INFLUENCE OF SPECIFIC RESISTANCE WITH AND WITHOUT PSYCHOLOGICAL TRAINING ON EXPLOSIVE POWER

1K. Kalidas, Research Scholar, Department of Physical Education, Annamalai University, T.N, India.
2T. Prabakaran, Assistant Professor, Department of Physical Education, Annamalai University, T.N, India.
3W. Vinu, Assistant Professor, Department of Physical Education, Annamalai University, T.N, India.

ABSTRACT

The purpose of the study was to analyze the Influence of specific resistance with and without psychological training on explosive power among state level school women football players. To achieve the purpose of the study, forty five female football players at school level were selected as subjects. The age, height and weight of the subjects ranged from 17 to 19 years, 155 to 165 centimeters and 45 to 55 kilograms respectively. The selected subjects were randomly assigned into three equal groups of fifteen each (n=15) at random. Group-I Specific Resistance Training, Group-II Specific Resistance with Psychological Training, Group-III acted as control. The data collected from the four groups prior to and post experimentation were statistically analyzed to find out the significant difference if any, by applying the Analysis of Covariance (ANCOVA). When the obtained ‘F’ ratio value was significant the Scheffe’s test was applied as post hoc test to determine the paired mean differences, if any, at 0.05 levels. The result of the study proved that due to SRT, SRPT group of womensoccer player’s explosive power was greatly improved than the control group.

Key words: Specific Resistance Training, Psychological Training & Explosive Power
INTRODUCTION

Resistance training is a form of strength training in which each effort is performed against a specific opposing force generated by resistance. Resistance exercise is used to develop the strength and size of skeletal muscles. Properly performed resistance training can provide significant functional benefits and improvement in overall health and well-being. According to the American Sports Medicine Institute (ASMI) is to "gradually and progressively overload the musculature system so it gets stronger." Research showed that regular resistance training will strengthen and tone muscles and increase bone mass. Resistance training should not be confused with weightlifting, power lifting or bodybuilding which is competitive sports involving different types of strength training with non-elastic forces such as gravity rather than immovable resistance. Full range of motion is important in resistance training because muscle overload occurs only at the specific joint angles where the muscle is worked. Strength is also useful in the games when they are pushing an opposing player in order to get the tackle and of it has to do with muscle strength (Philbin, 2004).

The psychological benefits of exercise work in many ways, but the first and most obvious is the way in which exercise causes the immediate release of hormones. Specifically training causes the release of endorphins which are feel good hormones that leave us feeling calm, energized and optimistic. It is endorphins that are responsible for the so called ‘runners high’ and also one of the reasons that exercise can be addictive as to try and recreate this high. Endorphins block the feelings of pain and create feelings of euphoria by attaching to receptors on the outer surfaces of brain cells. The receptors that are responsive to endorphins are actually the same as those for many recreational drugs making endorphins the brain’s very own marijuana meaning the
psychological benefits of exercise are the same but without the negative side effects such as marijuana and brain damage. Goal setting is the method of analytically planning ways to attain specific events within a firm amount of time (Vealey, 2005). Research stated that goals should be specific, assessable, difficult but attainable time based printed down and a combination of short-term and log-term goals (Locke and Latham, 1985)

**METHODOLOGY**

**Participants and variables**

The purpose of the study was to analyze the Influence of specific resistance with and without psychological training on explosive power among state level school women football players. To achieve the purpose of the study, forty five female football players at school level were selected as subjects. The age, height and weight of the subjects ranged from 17 to 19 years, 155 to 165 centimeters and 45 to 55 kilograms respectively. The selected subjects were randomly assigned into three equal groups of fifteen each (n=15) at random. Group-I Specific Resistance Training, Group-II Specific Resistance with Psychological Training, Group-III acted as control. The explosive power was measured through the vertical jump test. The data collected from the four groups prior to and post experimentation were statistically analyzed to find out the significant difference if any, by applying the Analysis of Covariance (ANCOVA). When the obtained ‘F’ ratio value was significant the Scheffe’s test was applied as post hoc test to determine the paired mean differences, if any, at 0.05 levels.

**TRAINING PROGRAMME**

In this study, training was done under close supervision with frequent adjustments in training intensity to maintain the desired training stimulus. The training programmes were
scheduled for one session a day each session lasted between forty to fifty minutes approximately including warming up and warming down. During the training period, the experimental groups underwent their respective training programme three days per week (alternative days) for twelve weeks in addition to their curriculum.

Group-I underwent specific resistance training was performed in Department of Physical education’s gym the intensity of the training load increased progressively across the weeks, from one set of 8-10 repetitions at 65% 1-RM in week one to 3 sets of 8-10 repetitions at 90% 1-RM in week 10 with eight exercise (*Push-up, chest press, Fly, Triceps curl, Lateral raise, dumbbell squats, walking lunges, calf raise, biceps curl and bent over row with dumbbell*). Group-II underwent specific resistance with psychological training; the training was executed in the in Department of Physical education’s gym the intensity of the training load increased progressively across the weeks, from one set of 8-10 repetitions at 65% 1-RM in week one to 3 sets of 8-10 repetitions at 90% 1-RM in week 10 with eight exercise (*Push-up, chest press, Fly, Triceps curl, Lateral raise, dumbbell squats, walking lunges, calf raise, biceps curl and bent over row with dumbbell*). The psychological training activities are relaxation with background music, meditation, imagery and self-talk. Weekly three days undergone.

