sig.	Decision
Self as Athlete	Between Groups	1.152	4	.288	1.887	.116	Not Significant
	Within Groups	21.371	140	.153			
	Total	22.522	144				
Family	Between Groups	7.412	4	1.854	3.957	.004	Significant
	Within Groups	65.591	140	.469			
	Total	73.006	144				
Coach	Between Groups	2.589	4	.647	1.554	.190	Not Significant
	Within Groups	58.301	140	.416			
	Total	60.891	144				
School	Between Groups	2.894	4	.723	1.666	.161	Not Significant
	Within Groups	60.807	140	.434			
	Total	63.700	144				
Community	Between Groups	2.767	4	.692	1.080	.369	Not Significant
	Within Groups	89.640	140	.640			
	Total	92.407	144				
Peers	Between Groups	9.421	4	2.355	6.313	.000	Significant
	Within Groups	52.235	140	.373			
	Total	61.656	144				

Table 21: Differences on the factors affecting the athletic performance when grouped according to sports icon

		Sum of Squares	Df	Mean Square	F	Sig.	Decision
Self as Athlete	Between Groups	1.860	6	.310	2.070	.061	Not Significant
	Within Groups	20.663	138	.150			
	Total	22.522	144				
Family	Between Groups	8.127	6	1.355	2.881	.011	Significant
	Within Groups	64.878	138	.470			
	Total	73.006	144				
Coach	Between Groups	1.715	6	.286	.667	.677	Not Significant
	Within Groups	59.176	138	.429			
	Total	60.891	144				
School	Between Groups	11.501	6	1.917	5.068	.000	Significant
	Within Groups	52.199	138	.378			
	Total	63.700	144				
Community	Between Groups	10.520	6	1.753	2.955	.010	Significant
	Within Groups	81.886	138	.593			
	Total	92.407	144				
Peers	Between Groups	9.900	6	1.650	4.399	.000	Significant
	Within Groups	51.756	138	.375			
	Total	61.656	144				

Table 21 shows the differences on the factors affecting the athletic performance when grouped according to sports icon where the family, school, community, and peer group are significant.

Table 22 The correlation analysis between factors and level of athletic performance as perceived by the student-athletes in terms of attendance and punctuality have great impact on the factors such as self as athlete, school, community, and peer group.

Table 23 The correlation analysis between factors and level of athletic performance as perceived by the student-athletes in terms of engagement and behavior before and during the game has great impact on family and peer group.

Table 24 The correlation analysis between factors and level of athletic performance as perceived by the student-athletes

Table 22: Correlation analysis between factors and level of athletic performance as perceived by the student-athletes in terms of attendance and punctuality

Variable	Coefficient of Correlation (r)	Probability Value	Decision
Self as Athlete and Level of Athletic Performance	.409	0.000	Significant
Family and Level of Athletic Performance	.098	0.238	Not Significant
Sports-Coach and Level of Athletic Performance	.076	0.365	Not Significant
School and Level of Athletic Performance	.221	0.008	Significant
Community and Level of Athletic Performance	.239	0.004	Significant
Peer Group and Level of Athletic Performance	.209	0.011	Significant

Table 23: Correlation analysis between factors and level of athletic performance as perceived by the student-athletes in terms of engagement and behavior before and during the game

Variable	Coefficient of Correlation (r)	Probability Value	Decision
Self as Athlete and Level of Athletic Performance	.112	0.182	Not Significant
Family and Level of Athletic Performance	.323	0.000	Significant
Sports-Coach and Level of Athletic Performance	.115	0.167	Not Significant
School and Level of Athletic Performance	.120	0.151	Not Significant
Community and Level of Athletic Performance	.058	0.489	Not Significant
Peer Group and Level of Athletic Performance	.303	0.000	Significant

Table 24: Correlation analysis between factors and level of athletic performance as perceived by the student-athletes in terms of preparations before and during the game

Variable	Coefficient of Correlation (r)	Probability Value	Decision
Self as Athlete and Level of Athletic Performance	.298	0.000	Significant
Family and Level of Athletic Performance	.140	0.92	Not Significant
Sports-Coach and Level of Athletic Performance	.386	0.000	Significant
School and Level of Athletic Performance	.339	0.000	Significant
Community and Level of Athletic Performance	.369	0.000	Significant
Peer Group and Level of Athletic Performance	.307	0.000	Significant

in terms of preparations before and during the game has great impact on self, school, coach, community, and peer group.

