

EFFECTS OF TREADMILL EXERCISE ON PSYCHOLOGICAL WELL-BEING IN SEDENTARY STUDENTS

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Abstract:

Aims

The objective of the study was to examining the effects of Treadmill exercise on psychological well-being , Two groups were targeted as an experimental group and control group. The 34 male participated in the study and their age ranged between 19-28 years. The all students are sedentary and not participation any sporting or physical activities.

Treadmill exercise

Experimental group participated in Treadmill exercise Training program which was conducted for four-week, four days in a week and 15 minutes in a day. After the pre-test was over, the entire selected subjects were exposed to four-week Treadmill exercise.

Findings and Conclusions

The result reveals significant difference of Psychological well- being was found between pre and post test in experimental group sedentary students ; the four week of treadmill exercise significantly improve the psychological well- being to the sedentary students

Recommendation

The findings of the study will be proposing a new conceptual model that may assist the policy makers in framing new policies and strategies to manage the stress problem

Keywords: Distress, Treadmill, experimental, group

I. INTRODUCTION

Psychological well-being is composed of happiness, kindness, self-acceptance, positive relationships, autonomy, control over the environment, purpose in life, personal growth, and life satisfaction.

(Díaz et.al.2006) . Sedentary lifestyle is one of the growing health problems among college going students, due to which students can face a variety of problems, they are more likely to be obesity High and low blood pressure diabetes or heart disease, and experience depression and anxiety (Assadi, 2017; Bhui, 2002; Briddle et.al.2008 ;Briddle, et.al 2011). globally, physical inactivity and a sedentary lifestyle occur in almost 30% of adults and in more than 80% of school-age adolescents (De un Vistazo,2022) . Physical activity is a key element in people's health because it provides important physical benefits, as well as improving mental health and quality of life. However, recent years have seen an increase in the percentage of young adults who show high levels of inactivity.

(Jesús et.al.2022) Treadmill workout help to , promote better and deep sleep, relieve stress and anxiety, and improve psychological well-being (Singh 2016; Guthrie et.al., 1998; Vitaliano ;1989, Varo et.al 2003). The students of university and colleges or uses treadmills for enhancing muscular fitness and physique purposes, not for research.

There is a lack of research reports on the effects of treadmill running on psychological well-being on young students. The efforts made by the investigator on the present research can prove to be very useful in enhancing psychological well-being among students.

II. METHODS

Sampling method and Sample Size:

The method of sample was purposive –A non-random method of sampling design for students with a specific purpose. The sample size of the study was to 17 experimental group sedentary students and 17 control group .

Sample Size: The 34 male sedentary students (17 experimental and 17 control group) from SRTM University, participated in the study and their age ranged between 19-28 years. Experimental design for this study involves a cross sectional, comparative pre and post-test experimental design.

Source of Data:

The study depends mainly on primary source of data. The data was collected through respondents in the form of Questionnaires from 17 experimental group sedentary students and 17 control group sedentary group.

Ethical consideration

In this study, the researcher Follow the ethical guidelines, principles, and standards for studies conduct with human beings. The study was including safeguards for protecting humans, which involve three major ethical principles: beneficence, respect for human dignity, and human justice.

Exclusion and inclusion criteria

Exclusion criteria were , CVD, Hypertension Hypotension, asthma, Diabetes, etc. that would put the subjects at risk when performing the experimental tests.

Demographic information:

The data was collected through respondents in the form of different descriptive tests. The demographic information was obtained before seeking responses.

Treadmill

The standard treadmills of Aerofit were used to training program. Before exercise pre-test done by departmental fitness centre.

