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Varying intensity training effect on agility among the students of teacher education programme

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Abstract
The purpose of the study was to analyses the Varying Intensity training effect on Agility among the students of Teacher Education Programme. The subjects for this study were taken ten male who had at least participated intercollegiate in any game. Agility measured By Using Shuttle run test for boys/girls which was developed by American Association of Health, Physical Education and Recreation (AAHPHER, 1957). To find out the effect of varying Intensities on agility the training was given for eight weeks following two weeks of gap (without training). In statistical analysis paired t test was used to determine the mean score of male students in pair one and pair two at the time of varying Intensity on agility. There was no significant difference in low intensity and significant difference in medium and high intensity found in term the performance of agility at the level of 0.05.

Keywords: Training, Agility, Varying intensity, Teacher Education Programme.

Introduction
Agility is the ability to start explosively, change direction, decelerate and start quickly while maintaining body balance. Agility also plays a significant role in the reduction of the speed. Worldwide agility is defined as "athlete's collective coordinative ability" (Agility Training For Athletic Performance, 2018). Agility can be developed in children easily. Preadolescence is significantly important period for skill development among students. Focus of this period change at the time of adolescence. This is the time when children starts practicing tough exercises post training. It has been observed that, most of the activities utilizes by athletes for agility occurs in less than ten seconds. Inherently, sports require frequent direction change in which use of lateral movement becomes mandatory. All forms of exercises can be segregated into 3 categories according to their intensities which are: Low, Moderate, and Vigorous. They are measured by the metabolic equivalent of the concerned task. The effects of exercise, which human body experiences are different at each intensity level. This is popularly known as the training effect.

Generally, performance is based on the foundation of the sport person. If the sport person is strong and have potential then the performance will be outstanding. Training of the sports person foundation starts in the early age. Training method of coordinative ability plays a significant role in the development of a sport person. It is believed that if the loss of speed can be minimized while redirecting the centre of gravity of the body then agility can be improved. Training in the area of frequent direction change (forward, backward, vertical and horizontal) will significantly help in improving agility. Some of the benefits of the agility training are listed below:

- An efficient way to address sport specific skill and neuromuscular system.
- Provides critical link capability.
- Improve athleticism
- Helps in the prevention at the time of injury.
- Helps in decreasing the time of rehabilitation

Methodology and Procedure
Ten male students of Teacher Education Programme who had participated at least in inter collegiate game were selected for the study. The age of the subjects ranged between 17 to 20

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Years. The study is focused on studying the effect of varying intensity training (High, Medium and Low) on the selected coordinative ability of the students of teacher education programme of Chandigarh. Sample will be given to one month of general conditioning programme after the pre-test to form the baseline or to prepare the sample for the training. This is done to minimize the effect of intervening variables. Once the baseline is formed then the training will be given for eight weeks. Once the training is over the post test will be taken, which will be followed by one more post test after the

gap of two weeks. During this time the independent variable was removed i.e., no training will be given to measure the effect of independent variable or to measure the control of other variables in the study.

Statistical Procedure
Varying Intensity training effect on Agility among the students of Teacher Education Programme was calculated by using paired t test for testing the hypothesis the level of significance was set at. 05 levels of confidence.

Results

**Table 1:** Descriptive statistics of Low Intensity Group on Agility. (Male)

Paired Sample Statistics		Mean	N	Std. Deviation	Std Error Mean
Pair – 1	Pre Test Agility of Low Intensity Group.	11.68	10	.68	.20
	Post Test-1 Agility of Low Intensity Group - with independent variable.	11.67	10	.62	.19
Pair – 2	. Post Test -1 Agility of Low Intensity Group - with independent variable	11.67	10	.62	.19
	Post Test-2 Agility of Low Intensity Group – with Out independent variable.	11.61	10	.42	.14

Above table, shows descriptive statistics of male students on pre and post test of low intensity training on agility as mean and standard deviation. Mean and standard deviation of pre-test for pair 1 is (11.68, ±0.68) and post test is (11.67, ±0.62),

whereas for Mean and standard deviation of pre-test for pair 2 is (11.67, ±0.62) and post test is (11.61, ±0.42). Over all in pair1 and pair 2, deviation from the mean is not significantly high and mean of all the four values is closure to 11.68.

