A Comparative Study of Psychological and Physiological Variables of Girls Volleyball Players of Residential and Non Residential School of Madhya Pradesh

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Abstract

The purpose of the study to investigate the difference In Selected Psychological, and Physiological variables, among female Players of Residential and Non-residential schools of M.P. To achieve this purpose of the study, (hundred) female from Gurukul Senior Secondary school Rewa Madhya Pradesh, Jawahar Navodaya Vidhalays Sirmaur M.P., Eklavya Model Residential school Jabalpur. Sanskaar Valley school Bhopal M.P., Christ Jyoti HR Sec school Satna M.P., Chinmaya Vidyalayas Satna M.P were selected as subject for both the groups for residential and non- residential among them 50 for each group. The age of subjects ranged between 13 to 19 year .Suitable tests and tools were used to collect the data. All the directions with regard to the collection of data were given by the researcher himself. Independent-Samples 't' test was used for main objectives of the study to find out difference In Selected Psychological, and Physiological variables, among female Players of Residential and Non-residential schools of M.P. In case of Psychological variables Self-confidence showed significance difference whereas motivation and Sports Competitive Anxiety showed the insignificance difference. In Case of Physiological Variables All the variables showed the significance difference except Diastolic Blood Pressure.

KEYWORDS: - Residential, Independent-Samples't' test, Diastolic Blood Pressure.

Introduction

Volleyball requires a high level development of physical, physiological, Psychological and motor skill traits so as to give the best possible performance. A player should have appropriate physical structure and body size suitable for this game. This game demands a quick and alert, well coordinated players with great stamina to master its complex skills and playing situations. The skill must be developed upto the maximum level of level to get optimum performance with minimum energy expenditure. All these factors will help to contribute its best to bring up a best player of Volley ball.

Besides physical variable, the importance of physiological parameters cannot be underestimated when judging the performance of players in Volleyball. Cardiovascular plays a vital role in this game. As there is no fixed duration of a Volleyball match, it has been reported that the duration of Volley ball match between Russia Czechoslovakia lasted for 3 hours and 2 minutes during the Olympic games in October 1964. The game requires the functioning of the cardiovascular system to its maximum efficiency in order to supply fuel to the working muscles as well as to carry away waste products.

One of the common practical means of findings out the efficiency of Cardiovascular system is by mean of measuring pulse rate. It is noticed that the most fit player's heart has advantage of starting at a slower rate of beating but on the whole, it accelerates as many beats in response to the task as does the heart of the untrained subject.

Sports occupy an important role in human life. A number of coaches with long experience believe that too little emphasis is placed upon conditioning in sports today. Sports will give physical conditioning and health and recreation. All the coaches agree them on without physical conditioning we cannot play sports. To be an exceptional volleyball player today athletes not only must be in excellent shape, they must be in volleyball shape. A volleyball shape player is one who has a 35 inch vertical leaping ability and can run for miles without tiring. Volleyball players must be able to jump the same height near the end of a long and grueling match as at the beginning. They must have energy to perform physical feats while sustaining their level of strength power and agility. The content of volleyball training includes all physical activity, all purposeful psychological measures and all other intentional influences of the outer and inner environment assigned to the players individually and collectively as a team which supports, develops, improves or perfects volleyball performance as a whole or any of its respective parts.

Another important aspects is the necessity of utilizing game combination throughout the whole process of teaching, learning and perfecting. The reason for this feature is based on the rules of the game which directly require players to cooperate thus significantly reducing individualism within the game.

All of this section has their theoretical and practical parts. While the practical is composed mainly of physical exercises inserted into training, theory stresses the reasons and supposed effects of their use, although physical exercises are not the only reasons, they are, and will remain, the principal ones among the stimuli of adaptation utilized in volleyball training as the content of all its organizational elements.

Research work especially in women volleyball was needed, Wilmore (2008) said "Motor ability of boys & girls generally increases with age for first 17 Years, although girls tend to plateau at about the age of the puberty for most test items tested. these improvements result primarily from development of the neuromuscular and endocrine system and secondarily from the increased activity. The plateaus observed in the girls at puberty is likely explained by three factors first, as mentioned earlier the increase in estrogen levels at puberty or in the estrogen ratio leads to increased fat deposition. Performance tends to decrease as fat increases. Second girls have less muscle mass. In training a women's team, the coach must always take women's physical and physiological characteristics into consideration. Their musculature is more flexible and plastic. on the basis of increased strength and sensitivity of joints tissues, we must pay particular attention to improving the muscular strength and explosive power of those parts constantly exercised in the game, such as the loin and abdomen, the thighs and calves, the ankles and archer, and the shoulders, per cams, wrists and figures.

Considering that women have a high rate of body fat, a lower vital capacity and a smaller amount of blood supply from each heart beat there the opposite sex, we must pay great attention to improving their staying power, starting from general stamina to specific endurances required by the game of volleyball. Since women have a lower content of hemoglobin in their red blood cells, we must take proper measures to ensure its supply in the process of endurance training, giving them high calorie soft drinks so as to strengthen their carded and pulmonary functions and to prevent their fatigue, anemic or hypertension.