CONCLUSION

The study shows that majority of student-athletes respondents' age belong to the adolescent period (Erikson theory of human development). Male athletes are more active in sport and they dominated the survey. Team sports are played often than individual or dual sports and they play ball games at the most that they used to play. There are factors affecting the student-athletes athletic performance such as self as athletes, sports-coach, family, school, and community. Results of the study accepts the null hypotheses of the researcher and found out that there is no significant relationship between the factors affecting the athletic performance and the level of athletic performance of selected secondary schools in Olongapo City based on the regional athletic competitions as perceived by the student-athletes. The correlation analysis between factors

and level of athletic performance as perceived by the student-athletes were not significant.

RECOMMENDATION

In the light of the findings and conclusions, the following is hereby recommended that all institutions have their sports activities because it is a must as ordered by the Philippine Government but not all has sports development programs for athletes. To achieve set goals and objective in sports, institutions should support sports activities specially promising athletes who could contribute through satisfactory performance; the sport department of the division must have a sound systematic approach toward training and development when it comes to athletes to have a sound success. In fact, without sports in an institution, recreation as well as the wellness in oneself is at stake.

Students can be promising athletes if there are supports in and out of the school. This only means that the school, community, and their own family should hand in hand share all possible resources to work for the common goal and that it achieving the highest potential of their athlete.

Strengthen and enhance the sports development programs not only in the division but especially in their respective school either in public or private elementary and high school for continuity of programs and trainings. Furthermore, make continuous follow-up and supervision of during training and practice-teachers to enhance services and eventually may help them after graduation seeking for employment.

Conduct an in-depth, wider in scope and parallel study with inclusion of athletic performance and satisfaction to validate the findings.

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Research Article

Assessment of the satisfaction of physical education students in Thai Nguyen university of education with training activities

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ABSTRACT

The study was conducted to measure and assess the satisfaction level of students majoring in Physical Education at University of Education – Thai Nguyen University about the university’s training activities. The study has collected opinions from 50 students majoring in Physical Education by random stratification method. Research results have shown that the level of student satisfaction focuses on six factors with 41 evaluation criteria: Training program, competency of lecturers, the faculty’s interest in students, infrastructure, learning support services, and education quality. The results show that the overall satisfaction of students is 98.3%.

Keywords: Assessment, Satisfaction, Students, Training activities, Training programs

RAISING THE QUESTION

In Vietnam, the quality of education is the top factor that universities aim to bring the best benefits to learners (pupils, students), thereby creating prestige for universities and the education industry, bringing benefits to the whole society as what the education industry is aiming for.

In recent years, to achieve the vision and fulfill the mission of training high quality human resources for the Northern Mountain region, University of Education – Thai Nguyen University has gradually improved the content and training programs, improving the teaching quality of lecturers (TNU), improving services related to learners, creating a modern learning environment for students, creating a spiritual and humanistic environment for students in the learning process, programs to support tuition fees, scholarships, reduce financial burden for good and needy students and families, and bringing satisfaction to learners entrusting the education system of the university.

However, in the training process at TNU, besides the factors that bring practical benefits to students and the satisfaction

of learners, there are still weaknesses that the university needs to recognize to improve to bring more satisfaction. The problems are: What factors are students satisfied and unsatisfied with the quality of training services of the University? What improvements should the university focus on to improve the quality of training services and student satisfaction? To answer these problems, the author has conducted a survey and used quantitative analysis methods to solve this research objective.

RESULTS AND DISCUSSION

Training activities are activities that transmit information and data from one person (coach or trainer) to another (trainee, student). As a result, there is a change in students’ knowledge, skills and attitudes from lower to higher level. Training is a traditional method of teaching knowledge and skills, but it is not the same as adult learning activities. While training is commonly used, its results are enhanced if an approach that follows the principles of adult training is taken. This activity consists of three phases: Advertising new information and data; analyzing new information and data to acquire new knowledge; and acquiring and linking new knowledge with learned knowledge to transform into learners’ own property. A good training program should always focus on who it is targeting, what prior knowledge they have and how the coaches and trainers will help in the analysis phase of the training program.

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Study data were collected by random sampling method. The survey was conducted from September 2020 to December 2021. The number of research samples is 60. The research subjects are students majoring in Physical Education, University of Education – Thai Nguyen University, including courses 52, 53, 54, and 55. Research results about the satisfaction level of students in the training program of the university are shown as follows:

The results of Table 1 show that 100% of students are satisfied and highly satisfied with the provision of information about the university’s training program. These results show that the university’s training program has always been adjusted and supplemented to suit the training requirements of the new situation, in line with the learning process of students majoring in physical education of the university.

