A COMPARATIVE STUDY OF TRAINING EFFECT ON SELECTED BODY COMPOSITION MOTOR PERFORMANCE SOCCER SKILL AND PLAYING ABILITY AMONG THREE DIFFERENT AGE GROUPS OF MALE SOCCERS

BY

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AN ABSTRACT

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ABSTRACT

Soccer is the most popular sports in the present world. The organizational set up, the intensity of this game, the business through soccer competition, the management of this business has become a matter of study at present time. Soccer was popularized by the British mainly in their colony but gradually it engulfs the spectators throughout the world. Soccer included different performance characteristics as the Physical, Physiological, Psychological, technical and different extraneous factors. A soccer player is required to have a good mastery of basic techniques because this is the main requirement to become a qualified and highly skilled player in soccer games. It required without ball play technique also. Soccer players needs a very high level of physical fitness and mental fitness to play and avoid injuries, reveals that the soccer game is extremely challenging and high intensity and players has to perform variety of skills during the play thus needs endurance, flexibility, speed, strength, agility, quickness, coordination etc. The development of such variables required long term scientific practice.

Talent identification and nurturing such talents is most important. There are so many published literature regarding different types of training and their effect on various category of age group. In this regard, several studies examined the relationship between measures of training load, anthropometry, body composition, and/or physical fitness in elite adult soccer players over the course of a soccer season. Findings from these studies indicate significant variations in body composition and physical fitness according to the demands of the respective training period.

In the present study, the scholar wanted compare the body composition, motor performance, soccer skill and playing ability level, among categorized soccers from different age groups participated in Hooghly district school level games and framed the title as, **'A Comparative Study of Training Effect on Selected Body Composition Motor Performance Soccer Skill and Playing Ability Among Three Different Age Groups of Male Soccers'**.

The purpose of the study was to observe the effect of soccer training programme on height, weight, body fat %, strength, power, agility, speed, endurance, kicking power of right and left foot, throw in power, shooting accuracy, dribbling

ability and over all soccer playing ability and compares them among the U-14, U-17 and U-19 soccers. The intension of the researcher was also to find out the percentage of development of said different variables of three different age groups.

The subjects of the present study were considered from three different age groups of under 14 years, under 17 years and under 19 years. Each group comprises with 20 subjects. Sampling having completed, personal data like name, age, height, weight, was taken for each subject age-wise. Measurement for selected body composition variables and tests for motor performance parameters and soccer skill test were conducted in the same day. On the next day the soccer playing ability were measured through competitive soccer match under the supervision of 4 qualified soccer coach of national Institute of sports (NIS). After 12 week way specific training the post data were taken in the same manner with the same assistance and supervisors. The five categories of variables were Anthropometric measure, Body composition, Motor performance, Soccer skill, and Soccer playing ability

Results

Normality of Data is tested through Shapiro-Wilk Test. The value of the Shapiro-Wilk Test is greater than 0.05 indicates that the data is normal. The data homogeneity test was carried out using Leven's test with SPSS 16.0 at the 0.05 significance level. Data significance value was greater than 0.05 (sig > 0.05), which means the sample data tested was homogeneous.

In case of weight only for the 19 yrs. group a significant difference has occurred considering the effect of soccer training. There were no significant differences have occurred in any of the other groups. There were also no significant changes occurred in any of the said groups considering other variables of this category.

In order to find out upon which group the effect of soccer training was maximum, pairwise comparison analysis of adjusted means of post-test data was carried out. In case of weight the soccer training programme was not equally effective and the differences were significant. From the difference of adjusted post-test mean and compare it with the critical difference it is clear that maximum changes occur in case of U-19 boys and resulted into weight gain. In case of Height there were almost

equally effective changes occur among the three groups as the differences were not significant. Likewise in case of body fat % the same results occurred. As the critical difference (CD) of body fat % is less than the difference of the means of the adjusted post test of body fat % then it can be declared that in each case there were unequal effective changes occurred and maximum changes took places for the U 19 group of boys.

From the difference of adjusted post-test mean and compare it with the critical difference it is clear that maximum changes occur in case of U-17 boys and resulted into distance of Medicine ball put ability gain, maximum changes occur in case of U-19 boys and resulted into distance of Standing Broad Jump ability gain, maximum changes occur in case of U-14 boys and resulted into lower time of Zigzag Running ability gain, maximum changes occur in case of U-19 boys and resulted into lower time of 50mtr. running ability gain and maximum changes occur in case of U-19 boys and resulted into lower time of 600yds running ability gain.

