IJIREEICE

ISSN (Online) 2321-2004
ISSN (Print) 2321-5526

International Journal of Innovative Research in
Electrical, Electronics, Instrumentation and Control Engineering

Vol. 9, Issue 2, February 2021

DOI 10.17148/IJIREEICE.2021.9202

Effects of Regular Physical Exercise On Academic-Related Life Stress On Elite Students

Hattiwale Gulnaaz Arif[1], Sinku Kumar Singh[2]

Research scholar, Swami Ramanand Teerth Marathwada University, Nanded[1]

SES, Swami Ramanand Teerth Marathwada University, Nanded[2]

Abstract: The primary objective of the study was to determine the effects of Regular physical exercise on life stress on students in higher education. . Two groups were targeted as experimental and control group. The 40 male students was considered as experimental group and 40 male students was considered as control group. A Health related physical fitness programme was planned for 6 weeks, 4 days a week and 60 minutes a day. The life stress was measured before & after regular exercise program to the students. For the student's life stress, Gadzella's (1991) Students-life Stress Inventory was used. T-test was considered statistically technique throughout the stud. The result reveals that academic stressors, frustration, Conflicts and pressure were reduces due to the 12 week physical exercise programme. The study also found that, Regular physical exercise enhance the physiological and behavioral aspect of students in higher education.

Keywords : Exercise, Stress, stressors , students

INTRODUCTION

Physical Exercise means excessive use of body muscles for a specific time regularly. There are different types of exercise. Physical Exercise is very significant for health and fitness. It has multiple beneficial effects on our body. Work out decreases stress, anxiety, depression, etc. by increasing oxygen supply to brain tissue and by increasing dopamine, serotonin, nor epinephrine and acetylcholine (Abdus Salam Khan 2001). The number of studies available in our society that increases stress everyday because of our life style , physical inactive, an unhealthy diet and harmful use of alcohol, that is full of physical, psychological and mental stress. Participation to physical activities is rapidly decreased specially in the college and university education. Stress students is mental and emotional pressure, tension, that occurs due to the demands of college life. Low level of stress is normal for all college students, because of the stress that comes from being exposed to new educational concepts, adjusting to new social settings, and taking on the larger workload. According to Porter (1990), up to 60% of university students left university without finishing their degrees; the majority of these students leave within the first two years due to inability to manage these psychological conditions, especially to cope with stress. Literatures have shown that performance in college, or university was found to be affected by many symptoms of stress . The continuous evaluation process, exhausting work hours, striving for earning high grades, goals etc are source for stress in students. Other potential sources of stress for students may include syllabus to be covered in a limited time period, sudden change in their style of studying, flooding lack of proper guidance , thought of success /failure in exams ,inadequate time allotted to students , insufficient bed side teaching. In the light of the above, the investigator becomes interested in determining the effects of Regular physical exercise on life stress on students.

METHODS

Two groups were targeted as experimental and control group. The 40 male students was considered as experimental group and 40 male students was considered as control group . The Training was given to the experimental groups only. The method of sample was purposive –A non-random method of sampling design for students with a specific purpose. The study depends mainly on primary source of data. The data was collected through respondents in the form of Questionnaires and experimental test from 40 students . The Universe of the study was students who have been studying at college level under the jurisdiction of SRTM University . Since experimental group was taken by the investigator so this study was conducted in an experimental design.

Health related physical fitness programme

A **Health related physical fitness programme**was planned for 6 weeks, 4 days a week and 60 minutes a day. Exercise that use large muscles groups that can be maintained continuously and are aerobic in nature. These exercises include walking, running, jogging, climbing, jumping row and cross country. Warm - up period was approximately 10 min., this was combine callisthenic – type stretching, exercise and progressive aerobic activity. However, cool down period was 5 to 10 min.

IJIREEICE

ISSN (Online) 2321-2004
ISSN (Print) 2321-5526

International Journal of Innovative Research in
Electrical, Electronics, Instrumentation and Control Engineering

Vol. 9, Issue 2, February 2021

DOI 10.17148/IJIREEICE.2021.9202

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.

Academic Stress:
The academic stress was measured before & after health related physical fitness programme to the students. For the student's academic stress, Gadzella's (1991) Students-life Stress Inventory was used. It will compose of 51 items to be divided into two major sections: types of stressors and reactions to stressors. The types of stressors section was include both personal and academic stressors and is divided into the following five categories: frustrations, conflicts, pressures, changes, and self-imposed. The reactions to stressors section will comprise of the following four categories: physiological, emotional, behavioral, and cognitive. Participants respond to a five-point scale using 1 = never, 2 = seldom, 3 = occasionally, 4 = often, and 5 = most of the time.

