The Relationship Between Emotional Intelligence, Self-Efficacy and Performance in Elite Male Table Tennis Players

Mohsen Khatiyon, Farshad Tojari, Ali Zarei

Abstract

The purpose of this study was to investigate the relationship between emotional intelligence, self-efficacy and performance in elite male table tennis players. The research statistical population included all the 46 elite male table tennis players present in Iran’s adult rankings in 2014. Participants completed Emotional Intelligence 33-questionnaire of Sibria Shiring and Physical Self-Efficacy Inventory (PSEI). The participants’ performance was assessed using the outcomes of the matches. The reliability questionnaires by method cronbach’s alpha was obtained (α=0.81 , α=0.82) and their validity supported by exports of physical education faculty. To analyze data we used descriptive and inferential statistics methods (One-sample T-test, Pearson correlation and multiple regression). The study results indicated a positive and meaningful relationship between the players’ self-efficacy, Emotional Intelligence and their performance, and that self-efficacy, Emotional Intelligence was able to predict the performance of the elite table tennis players. Also, there was a positive and meaningful relationship between self-efficacy and Emotional Intelligence in table tennis players.

Keywords: Emotional Intelligence, self-efficacy, performance, table tennis

Article history:
Received 12 November 2014
Received in revised form 31 December 2014
Accepted 22 January 2015
Available online 25 February 2015

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Introduction

Today, regular and aggressive physical exercise is no longer considered as a predetermined goal or the sole key factor for achieving success and peak performance in the world of sports. It seems that, in addition to physical and tactical abilities and specialized skills, personal ability and personality traits are also highly effective in sporting progress. As athletes have to compete under stressful conditions, stress and rage are common characteristics under such conditions. In confronting a potentially stressful situation, an individual is exposed to emotions that might affect his/her performance. Controlling emotions is very important for athletes since their general performance is sometimes affected by lack of emotional control. It is frequently observed that an athlete is unable to achieve the expected result in a competition (in spite of having performed suitable preparatory exercises) due to loss of concentration and control. As a result, the emotion control center in the sportsperson’s brain should be strengthened so that he can act efficiently against mental pressure, stress, doubt, and hesitancy. Certain abilities as well as social and emotional competency are determinative and among the factors that affect the quality of social relations and success in one’s professional life [1]. One of the psychological structures that can be predicted and could be decisive for the behavior and performance of athletes is emotional intelligence. It is an effective and determinative factor in real life outcomes such as success in school, education, sports, work,
Research findings by Zazizi et al. [4] indicated that emotional intelligence was a significant predictor of success for basketball players performance.

Results of Zuskova et al. [5] showed that successful athletes are talented for abilities and special talents in emotional intelligence which enables them for great works. A research conducted in 2009 titled “Relationship between Self-efficacy and Emotional Intelligence and the Performance of Super League’s Globalist Men” showed a positive significant relationship existed between self-awareness - as one of the major components of emotional intelligence - and athletes’ performance. In studies of Neil et al. 2011, Nikols, Polman & Levy 2011; M. Lane et al. 2010; M. Lane, Thelwell, & Devonport 2009, presence of a positive and significant relationship between emotional intelligence and sports performance has been confirmed [6, 7, 8 & 9].

Self-efficacy was derived from Albert Bandura’s social cognitive theory [10] and refers to an individual’s beliefs or judgments about their abilities in carrying out duties and responsibilities. Self-efficacy is defined as the belief of an individual to do a specific duty successfully and to achieve reliable results through carrying out a duty. Feltz [11] states self-efficacy is one of the most effective psychological elements which are supposed to have significant impact on getting result in sports competitions. In addition, the research conducted by Ling [12] for prediction of athletes’ performance indicated that self-efficacy was predictor of tennis players’ performance. In studies of Heazlwood & Burke [13], Beattie, Lief, Adamoulas & Oliver [14], Hepler & Chase [15], Balagour & Bray [16], Ebadian, Tojari & Farsi [17], presence of a positive and significant relationship between self-efficacy and sports performance has been confirmed. However, in researches conducted by Woodmen, Akehurst, Hardy & Beattie [18] this hypothesis is not confirmed. They proved that these two factors can sometimes predict sporting activities. Also, some studies show a positive relationship between self-efficacy and emotional intelligence Athletes too [19 & 20], Perlini [20] during her research with effect of emotional intelligence on hockey player’s performance, show that emotional intelligence is an effective mental skill that improved self-efficacy and performance of elite athletes.

