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Simple and Multiple Correlations between Emotional Intelligence and General Health in Personnel of Physical Education Offices

Authors' Contribution:

- A Study Design
- B Data Collection
- C Statistical Analysis
- D Data Interpretation
- E Manuscript Preparation
- F Literature Search
- G Funds Collection

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Key words: emotional intelligence, general health, people, mental health, employees

Abstract

Background:

Material/Methods:

The purpose of this study was to survey simple and multiple correlations between emotional intelligence and general health in personnel of physical education offices.

The descriptive survey research was adopted for the study. A total of 134 employees completed Schutte and Goldberg and Hiler questionnaires. The emotional intelligence questionnaire includes three subscales: Emotional Appraisal, Emotional Regulation and Utilization of Emotion. The general health questionnaire includes physical complaints, anxiety, social performance disorders and depression. Data was analyzed through Pearson correlation, Stepwise regression, One Way Analysis of Variance and the independent t-test ($p \le 0/05$).

Results:

The results showed that there were significant negative correlations between emotional intelligence and general health, physical complaints and anxiety among the subjects. However, there was no significant correlation between emotional intelligence and depression and performance disorders. Moreover, the finding shows that utilization of emotional anticipation and general health is significant.

Conclusions:

It seems that people with higher emotional intelligence have higher general health, too. Thus, based on the findings, it was recommended general health be improved via improving emotional intelligence.

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Introduction

Emotional intelligence (EI) and its interesting wide aspects are of interest to many people not only psychologists and psychiatrists. Applying the concept of social intelligence dates back to the 1940s. Afterwards, Mayer and Salovey described the EI concept [1]. EI includes many connected cognitive and emotional abilities [2] that help individuals to recognize those emotions that facilitate thinking through perception, evaluation and accurate expression of excitations [3] and making logic decisions and responsible manners through achieving balance between thoughts and excitations [4].

Since the basic components of EI include the ability to understand emotions of others, the ability to inhibit and adjust oneself and others in an adaptive way, it is expected that people with higher EI will show better social adjustment and social skills [5].

Emotional phenomena essentially provide a unique source of information for people about their environment and their seeking, and this information forms thoughts, actions and feelings in their shapes. There is an assumption that individuals have different skills of understanding, realizing and applying this emotional information, and the level of EI has a basic role in a person's health and mental growth and determines emotional satisfaction and success in life [6].

Salovey et al. believe that people who have more EI are more successful than others in communication with the world around them and better deal with stressful situations. These people know how and when to express their feelings and adjust their manner through an efficient method [7]. Emotional control is one of the key elements of EI, which is directly associated with stress management. Other elements are also indirectly associated with reducing stress [8]. The results of Nourbakhsh et al. showed that EI includes management strategies to cope with and adjust excitement, emotional appraisal, emotional regulation and utilization and facilitation of emotions [9].

Awareness of excitement is the first step in curbing norms (customs). People who are aware of their emotions understand the relationship between feelings, thoughts and behaviors and recognize the conditions of the influence of emotions on their manners and behaviors. These enable realizing their limitations and abilities and enable making appropriate decision in spite of stress since these characteristics help them to act properly in face of external stimulation [8]. Generally, emotions and how people cope with them are part of human personality that affects their health [10].

As we know, mental health is an important component of public health to describe the cognitive and emotional welfare level and also for showing doesn't be suffered to mental disorders [11]. According to the World Health Organization, general health is a state of complete physical social and psychological well-being; this issue has been extensively studied so far. Studies in the field of mental and general health have shown a close relationship between personality and psychological factors [12].

Health is not merely the absence of disease; it is possible that a person does not have any pathological problem, and yet is not healthy. Certainly occurring any diversion in individual feeling or actions that person deems it abnormal himself and suggests that he is not healthy. However, to realize the vital roles of preventive behaviors more, one would certainly need to explore the broader concept of health [13]. Directors who fail to have safe physical and psychological conditions will have various problems in managing their units. Insomnia, depression, anxiety, and many similar problems will disrupt the manager's focus on critical responsibilities and cause disappointment and dissatisfaction with his present status; finally, lost motivation to do their duties can also lead to dissatisfaction of other individuals [14].

About 45% of the world population and 58% percent of people over 10 years of age are in global work force, and many of these people spend over a third of their pre-maturation period of life in workplace in which various types of stressors exist. Hence, providing mental health to these people is so important; today, many mental health professionals consider the workplace as one of the main environments to provide and promote mental health of people because of the following reasons: a) workplace is where people spend a lot of time and mental energy; b) mental health affects individuals' productivity; c) due to the availability of the respondent population, such

interventions are easier in the work environment; d) such approaches at workplace impact the active and productive part of the society [15].