Statistical Technique
The data was checked for accuracy and completeness and was coded and put up into the SPSS Descriptive statistics for all studied variables, with T test , was considered statistically technique throughout the study. The significant level was set up at 0.05 level.

RESULTS

The results and discussion have been presented in concise and comprehensive manner that is easy to comprehend following order has been adopted.

TABLE – 1
MEAN SCORES, STANDARD DEVIATIONS AND T-RATIOS PRE AND POST TEST OF THE ACADEMIC STRESSORS AMONG ELITE LEVEL STUDENTS

* =

Dimension	Tests	Number	Means	S.Ds.	T-ratios
Frustration	Pre -test	40	16.87	4.23	4.56*
	Post- test	40	13.89	3.54	
Conflicts	Pre -test	40	8.54	2.34	3.56*
	Post- test	40	6.32	2.04	
Pressure	Pre -test	40	12.56	3.13	2.78*
	Post- test	40	10.42	2.56	
Changes	Pre -test	40	4.40	1.23	1.56 NS
	Post- test	40	4.78	1.24	
Self-imposed	Pre -test	40	16.45	4.81	1.78 NS
	Post- test	40	16.89	4.87	
Academic Stressors	Pre -test	40	58.42	6.58	7.99*
	Post- test	40	53.20	5.24	

Significant
Table 1 depicted pre and post test Mean Scores, Standard Deviation and t-ratio of the academic stressors and its five subscales of elite students.

IJIREEICE
International Journal of Innovative Research in
Electrical, Electronics, Instrumentation and Control Engineering
ISSN (Online) 2321-2004
ISSN (Print) 2321-5526
Vol. 9, Issue 2, February 2021
DOI 10.17148/IJIREEICE.2021.9202

Figure-1 depicted pre and post test Mean Scores and Standard Deviation of its five subscales of academic stressors among students