In case of right foot kick the soccer training programme were not equally effective as the differences were significant. From the difference of adjusted post-test mean and compare it with the critical difference it is clear that maximum changes occur in case of U-19 boys and resulted into right foot kicking ability gain. In case of left foot kick the soccer training programme were not equally effective as the differences were significant. From the difference of adjusted post-test mean and compare it with the critical difference it is clear that maximum changes occur in case of U-17 boys and resulted into left foot kicking ability gain, maximum changes occur in case of U-17 boys and resulted into throw in accuracy ability gain, maximum changes occur in case of U-17 boys but that were not significant, maximum changes occur in case of U-17 boys and resulted into lower time of dribbling ability and maximum changes occur in case of U-19 boys but that were not significant.

Considering the % of improvement of the variables through training, it is clear that maximum development occurs in case of Agility, Speed, Endurance, Kicking ability (both for Right and left leg), Throw-in ability, shooting accuracy for the 14 yr. boys. For strength of arm and leg maximum development occurs for the 17yrs. boys and maximum development occurs in case of Weight, Dribbling ability and Soccer Playing ability for the student of 19 yrs.

From the Multiple Regression Analysis between dependent and independent variables of pre-test data the Regression equation was found (df = 18, 41 F = 1.304, P < 0.05) not significant. The regression equation written as, the participant predicted – Playing ability (dependent variables, pretest) = {-1.405 + 0.04 (Weight) - 0.049 (Height) – 0.057 (Triceps) + 0.047 (Sub scapula) - 0.113 (Supra iliac) – 0.221 (Calf)* + 0.238 (Midthigh)* – 0.016 (Abdomen) – 0.055 (Medicine ball) + 0.008 (SBJ) + 0.044 (Zigzag) – 0.129 (M50) + 0.010 (Y600) * + 0.009 (Right) + 0.007 (Left) – 0.013 (Throw) – 0.117 (Penalty) – 0.009 (Dribble)}.

The result table revealed the Multiple Regression Analysis between dependent, i.e., the playing ability and other independent variables of post data. Regression equation was found (df = 18, 41 F = 1.173, P < 0.05) not significant. The regression equation written as, the participant predicted: –

Playing ability (dependent variables, posttest) = {2.974 - .017 (Weight) +2.437(Height)* +.007(Triceps) + .105(Sub scapula) - 0.076(Supra illiac) – 0.030(Calf) + 0.053(Midthigh) + 0.028(Abdomen)+ 0.070(Medicine ball) -.005(SBJ) - 0.048 (Zigzag) – 0.054(M50) + 0.013 (Y600) * - 0.019 (Right) + 0.036(Left)* +0.023 (Throw) + 0.048(Penalty) – 0.01(Dribble)}.

In this study the result provides us some mixed information. No such specific age group clearly developed all the influential variables through this specific training. For 19 yrs. age group the weight, dribbling quality and the soccer playing ability were improved maximum in comparison to the other two groups due to training. The soccer related two qualities depend largely on maturity. As this group is mature more than the other two groups, then naturally the adaptation of with ball training affected more the 19 yrs. group than the other two groups. The dribbling is largely depends on the decision making process. In case of anthropometric measures, body fat %, different motor performances, different soccer skills and the soccer playing ability of the said three groups, based on the result and discussion it was clear that we can reject the null hypothesis and accepted the alternative hypothesis.

Conclusions:

It may be concluded that there was no significant change of height and body fat %. Significant increase in body weight of the soccers occurred only of 19 yrs.

group among the three groups of soccers following the 12 weeks soccer training. It was observed that there was significant development of shoulder strength, leg explosive strength, agility, speed, endurance of the soccers occurred in case of all the three groups following 12 weeks soccer training. It has found that except dribbling ability of 19 yrs. group there were significant development of right foot kicking ability, left foot kicking ability, throwing ability for distance, shooting accuracy, and dribbling ability for other two groups of the soccers occurred in case of all the three groups following 12 weeks soccer training. It was observed that there was significant development of soccer playing ability of the soccers occurred in case of all the three groups following 12 weeks soccer training with maximum change of 19 yrs. Overall maximum changes occurred in case of 14 yrs. age group.

Recommendations:

The soccer coaches, physical education teachers, physical trainer may apply this specific training module to develop body weight, dribbling ability and soccer playing ability of 19 yrs. age soccers, arm strength and leg explosive strength of 17 yrs. age soccers and agility, speed, endurance, and football kicking ability for both the legs, ball throwing for distance and shooting accuracy of 14 yrs. age soccers.

Recommendation for Further Research:

Similar type of study may be conducted on young female students with larger sample size. Different other psychological and physiological variables also may be considered.