

Original Research Article

A Comparative Study of Emotional Intelligence in Physically Active Male College Students and Age Matched Sedentary Students

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ABSTRACT

Objective of the current study was to find out the emotional intelligence of physically active male college students and compare that with age matched sedentary students.

Materials and Methods: Study included 120 male college students comprising of 60 physically active male students and 60 age matched sedentary students selected randomly from the private and government colleges of Davanagere city. Emotional quotient was measured by the questionnaire “The quick EI Self-assessment” developed by Dr. Dalip Singh and Dr. NK Chadha. Test measures the different dimensions of emotional intelligence ie emotional sensitivity, emotional competence and emotional maturity. Twenty two questions given in the questionnaire measures emotional responses to different situations based on 4-point scale.

Results: Data were analysed by using Mean, Standard deviation and t-test. Physically active male college students showed higher values in all the emotional quotient dimensions when compared to sedentary individuals.

Conclusion: Higher values of emotional quotient in physically active college students when compared to sedentary students support the view that regular exercise has a beneficial effect on the emotional quotient and indicates the necessity of regular physical activity even in the college students.

Keywords: Emotional quotient, Physical activity, Sedentary individuals

INTRODUCTION

College students face great deal of pressures and challenges in the college years that are responsible for variety of physical, social and emotional threats. The most common health problems students suffer during the college years are mood disturbances, depression, anxiety and eating disorders. [1]

Sedentary lifestyle is prevalent globally. Minimum recommendation of 30 minutes per day of moderate intensity physical activity is not achieved by more than 50% of the individuals globally. Currently, physical activity of the college students is less than the recommended levels

which is sufficient to promote health benefits. [2,3] Sedentary lifestyle is associated with many chronic diseases such as diabetes mellitus, osteoporosis, stroke, hypertension, colon cancer, obesity, depression and heart disease. [4] These chronic diseases are most commonly seen in sedentary individuals. [5] Though college students are aware of the benefits of physical activity and have access to equipment and sports facilities more than 50% report decrease in physical activity during the college years. [6]

Good emotion handling is a motivating factor for human behaviour. Being able to monitor and regulate one's own feelings, understand the feelings of the

others, and use that “emotion” or “feeling” knowledge to guide thoughts and actions is known as emotional intelligence (EI). [7] Emotional intelligence is considered as an important indicator of success in many aspects of life. [8,9]

It has been proved that physical activity associated of emotional intelligence benefits mental health. [10] Researchers have demonstrated that regular physical activity causes positive mood and moderate anxiety reduction effects, [11] higher levels of optimism [12] and elevating sense of happiness. [13] In view of this, current study was planned to evaluate the emotional intelligence in physically active male college students in comparison with age matched sedentary individuals.

MATERIALS AND METHODS

This comparative study included 120 male college students comprising of 60 physically active male students and 60 age matched sedentary students selected randomly from the private and government colleges of Davanagere city. All the study participants were full time students in the age group of 18 to 22 years and they were asked to sign an informed consent prior to inclusion in the study.

Students were categorised into physically active group (PAG) and sedentary group (SG) based on the following criteria.

Physically active group should be practicing moderate exercise ≥ 30 minutes/day, ≥ 5 days a week or vigorous exercise ≥ 20 minutes/day, ≥ 3 days a week for at least 1 year regularly. Individuals with less than 30 minutes of activities per week or less than 3 times per week were considered as sedentary individuals. All the subjects were physically and mentally fit and in normal health as declared by the physician. All the study subjects were not taking caffeinated drinks, alcohol or tobacco in any form.

Ethical clearance for the study protocol was obtained from institutional ethical committee and informed consent

obtained from each subject prior to inclusion in the study. Personal history and medical history of both groups was collected in pre-designed proforma. Personal history was obtained about history of smoking, alcohol, tobacco and medications used. The subjects were explained about the importance and procedure of the study. The study involved non-invasive procedures with no financial burden on the subjects. Sufficient time was given for the subjects to mentally & physically relax before recording the questionnaire.

Anthropometric measurements like height and weight of the subjects were measured before the start of the study procedure.

Research instrument:

Emotional quotient was measured by the questionnaire “The quick EI Self-assessment” developed by Dr. Dalip Singh and Dr. NK Chadha. Test measures the different dimensions of emotional intelligence i.e. emotional sensitivity, emotional competence and emotional maturity. This EQ test has been standardized for use in professional managers, students, artists and adolescent population and has test-retest reliability of 0.94 and split half reliability of 0.89 and 0.89 validity. Twenty two questions given in the questionnaire measures emotional responses to different situations based on 4-point scale. Participants should answer the situations based on how they FEEL and not what they THINK. Questions have to be answered honestly without spending too much of time. Usually first response is the participant’s best response.