The results in Tables 2 and 3 show that students highly appreciate the qualifications and dedication of the lecturers. In which, the professional qualifications and enthusiasm of the

lecturers to impart and share knowledge are highly appreciated by the students. This affirms that the university’s teaching staff is not only knowledgeable in extensive professional knowledge, being able to absorb new knowledge but also dedicated to passing on their knowledge to the next generation. Although students are satisfied with the qualifications of the lecturers, the teaching ways of some lecturers are still presentational and the class is not lively, making it difficult for students to absorb knowledge, thus leading to poor results in “Do teachers have lively and attractive teaching methods?” section.

Facility is a factor that plays an important role in assessing student satisfaction. If the facilities are good, it will meet the learning needs of students and be a motivation for students to strive more in their studies. The interview results show that the university’s facilities meet the learning needs of students, which was shown through the percentage of 100% of students who are satisfied with the university’s facilities. However, the facilities needed to serve the learning needs of physical education students such as spaces and tools for extracurricular

Table 1: Student satisfaction with the training program (n=60)

No	Question	Highly satisfied		Satisfied		Not satisfied	
		SL	%	SL	%	SL	%
1	Are the students adequately announced about the course information?	60	100	0	0	0	0
2	Is the course program suitable for practical requirements?	55	91.7	5	8.3	0	0
3	Is the program content always been updated and renewed?	60	100	0	0	0	0
4	Are the subjects properly distributed?	50	83.3	5	8.3	0	0
5	Do the subjects complement each other’s knowledge?	60	100	0	0	0	0
6	Is the subject content diverse?	58	96.7	2	3.3	0	0
7	Is the course assessment and grading system reasonable?	55	91.7	5	8.3	0	0
8	Does the content of the subjects meet the output standards of the training program?	58	96.7	2	3.3	0	0

Table 2: Students’ satisfaction about the teachers’ qualification (n=60)

No	Question	Highly satisfied		Satisfied		Not satisfied	
		Ans	%	Ans	%	Ans	%
1	Do teachers have professional knowledge?	38	63,3	22	36.7	0	0
2	Do teachers have much practical experience?	48	80,0	12	20,0	0	0
3	Do teachers know how to apply practical experience to the lecture?	45	75,0	15	25,0	0	0
4	Do teachers have lively and attractive teaching methods?	25	41,7	35	58.3	0	0
5	Do teachers have good knowledge transfer skills?	45	75,0	14	23.3	1	1,7
6	Do teachers encourage students to discuss?	40	66,7	20	33.3	0	0
7	Do teachers help students practice and develop the necessary skills?	48	80,0	12	20.0	0	0
8	Do teachers present the lecture clearly?	45	75,0	14	23.3	1	1,7
9	Are the problems that the teachers convey fully understood by the students?	52	86,7	7	11.6	1	1,7
10	Can teachers make good use of teaching aids and equipment?	48	80,0	12	20.0	0	0
11	Can teachers come to class on time and follow the teaching plan thoroughly?	52	86,7	8	13.3	0	0

Table 3: Students’ satisfaction about the concern of lecturers (n=60)

No	Question	Highly satisfied		Satisfied		Not satisfied	
		Ans	%	Ans	%	Ans	%
1	Are teachers willing to answer students’ questions?	52	86.7	8	13.3	0	0
2	Are teachers willing to offer help when students need?	52	86.7	8	13.3	0	0
3	Are teachers willing to listen to students’ opinions?	48	80.0	12	20.0	0	0
4	Are the instructors friendly and sociable?	58	96.7	2	3.3	0	0
5	Overall, are you satisfied with the university’s faculty?	48	80.0	12	20.0	0	0

Table 4: Student satisfaction with the university’s facility (n=60)

No	Question	Highly satisfied		Satisfied		Not satisfied	
		Ans	%	Ans	%	Ans	%
1	Do the printed resources in the library meet the learning and research needs of students?	60	100	0	0	0	0
2	Do you have easy access to study and reference materials at the library?	45	75.0	15	25.0	0	0
3	Is the lecture hall spacious and clean?	38	63.3	22	36.7	0	0
4	Do classrooms meet the needs for clear sound, light, and airflow?	38	63.3	22	36.7	0	0
5	Do the practice equipments, and yards sufficient?	25	41.7	35	58.3	0	0
6	Does the university have adequate equipment and facilities to support teaching and learning?	48	80.0	12	20.0	0	0
7	Are you satisfied with the university’s facility?	48	80.0	12	20.0	0	0