Assessment of Psychological Well-being:

For measure the mental health of the students, Mental Health Inventory prepared by Davies AR, Sherbourne CD, Peterson JR and Ware JE (1998) was used. All of the 38 MHI items, except two, are scored on a six-point scale (range 1-6). Items 9 and 28 are the exception, each scored on a five-point scale (range 1-5). The pre-coded values of each item are shown on the copy of the instrument on the preceding pages. Two global scales - Psychological Distress and Psychological Well-being and A global Mental Health Index score and only one global scale included in the study i.e Psychological well-being

Data processing:

The data was checked for accuracy and completeness and was coded and put up into the SPSS Descriptive statistics for all studied variables, percentage , mean, standard deviation and t-ratio, were considered statistically technique throughout the study and the level of significant was set-up at 0.05 level.

Results and discussion

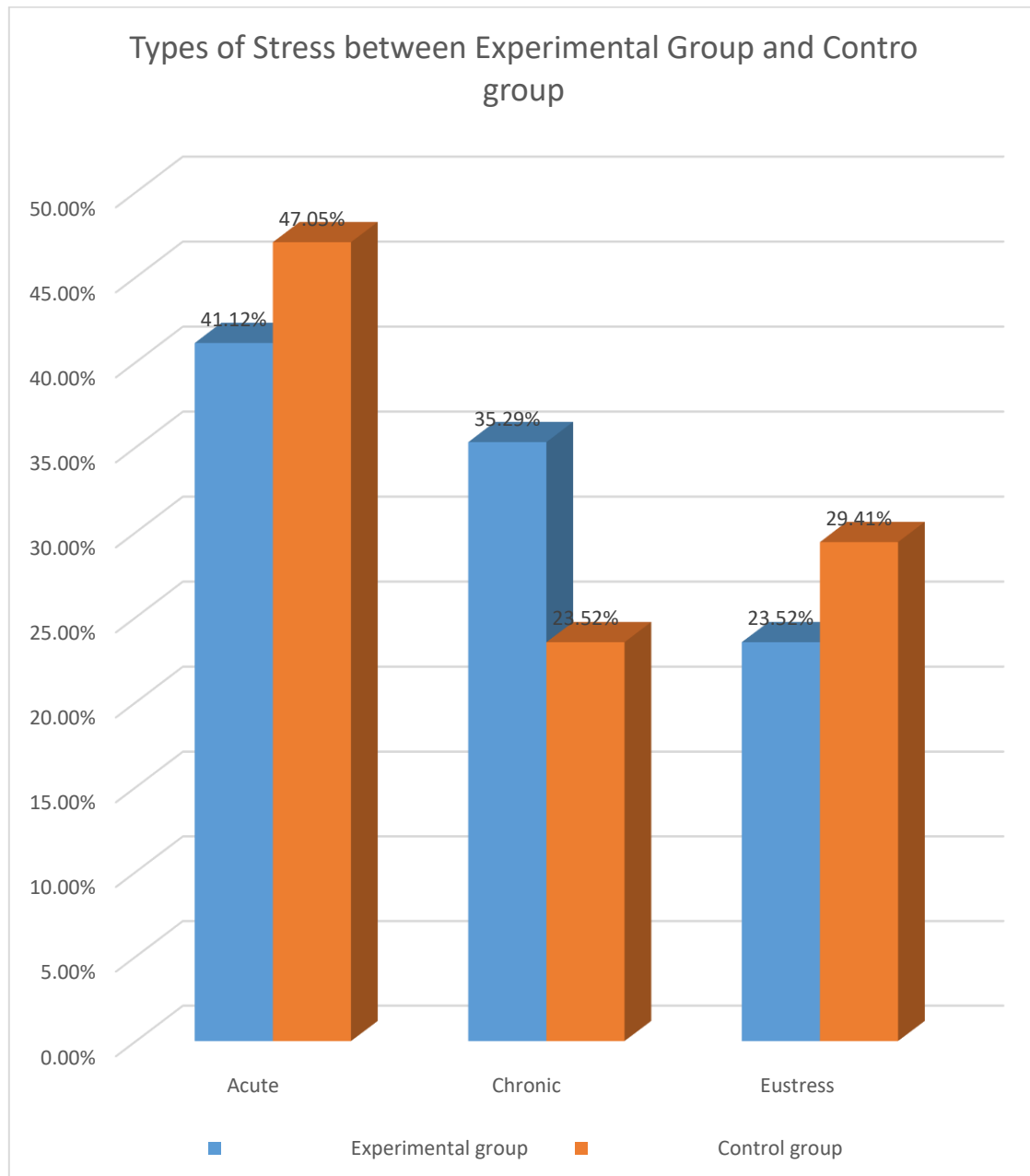
The results concerning of this research are presented in the form of tables and also illustrated with the help of suitable figures wherever necessary.