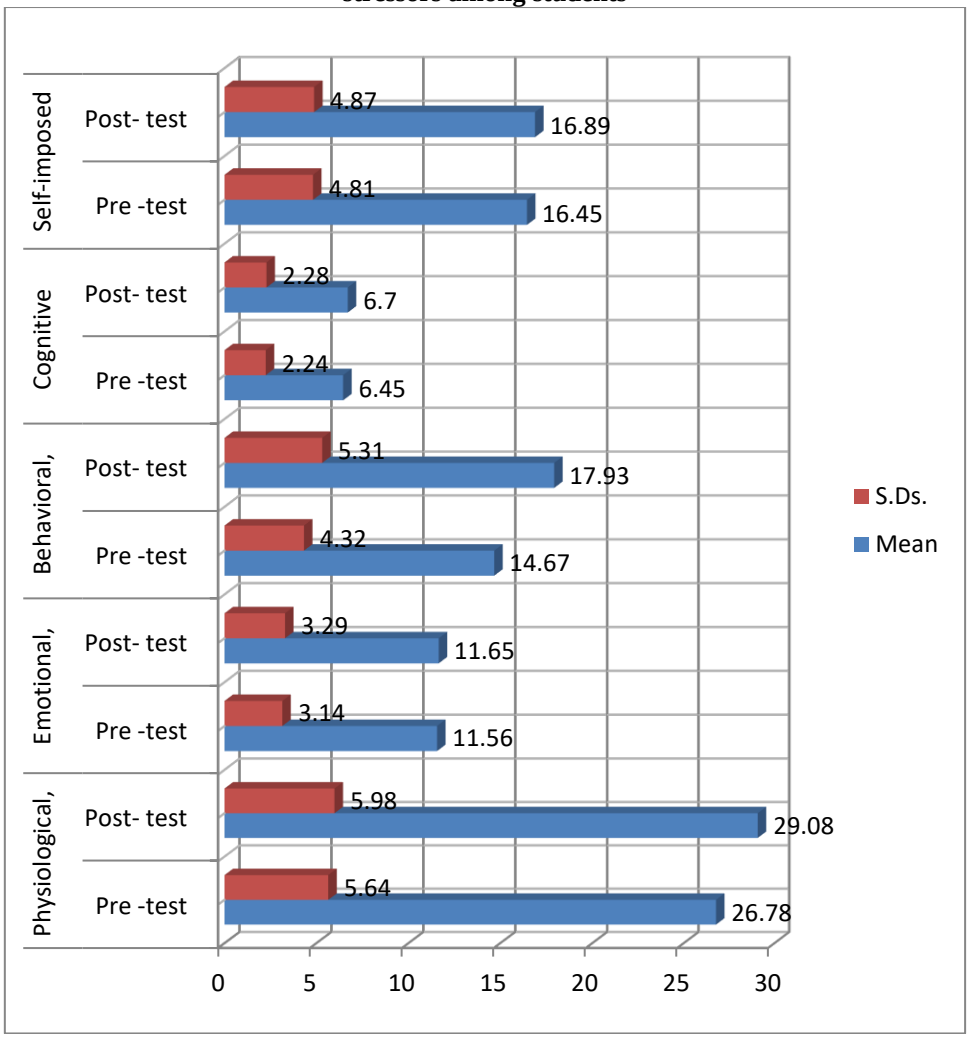


TABLE – 2
MEAN SCORES, STANDARD DEVIATIONS AND T-RATIOS PRE AND POST TEST OF THE REACTION TO STRESSORS AMONG ELITE LEVEL STUDENTS

Reactions to Stressors	Tests	Number	Mean	S.Ds.	t-ratios
Physiological,	Pre -test	40	26.78	5.64	
	Post- test	40	29.08	5.98	3.76*
Emotional,	Pre -test	40	11.56	3.14	1.53NS
	Post- test	40	11.65	3.29	
Behavioral,	Pre -test	40	14.67	4.32	4.56*
	Post- test	40	17.93	5.31	
Cognitive	Pre -test	40	6.45	2.24	1.83 NS
	Post- test	40	6.70	2.28	
Reactions to Stressors	Pre -test	40	59.42	8.56	5.38*
	Post- test	40	65.30	9.23	

Table 2 depicted pre and post test Mean Scores, Standard Deviation and t-ratio of the Reaction to stressors and its four subscales of elite students.

IJIREEICE

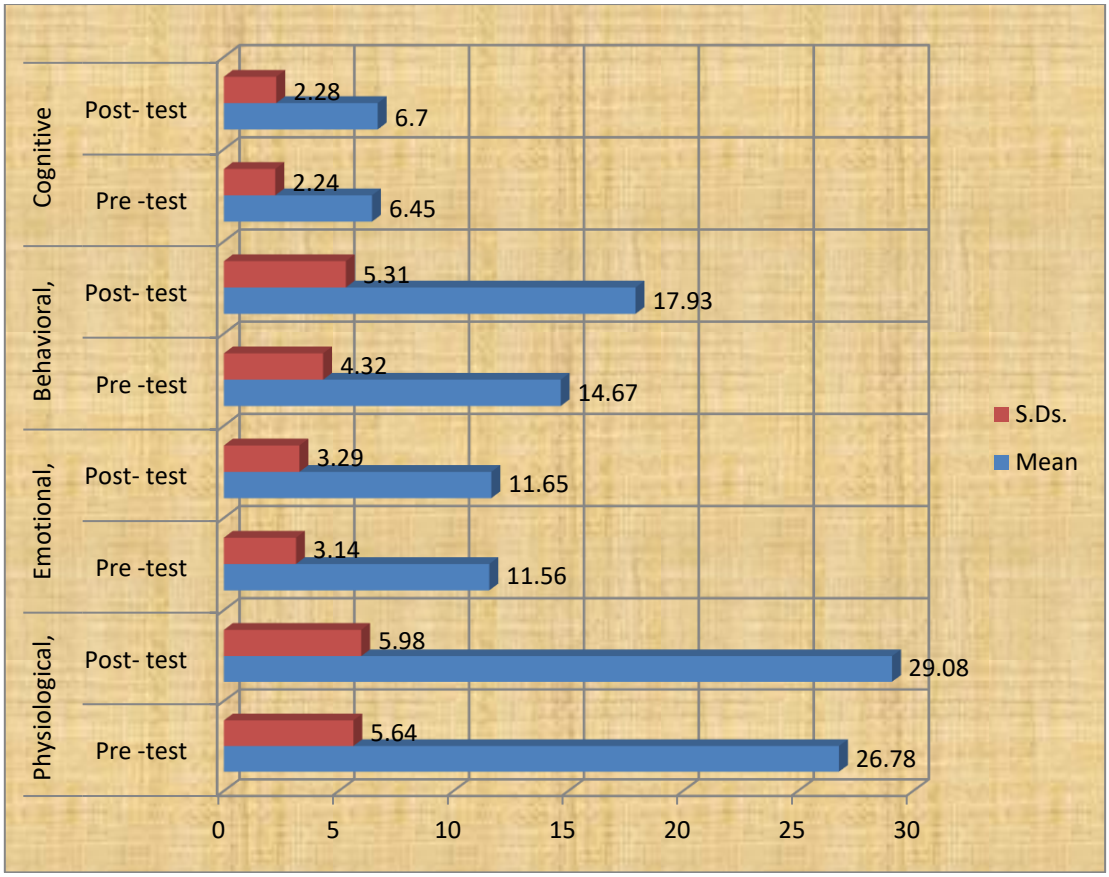
ISSN (Online) 2321-2004
ISSN (Print) 2321-5526

