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## Effect of progressive muscle relaxation and autogenic training on psychological parameters of young girls

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### Abstract

The purpose of the study was to find out the effect of progressive muscle relaxation and autogenic training on psychological parameters of young girls. For the purpose of the present study, sixty (N=60) female subjects between the age group of 22 to 25 years were selected as subjects from Department of Physical Education (T), Guru Nanak Dev University, Amritsar, Punjab (India). The subjects were further assigned into three groups: experimental (E; N = 60; (n<sub>1</sub>= 20; Progressive muscle relaxation training group) and (n<sub>2</sub>= 20; Autogenic training group) and (C; n<sub>3</sub> = 20 Control group). Group E were subjected to 8-week of training. An Analysis of Covariance was used to determine significant differences for dependent variables within the three groups. When a significant difference among the groups was observed, a pair-wise comparison of the groups was done by using the Post-hoc test Least Significant Difference (LSD) to identify direction and significant differences between the groups. The level of significance was set at 0.05 in order to test the differences to be considered significant.

**Keywords:** Least significant difference (LSD), progressive muscle relaxation, autogenic training, psychological

### Introduction

Progressive Muscle Relaxation teaches you how to relax your muscles through a two step process. First, you systematically tense particular muscle groups in your body, such as your neck and shoulders. Next, you release the tension and notice how your muscles feel when you relax them. This exercise will help you to lower your overall tension and stress levels, and help you relax when you are feeling anxious. It can also help reduce physical problems such as stomachaches and headaches, as well as improve your sleep.

The origins of autogenic training (AT) lie in the research into sleep and hypnosis that was carried out in the period 1890-1900 at the Berlin Institute by Oskar Vogt, a renowned brain physiologist (Kanji, 1997) [1]. Vogt observed that intelligent and critically minded individuals who had undergone a series of hypnotic sessions under his guidance were able to put themselves, for a self-determined period of time, into a state which appeared similar to a hypnotic state. In addition, these individuals reported that the 'auto hypnotic' exercises had a remarkable recuperative and uplifting effect. Vogt further observed that these short-term mental exercises, when practised a few times during the day, reduced stressor effects such as fatigue and tension.

**Procedure:** Hardy and Nelson mental skills questionnaire was used to assess level of mental skills. The questionnaire contains 24 questions measuring six dimensions of mental skills and each dimension is measured by four questions, with a six point likert scale.

### Findings and Analysis

**Table 1:** Analysis of covariance of experimental groups and control group on the sub-variable of Mental Skill: Imagery Ability.

Source of variance	Sum of Squares	DF	Mean Square	F-ratio	P-value Sig.
Among means	260.14	2	130.00	15.91*	.000
Within groups	461.29	56	8.73		

\*P<0.05 (Required F-value was significant at 3.16) N=60

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Table 1 presents results of Analysis of covariance (ANCOVA) with regards to the sub-variable of Mental Skill: Imagery Ability of three groups. The statistical values among the groups were:  $SS=260.14$ ,  $df=2$  and  $MS=130.00$ . The within values were:  $SS=461.29$ ,  $df= 56$  and  $MS=8.73$ . The  $F$ -value= $15.91^*$  was found statistically significant ( $P<0.05$ ). Since obtained  $F$ -value was found statistically significant among the groups, therefore, Least significant difference (LSD) post-hoc test was applied to determine the direction and significance of difference among the groups. Calculations of post-hoc test have been shown in Table 2 below.

**Table 2:** Significance of difference of paired means of experimental groups and control group of the sub-variable of Mental Skill: Imagery Ability.

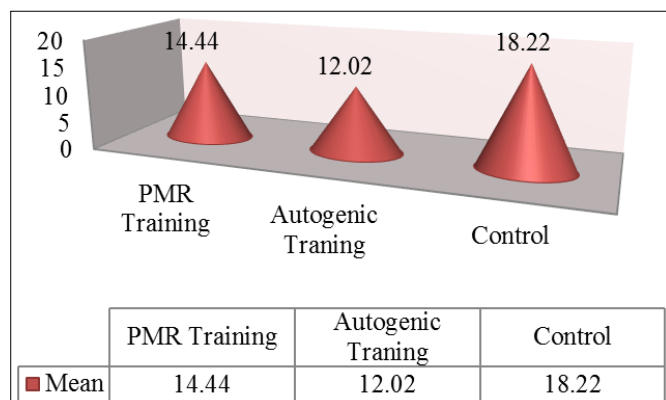
Group (A)	Group (B)	Mean Difference (A-B)	P-value (Sig.)
PMR (Mean=14.44)	Autogenic training	2.481*	.010
	Control	-2.902*	.002
Autogenic training (Mean=12.02)	PMR	-2.489*	.010
	Control	-5.379*	.000
Control (Mean=18.22)	PMR	2.908*	.002
	Autogenic training	5.389*	.000

\*Significant at .05 level

A glance at table 2 showed that the mean value of PMR training group was 14.44 whereas autogenic training group had mean value as 12.02 and the mean difference between both the groups was found 2.489\*. The p-value sig .010 shows that the PMR training group had demonstrated better on imagery ability than their counterpart’s autogenic training group though significantly.

The mean difference between PMR training and control group was found 2.908\*. The p-value sig .002 shows that the control group had demonstrated better on imagery ability than their counterpart’s PMR training group though not significantly.

The mean difference between autogenic training and control group was found 5.389\*. The p-value sig .000 showed that the control group had demonstrated better on imagery ability than their counterpart’s autogenic training group though not significantly. The graphical representation of responses has been exhibited in figure 1.



**Fig 1:** Mean comparison with regard to PMR group, Autogenic group and control group on the sub-variable of Mental Skill: Imagery Ability.

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