Investigating Effect of Students' and Coaches' emotional intelligence on academic achievement with mediation of sport success

Análisis del efecto de la inteligencia emocional de estudiantes y entrenadores en el rendimiento académico con mediación del éxito deportivo

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Abstract
This research aims to study the effect of students' and coaches' emotional intelligence (EI) on academic achievement (AA) with mediation of sport success (SS). This is a causative research and it is applied research in terms of the purpose. The population consists of second grade students and their coaches. For sampling, 33 sport teams were identified that had 347 second grade students, and the research questionnaires were distributed among them. The results showed that EI of students and coaches have significant effect on SS. In addition, students' EI have a significant effect on AA. Also, the EI of students and coaches have indirect effect on AA through SS. Finally, considering the importance of EI, coaches and students should perceive the EI functions and aspects to utilize it in different situation.

Keywords: Emotional Intelligence, Academic Achievement, Sport Success, Students, Coaches.

Resumen
La presente investigación tiene como objetivo estudiar el efecto de la inteligencia emocional (IE) de los estudiantes y entrenadores en el rendimiento académico (RA) con la mediación del éxito deportivo (ED). Esta es una investigación causal y es investigación aplicada en términos

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del propósito. La población está compuesta por estudiantes de segundo grado y sus entrenadores. Para el muestreo, se identificaron 33 equipos deportivos que tenían 347 estudiantes de segundo grado, y los cuestionarios de investigación se distribuyeron entre ellos. Los resultados mostraron que la IE de los estudiantes y entrenadores tiene un efecto significativo en el ED. Además, la IE de los estudiantes tiene un efecto significativo en el RA. Además, la IE de estudiantes y entrenadores tiene un efecto indirecto en el RA a través de ED. Finalmente, considerando la importancia de la IE, los entrenadores y los estudiantes deben percibir las funciones y aspectos de la IE para utilizarla en diferentes situaciones.

Palabras clave: Inteligencia emocional, rendimiento académico, éxito deportivo, alumnos, entrenadores.

Introduction

Education is one of the most important social institutions, which the quality of performance of other social institutions largely depends on the performance in this institution (Ebrahimi, 2016). The sensitivity of education, on the one hand, and the complexity of today's world, on the other hand, demands that particular attention be paid to the teaching and learning of students. Nowadays, the focus of education has shifted to nurturing motivated and strategic students rather than providing educational programs or classroom behavior management (Buela and Joseph, 2015), as students are the largest asset of any community and can drive the progress and development through combining youth, science, and knowledge and the skills learned (Salehi, 2015). In fact, today, motivating students to learn and maintain it may be one of the main concerns of parents and teachers. From an educational point of view, it is also important to create and maintain an enthusiastic motivation during learning and training (Chamundeswari, 2013). Accordingly, it seems that the most important task of schools is to provide students with qualitative experiences, to develop interest and involvement in assignments and to enhance their skills and knowledge (Preeti, 2014). Students' success at school is critical in any advanced society where education is at the center of socio-economic growth (Buela and Joseph, 2015). Given the increasing momentum of communication and changes in human society, it is no longer possible to train and educate students in the traditional approaches (Arfara and Samanta, 2016) There is an extensive literature illustrating the impact of educational acquisition on students' path of life (Katus and Mittu, 2011). Studies show that personality and cognitive (individual) factors account for more than 70% and other variables, including social and environmental factors describe 30% of variance in academic achievement in students (Ebrahimi, 2016).

Sports has been very important throughout life and makes it a good place for people to spend their leisure time and participate in sports has a great impact on promoting physical and

mental health, generalizing health, preparing for self-defense, rejuvenating and achieving success in their professional and occupational duties, so participating in sporting activities is the best and healthiest way to dispel the emotions and maintain the health that is recommended to all classes of society. Sports can improve one's attitude and thus enhance the occupational capabilities and capacities (Shaabani-Bahar et al., 2013). However, improper sport can produce negative outcomes such as anxiety, decreased enjoyment, and dropout. Emotional responses are very important when participating in sports activities (Salehi, 2015). These emotional responses in sport are influenced by many factors, including mental skills and intelligence that have a positive effect on improving emotional responses (Birwatkar, 2014).

