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Evaluating the impact of minor games on muscular strength of school going children: A rural-urban variability of district Jhajjar of Haryana

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Abstract

Minor games have been playing a very significant role to strengthening the muscular strength without undue stress and fatigue on the human body. The present study is an empirical study based on different number of exercise session held in different boy's, studying in government schools in Jhajjar district of Haryana. In order to evaluate the impact, there were 200 respondents, belonged to different age-groups, taken for the study. By applying the Kraus Weber Test–Kraus Weber Test functions method on the basis of pass-fail pattern which has enabled to perform even one of the six exercise qualities; as failing the test. A variability of scoring method; enables partial movement on test, scoring from 0 to 10. Further, on the basis of t-test it has found that shows that there is significant impact found among all the school going children for strengthening their muscular strength, but there is relatively better performance found in village located senior secondary school as compared with the schools, located in urban areas of district Jhajjar of Haryana.

Keywords: Minor games, Kraus Weber-test, t-test, empirical study, significant impact, muscular strength; rural-urban variability

Introduction

The minor games have been playing a vital role to strengthening the muscular strength of the school going children. In order to highlight the significance of minor games, various authors and the professionals, belonged to various streams of sports have given their objective and subjective views on the impact of minor and recreating games on the physical fitness of school going children. The 'Minor games' play a very significant role for strengthening the muscle strength for the school going children, belonged to varied age-groups. All these games have been proved conducive to get relieve from the monotonous environment of the scholastic activities, which are confined to classrooms. Such types of games assure the school going children to evolve the concentration process in their respective subjects, taught in their schools. The teachers who teach physical education often possess a limited knowledge about the minor games which tend to be ineffective at primary level education. In the opinion of authors, there should be fully awareness about the minor games among the primary teachers.

Further, they can develop their own minor games; provided they possess the created taste and temperament. Apart from teaching values or providing enjoyments, there a special place in primary school, where the applicability of these games to a great extent; as justified by various studies. They provide a major relief from monotonous classroom scholastic activities which will also ensure to help the children develop concentration in their school subject's games so that these games may provide the maximum profit at cost-effective expenditure. All these games are very much feasible in accordance with prevailing local conditions.

In order to highlight the significant of minor games, Morthy (1980) ^[10] carried out the study on 500 respondents, belonged to different age-groups school going boys and girls. The study shows a significance correlation between minor games for strengthening the muscular strength. Similarly, Yousufzai, N.S. (2017) ^[9] discusses the significance and feasibility of minor games for the school going children. It is an empirical study on boys and girls, who are often, indulged in sports activities in their respective schools. On the basis of his study,

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Yousufzai highlight the feasibility of the minor games, which have been proved conducive in accordance with the prevailing local conditions. The minor games are highly responsive to mitigate the undue stress on the muscles of the bodies of the school going children. On the basis of findings of the study, the author has projected the future of minor games and its multiple benefits in terms of feasibility and the cost-effectiveness which suits to the students, belonged to different strata of society.

Kumar, Sanjeev (2018) [5] examined the role of minor and games in relation of muscular strength of the school going children of varied age-groups. In this study, author carried out the study on some of schools of New Delhi and found some of significant findings which are feasible in accordance with physical strength of the students, belonged to different age-groups. On the basis of an empirical study on the 400 respondents of the school going children shows the strength, weakness, opportunity and threat of the test applied on the school going children, taken for study. On the basis of SWOT Analysis, the author found that the minor games have a great potential to enhance the muscular strength without having a side effect on the muscular system of the boys and girls, who are often indulge in sport activities.

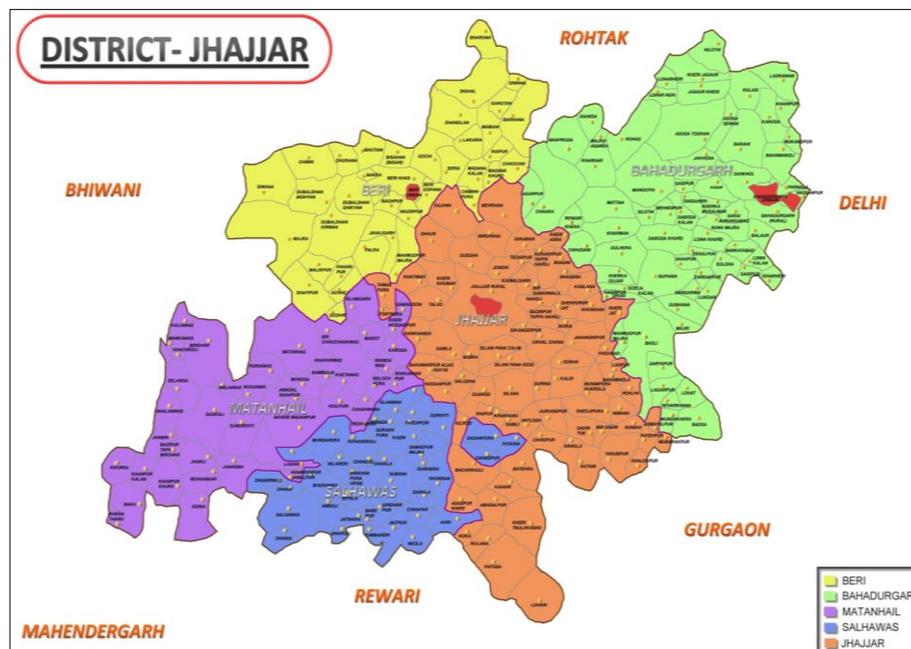
Hence, it is obvious that the authors, belonged to sports stream have given their objective and subjective views on feasibility of minor games in relation to their impact on strengthening the muscular strength of the school going children, belonged to different age-groups, located in various parts of country as well as foreign countries.