Methodology

Selection of subjects: - To achieve this purpose of the study, (hundred) female from Gurukul Senior Secondary school Rews Madhya Pradesh.

Jawahar Navodaya Vidhalays Sirmaur M.P., Eklavya Model Residential school Jabalpur. Sanskaar Valley school Bhopal M.P., Christ Jyoti HR Sec school Satna M.P., Chinmaya Vidyalayas Satna M.P were selected as subject for both the groups for residential and non- residential among them 50 for each group. The age of subjects ranged between 13 to 19 years.

Selection of variables:-For the analysis of study following variables were selected:

Psychological variables-

1) Motivation
2) Sports competitive Anxiety
3) Self-Confidence

Physiological Variables-

1) Resting Heart Rate
2) Blood Pressure

Criterion measures: -The criterion measures adopted for this study were as follow :-

1. Self confidence was measured Agnihotri's Self Confidence Inventory in numbers.
2. Sports competitive Anxiety Rainer Marten's Sports Competition Anxiety Test Questionnaire (SCAT) in numbers.
3. The Sports Motivation LUC G. Pelletier in numbers.
4. Blood pressure was measured by sphygmomanometer in mm of Hg.
5. Resting heart rate was recorded in number of beats of heart rate per minute at rest

Statistical analysis: - For the purpose of the study, Independent-Samples 't' test was used and the level of significance was set at 0.05.

RESULTS

This is comprised of the results of the statistical analysis of the data. For the purpose of the study the researcher had selected three psychological and two physiological variables to compare between residential and non-residential school volleyball players of Madhya Pradesh. To compare two different groups (i.e. residential and non-residential) researcher used Independent-Samples T test by means of SPSS software. The level of significant was set at 0.05.

Table -1

Mean of Sports Competitive Anxiety

t-Table of the variable Sports competitive Anxiety with F value for Levene's test

Groups	Means	Std. Deviation	Mean Difference	Std. Error of mean difference	t value	p value	F value	p value
Residential	19.52	2.02	-0.80	1.077	-.742	.460	0.912	0.342
Non-Residential	20.32	7.34						

Table 1describes the results of the Independent-Samples T test. From the results of the Table 1, the following interpretation can be drawn:

- One of the assumptions to use Independent-Samples T test is that the variance of the group must be equal. To check the equality of variance, Levene's test was used and it is found that the F (0.912) value for Levene's test is not significant (p=0.342, p>0.05). Therefore the researcher fails to reject the null hypothesis of equality of variance and it is concluded that the variances among the groups are equal and it fulfils the assumption.
- The mean Sport competitive anxiety of Residential School (19.52) is not better than the mean speed of Non-Residential School (20.32). For this mean difference (0.80), the t-statistics (-0.742) is not significant (p=0.460, p>0.05) and therefore it can be concluded that the difference in Sport competitive anxiety of Residential and Non-Residential School volleyball players are not significant

Table 2

Mean of Sports motivation Scale

t-Table of the variable Sports motivation with F value for Levene's test

Groups	Means	Std. Deviation	Mean Difference	Std. Error of mean difference	t value	p value	F value	p value
Residential	113.44	5.25	2.92	1.156	2.525	0.13	0.962	0.329
Non-Residential	110.52	6.26						

The Table 2 describes the results of the Independent-Samples T test. From the results of the Table 2, the following interpretation can be drawn:

- One of the assumptions to use Independent-Samples T test is that the variance of the group must be equal. To check the equality of variance, Levene's test was used and it is found that the F (3.962) value for Levene's test is not significant (p=0.329, p>0.05). Therefore the researcher fails to reject the null hypothesis of equality of variance and it is concluded that the variances among the groups are equal and it fulfils the assumption.
- The mean Sports motivation of Residential School (113.44) is better than the mean Sports motivation of Non-Residential School (110.52). For this mean difference (2.92), the t-statistics (-0.556) is not significant (p=0.13, p>0.05) and therefore it can be concluded that the difference in Sports motivation of Residential and Non-Residential School volleyball players are not significant.

Table 3

Mean of Self Confidence

t-Table of the variable Self Confidence with F value for Levene's test

Groups	Means	Std. Deviation	Mean Difference	Std. Error of mean difference	t value	p value	F value	p value
Residential	19.52	2.022	0.7789	0.3142	2.477	0.015	0.082	0.775
Non-Residential	20.32	7.34						

The Table 3 describes the results of the Independent-Samples T test. From the results of the Table , the following interpretation can be drawn:

- One of the assumptions to use Independent-Samples T test is that the variance of the group must be equal. To check the equality of variance, Levene's test was used and it is found that the F (3.082) value for Levene's test is not significant (p=0.775, p>0.05). Therefore the researcher fails to reject the null hypothesis of equality of variance and it is concluded that the variances among the groups are equal and it fulfils the assumption.
- The mean Self-confidence of Residential School (19.52) is not better than the mean speed of Non-Residential School (20.32). For this mean difference (0.7789), the t-statistics (2.447 is not significant (p=0.015, p<0.05) and therefore it can be concluded that the difference in Self-confidence of Residential and Non-Residential School volleyball players are significant.