Table 5: Student satisfaction with academic support services (n=60)

No	Question	Highly satisfied		Satisfied		Not satisfied	
		Ans	%	Ans	%	Ans	%
1	Do the study and career counseling activities meet the needs of students?	48	80.0	12	20.0	0	0
2	Do the University and the Faculty listen to the wishes of students?	52	86.7	8	13.3	0	0
3	Do staffs, teachers and supervisors have a good attitude towards students?	38	63.3	22	36.7	0	0
4	Good health care and counseling service?	25	41.7	35	58.3	0	0
5	Are social activities organized regularly and with high efficiency?	52	86.7	8	13.3	0	0
6	Food and accommodation services meet the needs of students?	25	41.7	35	58.3	0	0
7	Are you satisfied with the academic support service at the universities?	48	80.0	12	20.0	0	0

Table 6: Overall satisfaction with training quality (n=60)

No	Question	Highly satisfied		Satisfied		Not satisfied	
		Ans	%	Ans	%	Ans	%
1	Are you satisfied with the knowledge/skills you received?	25	41.7	35	58.3	0	0
2	Does the training quality meet your expectations?	38	63.3	22	36.7	0	0
3	Overall, are you completely satisfied with your studying at the university?	52	86.7	8	13.3	0	0

activities as well as regular courses are still limited, not fully meet the learning and training needs of students.

While studying at the university, learners are guaranteed social policy regimes and health care in accordance with health regulations; benefited from the health insurance regime,

periodical health examination; and be guided and guaranteed to borrow money from the social policy bank to facilitate learning and living. Academic and career counseling activities as well as information announcement on the political, economic, cultural, and social situation are regularly updated on the university’s Website, with free of charge wireless internet services. In

collective activities of the youth, the university's students are actively involved and included in a dynamic environment with many different activities such as culture, arts, sports, and social skills training. The effectiveness of those activities, according to the students' assessment, has been noticeably changed, reflected in the student's satisfaction and very satisfied rate of 100%.

The results achieved from the training program such as knowledge, skills, and competencies are what every student is interested in. They expect to have a solid knowledge base and certain competencies. The survey results show that students have 100% satisfaction with the acquired knowledge and skills. Satisfaction with the quality of training shows that the university's training program has met the expectations of students.

From the statistics on the satisfaction level of students majoring in physical education, University of Education – Thai Nguyen University about training activities, it can be seen that changes in the training program of the university have brought trust to students in learning activities. However, the survey also pointed out that the training program still has some limitations. The problems are as follows: The distribution of subjects and the examination and assessment of learning results are not really appropriate; the university's facilities and study support services have not yet met the learning and living needs of students; and the teaching methods of the lecturers are not really lively and attractive. In order for students to be really satisfied with the training program, the university needs to continue to make adjustments and supplements to suit the needs of the community as well as the aspirations of learners.

PROPOSING SOME MEASURES TO IMPROVE THE QUALITY OF TRAINING PHYSICAL EDUCATION STUDENTS IN UNIVERSITY OF EDUCATION – THAI NGUYEN UNIVERSITY

From the limitations of training activities pointed out by the tests on student evaluations, from the experience of the research team and the reference to relevant documents, the article proposes a number of measures to improve the training. The way of increasing quality of training Physical Education students in University of Education – Thai Nguyen University is as follows:

Firstly, Regularly Updating, Editing, and Supplementing Training Programs

To ensure and improve the quality of training, there must be an advanced training program that meets the needs of students

and society. An integrating training program's mission is to find innovative methods that can achieve two tasks: students developing in-depth professional knowledge and at the same time learning personal and communication skills. Achieving this integration may require changes in the structure of the training program to take advantage of the opportunities of extra-curricular learning, in parallel with the training program combined with external practice and developing a new educational program. At the same time, it is necessary to allocate teaching time and distribute subjects properly.

Secondly, Organize Training Courses on the Innovation of Teaching Methods, Testing, and Evaluating System for Lecturers

All teaching methods can contain positive activities. However, to become a method where positive factors become a feature, most researchers refer to the level of student participation in the learning process. The learners must be considered as the center, the subject of the "learning" activity. To do so, it is necessary to: Diversify teaching methods; reduce lecture time and increase student activity time; create high interaction between teachers and learners, and learners with the others; toward the development of higher-order cognition for students, which is: analysis, synthesis, and evaluation; and focus on developing skills and building a positive working attitude for learners. At the same time, the examination and evaluation of learners' learning outcomes is also very important, when developing test and evaluation plans, students need to focus on developing the necessary competencies to meet the output standards.