Rationale of the study: The study has a significant rationality in relation to problematic areas of children health

and its fitness of the schools, located in different part of the country. The background provides an obvious that the health-related fitness is of paramount importance looking into the attainment of a positive healthy life style of the child. The researcher thus has made an attempt in this direction to probe into the health-related fitness aspect of the school going children, belonged to within the age-group 9 to 11 years. There is a considerable gap exists in both the literature and practical approach. Meaning thereby, there is a considerable gap between theory and practice which is to be filled to make it more effective and expected desired results of the minor games, taken for the study. The study is expected to give an insight to feasibility of minor games in terms of strengthening muscular strength of the school going children without having side-effects on the bodies of the school going children, studying in various schools of Jhajjar district of Haryana. The study also includes a comparative study of rural and urban areas of Jhajjar district of Haryana. Lastly, it is expected to pave the way for incorporating the minor games in to the state sports policy to be formulated in the coming years.

The study area

The study area of district Jhajjar is situated in accordance with its vicinal location which is characterized with some of salient features in terms of its location, demographic characteristics, and infrastructural attributes are characterized with some of locational advantages and disadvantages which lie within the Jhajjar district of Haryana. The vicinal location of the district with its six blocks shown in the map as follows:



Jhajjar district of Haryana lies between 28° 22' to 28° 49' North latitudes, and 76° 18' to 76° 59' East longitudes. The district lies in the south east of Haryana state. The district is having a geographical area of 1834 sq.km, which is 3.77% of total area of the state. The total population of the District is 956,907, (514,303 Males and 442,604 Females) as per the Census 2011. Rural population is 74.60 per cent of the total population. The density of population is 522 person per sq.

km. The district is controlled by Rohtak division. It is divided into three tehsils namely Jhajjar and Bahadurgarh & Beri, and sub-divided into five development blocks namely Jhajjar, Beri, Bahadurgarh, Matanhail and Salhawas. The district headquarter is situated in Jhajjar town at a distance of about 65 km from Delhi. On its north lies the Rohtak Subdivision of Rohtak District and in the South lies the Subdivision Rewari of Rewari District. In the East lies Tikri

border of Delhi and in the West lies Charkhi Dadri district. In the eastern part of district, the area is considerably even. Some area is uneven and also suffers from inundation and water logging during Monsoon season.

Objectives of the study

The study is based on the dual objectives which are as follows:

1. To examine the impact of minor on strengthening the muscle strength; of school going children from rural and urban areas;
2. To test the Hypothesis in terms of impact on strengthening the muscle strength of school going children in the rural and urban areas of the district.

Material & Methods

The study is based on primary source of information, observed from various minor and recreating games performed on 200 respondents, belonged to various schools, taken from various districts of Haryana. In this context, there were four for blocks including Bahadurgarh, Sahlawas, Matahail and Beri blocks have been taken for the study. All these schools were co-educational schools, located in rural and urban areas in the study area.

Research Design

In order to get the desired results, the co-educational government senior secondary schools have been selected from each districts with the 50 samples from each schools have been chosen for the study. These samples were having fifty percent of share of boys and fifty percent for girl's students.

Testing of Hypothesis

In order to know the relative impact of the both the games, 't-test' has been applied to get the desired results. Kraus

Weber Test–Kraus Weber Test functions on the basis of pass-fail patter. It has enabled to perform even one of the six exercise qualities; as failing the test. A variability of scoring method; enables partial movement on test, scoring from 0 to 10. Apart from above mentioned test, the t-test has been used to get the desired results.

