

Emotional Intelligence and its Association with Physical Fitness among University Students in India

Zahra Hojabrnia^{1*}, Abdollah Hozhabrnia² and S. S. Hasrani³

Abstract: Physical fitness plays a significant role in health and emotional intelligence is one of the psychological concept issues which have attracted considerable attention among the scientific community. This paper aims to examine the relationship between physical fitness and emotional intelligence. It is conducted in the state of Kerala in India. This study employs a cross-sectional survey administered to a quota sample of 200 female university students (Mage = 20.9, \pm 1.8). They were assessed utilizing physical fitness measurement and Trait Emotional Intelligence Questionnaire – Short Form (TEIQue-SF). All data collected were assessed by using Pearson Bivariate Correlations. Statistical significance was conferred at $P = 0.05$. All statistical analysis was accomplished using SPSS (v 16). The results of this research showed that better flexibility is positive significant correlation with Self-control ($p < 0.05$). Although we found positive relationships between flexibility and Self-control, we cannot state that physical fitness causes good domains of emotional intelligence. Future research should aim to clarify this issue.

INTRODUCTION

Fitness can be conceived as the matching of an individual to his or her physical and social environment. The components of fitness are numerous and are determined by several variables including the individual's pattern and level of habitual activity, diet and heredity. Fitness is operationalized in present day Western societies with a focus on two goals: performance and health (Claude Bouchard, 1992). Fitness is best understood in terms of the components that should be taken in to consideration for its measurement (Claude Bouchard, 1992). Fitness measurement and evaluation has always been done. The ancient Greek philosopher, Socrates, is responsible for the well-known phrase "a sound mind in a sound body." The sound body implies physical fitness (Phillips & Hornak, 1979). Systematic research studies related to awareness and growing realizations of physical fitness benefits as well as many positive benefits of various psychological aspects like high emotional intelligence and health related quality of life are effective tools to maintain good health and also to help eliminate all the dreadful diseases from the human body.

Physical activity is a pivotal factor on physical fitness (Chu & Huang 2005) and plays an important role in enhancing the emotional health of individuals. Emotions are an integral and significant aspect of human nature and the motivation for behavior. Many researchers attribute the following emotional benefits to regular Physical activity (Hellison 2003; Leith 2002; Kerr & Kuk 2001; Baker & Brownell 2000; Biddle 2000).

There is still limited evidence on relationships of objectively measured fitness and individual domains of emotional intelligence. Shuk-Fong Li & *et al.* (2009) stated that there has been no study on the

1 Department of Physical Education, College of Human Sciences, Shoushtar Branch, Islamic Azad University, Shoushtar, Iran

2 Department of basic Sciences, College of Engineering, Larestan Branch, Islamic Azad University, Larestan, Iran

3 Former Principal of Lakshmi Bai National College of Physical Education, Kariavattom, Thiruvananthapuram, 695581, Kerala, India

*Corresponding Author: Zahra Hojabrnia, E-mail: Zahra7h7@yahoo.com

correlation between Physical activity and emotional intelligence; the emotional domain of Physical activity has been overlooked in the past. Taymoori and Lubans (2008) suggested that the lack of knowledge regarding the mechanisms responsible for behavior change may explain the low levels of effectiveness in Physical activity interventions among individuals. In a survey approach, the basic inquiries of this study will be to ascertain the associations of physical fitness and emotional intelligence. In an attempt to raise the awareness of university physical education teachers and physical fitness professionals towards the utmost importance of the realization of the physical, psychological, and emotional domain of physical fitness towards health and because of there is still limited evidence on relationships of objectively measured fitness and emotional intelligence the specific purposes of this study was to investigate the relationship between physical fitness and emotional intelligence among female university students in India.

METHODS

In a cross-sectional study, 200 female students between 17 to 27 ages (mean age = 20.9, \pm 1.8 years) of Kerala University in India were recruited. Considering extent statistical community and nature of research is used randomly selecting method for select sampling. All subjects were full-time female students who were asked to sign an informed consent form and filling Emotional Intelligence Questionnaire. Before some measures of physical fitness tests were administered. Prior to the administration of the test, the investigator will meet with the subjects personally and the objective and purpose of the test will be made clear to them so that they are aware of what they are expected to do.

Measuring Instruments

Trait Emotional Intelligence Questionnaire – Short Form (TEIQue-SF and physical fitness tests were utilized in this study.

Physical Fitness

The measurement of PF included the following: (1) : 3-minute Skubic and Hodkins Step test for measuring cardiovascular function; (2) body mass index (BMI) indicating body composition was obtained by measuring height and weight while the participants were wearing lightweight clothing. (3) 1-minute sit ups for measuring muscular strength; (4) Sit and Reach Test for measuring flexibility; and (5) Isometric grip strength for measuring grip strength of both hands. Before testing commenced, supervisors demonstrated the technically correct way to perform each test; they also controlled the performance technique of each person. After the above PF scores were obtained, each of the measured fitness scores were converted into standardized z scores by using the formula: $X - M$ divided by SE (SD / \sqrt{Z}), and the total PF test scores was the sum of individual standardized z scores of BMI, muscular endurance, cardiovascular function, grip strength and flexibility scores.

Emotional Intelligence

Trait emotional intelligence questionnaire–Short Form (TEIQue-SF). This is a 30-item questionnaire designed to measure global trait emotional intelligence (trait EI). The TEIQue-SF was designed to yield primarily global trait EI scores. It is based on the longform of the TEIQue (Petrides&Furnham, 2003). Two items from each of the 15 facets of the TEIQue were selected for inclusion, based primarily on their correlations with the corresponding total facet scores (Cooper &Petrides, 2010; Petrides&Furnham, 2006). TEIQue-SF provides scores on four factors of broader relevance ‘well-being,’ ‘self-control,’ ‘emotionality,’ and ‘sociability’. Items were responded to on a 7-point Likertscale from ‘Completely Disagree’ (number 1) to ‘Completely Agree’ (number 7). The TEIQue has been constructed with the aim of providing comprehensive coverage of the traitEI domain (Petrides & Furnham, 2001).