Thirdly, Increase Investment in Facilities, and Services for Students' Learning and Living

The university needs to invest in and improve the operational efficiency of items for learning and living of students: lecture halls, libraries, stadiums, gymnasiums and equipment, machinery, and supplies for sports and other supporting service activities in the university.

CONCLUSION

Student's satisfaction level is one of the important measures to evaluate the training activities of educational institutions. This is one of the proofs of the effectiveness of training activities, helping to make timely adjustments to the training activities to create an increasingly high level of satisfaction for the clients. The analysis results show that student satisfaction focuses on 6 main factors and 41 evaluation criteria, namely, subject program, competency of lecturers, the faculty's interest in students, conditions for learning service, learning support services, and education quality.

Physical education students in University of Education – Thai Nguyen University mostly rated the level of satisfaction or

higher with the training activities of the university. Education quality, the faculty's interest in students, subject curricula, and faculty capacity are factors in student satisfaction. However, besides that, the factors of: teaching methods, service conditions and support services for students' study, and living still exist, so the factors have not received high satisfaction from students.

From the level of student satisfaction with six factors specifically expressed by 41 criteria, the article has proposed 03 solutions to improve the quality of training for physical education students in University of Education-Thai Nguyen University, which is regularly updating, editing and supplementing training programs; innovating teaching methods, testing, and evaluating system; and increasing investment in facilities and services for students' study and daily life.

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Research Article

A comparative study between table tennis and badminton players on body composition

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ABSTRACT

The purpose of the study was to compare the body composition among table tennis and badminton players of Gulbarga University. Total 20 male players, 10 each from table tennis and badminton, and age ranging between 18 and 20 years were randomly selected for this study. The necessary data were collected by using a body composition analyser which is based on bioelectrical impedance. To compare the mean difference between table tennis and badminton players, a t-test was computed using the SPSS software. The results indicate that there was no significant difference found between table tennis and badminton players on the variables of body composition: fat basal metabolic rate, body fat mass, body mass index, and total body water; only the fat-free mass was found to be statistically significant at the 0.05 level of significance.

INTRODUCTION

Body composition is the proportion of the lean body mass and depot fat, and it is one of the most important morphological features characterizing human organism. It is well known that a high percentage of fat in relation to the total body weight is detrimental and may lead to obesity. It is an integral component of total health and physical fitness. Analysis of body composition can depict the percentage of various components (muscles and skeletal mass) of the total body weight of an individual and provide precise information about overall body functioning. For an athlete, body composition is an important factor that contributes to a peak performance. It has been known to be fundamental to excellence in athletic performance. It is well accepted that athletes who have a low level of fat percentage give optimum performance in the competition.

Studies of body composition in certain sports indicated that the athletes who were very lean but heavy because of well-built musculature were superior in performance in certain competitive sports such as football, weight lifting, and shot put. On the other hand, athletes who have a substantial amount of adipose tissue have increased energy demands due to the inner

weight of fat, thus rendering the work more difficult to perform in endurance activities where the body has to no longer with greater weight. It may be for this reason that long distance runners are found to be less endomorphic than other runners and their counterparts at a lower level of competition. The terms fat-free mass (FFM) and lean body mass are often considered interchangeable when they should not be. The lean body mass contains a small percentage of essential fat stores (perhaps as much as 3%), chiefly within the central nervous system, marrow of bones, and internal organs. In contrast, use of the term "Fat-Free" mass refers to the body mass devoid of all extractable fat.

METHODOLOGY

For the purpose of this study, overall 20 male players, 10 each from table tennis and badminton players of Gulbarga University who are keenly participated in different tournaments like inter-university competitions were randomly selected as subjects for this study. The age of the players was ranged between 18 and 20 years. The necessary data were collected using a body composition analyser which is based on bioelectrical impedance. Before the administration of the test, the subject was briefed on the objective and requirements of the test that were to be tested. The instructions were properly given to the players before the commencement of the test. They were instructed to have a sound night's sleep and they should not

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have any physical exertion at the time of the test and the test were conducted after 3 h of light breakfast. The height (in cm) and weight (in kg) were measured using stadiometer and weighing machine respectively and the age of the subjects was recorded from their identity cards of their respected institutions. The subjects were asked to relax for half an hour and empty their bladder before testing the body composition parameters, that is, fat%, basal metabolic rate (BMR), fat mass (FM), FFM, body mass index (BMI), and total body water (TBW).