Ciarrochi et al. in reference to the effect of EI on stress changing and mental health believed that some forms of EI protect people from stress and cause a better adaptation [16]. Salovey et al. concluded that EI is associated with mental health, and people who have high EI capabilities are better at coping with stress and become less affected by pressure [17].

Jain and Sinha also studied the relationship between EI and mental health issues among 250 administrative staff and they concluded that the components of EI are good predictors of employees' mental health. Their research results indicated a significant direct relationship between EI variables such as independence, assertiveness, and self-control with mental health. They also provided teaching methods to enhance emotional intelligence and reported that promotions of EI-related capabilities of employees are associated with improving in their mental health [18].

It seems that due to its components and characteristics emotional intelligence affects human health. However, in Iran the relationship between these two variables of managers and staff of physical education departments, who are real planners and administrators of sport, have not been studied. Therefore, this study investigates the relationship between emotional intelligence and general health of physical education department's employees. Also it determines if emotional intelligence can predict the level of workers' health. It is hoped that the results of this research could identify the level of emotional intelligence of managers and staff of physical education departments, predict their general health status and thus help to increase their efficiency in Iran.

Material and Methods

Subjects and Procedure

Statistical population of the present research consisted of all employees of physical education departments of Khuzestan province in Iran (N =148). In the final review of the questionnaires, those questionnaires that were incomplete for any reason were removed from the sample and ultimately 134 employees (78 male, 56 female) were selected for the study. The study was descriptive-correlative. In order to carry out the study, after agreement with the physical education office, the questionnaires were distributed among the employees. The questionnaires were divided in the following way: first the individual characteristics questionnaire, then the EI questionnaire, and finally the general health questionnaire were offered. All subjects completed an informed consent form before participating in this study and completing the questionnaires. They all were informed about the purpose, requirements, and instructions on completing the questionnaire, compliance integrity in response to questionnaires; also the confidentiality of replies and the experimental protocol of the investigation.

Measurement tools: three different questionnaires were used to evaluate the study variables. Individual and job characteristics questionnaire (teacher made questionnaire): including individual characteristics and occupational needs based on research data and participants' job characteristics.

Emotional Inteligence

The Schutte – Malouff – Hall Emotional Intelligence questionnaire (EIQ) is a 33-item, ability based measure of EI with three subscales to assess each dimension of EI [19]. This scale consists of 33 descriptive sentences like "I'm looking for activities that make me happy". The questionnaire consists of three main components of emotional intelligence that include: Emotional Appraisal, Emotional Regulation and Utilization of Emotion. Each section of this questionnaire, indicating adaptive tendency towards the concept of emotional intelligence was based on a theatrical model of emotional intelligence by Mayer and Salovey [20]. Each subject responded to questions that were arranged in a 5-degree scale in the Likert spectrum (I absolutely disagree = 1, to I absolutely agree = 5). Minimum and maximum scores on EI self-evaluation questionnaire were 33 and 165, respectively. All internal consistency reliabilities of the present study for EI questionnaire and its

subscales were assessed by calculating Cronbach's alpha and amounted to 0.82, 0.71, 0.61 and 0.62 respectively, while through the split-half 0.73, 0.75, 0.51 and 0.53 were obtained, respectively.

General Health

The Goldberg-Hiler general questionnaire (GHQ) is a 28-item, ability based measure of GH with four subscales to assess each dimension of GH (21). The subscales are: somatization, anxiety, social dysfunction and depression. The questionnaire is one of the most well-known screening tools that are designed in form of 12, 28, 30 and 60 sentences. In this study, the widely used form of 28 sentences of this questionnaire was applied. Each of the areas is given a score and the total whole questionnaire or 28 questions give the total score.

Thus, this scale gives five separate scores. In terms of responding to questions, the subjects should complete the questionnaire according to their health status in the last month using the five-choice Likert's scale (none, small, medium, high, very much). In order to score, 1 to 5 points were given to each question. Generally, the lowest and highest scores in each scale were 7 and 35 respectively. For example, if a person gives score 7 in the depression scale, he or she is completely healthy, scores between 14-7 signify mild depression, and score for moderate depression is between 21-14, while score 28-21 means higher than average depression and the score range between 35-28 indicates severe depression. Internal consistency reliabilities of the present study for general health questionnaire and its subscales by calculating Cronbach's alpha were obtained at 0.82, 0.71, 0.61 and 0.62 respectively and through Split-half 0.73, 0.75, 0.51 and 0.53 were obtained, respectively.