Petrides (2008) claimed that TEIQue had overcome the limitations faced by the Bar-On EQ-I such as structure problem, inadequate coverage of the construct, lacking of safeguards against dissimulation and socially desirable responding, and scoring irregularities. In addition, TEIQue is available in multi-language with high reliability (typical Cronbach alpha > 0.80) and extensive validation evidence (Arora *et al.*, 2011). Also on the paper of “Testing and validating the trait emotional intelligence questionnaire (TEIQue) in a German-speaking sample” by Freudenthaler *et al.* (2008), provides conclusive evidence that the TEIQue represents a reliable and valid inventory for the comprehensive measurement of trait EI.

To obtain reliability was used test of Cronbach’s alpha. In current study Cronbach’s alpha coefficient for TEIQue- SF Questionnaire was %84 so this paper provides conclusive evidence that the questionnaire is reliable.

STATISTICAL ANALYSIS

SPSS version 16 was used to undertake the analysis. Both descriptive and inferential statistics were used to investigate. The descriptive statistics were mean, Variance, standard deviation and also Pearson correlation coefficient were computed to examine the relationship between physical fitness and emotional intelligence.

RESULTS

The descriptive data of the subjects are presented in Table 1.

Table 1
Emotional intelligence, health-related quality of life and physical fitness(n = 200)

<i>Variables</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Std. Error</i>	<i>Std. Deviation</i>	<i>Variance</i>
WB*	13.00	42.00	28.7600	.423	5.98427	35.811
SC*	15.00	38.00	25.2100	.323	4.58048	20.981
E*	1.00	5.00	3.0600	.052	.74779	.559
S*	1.00	4.00	2.0950	.035	.50721	.257
EI*	19.20	41.00	28.3815	.308	4.36829	19.082
BMI*	14.73	32.4	20.43	0.1891	2.68	1.000
Right.Hand.Strength	13.00	39.40	25.60	0.387	5.48	1.000
Left.Hand.Strength	11	36.10	24.41	0.388	5.50	1.000
Flexibility	11	46	30	0.530	7.50	1.000
Sit.up	.00	54	26.5	0.874	12.37	1.000
Vo2max	18.35	114.79	66.01	1.275	18.04	1.000
P.F (standardization)*	-10.36	8.22	.0000	0.189	3.74334	14.013

*WB= ‘Well-being,’ SF= ‘Self-control,’ E= ‘Emotionality,’ and S= ‘Sociability,’ EI=Emotional Intelligence,’ BMI= Body Max Index,’ PF= Physical fitness.

Physical Fitness and EI

In this portion the results showed that a significant correlation between flexibility and Self-control there was. $P < 0.05$ (table 2).

Table 2
Correlation matrix of Physical Fitness and EI and Subscales

	<i>WB*</i>	<i>SC*</i>	<i>E*</i>	<i>S*</i>	<i>EI*</i>
BMI*	-0.012 P=0.867	0.056 P=0.419	-0.027 P=0.709	0.038 P=0.598	0.030 P=0.678
Right Hand Strength	-0.016 P=0.814	0.131 P=0.064	-0.008 P=0.905	0.033 P=0.638	0.042 P=0.553
Left Hand Strength	0.020 P=0.775	0.122 P=0.083	0.026 P=0.706	0.0811 P=0.206	0.084 P=0.237
Flexibility	0.047 P=0.504	0.159 P=0.023	0.022 P=0.752	0.101 P=0.154	0.113 P=0.111
Sit up	-0.025 P=0.721	0.065 P=0.353	-0.094 P=0.182	0.020 P=0.778	-0.029 0.682
Vo2max	0.0417 P=0.557	-0.074 P=0.297	0.021 P=0.763	0.053 P=0.455	0.011 P=0.881
Physical Fitness	0.014 P=0.834	0.123 P=0.080	-0.015 P=0.824	0.0895 P=0.207	0.067 P=0.347

*WB= 'Well-being,' SF='Self-control,' E= 'Emotionality,' and S='Sociability,' EI=Emotional Intelligence,' BMI= Body Max Index.

DISCUSSION

Although EI is an important indicator of future success in many aspects of life (BarOn 2002; Saarni 1999; Goleman 1995) and the emotional domain of PA has been overlooked in the past. But in this study, it was not found that better total EI score and composite subscale scores for Well-being, Emotionality and Sociability are significant with physical fitness. Finding only emphasized that better flexibility is positive significant correlation with Self-control which is not consistent with the finding from previous studies that PA has benefits on an individual's sense of self-worth, and self-perception (Asci 2003; Fox 2000). Also was not in line with the study of Smith (2000), who concluded that the more time a college student spent in PA, the higher their scores for empathy, interpersonal relationship and social responsibility (domains of EI), This inconsistent may be related that previous studies inquired the beneficial of physical activity on emotional intelligence most with Bar-On Questionnaire (2002) but in current study TEIQue (Petrides, & Furnham, 2001) is applied that that has differences in domains and as Petrides (2008) claimed, TEIQue had overcome the limitations faced by the Bar-On EQ-I such as structure problem, inadequate coverage of the construct, lacking of safeguards against dissimulation and socially desirable responding, and scoring irregularities.

The greatest limitation of our study was its cross-sectional design, which prevented us from establishing causality or directionality. Furthermore, to explore and clarify whether emotional intelligence is a mediator of physical fitness behavior is also suggested for further study.

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