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# Effect pf Suspension Training Program on Personality Variable of the University Students

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**ABSTRACT**

**Background:** The purpose of this study is to find out the Effect of the Suspension Training Program on the Personality Variable of the University Students. Suspension Training refers to an approach to strength training that utilizes a system of ropes and webbing called a "Suspension Trainer" to allow the user to work against their own body weight, thereby protecting them from injury.

**Materials and Method:** This study was based on the Suspension Training of University Students. For the present study, 100 students(50 Treatment Group & 50 Control Group) were selected from the Physical Education and Sports department at Gurukula Kangri (Deemed to be University), Haridwar, aged between 18 and 25 years. They go through with 12-week Suspension Training Program. A random sampling technique was used to collect reliable data.

**Results & Conclusion:**The data were collected pre, mid and post of the 12-week training period. The data were analysed by the SPSS ANOVA statistical technique to find out the effect of the Suspension Training program. The result showed that ware a significant effect on university students ($p < 0.05$).

**Keywords:** Suspension Training, Personality, Psychological, Students, University

## INTRODUCTION

Suspension training combines a variety of movements through which the user can improve coordination, power, strength, core stability, endurance and flexibility in a single exercise routine. Suspension training is characterized as cardio and resistance training combined, which is often seen in circuit training. Usual circuit training is divided by stations, in every station the person has to perform a different exercise. The resting period between stations is minimum (a few seconds). The idea of suspension training is very simple, exercises are carried out using body weight and two straps. While performing exercises with a suspension training, many exercises can be done, allowing the user to work in his/her flexibility, balance, strength and mobility without risking an injury. By using progressive overload, suspension training allows the improvement of proprioception and strength (Gidu et al., 2017).

While traditional exercise modalities are frequently associated with enhanced physical fitness, the psychological adaptations resulting from suspension training—a system utilizing gravity and body weight to develop core strength and stability—remain relatively underexplored within the academic literature (Rajkumar, 2022).

The Suspension Training program, which is another name for Total Resistance Exercises, is a type of suspension training exercises developed by Randy Hetrick, he is a former U.S. Navy Seal**.** This trainng develops Strength, Balance, Flexibility, Core Stability etc using body weight movements. To complete the exercises, it is need to use the Suspension Trainer, a performance-enhancing tool that uses the user's own body weight and gravity(Singh, 2023). According to TRX's inventors, in addition to their own experience, the technology incorporates research from the military, professional sports, and academic institutions.

In recent years, suspension training (SuT) has gained popularity as a modality of full-body, unstable resistance training. Unlike stable resistance training, SuT promotes instability by altering the user's center of mass, requiring constant activation of both core and peripheral stabilizer musculature in order to maintain equilibrium while also working against resistive forces generated by gravity and body weight (Dudgeon, 2019).

Suspension training, as a feasible and safe method, is presently applied in various fields since all physical fitness components, including flexibility, cardiovascular function, power, muscular strength, and endurance, can be simultaneously applied in a small space. Total resistance exercise (TRX) training is a form of suspension training that uses body weight for resistance, focusing on strength, balance, flexibility, and core stability. It is adaptable for all fitness levels, supports a variety of exercises, and is portable for convenience. Studies suggest TRX as effective as traditional weight training for physical fitness.

Suspension training (ST) combines dynamic and static training by suspending specificparts of the body with a suspension sling to improve the stability and coordination of musclegroups. In recent years, ST has attracted more and more attention from scholars, coaches, andathletes for its positive effect on muscular strength, speed, agility and balance function. (S.Borreani et al., 2015). Increasingly, ST has also been applied in competitive sports training andinjury prevention.

In scholarly psychological research, self-efficacy and self-esteem are frequently used to conceptualize Personality(Kashyap, 2024).

**Personality Inventory:-** It was a long felt need that no appropriate personality measure was available in either English or Hindi language which may assess the personality characteristics of the Indian people for 12+years in sample spoken or understandable Hindi or English language. Therefore, many foreign tests were being blindly used for assessing various personality traits based on different personality conceptualizations and dispositions in this country (Bhargava, 2017). Dimensional Personality Inventory constructed and understood by Dr. Mahesh Bhargava Hariprasad institute enclave, Sikandra, Agra (U.P.) 2017 Published by National Psychological Corporation.