International Journal of Innovative Research in
Electrical, Electronics, Instrumentation and Control Engineering

Vol. 9, Issue 2, February 2021

DOI 10.17148/IJIREEICE.2021.9202

Figure- 2 depicted pre and post test Mean Scores and Standard Deviation of four subscales of the Reaction to stressors of students.



DISCUSSIONS

At many occasion stress lead to poor physical health, mental stress, reduce students‘ self-esteem and have a negative effect on cognitive functioning and learning of students (Silver and Glicken, 1990; Saipanish, 2003). Stress adversely affects psychological and physical health, undergraduate students reported that stress was the most common health factor impacting their academic performance (Dwyer & Cummings, 2001). Demakis and McAdams (1994) found that undergraduate students who reported heightened levels of stress had significantly more physical health problems and less satisfaction towards academic achievement compared to those reporting lower levels of stress. The result given in Table 1 reveals that significant difference of academic stressors was found between pre and post test students (t=7.99, P.<05). Academic stressors include the student‘s perception of the extensive knowledge base required and the perception of inadequate time to develop it (Carveth, Geese, & Moss, 1996). The regular physical exercise reduces the academic stressor to the students . In order to find out the differences of five subscales of academic stressors between pre and post test of students; t-ratio was computed for each category separately. The result reveals that significant differences was found in of (t=3.62, P.<05), frustration , Conflicts and pressure between pre and post test. The study also indicates that regular physical exercise reduces the frustration , Conflicts and pressure to the students , However no significant difference was found between Changes and Self –impose The result given in Table 2 reveals that significant difference of Reaction to stressors was found between pre and post test of students (t= P.<05). In order to find out the differences of four subscales of Reaction to stressors between pre and post test of students; t-ratio was computed for each category separately. The result reveals that significant differences was found in of (t= P.<05), Physiological and Behavioral between pre and post test . However no significant difference was found between Emotional and cognitive. **Singh(2015)** also found that, health- related physical fitness programmes on frustrations (t=p<.05), conflicts (t=p=<.05) and self-imposed (t= p=<.0 5) were found in students in academic stressors dimension with combined sample (t=p<.05), While comparing reaction to stressors, there were significant effects of health-related physical fitness programmes were found in Physiological (t=p<.05), Behavioral (t=p<.05),Emotional t=p<.05) and cognitive (t=p<.05) dimension with combined sample (t=p<.05). Preliminary evidence suggests that physically active people have lower rates of stress and anxiety. Economis, Hildebrant, & Hyatt, (2008), Sinku (2014) investigated

IJIREEICE

ISSN (Online) 2321-2004
ISSN (Print) 2321-5526

International Journal of Innovative Research in
Electrical, Electronics, Instrumentation and Control Engineering

Vol. 9, Issue 2, February 2021

DOI 10.17148/IJIREEICE.2021.9202

that engaging in more physical activity improves psychosocial health and decreases stress. The several researches have also shown that physical activity is an effective means of reducing anxiety and various indices of stress among adults (Bhui, 2002; Dunn, Trivedi, & O'Neal, 2001). Leisure satisfaction and fitness activities act as stress buffers, providing a sense of purpose and competence for college students (Ragheb & McKinney, 1993).