Although previous literature has, to a certain extent, developed the existing knowledge on the relationship between the research variables various cognitional and behavioral aspects, further and more extensive research must be conducted on these variables. On the other hand, most studies have so far used non-athletic groups. With respect to the above explanations, probably no research has been conducted on examining the role of emotional intelligence and self-efficacy in the performance of elite table tennis players playing in Iran’s national team. Therefore, this research was conducted to provide a pattern for predicting sport performance in terms of emotional intelligence and self-efficacy variables and the components thereof, and to investigate if a relationship existed between these variables.

Research Methodology:

This is an applied research regarding data collection objective, a cross-sectional research regarding time of data collection, and a descriptive and correlational research regarding the method of data collection. The estimated equations method (regression) was implemented for analysis of the results.

The statistical sample equals the statistical population which includes all the 46 male table tennis players present in Iran’s adult rankings in 2014. A questionnaire was used for measuring the variables. The self-efficacy questionnaire included 10 techniques and 4 major tactics in ping-pong and the athletes scored between 0 and 10 based on their specific ability and self-esteem (sense of self-efficacy) in each skill. The Siberia Sharing emotional intelligence scale was used for measuring emotional intelligence. This included 33 questions on 5 components including self-awareness, self-control, spontaneity, empathy, and social skills. The participants’ performance was calculated based on the rank and score gained by each player in national adult ranking competitions. Validity of the questionnaires was formally confirmed by experts. Reliability values were calculated using Cronbach’s alpha as 0.82, 0.81, and 0.89, respectively. Descriptive statistics was used for data analysis in order to summarize and categorize the data. One-sample t-test was used in the inferential section for analyzing the questionnaire questions. The Pearson correlation statistical test was employed for examining significance of the relationships among variables. Multiple regression was used for hypothesis testing of the relationship among self-efficacy feeling, emotional intelligence, and performance to predict the participants’ performance.
Results:
The findings showed that the age frequency distribution (23-27) was the most frequent age range (39.1%) and the age (33-37) was the least frequent age range (2.2%) among the participants. Education status results showed that high school diploma degree (47.8%) was the maximum frequency distribution, and PhD and MS/MA degrees were the minimum frequency distribution among the participants. Regarding the championship ranking history in Iran, the maximum and minimum frequency distributions were obtained for national championships (60.9%) and provincial championships (6.5%) respectively. Regarding exercise hours, the maximum and minimum frequency distributions were (11-15 hrs) (45.7%) and (21-25 hrs)/(36-30 hrs) (6.6%) respectively.

Inferential Results:
According to the results in Table 1, the correlation coefficient value for the fitted model of self-efficacy and performance is calculated as 0.992 which indicates a correlation between the independent variable and dependent variable in the proposed model. The coefficient for emotional intelligence and performance is 0.429, also indicating a correlation between the independent variable and the dependent variable in the proposed model. The coefficient of determination for the fitted model of self-efficacy is 0.983. This indicates that 98.3% of changes to the model’s dependent variable was created by the independent variable introduced to the model. The corresponding value for emotional intelligence is 0.184 which indicates that 18.3% of changes to the model’s independent variable were created by the independent variable of emotional intelligence.

Table 1: Summary of statistics of the model on self-efficacy, emotional intelligence, and performance relationships.