Statistical Analysis:

The Statistical software namely SPSS 20th version were used for the analysis of the data and Microsoft Word and Excel have been used to generate graphs, tables etc. Parameters were reported as mean \pm Standard Deviation (SD). Results were analysed statistically using ‘t’ test. Minimum level of significance was fixed at $p < 0.05$

RESULTS

Table 1: General characteristics of study participants (values are in Mean \pm SD).

Study group	Age (Years)	Height(cm)	Weight(kg)	BMI
Physically active group(n=60)	20.82 \pm 1.08	167.57 \pm 4.46	65.87 \pm 4.87	23.5
Sedentary Group(n=60)	21.06 \pm 0.87	166.26 \pm 4.54	66.25 \pm 5.45	24.1

Both the groups were age matched without any significant variation in height, weight & BMI.

Table 2 shows the Total emotional quotient values in Physically active group (371.11 \pm 23.01) compared with sedentary individuals (358.18 \pm 28.33). Total emotional quotient was significantly higher in Physically active group compared with sedentary individuals ($p < 0.01$). Different dimensions of emotional quotient also showed statistically significant results in Physically active group compared with sedentary group. The mean value of

Emotional Sensitivity was 96.32 \pm 15.84 in Physically active group and 90.18 \pm 17.31 in sedentary group and the difference was statistically significant ($p < 0.05$). Similarly it was found that mean values of Emotional Maturity was higher in Physically active group (120.17 \pm 20.22) than sedentary group (110.28 \pm 29.42) and the difference was statistically significant ($p < 0.05$). Also, statistically significant difference ($p < 0.01$) in the mean values of Emotional Competency in Physically active group and sedentary group were observed in the study.

Table 2: Emotional quotient parameters values in Physically active group and Sedentary group

Variables	Study group		p value
	Physically active group (n=60)	Sedentary group (n=60)	
Total emotional quotient	371.11 \pm 23.01	358.18 \pm 28.33	$p < 0.01$
Emotional Sensitivity	96.32 \pm 15.84	90.18 \pm 17.31	$p < 0.05$
Emotional Maturity	120.17 \pm 20.22	110.28 \pm 29.42	$p < 0.05$
Emotional Competency	170.32 \pm 10.97	164.24 \pm 13.78	$p < 0.01$

DISCUSSION

In this study emotional quotient in physically active college students were compared with age matched normal sedentary individuals. Total emotional quotient, emotional sensitivity, emotional maturity and emotional competency parameters showed statistically significant higher values in physically active college students when compared to sedentary individuals. This confirms that regular exercise has a beneficial effect on the emotional quotient and indicates the necessity of regular physical activity even in the college students.

A study conducted by GSF Li et al demonstrated that college students with recommended levels of physical activity scored significantly higher values in emotional intelligence when compared to college students with insufficient physical activity. [14] A study done in Malaysian adolescent's recorded better Total emotional intelligence scores and composite subscale

scores when compared to sedentary students. This study observed that individuals with high level of physical activity will have better EI on appraisal of one's emotion and regulation of emotion. [15] Study done by Roxana Dev et al found a significant positive correlation between physical activity and emotional intelligence. [16] Study done by Bostani and Saiari found that EI can be increased as long as the person participates in physical activity. [17] In some studies physical activity was linked with improved physical fitness, health related behaviour and psychological well-being. [18,19] Study showed that participating in physical activity can lower negative mood, uplift positive mood and enhance an optimistic attitude. [13]

The possible explanation for higher emotional quotient values observed in physically active college students in this study could be due to increased production in endorphin production following exercise, [20] changes in central Serotonergic systems

following exercise and exercise effects on neurotransmitters such as nor-epinephrine. [21] The possible psychological mechanism on positive emotional changes in physical active group may be due to mastering new exercise skills or from an increased sense of intrapersonal control. [11]

Limitations of our study:

In this study, gender related differences in emotional quotient were not done.

CONCLUSION

Noncognitive intelligence measured by emotional quotient is an important indicator of success in many aspects of life. Higher values of emotional quotient in physically active college students when compared to sedentary individuals support the view that regular exercise has a beneficial effect on the emotional quotient and indicates the necessity of regular physical activity even in the college students. Hence, importance of increasing exercise participation at the college level should be reinforced and implemented so that good exercise attitude can be adopted in their everyday lives.

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Conflict of Interest:

The author declares that she has no conflict of interests.

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