Statistical Analyses

In order to analyse descriptive data, statistics such as mean, standard deviation, frequency was used. To investigate the relationship between emotional intelligence and general health, Multiple Regression Analysis and Pearson correlation tests were used. Independent t-test and one-way analysis of variance (ANOVA) were used to compare EI based on individual characteristics and also to compare general health based on individual characteristics.

Values of p<0.05 were considered significant. Statistical analyses were performed using the 17th release version of SPSS for Windows.

Results

Tables 1 and 2 show some individual characteristics. Table 3 shows Mean and standard deviation of subjects' variables. To investigate the relationship between employees' EI and general health Pearson correlation test was used its results are shown in Table 4.

ab. 1. Some individual char	acteristics of subjects – gen	der and age	
Individual ch	naracteristics	f	percentage
Gender	male	78	58.2
	female	56	41.8
	all	134	100.0
Age	20-25	14	10.8
	26-30	42	20.8
	31-35	34	24.6
	36-40	26	20.0
	40 and above	18	13.8
	all	134	100.0

Tab. 1. Some individual characteristics of subjects – gender and age

Tab. 2. Some individual characteristics of subjects – exercise experience, education and academic qualification

Individual characteristics		f	percentage
	without	20	14.9
	recreational	38	28.4
Evereine eventionee	regional	16	11.9
Exercise experience	provincial	22	16.4
	country	38	28.4
	all	134	100.0
	diploma	28	20.9
	associate of art	42	31.3
Education	bachelor	50	37.3
	master and above	14	10.4
	all	134	100.0
	physical education	68	50.7
Academic qualification	other	66	49.3
	all	134	100.0

Tab. 3. Mean and standard deviation of subjects' variables

Variable	f	mean	SD	min	max
El	134	133.66	11.31	105	158
Emotional appraisal	134	49.37	5.97	34	65
Emotional regulation	134	41.28	3.82	29	50
Utilizing of emotion	134	43.00	3.71	33	49
General health	134	59.50	15.50	33	96
Physical complaint	134	15.73	6.01	8	30
Anxiety	134	16.59	5.70	8	30
Social disorder	134	17.29	3.46	10	26
Depression	134	9.88	4.34	7	28

Tab. 4. Results of Pearson correlation between EI and components with general health

		General health	Physical complaint	Anxiety	Performance disorder	Depression
Emotional intelligence	R	-0.34	-0.32	-0.34	-0.16	-0.21
	p-value	0.004	0.007	0.004	0.178	0.080
Emotional appraisal	R	-0.15	-0.13	-0.20	-0.04	-0.02
	p-value	0.210	0.262	0.094	0.731	0.862
Emotional regulation	R	-0.34	-0.36	-0.32	-0.13	-0.27
	p-value	0.004	0.003	0.008	0.267	0.024
Utilizing of emotion	R	-0.44	-0.39	-0.38	-0.29	-0.33
	p-value	0.001	0.001	0.001	0.015	0.005

Table 4 reveals that there are significant relationships between EI and general health (r=-0.34, p=0.004), EI and Physical complaint (r=-0.32, p=0.007) and EI and anxiety (r=-0.34, p=0.004), however there was no significant relationship between EI with performance disorder and depression. In addition, there was no significant relationship between emotional appraisal with general health and its components. The results also showed that significant relationships between emotional regulation with general health (r=-0.34, p=0.004), EI and physical complaint (r=-0.33,

p= 0.003), EI and anxiety (r= -0.32, p= 0.008) and), EI and Depression (r= -0.27, p= 0.024) were found, but no significant relationships between emotional regulation with performance disorder were not found. Results of Pearson correlation also showed that there are significant relationships between utilization of emotion and general health (r= -0.44, p= 0.001), physical complaint (r= -0.39, p= 0.001) anxiety (r= -0.38, p= 0.001) depression (r= -0.29, p= 0.015) and performance disorder (r= -0.33, p= 0.005) (Table 4).

Stepwise multiple regression analysis was used to determine which of the components of emotional intelligence can be predicted as a significant percentage of the total variance of workers' public health. Results of the analysis of variance and regression showed that there exists a significant relationship between EI or each component of EI and general health (F=5.38, df=1, p=0.002). So, at least one of these components can predict employees' general health. Also, Stepwise Regression showed that among EI components, only utilization of emotion has a significant relationship with general health (R=0.45). This variable can predict 0.20 of general health (R=0.20).

Results of independent t-test showed that there was a significant difference in EI between male and female employees (t=-2.39, p=0.020). Female employees had higher EI (137.43) in comparison with male employees (130.95). Still the results showed no significant differences between general health of male and female employees (t= 1.20, p= 0.23). The results also showed significant differences in EI between physical education employees and employees in other jobs (t=-2.23, p= 0.029). Physical education employees had higher EI (136.62) in comparison with employees in other jobs (130.61). Yet the results showed no significant differences between general health of physical education employees and other job employees (t=0.39, p=0.69).