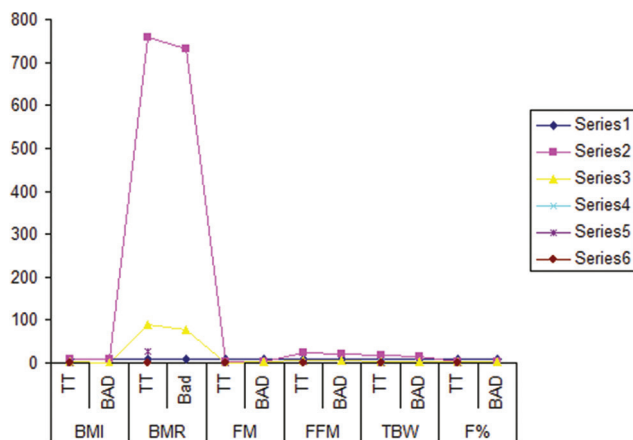
Statistical Analysis

For testing the statistical significant difference between the mean value of table tennis and badminton players, t-test was employed with the help Statistical Package for the Social Sciences software. The level of significance chosen was $P \leq 0.05$.

RESULTS

The results are presented in the following table and graph.

Figure Mean scores of body composition parameters of table tennis and badminton players



DISCUSSION

From the result in Table 1, it has been observed that there was no significant difference in the parameters of body composition (fat%, BMR, body FM, BMI, and TBW) between table tennis and badminton players.

Body composition is one of the important components of morphological characteristics of every player. These

Table 1: Comparison on body composition among table tennis and badminton players

Variables	Groups	n	Mean	SD	ME	SE	't'
BMI	TT	10	10.38	1.90	0.67	0.61	0.55
	BAD	10	9.20	1.40			
BMR	TT	10	757.72	89.03	26.57	26.28	0.50
	Bad	10	731.15	76.72			
FM	TT	10	2.24	1.39	0.28	0.53	0.27
	BAD	10	1.96	1.93			
FFM	TT	10	24.14	5.15	3.39	1.54	1.1
	BAD	10	20.75	4.57			
TBW	TT	10	17.4	3.63	1.84	1.10	0.83
	BAD	10	15.55	3.33			
F%	TT	10	4.01	1.85	0.30	1.06	0.14
	BAD	10	4.32	4.38			

BMI: Body mass index, BMR: Basal metabolic rate, FM: Fat mass, FFM: Fat free mass, TBW: Total body water

components may vary from player to player. It can be observed that both the players of table tennis and badminton are normal in case of BMI. It can also be observed that the calculated values of BMR, FM, FFM, and TBW are higher in table tennis players than badminton players. The table tennis players have less fat%. The result revealed that the table tennis players are superior to their counterpart, that is, badminton players as per the present study.

CONCLUSION

In the light of the findings of the present study, followings conclusions were drawn; no significant difference was obtained among table tennis players and badminton players on body composition (fat%, BMR, body FM, BMI, and TBW). Significant difference was found between table tennis players and badminton players on FFM.

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Review Article

Prevention of dentofacial injuries in sports

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ABSTRACT

Sports dentistry is a branch of dentistry which deals with overall oral health of sports players. Sports dentistry is defined as the type of dentistry that deals with prevention and treatment of sport-related dental injuries. It also includes educating players about sport dentistry by taking some preventive measures during sports by applying the proper dental equipment. Dental injuries are certainly the most common type of orofacial injury. The most significant aspect in preventing sports-related orofacial injuries is wearing basic protective devices such as properly-fitting helmets and face shields. The aim of this paper is to create dental awareness in the field of sports.

Keywords: Face shield, Mouth guard, Orofacial injury



INTRODUCTION

The origin of sport dentistry was done in 1980. Dental injuries are very common type of injury that a sport player witnesses.

The types of orofacial dental injury

- Soft-tissue injury
- Hard-tissue injury.

The injuries related to teeth and facial bones:

- Tooth intrusions
- Tooth luxation

- Crown fracture
- Root fracture
- Complete avulsion
- Dental-facial fracture.

It is very important for the players, coaches, and the entire sport fraternity to understand that the player is at constant risk of getting a dental trauma irrespective of age and time type of sport.

DISCUSSION

Sports Involving Orofacial Trauma

Orofacial traumas are very common in all the sports, but, specially, there are some sports where dental trauma is very frequent.

