

Effect of Physical Exercises on Psychological Variables with Respect to Self-Motivation of Sedentary Student

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ABSTRACT

Physical exercise tailored for sedentary students acts as a powerful, positive intervention that significantly enhances mental health and fosters long-term, self-sustaining wellness habits. Regular, structured activity not only improves physical health but acts as a mediator that boosts self-efficacy, increases intrinsic motivation, and fosters a positive mood. These improvements create a feedback loop-where increased mental toughness and better self-appraisal encourage continued activity-breaking the cycle of sedentary behavior and mental distress. Mental health challenges among university students have become a critical public health concern, with increasing rates of anxiety, depression, and stress-related disorders. The severity of this issue is further underscored by rising suicide rates, particularly among vulnerable demographics, highlighting an urgent need for effective, accessible, and multifaceted intervention strategies that extend beyond traditional talk therapy. While physical activity is widely recognized for its psychological benefits, students majoring in physical education face unique stressors, including performance pressure, injury risks, and academic-athletic balance, which may undermine these advantages.

Keywords: *Physical exercise, sedentary behavior, self-efficacy*

Physical exercise tailored for sedentary students acts as a powerful, positive intervention that significantly enhances mental health and fosters long-term, self-sustaining wellness habits. Regular, structured activity not only improves physical health but acts as a mediator that boosts self-efficacy, increases intrinsic motivation, and fosters a positive mood. These improvements create a feedback loop-where increased mental toughness and better self-appraisal encourage continued activity-breaking the cycle of sedentary behavior and mental distress. Mental health challenges among university students have become a critical public health concern, with increasing rates of anxiety, depression, and stress-related disorders. The severity of this issue is further underscored by rising suicide rates, particularly among vulnerable demographics, highlighting an urgent need for effective, accessible, and multifaceted intervention strategies that extend beyond traditional talk therapy. While physical activity is widely recognized for its psychological benefits, students majoring in physical education face unique stressors, including performance pressure, injury risks, and academic-athletic balance, which may undermine these advantages.

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Received: March 01, 2026; Revision Received: March 20, 2026; Accepted: March 22, 2026

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Key Mechanisms and Benefits for Sedentary Students:

- **Positive Feedback Loop:** Regular exercise creates a cycle where improved self-appraisal, increased mental toughness, and reduced stress encourage continued participation, breaking the cycle of sedentary behavior and mental distress.
- **Boosts Self-Efficacy and Motivation:** Structured activity fosters a sense of competence and control, enhancing students' confidence in their ability to execute tasks (self-efficacy) and increasing intrinsic motivation.
- **Mental Health Improvement:** Research indicates that physical activity reduces symptoms of anxiety, depression, and stress while enhancing life satisfaction, particularly through improved sleep quality and cognitive function.
- **Physiological and Psychological Mechanisms:** Exercise stimulates neurotransmitters like serotonin and dopamine, regulates cortisol levels, and boosts self-esteem. It enhances brain function (neurogenesis) and improves emotional regulation.
- **Long-Term Sustainability:** Structured, consistent exercise (3–5 times per week) helps transition students from sedentary behaviors to enduring, self-sustaining wellness habits.
- **Tailored Approach:** Effective programs often include a mix of aerobic and resistance training (e.g., HIIT or yoga) to maximize both physical and mental benefits.

Objective of the Study

The objective was to study and examine the effect physical exercise on Emotional Intelligence with respect to Self-Motivation of sedentary student.

Hypotheses of the study:

There would be significant effect of physical exercises on psychological variables with respect to Emotional Intelligence Self-Motivation of sedentary student.

Delimitation of the study

- Study was conducted on 40 sedentary students. Only experimental group was targeted there was no control group.
- The age group of sedentary students was 18-26.
- The training was given at Jamnagar City.

Significance of the Study: -

- This study would help the coaches & physical education teachers to evaluate the effects Physical Exercises among sedentary student.
- The coaches, sports trainers, physical education teachers & players would know about the advantages of Physical Exercises.
- The findings of the study would help coaches, trainers, physical education teachers & players to improve health among students.
- This study would motivate other investigators to take up singular studies selecting more number of students. So that more information related to Physical Exercises would be highlighted.

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METHODOLOGY

In this chapter selection of subject, administration of the test, data collection, statistical techniques, tools of the study & training program had been described for present study.