Results of ANOVA showed that there were no significant differences in EI and general health between different ages (F= 0.32, p= 0.85) and (F= 0.73, p= 0.57). There were no significant differences in EI and general health of employees regarding their exercise experience (F= 1.04, p= 0.39) and (F= 1.47, p= 0.22) there were significant differences in EI and general health between diploma, associates of art, bachelor, master degree and above qualifications (F= 3.48, p= 0.021), and there was a significant difference in EI between diploma degree with associates of art (p= 0.027), bachelor (p= 0.008), master and above (p= 0.008). EI of employees with a diploma (125.93) was lower in comparison with associates of art (134.29), bachelor (135.80), and master (139.57) and above qualified employees. However, there were no significant differences in EI and general health of associates of art, bachelor, master and above degrees (F= 1.40, p= 0.25).

Discussion

The purpose of this study was to assess simple and multiple correlations between emotional intelligence and general health of Physical Education staff departments in Khuzestan province of Iran. The results of the study showed that EI has a significant negative correlation with general health, physical complaints and anxiety, but has no significant relationship with dysfunctions and depression. This shows that people who have higher EI also have better general health, less anxiety and physical complaints too (a lower score indicates better general health, less physical complaints and anxiety). There was no significant relationship between some EI variables, such as emotional appraisal, and general health and its components, but between emotional regulation and general health, physical complaints and anxiety and depression significant negative relationships were observed. This suggests that people who have higher emotional regulation have better general health, less anxiety and physical complaints and depression. The results also showed that there is a significant negative relationship between utilization of emotions with general health and all its components.

These results are consistent with the results of Jain and Sinha, Austin et al., Extremera et al., Schutte et al. and Esmaili and Shafi-Abadi who stated that El and general health are related with each other [18, 22, 23, 24, 25]. Furthermore, results of this research confirmed the results by Salovey et al. who stated that El is associated with mental health and people who have high El capabilities are better at coping with stress and become less affected by pressure [17].

The cause of this relationship can be explained by the fact that the EI components, including emotional appraisal, emotional regulation and utilization of emotion, are found at normal to higher levels in health people than in others. Emotions controlling actually brings more psychological comfort in individuals and provides the possibility to show appropriate responses when confronted with various situations in life, which can decrease anxiety and guarantees individuals' mental and physical health .

Another finding of the present study among EI components was that emotional appraisal can predict general health. This part of results is in accordance with the results by Jain and Sinha who showed that variable utilization of emotion is a good predictor of mental health of employees. But this part of results rejects the other part of findings based on anticipated mental health through other components of EI [18]. In addition, results of this study support the results by Mohammadkhani and Bashghareh who claimed that among components of EI, emotional appraisal can predict general health [26].

The results also showed there were differences between EI of male and female employees, so that females' EI was higher than men's, but between general health of male and female employees no significant differences were found. Furthermore, there were differences between EI of physical education staff and non-physical education employees, as EI of physical education staff was higher in comparison with non-physical education employees; however, the general health of physical education staff and non-physical education employees was not significantly different.

The results also showed that there are significant differences between employees' El according to their qualifications and employees with diploma qualification ranked lower than other qualifications, but there were no significant differences in El and general health between undergraduate and postgraduate degree and above qualifications. Furthermore, results showed that there was no significant difference in emotional intelligence as well as general health based on age, type of employment (formal between treaty and contract) and sports history.

Research results regarding the comparison of emotional intelligence according to the gender are consistent with Banihashemi et al., Asadi et al., Guastello and Reiff [27, 28, 29, 30] findings. Guastello expressed that empathy, management of emotions, emotional appraisal of self and others in women are features of gender and component of El. These gender characteristics cause that El in women is higher than men [31]. But these results are inconsistent with Yong and Simmons who stated there was no difference in El between male and females [32, 33]. Research results in reference to the comparison of general health between different genders are in accordance with the results of Banihashemian et al. and Frydenberg et al. [27, 31]. However, these results reject the findings of Khosrowjerdy and Khanzadeh who claimed that general health of male student is higher than female students [34]. No similar study on comparing emotional intelligence and general health according to other personality characteristics was found.

Conclusion

The results showed that emotional intelligence has a significant relationship with general health, and it seems that people with higher emotional intelligence have better general health too, which can help to interact and communicate with other people who more able to maintain interpersonal relationships. Therefore, identifying EI of physical education staff, as sport planners and as people who interact with athletes and other employees, is essential, and sport activities should be expanded to strengthen the emotional intelligence for promotion of mental health.

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