**STATISTICAL TECHNIQUE**

The experimental design in this study was random group design involving 60 subjects, who were divided at random in to four group of fifteen each. The pretest means of the selected dependent variable was used as a covariate. In order to nullify the initial differences the data collected from the four groups prior to and post experimentation on selected dependent variables were statistically analyzed to find out the significant difference if any, by applying the analysis of covariance (ANCOVA). Since four groups were involved, whenever the obtained ‘F’ ratio for
adjusted post test means was found to be significant, the Scheffe’s test was applied as post hoc test to determine the paired mean differences. In all the cases level of confidence was fixed at 0.05 for significance.

RESULTS

Table–1

Analysis of Co-Variance(ANCOVA) on-Explosive Power

<table>
<thead>
<tr>
<th></th>
<th>Specific Resistance Training</th>
<th>Specific Resistance &amp; Psychological training</th>
<th>Control Group</th>
<th>SoV</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>‘F’ ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test Mean-SD</td>
<td>29.06</td>
<td>29.26</td>
<td>29.40</td>
<td>B</td>
<td>0.84</td>
<td>2</td>
<td>0.42</td>
<td>0.39</td>
</tr>
<tr>
<td></td>
<td>1.09</td>
<td>1.03</td>
<td>0.98</td>
<td>W</td>
<td>45.46</td>
<td>42</td>
<td>1.08</td>
<td></td>
</tr>
<tr>
<td>Post-test Mean-SD</td>
<td>32.06</td>
<td>34.46</td>
<td>29.13</td>
<td>B</td>
<td>214.04</td>
<td>2</td>
<td>107.02</td>
<td>89.18*</td>
</tr>
<tr>
<td></td>
<td>1.09</td>
<td>1.06</td>
<td>1.12</td>
<td>W</td>
<td>50.40</td>
<td>42</td>
<td>1.20</td>
<td></td>
</tr>
<tr>
<td>Adjusted-Post-test-Mean</td>
<td>32.16</td>
<td>34.45</td>
<td>29.04</td>
<td>B</td>
<td>220.38</td>
<td>2</td>
<td>110.19</td>
<td>128.25*</td>
</tr>
<tr>
<td></td>
<td>W</td>
<td>35.22</td>
<td></td>
<td></td>
<td>35.22</td>
<td>41</td>
<td>0.85</td>
<td></td>
</tr>
</tbody>
</table>

(Table value for df 2 & 42, 41 are 3.22, 3.23 )*Significant (.05 level)

The ANCOVA-result proved that the predata-test means (SRT=29.06, SRPT=29.26 & CG=29.40) on explosive power of all 3-chosen groups insignificantly divided, as the derived ‘F’ value (0.39) is lower than the required value(df 2 & 42 =3.22).
The ANCOVA-result proved that the postdata-test means (SRT=32.06, SRPT=34.46 & CG=29.13) on explosive power of all 3-chosen groups significantly varied, as the derived ‘F’ value-(89.18) is higher than the required value($df 2 & 42 =3.22$).

The ANCOVA-result proved that the adjusted-final means (SRT=32.16, SRPT=34.45 & CG=29.04) on explosive power of all 3-chosen groups significantly differs, as the derived ‘F’ value (128.25) is better than the required value ($df 2 & 41 =3.23$).

As the adjusted final means is significant, the follow up test was applied as put on view in table-8.

<table>
<thead>
<tr>
<th>Specific Resistance Training</th>
<th>Specific Resistance &amp; Psychological training</th>
<th>Control</th>
<th>MD</th>
<th>CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>32.16</td>
<td>34.45</td>
<td>29.04</td>
<td>3.12*</td>
<td>0.85</td>
</tr>
<tr>
<td>34.45</td>
<td>29.04</td>
<td></td>
<td>5.41*</td>
<td>0.85</td>
</tr>
</tbody>
</table>

*Significant (.05)

**Scheffe’s Test** proved that due to SRT (3.12), SRPT (5.41) the womensoccer player’s explosive power was greatly improved than the control group. Though, SRPT was much better than SRT (MD=2.29) since the SRT and SRPT are higher than CI value (0.85).

**Figure – 1**
*Figure Showing WomenSoccer Player’s Explosive Power*
Discussion

Explosive Power

The result of the study brought the findings for the soccer player’s on explosive power was greatly improved than the control group due to the twelve weeks of specific resistance training with and without psychological training. Though, specific resistance with psychological training (SRPT) was much better than specific resistance training (SRT) to improve explosive power in this study. The below studies are supporting our findings.

Rohit and others (2021) evaluated the effects of complex training (CT) on sprint, jump, and change of direction (COD) ability among soccer players. The regular soccer training programs may be supplemented with CT to improve sprint, jump, and COD performance. Sanchez and others (2020) examined the effects of 10 weeks (2/week) resistance training on stable vs. unstable surfaces on selected measures of physical performance in young male soccer players, regular
soccer training was effective in improving repeated-sprint ability performance in youth male elite soccer.

Edgar and Mark (2020) Soccer involves explosive physical actions requiring strength, power, and agility for optimal performance. Power-band resistance training shows potential as an effective training methodology compared to conventional resistance training to improve performance variables in university soccer players.

Moises and others (2021) examined the effects of 15 weeks (2/week) of two different resistance training (RT) programs [the self-load group (SG) vs. the overload group (OG)] on selected measures of physical performance in young male soccer players. The main findings of this study indicated that RT with and without external load was effective in improving the measures of physical performance in young soccer players.

The result of the study showed that significant differences exist among the experimental and control groups on explosive power. Vinu, W. (2018). the study showed that significant differences exist among the experimental and control groups on spiking ability. Hence among the experimental group the plyometric training had high improvements on spiking ability(explosive power).

**Conclusion**

The conclusion of the study proved that due to SRT, SRPT group of women soccer player’s explosive power was greatly improved than the control group. Among the experimental the SRPT group had much better than the SRT group player to improve the explosive power.

**Reference**