These are:

- Basketball
- Football
- Hockey
- Baseball
- Boxing
- Wrestling
- Martial arts
- Cricket
- Lacrosse

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There are many sports that leads to orofacial dental injuries. Among many, the highest ranked sport for dental injury is basketball.

Basketball

Basketball is considered as a “no contact sport,” but the injuries caused by this particular sport is roughly 10.6/100 athletes. This is more than 3 times of the injuries caused by football; hence, it is the sport which is prone to maximum injuries. Therefore, the use of mouth guard is mandatory in this particular sport. It is very important to take correct number of preventive measures while playing basketball.



Football

Football leads to many dental injuries, but, as compared to earlier, the rate has considerably decreased. Prior the use of mouthguards, among all the injuries, the dental injuries were 54% but now has decreased to 2.8%.



Callum Wilson, a football player, had undergone a dental trauma while playing the match and got his right central incisor (11) avulsed.

Ball and stick games

These are the sports requiring ball and bat. These are hockey, baseball, cricket, and lacrosse. The dental injuries caused by these are not very severe as the use of mouthguard and protective gear is mandatory.

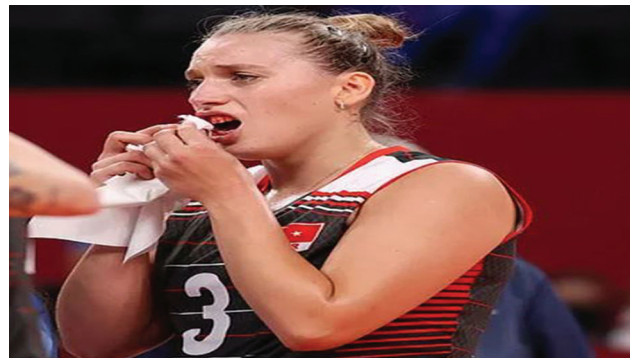
Wrestling, martial arts, and boxing

Here, the use of mouthguard decreases the risk of dental trauma considerably. The sports involve direct punches on your face, mouth which leads to high risk of dental fractures and temporomandibular trauma.



THRILL SEEKING SPORTS

These include sport like skiing and snowboarding. Here, the player has no contact with the opponent but a direct contact with floor or hard things which could lead to serious dental accident or trauma.



Cansuozbay is a Turkish volleyball player and she suffered serious dental injury which broke her anterior teeth during Olympics volleyball women's tournament.

Types of Sport-related Dental Injury

Dental injury caused by any sport is a very common type of injury to the player. There are high chances of dental trauma in sports than in any other field that could lead you to immense amount of pain and damage that could be even permanent.

The common type of dental traumas faced by players could be:

- Fractured tooth
- Chipped-off tooth
- Fractured roots
- Tooth intrusion
- Avulsed teeth

- Temporomandibular joint pain
- Temporomandibular joint fracture.



Fractured tooth

Fractured tooth caused by dental trauma will lead to pain. In the case of fractured tooth, the infection involves pulp and the treatment mostly is root canal treatment. It is very important that as soon as the player's tooth is fractured the treatment should be started. If the player delays the treatment, then it is quite possible that the tooth might go for extraction.

Type of pain – can be mild or severe.

Treatment – can be root canal treatment or extraction of tooth.

Chipped-off tooth

This condition is not as severe as fractured tooth because here the root or the pulp is not involved. The corner of the tooth breaks off.

Type of pain-no pain at all, esthetically not appreciable.



Chipped-off tooth seen with the right central incisor

Treatment – mostly affects the anterior teeth, so, therefore, the treatment of choice could be composite filling.

Fractured roots

It is very important to understand that a fractured root is very severe dental problem. This could happen when there is a sudden trauma near your maxillary or mandibular jaw. Clinically, the player will not witness any change to the crown structure but radiographically, the infection would be clearly seen and as the roots are involved so this if not treated at the correct time might lead to tooth loss.

Type of pain-very severe

Treatment – root canal treatment that is endodontic treatment or extraction of tooth.



Tooth intrusion

It is the reclamation of teeth due to sport-related dental trauma. There can be some injuries that could push the teeth inward back into the jawbone. This probably can happen due to a hit on the face or a close encounter with some player. This condition involves the severe damage to the pulp and the roots. This condition may lead to shortening of the roots, blending of the injured tooth's root to alveolar bone that is ankylosis. The sport that might cause tooth intrusion is wrestling.

Type of pain-mild to severe

Treatment – endodontic, orthodontic treatment, or extraction of tooth.