Fig 1: Agility of low intensity of Pair 1
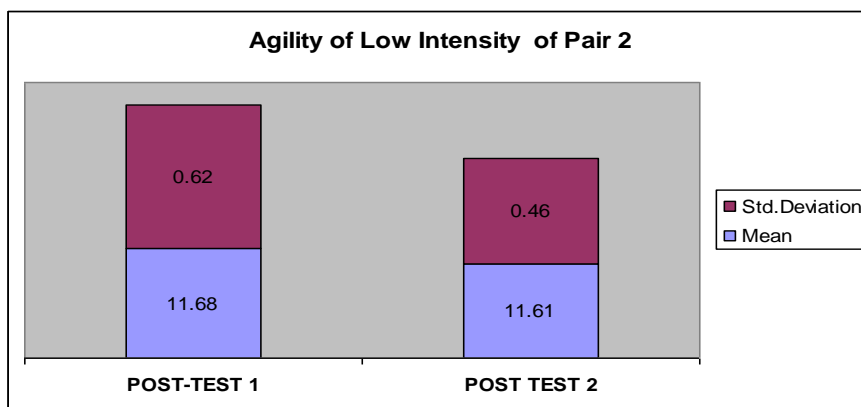
Fig 2: Agility of low intensity of Pair 2

Table 2: Paired Sample of Correlation of Low Intensity on Agility.

Paired Sample Correlation		N	Correlation	Sig.
Pair -1	Pre Test and Post Test 1	10	.709	.022
Pair -2	Post Test 1 and Post Test 2	10	.943	.001

As far as correlation is concerned, in both the pair (pair1and pair2) there is significant correlation between, pre and post test of pair1 (0.709) and pre and post test of pair2 (0.524). Both the correlations are positive and significant. P-value for pair1 is 0.022 and pair 2 is 0.001 at 95% confidence level. Both these values are lesser than 0.05.

Table 3: Paired Sample Test of Low Intensity on Agility.

		Paired Differences			
\multicolumn{2}{c}{Paired Sample Test}	Mean	Std. Deviation	Std Error Mean	\multicolumn{2}{c}{95% Confidence Interval of the Difference}	t	Df	Sig.(2-tailed)
					Lower	Upper			
Pair -1	Pre Test and Post Test 1	.134	.502	.158	-.225	.493	.843	9	.421
Pair -2	Post Test 1 and Post Test 2	.064	.243	.076	-.109	.237	.883	9	.426

In the above case of Paired sample t-test significant value for both the pair (pair1 and pair2) is not significant, p- value is greater than 0.05. Hence, it can be concluded that "There is no significant difference in the mean score of male students in pre-test (before the low intensity training) and post test (after the low intensity training) on agility". In this case Null hypothesis is accepted and alternate hypothesis is rejected.

Table 4: Descriptive statistics of Medium Intensity Group on Agility. (Male)

\multicolumn{2}{c}{Paired Sample Statistics}	Mean	N	Std. Deviation	Std Error Mean
Pair – 1	Pre Test Agility of Low Intensity Group.	10.68	10	.55	.177
	Post Test-1 Agility of Low Intensity Group - with independent variable.	9.29	10	.56	.177
Pair – 2	. Post Test -1 Agility of Low Intensity Group - with independent variable	9.29	10	.56	.177
	Post Test-2 Agility of Low Intensity Group – with Out independent variable.	10.13	10	.63	.200

Above table, shows descriptive statistics of Male students on pre and post test of Medium intensity training on Agility as mean and standard deviation. Mean and standard deviation of pre-test for pair 1 is (10.68, ±0.55) and post test is (9.29, ±0.56), whereas for Mean and standard deviation of pre-test for pair 2 is (9.29, ±0.56) and post test is (10.13, ±0.63). Over all in pair1 and pair 2, deviation from the mean is not significantly high and mean of all the four values is closure to 10.205.
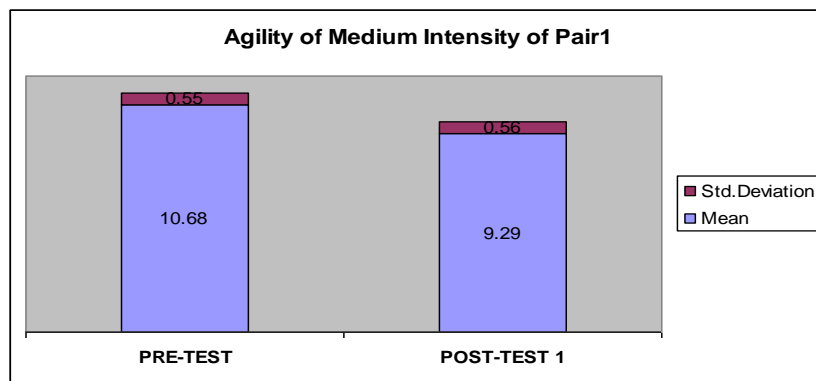
Fig 3: Agility of Medium intensity of Pair 1
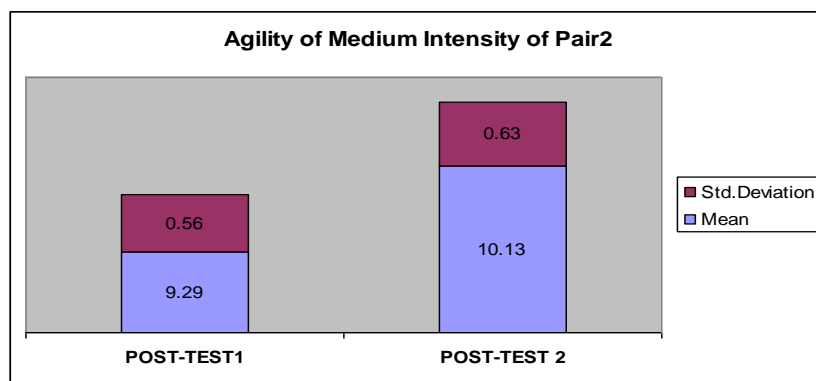
Fig 4: Agility of Medium intensity of Pair 2