**Objectives of the Study:** Examine the effects of suspension training on Personality of the university students.

**Hypotheses:** H0 - There would be no significant effect of suspension training programme on Personality of the university students and H1 - There would be a significant effect of suspension training programme on Personality of the university students.

## MATERIALS AND METHOD

**Selection of Subject: -** This research was based on the suspension training program for university students. For the present study, we will select 100 students (50 Experimental Group & 50 Control Group) studying in the Physical Education and Sports department from Gurukula Kangri (Deemed to be

University) Haridwar aged between 18 to 25 years. They will be taking part in a 12-week Suspension Training Program.

**Sampling Technique: -** Random Sampling Technique.

- **Independent Variables -** Suspension Training
- **Dependent Variables -** Personality

**Design of the Study**: - Pre, Mid and Post Test design was used to find out the effect of suspension training program on personality of the university students. The group was exposed to suspension Training with exercises selected for specific purposes. The experimental groups will train with total resistance exercises and the other group will rest for 12 weeks. The training session will be conducted a minimum of 5 days a week.

**Instructions for Personality Inventory**

Instructions are straightforward. Every individual or group must be instructed to read every statement carefully. His response will be recorded based on 3 alternatives: Yes, Undecided, and No. He must decide which statement is true according to his temperament and behavior. It is consistent 60 statements in the sample (easy to understand even by low literates) in Hindi/English. It measures six critical personality dimensions- (i) Activity-Passivity, (ii) Enthusiastic- Non-Enthusiastic, (iii) Assertive-Submissive, (iv) Suspicious-Trusting, (v) Depressive- Non-Depressive, and (vi) Emotional Instability and Emotional Stability. 10 items measure each personality trait through three response alternatives- Yes, undecided and No.

**Scoring Inventory**

The 'Yes' is to be scored as 2, 'undecided' is to be scored as 1, whereas 'No' is equal to zero. The total time required for administration is 15 minutes. All the six-dimensional areas of personality are grouped as Part I, II, III, IV, V, and VI, each containing 10 statements. Thus on each area of personality, the score may range from 0 to 20 and thus may be calculated area-wise, and the total score of each part may be obtained at that place and then transferred to the scoring table below each part against the raw score column.

## RESULTS

Result Analysis through SPSS 2026 (Descriptive Statistics and Mixed Design ANOVA) of Effect of Suspension Training Program on Personality Variable of the University Students

**Table 1**

**Measure**: Values Mean, SD of Groups (Pre, Mid and Post)

| Group | Pre-Test | | Mid-Test | | Post-Test | |
|---|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | Mean | SD |
| Experimental (n = 50) | 58.14 | 13.313 | 59.42 | 13.081 | 65.30 | 12.768 |
| Control (n = 50) | 56.72 | 12.947 | 56.36 | 12.971 | 56.62 | 12.553 |

**Table 2**

**Measure**: Significant Result of Testing Phase (Pre–Mid–Post) and Testing Phase × Groups

| **Source** | **df** | **F** | **p** | **Partial η²** |
|---|---|---|---|---|
| Testing Phase (Pre–Mid–Post) | 1.78, 175.35 | 4.622* | < 0.05 | .045 |
| Testing Phase × Groups | 1.78, 175.35 | 4.548* | < 0.05 | .044 |

***Significance at 0.05 F (**1.78, 175.35**) = 3.05**

**Note.** Greenhouse–Geisser correction was applied as Mauchly's test of sphericity was significant (p < .002).

**Table 3**

**Measure**: Mauchly's Test of Sphericitya

| **Within Subjects Effect** | **Mauchly's W** | **Approx. Chi-Square** | **df** | **Sig.** |
|---|---|---|---|---|
| Testing_Phase | 0.882 | 12.148 | 2 | <.002* |

*significant (p < .05).