REFERENCES

1. Angilley H., Haggas S. (2009) "Physical fitness in children with movement difficulties." Physiotherapy, 95: 144.
2. Andrea L. Dwyer Anne L. (2001). Cummings Stress, Self-Efficacy, Social Support, and Coping Strategies in University Students. Canadian Journal of Counselling / Revue canadienne de counseling. 35 (3) ; 208-220.
3. Berggren, F. (2005) "Physical inactivity-why the problem is too important to be taken serious and how lifelong quality education of the whole person may prosper by new international partnerships." The 46th Ichper Anniversary World Congress. 19
4. Bhui, K. (2002). Physical activity and stress. In S.A. Stansfeld, & M.G. Marmot (Eds), Stress and the heart: Psychosocial pathways to coronary heart disease (pp. 158–167). Williston, VT: BMJ Books.
5. Carveth, J.A., Gesse, T., & Moss, N. (1996). Survival strategies for nurse-midwifery students. Journal of Nurse-Midwifery, 41(1), 50-54
6. Demakis, G. J. & McAdams, D. P. (1994). Personality, social support, and wellbeing among first year college students. College Student Journal, 28(2): 235-243.
7. Dubbert PM (2002) "Physical activity and exercise: recent advances and current challenges. Journal of Consulting and clinical psychology." 70:526-536. Dio: 10.1037/0022-0066X.70.3.526.
8. Dunn, A.L., Trivedi, M.H., & O'Neal, H.A. (2001). Physical activity dose-response effects on outcomes of depression and anxiety. Medicine & Science in Sports & Exercise, 33(6 Suppl.), S587–S597; discussion 609–510.
9. Economos C., Hildebrant L., Hyatt R. (2008). College freshman stress and weight change: Differences by gender. American Journal of Health Behavior, 32, 16-25
10. Fox, E., Bowers R and Foss M. (1988) "The Physiological Basis for Exercise and Sport, WBC Brown and Benchmark Publishers Dubuque", 324-326
11. Gadzella, B. M. (1991). Student-life stress inventory. Commerce, TX: Author.
12. Hayshi F, et. Al. (2006): "Perceived body size and desire for thinness of young Japanese women: a population – based survey." Br Nutr, 96(6):1154-1162.
13. Huang YC, Malina RM (2007) "BMI and health- related physical fitness in Taiwanese youth 9-18 years." Med Sci sports Exerc, 39(4):701-708.
14. Kwok Kei Mak et. al., (2010) "Health related physical fitness & Weight status in Hong Kong adolescents BMC public health", 10:88.
15. Lamb KL, Brodie DA, Roberts K (1988) "Physical fitness and health-related fitness as indicators of a positive health state." Health Promot Int 3:171–182.
16. Malina RM (2007): "Physical Fitness of children and adolescents in the United States: Status and secular change". Med sports sci., 50:67-90.
17. Maynard T (1991) Exercise "Part I Physiological response to exercise in diabetes mellitus Diabetes" Educ.:17:196-206.
18. Ortega FB, Artero EG. Ruiz JR, et. al. (2008): "Reliability of health- related physical fitness tests in European adolescents. The HELENA study." Int J Obes, 32(Suppl. 5): S49-57.
19. Porter, O. F. (1990). Undergraduate completion and persistence at four-year colleges and universities. National Institute of Independent Colleges and Universities.
20. Rachel DeDeyn (2008) A Comparison of Academic Stress Among Australian and International Students. Journal of Undergraduate Research XI ,1:4.
21. Salmon J, Owen N, Crawford D, Bauman A, Sallis JF. 2003 "Physical activity and sedentary behaviour: a population-based study of barriers, enjoyment and performance." Health Psychology. :22: 178-188. dio. 10.1037/0278-6133.22.2.178.
22. Saipanish R. (2003) Stress among medical students in a Thai medical school. Med Teach.;25:502–6.
23. Silver H.K, Glicken A.D. (2013) Medical student abuse. Incidence, severeity and significance. JAMA. 263 (4): 527-32.
24. Singh SK (2020).Assessment of Academic Stressors in Undergraduate Medical Students. Studies in Indian Place Names. Vol-40-Issue-50-March -2020Page-4998-5010
25. Singh SK (2020).Life's stress experiences of female medical students in different periods of studies. Shodh sarita vol. 6, issue 24 (ii) , october-december, 2019 page nos. 169-177.
26. Stewart AL, et. al. (1994) "Long-term functioning and well-being outcomes associated with physical activity and exercise in patients with chronic conditions in the Medical Outcomes Study". J Clin Epidemiol 47:719–730.
27. Ragheb M.G. (1993) Campus recreation and perceived academic stress. Journal of College Student Development, 34(1) 5-10.
28. Yitzhak W., (2000) "Physical activity and health." 6th Sport Sciences Congress, 3-5 November 2000, Ankara, 95.