<table>
<thead>
<tr>
<th>Model</th>
<th>Multiple Correlation Coefficient (R)</th>
<th>Coefficient of Determination (R^2)</th>
<th>Adjusted Coefficient of Determination</th>
<th>Standard Error of Model Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-efficacy</td>
<td>0.992</td>
<td>0.983</td>
<td>0.983</td>
<td>1.7</td>
</tr>
<tr>
<td>Emotional Intelligence</td>
<td>0.429</td>
<td>0.184</td>
<td>0.165</td>
<td>10.17</td>
</tr>
</tbody>
</table>

Table 2 results show that the constant coefficient of regression equation is 41.562, which means that the exercise performance - regardless of the self-efficacy independent variable - is 41.562. Significance level of the test indicating the effect of equation constant and self-efficacy variable on exercise performance dependent variable is lower than 0.05. Therefore, the effect of these variables on the dependent variable of exercise performance is significant. Coefficient of the standardized regression of the self-efficacy independent variable and dependent variable of exercise performance is 0.98. Therefore, for one unit of increase in self-efficacy variable standard deviation, exercise performance increases 0.98 of the standard deviation. Consequently, the self-efficacy structure variable has a direct and favorable effect on exercise performance.

Table 2: Table of regression coefficients showing self-efficacy, emotional intelligence, and performance relationships.

<table>
<thead>
<tr>
<th>Type of Variable</th>
<th>Symbol</th>
<th>Name of Variable</th>
<th>Coefficient</th>
<th>t statistic</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent Variable</td>
<td>Y</td>
<td>Performance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>a</td>
<td>Alpha</td>
<td>56.70</td>
<td>0.004</td>
<td>0.997</td>
</tr>
<tr>
<td>Independent Value</td>
<td>a</td>
<td>Self-efficacy</td>
<td>0.98</td>
<td>50.96</td>
<td>0.00</td>
</tr>
<tr>
<td>Constant</td>
<td>a</td>
<td>Alpha</td>
<td>55.657</td>
<td>3.75</td>
<td>0.003</td>
</tr>
<tr>
<td>Independent Variable</td>
<td>a</td>
<td>Emotional</td>
<td>0.429</td>
<td>3.14</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Conclusion:
It can be concluded from the obtained results and the earlier studies that, as a major variable, self-efficacy can predict performance. This categorically confirms Bandura’s theory since technical abilities are not the sole reasons for success, and mental characteristics such as self-efficacy feeling can also affect performance and outcome of a table tennis athlete. The more self-efficacy an individual perceives, the more self-esteem he has to make decisions that affect his life and position. Athletes’ beliefs in their efficacy regulate their learning and help them to dominate sport skills. It is evident that exercise behavior is effective in improving level of self-efficacy and performance. Therefore, necessary trainings and recommendations should be provided by trainers, experts, and sport psychology specialists to promote performance level of table tennis athletes. In this way, Iranian table tennis players can be informed of the relevant effects and take advantage of the exercises to improve their sense of self-efficacy. These findings are consistent with the research findings of Heazlwood & Burke [13], Beattie, Lief,
Adamoula & Oliver [14], Hepler & Chase [20], Balagour & Bray [16], vaghefi,tojari, gangouei [21], Ebadian, Tojari &Farsi [17], but inconsistent with the findings of woodman et al [18].

It was also shown that emotional intelligence had a significant effect on performance. To confirm the above hypothesis, it can be stated that emotional intelligence greatly helps in bringing about success in sports arenas. Emotional intelligence improvement helps athletes to endure hard and long exercises, maintain their sense of peace and hope, avoid feelings of disappointment, maintain self-esteem while encountering a defeat, attempt to find solutions for problems, do not stop trying after winning, and improve their positive points. By understanding emotions of other people in sports fields, we may better make use of competitors’ mistakes for the benefitting others. Therefore, in a sport like ping-pong in which controlling players’ emotions and their competitors is very effective in their performance, emotional intelligence improvement may lead to further improvement and success. These finding is consistent with the studies conducted by Malouff, Thorsteinsson, shuttle [22]; neil et al [6], nikols, polman & levy [7]; M.Lane et al [8]; M. Lane, Thelwell, & Devonport [9].

Also the study results indicated a positive and meaningful relationship between self-efficacy and Emotional Intelligence in table tennis players. These finding is consistent with the research findings of shahbazzadegan, samadzade, abbsi2012; perlini 2009.

REFERENCES