**Table 4**

Groups * Testing_Phase

**Measure:** Values of Testing Phases (Pre 1, Mid 2, Post 3)

| Groups | Testing_Phase | Mean | Std. Error | 95% Confidence Interval | |
|---|---|---|---|---|---|
| | | | | Lower Bound | Upper Bound |
| Experimental Group | 1 | 58.140 | 1.857 | 54.455 | 61.825 |
| | 2 | 59.420 | 1.842 | 55.764 | 63.076 |
| | 3 | 65.300 | 1.791 | 61.747 | 68.853 |
| Control Group | 1 | 56.720 | 1.857 | 53.035 | 60.405 |
| | 2 | 56.360 | 1.842 | 52.704 | 60.016 |
| | 3 | 56.620 | 1.791 | 53.067 | 60.173 |

**Figure 1**

**Measure:** Graph based on mean value of testing phase (Pre 1, Mid 2, Post 3)

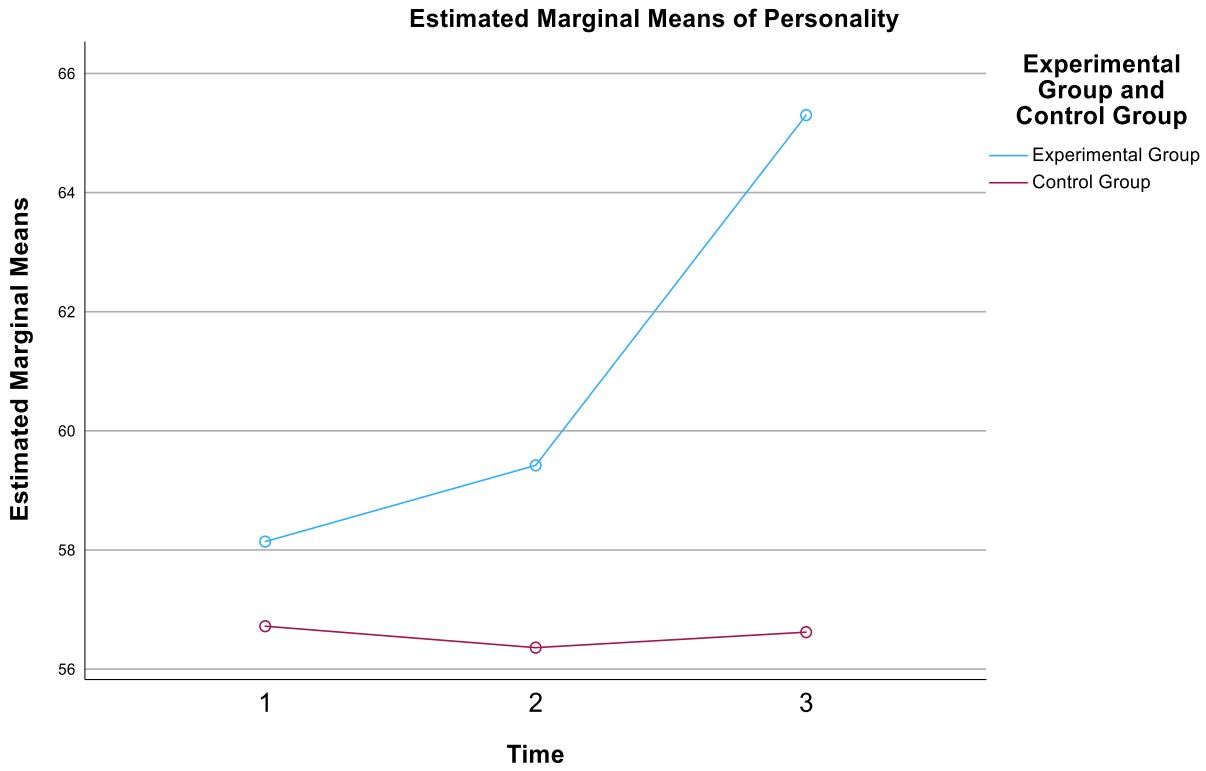


**Table 5**

**Measure**: Within Groups

| **Pairwise Comparisons - Post hoc Test** | | | | | |
|---|---|---|---|---|---|
| Groups | (I) Testing_Phase | (J) Testing_Phase | Mean Difference (I-J) | Std. Error | Sig.[b] |
| Experimental Group | 1 | 2 | -1.280 | 1.526 | 1.000 |
| | | 3 | -7.160* | 2.050 | .002 |
| | 2 | 1 | 1.280 | 1.526 | 1.000 |
| | | 3 | -5.880* | 1.741 | .003 |
| | 3 | 1 | 7.160* | 2.050 | .002 |
| | | 2 | 5.880* | 1.741 | .003 |
| Control Group | 1 | 2 | .360 | 1.526 | 1.000 |

| Pairwise Comparisons - Post hoc Test | | | | | |
|---|---|---|---|---|---|
| Groups | (I) Testing_Phase | (J) Testing_Phase | Mean Difference (I-J) | Std. Error | Sig.[b] |
| | | 3 | .100 | 2.050 | 1.000 |
| | 2 | 1 | -.360 | 1.526 | 1.000 |
| | | 3 | -.260 | 1.741 | 1.000 |
| | 3 | 1 | -.100 | 2.050 | 1.000 |
| | | 2 | .260 | 1.741 | 1.000 |

*. The mean difference is significant at the .05 level and sign [b] Adjustment for multiple comparisons.

**Result Summary:** ANOVA test measuring the effect of suspension training on the Personality of participants between the two groups were computed by using descriptive statistics on the scores related to the pre-test, mid-test, and post-test measures of both groups. The descriptive statistics results showed an improvement in the scores of the experimental group from the pre-test (M = 58.14, SD = 13.313), mid-test (M = 59.42, SD = 13.081), and post-test (M = 65.30, SD = 12.768). Similarly, the control group showed no betterment in the scores, including the results pre-test (M = 56.72, SD = 12.947), mid-test (M = 56.36, SD = 12.971), and post-test (M = 56.62, SD = 12.553). Mauchly's test for sphericity showed that the assumption of sphericity did not hold for the main effect of time, $\chi^2$ (2) = 12.148, $p < .002$. Hence, the Greenhouse-Geisser epsilon correction was used for interpreting within-subject effects. From the results, a significant main