For testing the Hypothesis, the t-test technique has been employed for drawing the desired objectives which is as follows:

For t-test =

$$\frac{\bar{x} - \bar{y}}{s \times \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}} \sim t_{n_1 + n_2 - 2}$$

Where

$$\bar{x} = \frac{1}{n_1} \sum x, \bar{y} = \frac{1}{n_2} \sum y$$

$$s^2 = \frac{1}{n_1 + n_2 - 2} [\sum(x + \bar{x})^2 + \sum(y + \bar{y})^2]$$

It is an unbiased estimate of the respond variance based on both the samples of respondents. On comparing the computed value of 't' with the tabulated value for $n_1 + n_2 - 2$, at desired level of significance.

Results & Discussion

In order to examine the overall Impact on minimum muscular strength various observed values, observed by the researcher while observing from various positions, taken place during different exercise which have been worked out as follows:

Table 1: Using of kraus weber test for pre and post conditions for govt. schools of jhajjr district Paired Sample data

Test	Mean	No of respondents	Standard Deviation	Mean of standard Error
Minimum Muscular Strength	Pre- test	200	15.49	2.09
	Post-test	200	11.28	1.51

Source: Primary data *Significant at $p < 0.05$

Table 2: Comparison of Mean between Pre -Test and Post- Test among Selected Variables

Method Applied	t-test for Equality of Means				
	't'	DF	Sig.(2-tailed)	Mean Difference	Standard Error Difference
Pair Krauss Weber Test Pre-Post	61.67	90	0.00	7.03	0.58

Source: Worked out by the Researcher

On the bases of worked out value of 'Mean' of Post Test (64.77) was found higher than that of the 'Mean' of Pre - Test which was 57.74. It is obvious that the considerable differences between various observed and calculated values by 't-test' shows that there has been significant impacts of minor and recreating games on 'Minimum Muscular Strength' which have tested by taking different positions of the 200 respondents, the students, belonged to different age-groups of a school of four districts of Haryana. At 5% sample which indicate only difference of 0.58 error as well a significant impact of *varied exercise positions* as shown through T-test' pre and post samples, taken for the study.

Testing of Hypothesis

Based on 200 respondents, belonged to various government schools of four blocks, indicate varied response, as observed during survey conducted by the researcher. Hypothetically, it is assumed that the minor games are having a uniform impact on strengthening the muscular system of school going children of various government schools, located in rural and urban areas of Jhajjar district of Haryana. It has been tested by t-test which as follows:

Table 3: Suppose Null Hypothesis $H_0 = \mu_1 = \mu_2$

Samples	Rural areas	Urban areas	Calculated Value	Tabulated Value
Mean	63.33	58.66	7.58	4.67
S.D.	6.36	7.64		

$$V = 100 + 100 - 2 = 98$$

In this equation, the calculated value is more than the tabulated value. Therefore, the hypothesis is rejected. Hence, at 5% samples, shows that there has been significant difference between Calculated and Tabulated values. Meaning thereby, there is considerable difference of impact of minor games on muscular strength of the school going children of the government schools, located in various blocks in Jhajjar district of Haryana. Hence, the results shows that the minor games are having relatively better impact on the school going children of the rural areas than that of the children studying in the govt. schools, located in the urban areas and it has justified by t-test for observed data. The calculated and tabulated values of t-test indicates that the school going children belonged to rural areas shows better consistency in strengthening the muscle as compared with the school located in the urban areas.

Findings and Conclusions

On the basis of empirical study, carried out on 200 respondents; belonged to various groups of school going children shows a varied response of minor games performed among the four government schools, taken from four blocks of Jhajjar district of Haryana. On the bases of worked out value of 'Mean' of Post Test (61.33) was found higher than that of the 'Mean' of Pre -Test which was 57.61. It is obvious that the considerable differences between various observed and calculated values by 't-test' shows that there has been significant impacts of minor and recreating games on 'Minimum Muscular Strength' which have tested by taking different positions of the 200 respondents, the students, belonged to different age-groups of a school of four districts of Haryana. At 5% sample which indicate only difference of 0.65 error as well a significant impact of *varied exercise positions* as shown through T-test' pre and post samples, taken for the study. The study shows that the performance of rural areas is relatively better than that of urban areas, as justified by t-test on the observed data.

In order to know the relative positions of the impact of minor game's on 'Minimum Muscular Strength', as a result, it was found that the 'Minor games' indicate relatively better impact on 'Minimum Muscular Strength' than that of the students studying in urban areas, as indicated by 't-test.' The calculated and tabulated values of t-test show a significant difference at 5% samples for the study. Hence, it is concluded that there has been significant impacts on 'Minimum Muscular Strength' and has been proved conducive to make the school going children physically fit by adopting minor games so that these games may become an integral part of the state sports policy in accordance with changing sports scenario in Haryana.

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