Table 5: Paired Sample of Correlation of Medium Intensity on Agility.

\multicolumn{2}{c}{Paired Sample Correlation}	N	Correlation	Sig.
Pair -1	Pre Test and Post Test 1	10	.374	.287
Pair -2	Post Test 1 and Post Test 2	1o	.681	.030

As far as correlation is concerned, in both the pair (pair1and pair2) there is no significant correlation between, pre and post test of pair1 (0.374) and there is a significant correlation between post-test 1 and post-test 2 of pair2 (0.681). Both the correlations are positive and significant. P-value for pair1 is 0.287 and pair 2 is 0.030 at 95% confidence level. Pair 1 value is higher than 0.05 and Pair 2 values are less than 0.05.

Table 6: Paired Sample Test of Medium Intensity on Agility.

		Paired Sample Test							
		Paired Differences					t	Df	Sig.(2-tailed)
		Mean	Std. Deviation	Std Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair -1	Pre Test and Post Test 1	1.38	.627	.198	.939	1.83	7.00	9	.00
Pair -2	Post Test 1 and Post Test 2	-.84	.482	.152	-1.18	-.49	-5.51	9	.00

In the above case of Paired sample t-test significant value for both the pair (pair1 and pair2) are significant, p-value is less than 0.05. Hence, it can be concluded that "There is a significant difference in the mean score of male students in pre-test (before the medium intensity training) and post test (after the medium intensity training) on agility". In this case Null hypothesis is rejected and alternate hypothesis is accepted

Table 7: Descriptive statistics of High Intensity Group on Agility. (Male)

	Paired Sample Statistics				
		Mean	N	Std. Deviation	Std Error Mean
Pair – 1	Pre Test Agility of Low Intensity Group.	10.97	10	.900	.284
	Post Test-1 Agility of Low Intensity Group - with independent variable.	9.55	10	.534	.169
Pair – 2	. Post Test -1 Agility of Low Intensity Group - with independent variable	9.55	10	.534	.169
	Post Test-2 Agility of Low Intensity Group – with Out independent variable.	10.53	10	804	.25