effect of testing phase, $F(1.78, 175.35) = 4.622$, $p < .05$, $\eta^2 = .045$, which showed that explosive strength did change significantly over the three phases of the testing period. Nevertheless, there was something else that was an important and necessary effect between the testing phase and the group, $F(1.78, 175.35) = 4.54$, $p < .05$, $\eta^2 = .44$, showing that the pattern of change over time was significantly different for the experimental and control conditions. The obtained F-value was significantly more than the tabular F-value at the 0.05 level; therefore, the H0 was rejected, and H1 accepted, showing a significant effect for the suspension training program of the university students.

**Post Hoc Analysis**

Based on pairwise comparisons, the experimental group demonstrated improvement between the pretest and midtest ($p < 0.05$), as well as between the pretest and posttest ($p < 0.05$). In contrast, no significant differences were observed in the control group at any measurement point ($p > 0.05$).

## DISCUSSION

The analysis of the results revealed a significant interaction between both the groups on Personality. The

testing phases had significant and progressive improvements on each other from pre-test to post-test in the experimental group, while there were no meaningful changes among the three testing phases in the control group. These improvements can be attributed to daily exercisese and active participation in training.

## CONCLUSION

The current study revealed that the 12-week suspension training regimen had a positive impact on the Personality levels of the participants. It was demonstrated through a large main effect of the testing phase and an interaction between testing phase and group in the mixed-design ANOVA analysis. The experimental group exhibited continuous development during the testing phases, while the control group did not. The reason for the improvements could be attributed to the functional and reliable approach of suspension training, which facilitates neuromuscular coordination, psychological development, and muscle contraction. Personality is a malleable construct. It serves as a mediator between an individual's actual skills and their final performance. Without the "belief" component, even a high-skilled individual may underperform due to the psychological interference of self-doubt. It is thus recommended that suspension training should be included in university physical education and sports as one of the effective training programs.

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