Table 4

Systolic Blood Pressure

t-Table of the variable Systolic Blood Pressure with F value for Levene's test

Groups	Means	Std. Deviation	Mean Difference	Std. Error of mean difference	t value	p value	F value	p value
Residential	111.68	7.335	-5.142	2.3000	-2.236	0.025	0.097	0.756
Non-Residential	116.82	14.513						

The Table 4 describes the results of the Independent-Samples T test. From the results of the Table 9, the following interpretation can be drawn:

- One of the assumptions to use Independent-Samples T test is that the variance of the group must be equal. To check the equality of variance, Levene's test was used and it is found that the F (0.097) value for Levene's test is not significant (p=0.756, p>0.05). Therefore the researcher fails to reject the null hypothesis of equality of variance and it is concluded that the variances among the groups are equal and it fulfils the assumption.
- The mean Systolic Blood Pressure of Residential School (111.68) is lower than the mean Systolic Blood Pressure of Non-Residential School (116.82). For this mean difference (-9.142), the t-statistics (-2.236) is significant (p=0.025, p<0.05) and therefore it can be concluded that the

difference in Systolic Blood Pressure of residential and non-residential school volleyball players are significant.

Table 5

Mean Diastolic Blood Pressure

t-Table of the variable Diastolic Blood Pressure with F value for Levene's test

Groups	Means	Std. Deviation	Mean Difference	Std. Error of mean difference	t value	p value	F value	p value
Residential	81.35	6.416	1.061	1.252	0.847	0.399	1.082	0.301
Non-Residential	80.29	6.102						

The Table 5 describes the results of the Independent-Samples T test. From the results of the Table 5, the following interpretation can be drawn:

- One of the assumptions to use Independent-Samples T test is that the variance of the group must be equal. To check the equality of variance, Levene's test was used and it is found that the F (1.082) value for Levene's test is not significant ($p=0.301$, $p>0.05$). Therefore the researcher fails to reject the null hypothesis of equality of variance and it is concluded that the variances among the groups are equal and it fulfils the assumption.
- The mean Diastolic Blood Pressure of Residential School (81.35) is higher than the mean Diastolic Blood Pressure of Non-Residential School (80.29). For this mean difference (1.061), the t-statistics (0.847) is not significant ($p=0.399$, $p>0.05$) and therefore it can be concluded that the difference in Diastolic Blood Pressure of residential and non-residential school volleyball players are not significant.

Table 6

Mean of Resting Respiratory Rate

t-Table of the variable Resting Respiratory Rate with F value for Levine's test

Groups	Means	Std. Deviation	Mean Difference	Std. Error of mean difference	t value	p value	F value	p value
Residential	17.48	2.295	-1.138	0.469	-2.425	0.0117	0.171	0.680
Non-Residential	18.57	2.396						

The Table 6 describes the results of the Independent-Samples T test. From the results of the Table 6, the following interpretation can be drawn:

- One of the assumptions to use Independent-Samples T test is that the variance of the group must be equal. To check the equality of variance, Levene's test was used and it is found that the F (0.0117) value for Levene's test is not significant (p=0.680, p>0.05). Therefore the researcher fails to reject the null hypothesis of equality of variance and it is concluded that the variances among the groups are equal and it fulfils the assumption.
- The mean Resting Respiratory Rate of Residential School (17.48) is not higher than the mean Resting Respiratory Rate of Non-Residential School (18.57). For this mean difference (-1.138), the t-statistics (-2.425) is significant (p=0.0.011, p<0.05) and therefore it can be concluded that the difference in Resting Respiratory Rate of residential and non-residential school volleyball players are significant

Discussion

Volleyball requires a high level development of physical, physiological, Psychological and motor skill traits so as to give the best possible performance. A player should have appropriate physical structure and body size suitable for this game. This game demands a quick and alert, well-coordinated players with great stamina to master its complex skills and playing situations. The skill must be developed up to the maximum level of level to get optimum performance with minimum energy expenditure. All these factors will help to contribute its best to bring up a best player of Volley ball.

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One of the common practical means of findings out the efficiency of cardiovascular system is by mean of measuring pulse rate. It is noticed that the fit player's heart has advantage of starting at a slower rate of beating but on the whole, it accelerates as many beats in response to the task as does the heart of the untrained subject.

The purpose of the study to investigate the difference In Selected Psychological (Motivation, Sports Competitive Anxiety, Self Confidence), Physiological (Resting Heart rate, Blood pressure), among female Players of Residential and Non-residential schools of M.P. The analysis of data reveals that In case of Psychological variables Self-confidence showed significance difference whereas motivation and Sports Competitive Anxiety Showed the insignificance difference and In Case of Physiological Variables All the variables showed the significance difference except Diastolic Blood Pressure.

Conclusions

Based on the analysis and within the limitation of present study following conclusion were drawn

1) In case of Psychological variables Self-confidence showed significance difference whereas motivation and Sports Competitive Anxiety Showed the insignificance difference.
2) In Case of Physiological Variables All the variables showed the significance difference except Diastolic Blood Pressure.

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