Avulsed tooth

It is another very common type of sport-related dental injury. Avulsed tooth means complete dislocation of tooth.

Type of pain-severe pain

Treatment-dental implants.



METHODOLOGY

Components of Sports Dentistry

- Prevention OF dentofacial injuries through sports safety measures
- Management of dentofacial injuries.

Preventive Measures for Sport-Related Dental Injury

Role of dentists not just the treatment but it also deals with the preventive measures.

The preventions taken here are-

- Mouthguards-wearing and utilizing of properly fitted equipment.
- Teaching proper sport skills by the coach.
- The equipment used should be well maintained.
- Safe playing areas.
- Use of helmets to make a protective layer for players.
- Regular dental check-ups of sportspersons.
- Taking regular check on the eating habits of players

Mouthguards

It is a device that guards the mouth while playing contact sports which help reduce the force of the blow to face, this reducing the risk of broken teeth and injuries to your lips, tongue, face, or jaw.

Mouthguards are the most important tool when it comes to preventive dentistry. It is a very essential piece of athletic gear that should be part of an athlete from a very young age.

It is also called as gum shield or mouth protector. It was first discovered in 1980 by a dentist named Dr. Woolf Krause. In case of class I and II type of malocclusion, the mouthguard could be worn in the anterior teeth but in case of class III malocclusion, the mouthguard should also be worn in the mandibular teeth.

Mouthguards helps in preventing:

- Dental injuries.
- Throat injuries
- Concussion
- Brain hemorrhage
- Unconsciousness
- In case of malocclusion, severe trauma to maxillary and mandibular bone.
- Injury to soft tissue.
- Death.

Benefits of mouthguards

- Provides the maxillary arch with a high degree of comfort and fit.
- Mainly provides protection to anterior teeth.
- It acts as protective layer and pushes the soft tissues in the oral cavity away from the teeth.
- As far as the oral cavity is concerned, it helps in preventing laceration, swelling of lips, cheeks, and tongue.



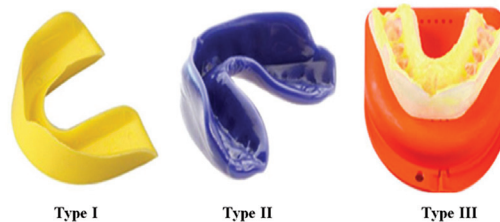
- It is durable, resistant, resilient to tearing, comfortable odorless, and flavorless.
- It does not restrict breathing.
- It encourages speaking even during sport
- It helps protect teeth, soft-tissue, bone structure, etc

Classification of mouthguards

Type I – Stock Mouthguards

Type II – Mouth formed mouthguards

Type III – Custom-fabricated mouthguards



Sports where wearing mouthguard is mandatory

Football, basketball, equestrian sports, field hockey, boxing, gymnastic, handball, ice hockey, inline skating, lacrosse, martial arts, rugby, racquetball, soccer, softball, squash, volleyball, water polo, and wrestling.

Mouthguards are used in children as well but may cause mouth abrasions, cuts, and infection.

Proper use of mouthguards is very essential

Daily sanitization is important and replaces your mouthguard every 2 weeks.

Replace the mouthguard when the edges become sharp.

Helmets

- It is used for the prevention of injuries to scalp, ears, and mouth.
- It protects against abrasion, laceration of skin of the scalp, and ears.

- It protects the mandible and maxilla, temporomandibular joint, bones of the skull from fractures and from concussion, unconsciousness, cerebral hemorrhage, brain injury, coma, and death.



Face masks

There are many traumatic injuries that a sportsperson can witness in his entire life but is very important to prevent them. Facemask protects eyes, nose, nasal pyramid, zygomatic arches, and mouth. The use of face mask is very important for player protection and decrease morbidity.

The first facemask was introduced in football in 1950. The full cage face mask will offer highest degree of overall facial safety.



Drawbacks of facemask

- Muscle damage
- Spinal column damage
- Furthermore, it has a protruding object within the ready grasp of opponent player.

CONCLUSION

The awareness of sport dentistry is very important. Role of dentist is not just the treatment but also to aware athlete. Players and the entire sports fraternity about dental awareness. Wearing mouthguards are recommended from the age of 16. At this age, the third molars have started erupting and the ontogeny of maxilla and mandible is accomplished. Bimaxillary mouthguards are best for preventive measure but is very expensive so the usage should be very careful so that it lasts for at least 2–3 years. As we know precaution is better than cure so, please do take necessary steps to avoid or lessen the chances of dental injuries.

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