TABLE :1
Types of Stress between experimental and control group sedentary students

Sr.No.	Types of stress	STUDENTS	
		Experimental group	Control group
1.	Acute	41.12%	47.05%
2.	Chronic	35.29%	23.52%
3.	Eustress	23.52%	29.41%

Table- shows the **types of Stress between experimental and control group sedentary students** . Result reveals that 41.12% Experimental group has been reported Acute stress, 35.29% Experimental group has been reported Chronic stress and 23.52% Experimental group has been reported Eustress stress. Whereas 47.05% Control group has been reported Acute stress, 23.52% Control group has been reported Chronic and 29.41% Control group has been reported Eustress stress.

Figure -2 shows the Types of Stress between experimental and control group sedentary students



Mean Scores, Standard Deviation and t-ratio of the Psychological well- being between Pre and post test of Control group

Dimension	Students	Number	Mean	S.Ds.	t-ratio
Psychological well-being	Pre-test	17	38.88	6.34	1.56 NS
	Post-test	17	38.56	6.13	

Table-2 shows the Mean Scores, Standard Deviation and t-ratio of the Psychological well- being between Pre and post test of control group. With regards to mental health global sub scale of Psychological well- being between pre and post test they have obtained mean values(SDs) were 38.88 (6.34) and 38.56 (6.13) respectively, the result reveals no significant difference of Psychological well- being was found between pre and post test of control group of sedentary students

Figure-2 Mean Scores and Standard Deviation of *Psychological well- being* among the control group