Above table, shows descriptive statistics of Male students on pre and post test of High intensity training on Agility as mean and standard deviation. Mean and standard deviation of pre-test for pair 1 is (10.97, ±0.900) and post-test 1 is (9.55, ±0.534), whereas for Mean and standard deviation of post-test 1 for pair 2 is (9.55, ±0.534) and post-test 2 is (10.53, ±0.804). Over all in pair1 and pair 2, deviation from the mean is not significantly high and mean of all the four values is closure to 10.505.
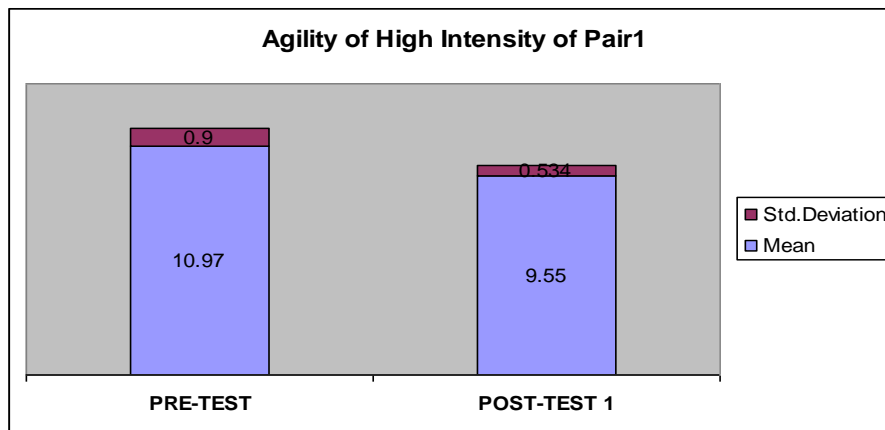
Fig 5: Agility of High intensity of Pair 1
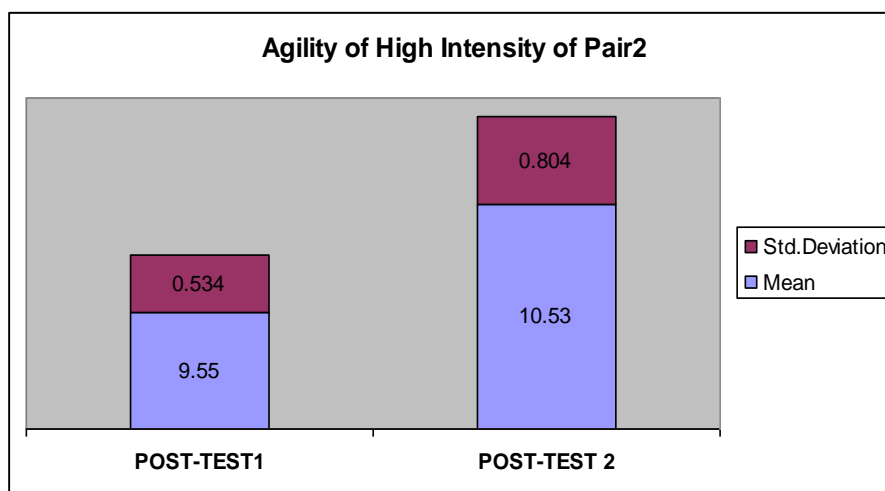
Fig 6: Agility of High intensity of Pair 2

Table 8: Paired Sample of Correlation of High Intensity on Agility.

Paired Sample Correlation		N	Correlation	Sig.
Pair -1	Pre Test and Post Test 1	10	.465	.176
Pair -2	Post Test 1 and Post Test 2	10	.260	.468

As far as correlation is concerned, in both the pair (pair1 and pair2) there is a significant correlation between, pre and post-test 1 of pair1 (0.465) and post-test 1 and post-test 2 of pair2 (0.260). Both the correlations are positive and not significant. P-value for pair1 is 0.176 and pair 2 is 0.468 at 95% confidence level. Both these values are higher than 0.05.

Table 9: Paired Sample Test of High Intensity on Agility.

Paired Sample Test									
		Paired Differences					t	Df	Sig. (2-tailed)
		Mean	Std. Deviation	Std Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair -1	Pre Test and Post Test 1	1.42	.80	.254	.84	1-99	5.57	9	.00
Pair -2	Post Test 1 and Post Test 2	-.97	.84	.266	-1.57	-.373	-3.66	9	.005

In the above case of Paired sample t-test significant value for both the pair (pair1 and pair2) are significant, p-value is less than 0.05. Hence, it can be concluded that "There is a significant difference in the mean score of male students in pre-test (before the high intensity training) and post test (after the high intensity training) on agility". In this case Null hypothesis is rejected and alternate hypothesis is accepted.

Discussion

Mean score of the coordinative ability name agility is not significant for male at low intensity level in PRE / POST - TEST 1 and POST TEST1 / POST - TEST 2. However it is significant for medium and high intensity level in PRE / POST - TEST 1 and Post Test 1 /POST - TEST 2.

- There is no significant difference in the mean score of male students in pre-test (before the low intensity training) and post test (after the low intensity training) on agility. In this case Null hypothesis is accepted and alternate hypothesis is rejected.
- There is a significant difference in the mean score of male students in pre-test (before the medium intensity training) and post test (after the medium intensity training) on agility. In this case Null hypothesis is rejected and alternate hypothesis is accepted
- There is a significant difference in the mean score of male students in pre-test (before the high intensity training) and post test (after the high intensity training) on agility". In this case Null hypothesis is rejected and alternate hypothesis is accepted.

Conclusion

The objective of the study is to find the effect of varying levels of intensity on agility among the students of Teacher Education Programme, Chandigarh. In the study significant relationship has been found with the various intensities (high, medium and low) and the agility among selected players. Significant correlation has also found between the variables at the mean score of pre and POST - TEST. In the few cases it has also being seen that, players who have continued practice exercise have shown better results in pair 2 test of pre and post analysis. Male respondents are unable to perform with low intensity at the coordinative ability of agility whereas male respondents are able to perform with medium and high intensity at the Agility.

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