Target Population

Only one group was targeted experimental group, there was no control group. The 40 male sedentary students from Jamnagar city, participated in the study and their age ranged between 21-30 years. Training was given to the experimental group only.

Demographic Information:

The data was collected through respondents in the form of different experimental tests. The demographic information about Gender, age, daily smoking, drug use, etc. was obtained before seeking responses.

Inclusion and exclusion criteria:

The inclusion and exclusion criteria for participants were as follows:

The inclusion criteria are:

1. The participant agreed to participate in the study via an informed consent.
2. The participants must be sedentary student in their under and post graduate degree programme aged range was 22 to 30 years.
3. The participants were not rotating through other health facility at the time of study.

The exclusion criteria are:

1. Active Physical illness. The participants advised not to participate
2. Inability to obtain the consent of the respondent.
3. Presence of chronic medical conditions such as asthma, heart disease or any other condition.
4. Participants free from the smoking, drug abuse and alcohol consumptions during the experimental period.

Research design:

The research design refers to “the researcher’s overall plan for testing the research hypotheses” (Polit et al, 2001, p.167). This study involves a cross sectional, comparative pre and posttest of students in experimental research. Since only experimental group was taken by the investigator and there was no control group so this study was conducted in a quasi-square experimental design. Ultimately, the findings will increase the awareness of students regarding the benefits of physical exercise.

1. Training Schedule

The Physical Exercises program has 3 variables; they are as follows:

- **Frequency** - Physical exercise 6 days a week.
- **Intensity of training** – 64/70-94% of maximum heart rate (HRmax).

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- **Duration of training** - Continuous or intermittent Physical activity for 30-60 minutes. Duration is dependent on the intensity of the activity; thus, lower-intensity activity should train at least 60 minutes.

2. Application to sedentary students

Exercise that use large muscle groups that can be maintained continuously and are aerobic in nature. These exercises include walking, running jogging, dancing, stair climbing, jumping row and cross country.

- The HR max can be determined by the following:

$$\text{HR max} = 220 - \text{Ag}$$

- The exercise session should consist the following procedure:

Warm-up period was approximately 10 minutes. This combined Calisthenics-type stretching exercises and progressive physical activity that should increase the heart rate.

- A cool down period of 5-10 Minutes

3. Statistical Analysis

In this study, the Statistical Package for the Social Sciences (SPSS) version 16 was used to analyse the data. To examine the significant effects of psychological and physiological characteristics of sedentary students, the t-test was used. The Level of Significant was setup at .05 level of confidence.

Results of the Study

Means scores, standard deviation and t-ratio of Emotional Intelligence with respect to Self-Motivation of pre and post-test of Experimental group.

Variable	Test	Number	Mean	S.D.	t-ratio
Self-Motivation	Pre Test	40	16.73	5.26	5.02*
	Post Test	40	22.03	4.59	

* Significant at .05 level. ($t = 5.02$), $P < .05$

As per table As per table-14, Shows that Statically Significant difference of mean scores, standard deviation and t-ratio of Emotional Intelligence with respect to Self-Motivation pre and post-test of Experimental group

With regards to selected psychological variable Emotional Intelligence with respect to Self-Motivation of Experimental group. they have obtained the mean values of 16.73 and 22.03 respectively, which are given in the Table 14 reveals that there was significant effect found in ($t=5.02$, $p<.05$) Emotional Intelligence with respect to Self-Motivation of Experimental group. That means there was effect of physical exercise on Self-Motivation.

CONCLUSIONS

It had been hypothesized that There would be significant effect of physical exercises on psychological variables with respect to Emotional Intelligence (Self-Motivation) of sedentary

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student. Table reveals that there was significant effect found Self-Motivation of sedentary students. That means there was effect of physical exercise on Self-Motivation. Thus, the hypothesis of the study was accepted. A significant effect of physical exercise was found on self-Motivation of Experimental group. Self-Motivation of Experimental group was increased.

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Acknowledgments

The author(s) appreciates all those who participated in the study and helped to facilitate the research process.

Conflict of Interest

The author declared no conflict of interest.

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How to cite this article: Jadeja, M. C. (2026) Effect of Physical Exercises on Psychological Variables with Respect to Self-Motivation of Sedentary Student. *International Journal of Social Impact*, 11(1), 141-146. DIP: 18.02.1023/20261101, DOI: 10.25215/2455/11011023