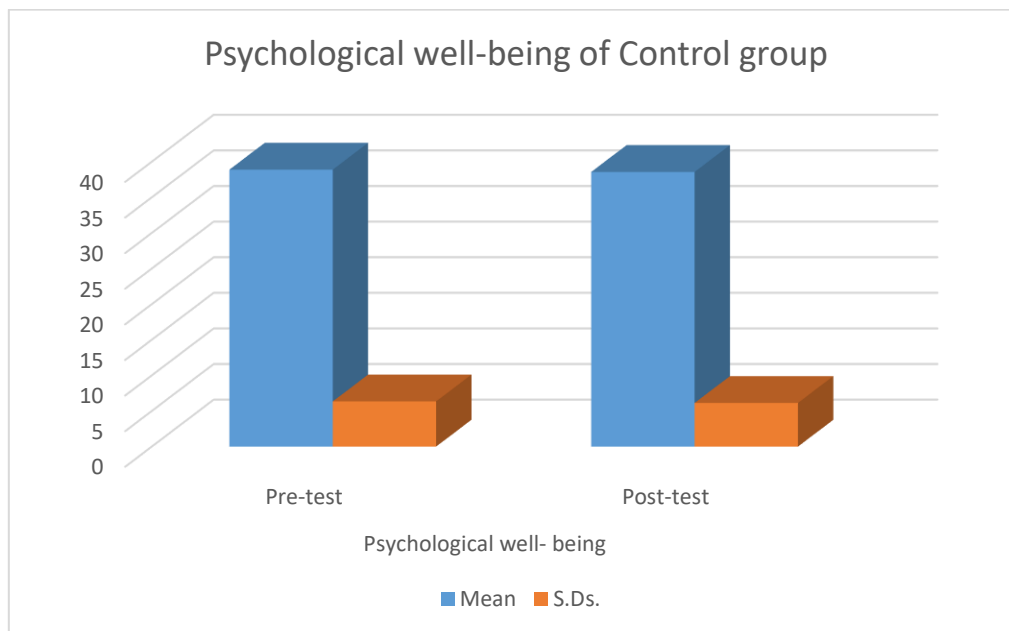
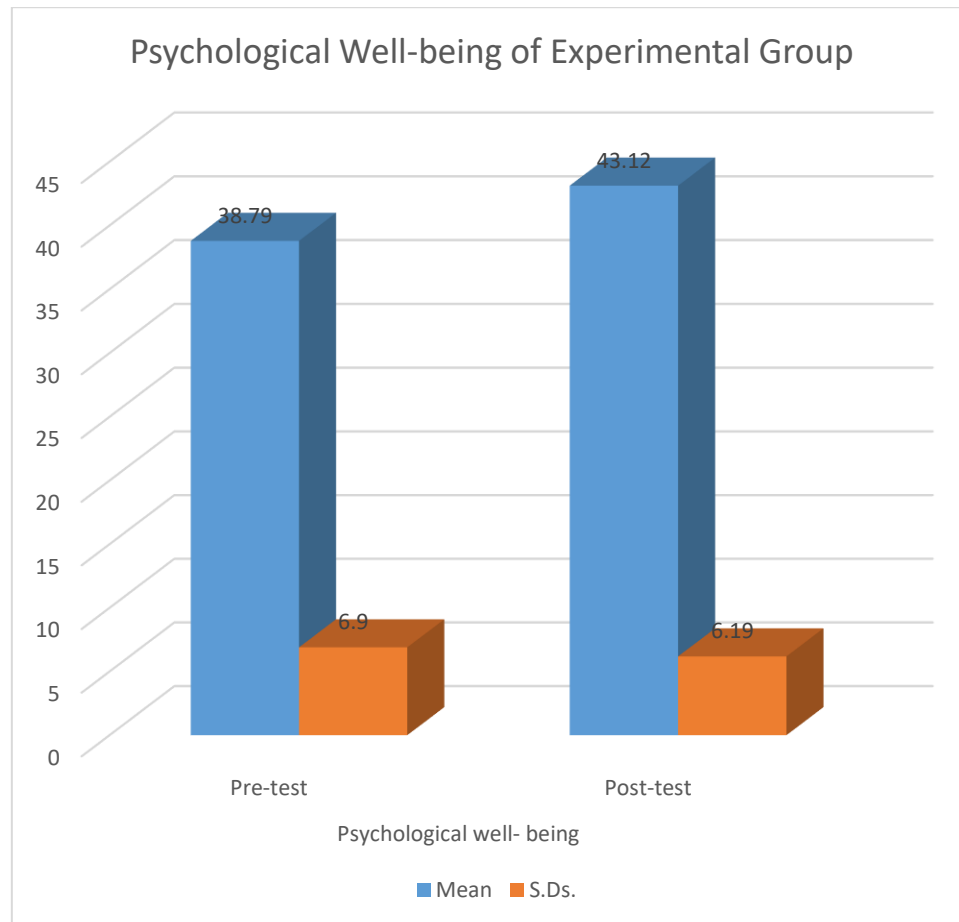


Table-2
Mean Scores, Standard Deviation and t-ratio of the Psychological well- being between Pre and post test of Experimental group

Dimension	Students	Number	Mean	S.Ds.	t-ratio
Psychological well-being	Pre-test	17	38.79	6.90	3.65*
	Post-test	17	43.12	6.19	

Table-2 shows the Mean Scores, Standard Deviation and t-ratio of the mental health global sub scale of Psychological well- being between Pre and post test of Experimental group.

Figure -3 shows the Mean Scores and Standard Deviation of Psychological well-being between Pre and post test of Experimental group



III. DISCUSSION

The findings of the study revealed that most of the experimental group and control group students suffered from Acute stress and followed Chronic stress respectively. With regards to mental health global sub scale of Psychological well-being between pre and post test they have obtained mean values(SDs) were 38.88 (6.34) and 38.56 (6.13) respectively, the result reveals no significant difference of Psychological well- being was found between pre and post test of control group of sedentary students . With regards to mental health global sub scale of Psychological well- being between pre and post test of experimental group of sedentary students they have obtained mean values(SDs) were 38.79 (6.90) and 43.12 (6.19) respectively, the result reveals significant difference of Psychological well- being ($t=p < .05$) was found between pre and post test; the four week of treadmill exercise significantly improve the psychological well- being to the sedentary students. The several authors from global reported that Regular exercise enhances psychological well-being by reducing frustration, tension, conflict , anxiety, stress, and depression, and improving mood, and cognitive function (Singh 2016; Guthrie et.al., 1998; Vitaliano ;1989, Varo et.al 2003,*Bhui, 2002; Dunn, Trivedi, & O'Neal, 2001*). Nowadays treadmill is the most popular workout machine in gyms among the young population. Treadmill workout can benefit your health both mentally and physically (Singh , Bansode and waheed 2023). Treadmills are mostly used in gyms for students, recommended to improve their cardiovascular function, muscle strength and reduce body mass index and fat , But a treadmill machine can be used to boost your psychological health even more, especially mental health by reducing stress and anxiety (Rahul and Singh, 2017, Singh , Bansode and waheed 2023). In addition to being a versatile cardio machine, a treadmill can also help manage stress levels(Rahul and Singh, 2017)

The levels of chemicals in the brain, such as serotonin, stress hormones and endorphins, change when you exercise. Regular exercise can help you sleep better. And good sleep helps you manage your mood. Exercise can improve your sense of control, coping ability and self-esteem. Exercise is important for people with mental illness – it not only boosts our mood, concentration and alertness, but improves our cardiovascular and overall physical health.

Economos, Hildebrandt, & Hyatt, 2008, Singh 2016, Bhui, 2002; Dunn, Trivedi, & O'Neal, 2000 and many more studies suggests that physically active people have lower rates of stress and anxiety may contribute to better sleep and sound mental health Engaging in more physical activity improves psychosocial health. Regular participation in physical activity or sporting activities can significantly improve the sleep pattern by speeding up the production of hormone melatonin in the brain, reducing cortisol hormone, improving chemical substances in brain like serotonin, and regulating body temperature. Studies show that exercise Regular participation in physical activity or sporting activities or aerobic exercise can help individuals get a sleep faster and sleep longer, and increase the time of deep sleep. **The several research have also shown that physical activity is an effective means of reducing anxiety and various indices of stress among adults may enhance psychological well-being (Bhui, 2002; Dunn, Trivedi, & O'Neal, 2001).** Nowadays treadmill is the most popular workout machine in gyms among the young population. Treadmill workout can benefit your health both mentally and physically. Treadmills are mostly used in gyms for students, recommended to improve their cardiovascular function, muscle strength and reduce body mass index and fat, But a treadmill machine can be used to boost your psychological health even more, especially mental health by reducing stress and anxiety. In addition to being a versatile cardio machine, a treadmill can also help manage stress levels.

Imitations of the research

1. Results of this study are limited by a relatively small preliminary experimental group rather than a study of actual behaviour, which would be very difficult to achieve.
2. Future research is warranted on estimating the level of stress by psychometric instruments and large number of sample.

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E - Resources

<https://adaa.org/understanding-anxiety/related-illnesses/other-related-conditions/stress/physical-activity-reduces-st>
<https://www.urmc.rochester.edu/encyclopedia/content.aspx?ContentTypeID=1&ContentID=2151>
Web site: <http://www.mayoclinic.com/health/cholesterol-test/my00500>
<https://www.betterhealth.vic.gov.au/health/healthyiving/exercise-and-mental-health>.
<https://www.hopkinsmedicine.org/health/wellness-and-prevention/exercising-for-better-sleep>