One of the most effective abilities to adapt to the changes and expectations of the present world is the recognition of the different talents and abilities of individuals that can be the basis for innovation and progress in all aspects of a society (Rangriz and Latifi, 2018). Emotional intelligence is a set of abilities, abilities, and skills that prepare the individual to adapt to the environment and achieve success in life, and is a kind of capacity for perception, expression, understanding, application, and management of one's own and others' emotions. This concept was first introduced by Salovay and Mayer (2001). They provide six components in emotional intelligence: 1- Evaluating one's emotions, 2- Evaluating of others' emotions, 3- Expressing emotions, 4- Adjustment of emotions, 5- Emotional utility in problem solving, 6- Emotional adjustment of others (Shamsoddin and Rahman, 2014).

Studies in determining emotional intelligence have shown that emotional intelligence is effective in improving students' personal skills (Mohammadi and Setaresanj, 2012). Thus, schools have included activities such as sports championships, student research projects, innovations and creativity to address these internal needs in school programs. Research has been done to explain the relationship between emotional intelligence and academic achievement in the world and in Iran and has often shown the relationship to be meaningful (Mohammadi and Setaresanj, 2012; Salehi, 2015; Katus and Mito, 2011 and Chamundeswari, 2013). Emotional intelligence alone does not produce the success, but the fact is that the formation of positive traits in the end can be a good predictor of success (Karimpour et al., 2019). Therefore, emotional intelligence and athletic success can reduce students' learning difficulties and help them to improve their learning quality (Goleman, 1977).

Studies conducted in this regard have paid less attention to the role of emotional intelligence and sport success in learning and improving educational activities. In fact, conducting this research in order to train the human resources for the future of the country and the growth of social capital is of fundamentally necessary, as well as developing a model for

understanding emotional intelligence and emotional intelligence dimensions and understanding the relationship between emotional intelligence and sport success and academic achievement of student is crucial. And if this relationship exists, it should be indicated scientifically, objectively, and statistically. On the other hand, in this study, educators have been investigated along with students to gain a better understanding of how emotional intelligence works. The main issue in this study is to test the conceptual model of academic achievement and sport success based on the emotional intelligence of coaches and high school students. The effects of emotional intelligence on academic achievement and sport success are in fact independent constructs but are highly correlated. Emotional intelligence is the ability to be aware of oneself, to understand one's self and others and to be able to deal with extreme emotions and self-management (Falahi and Rostami, 2012). The existence of emotional intelligence and emotion in man is an undeniable reality, and the human right hemisphere is associated with emotional intelligence that includes cases such as interest in happiness, fear of humiliation, and so on (Accordions and Severinsson, 2010).
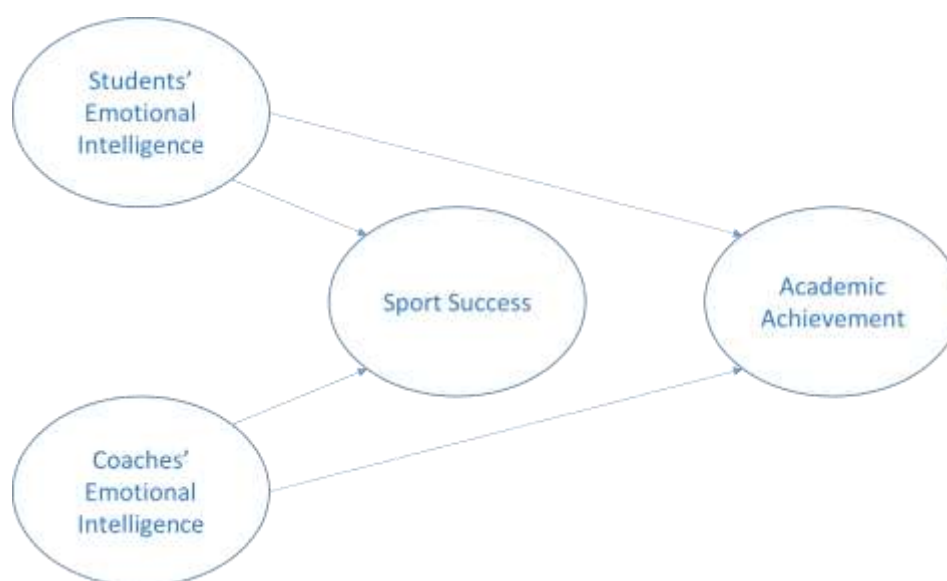

Figure 1. Research Model

Methodology

The current study is an applied research in terms of purpose, and it is a field study in terms of data collection. The information and data required for each section are collected based on the type of research method used. In the research and analysis of the theoretical foundations, documentary studies and search in scientific databases were used, and the required data were

collected by field method and questionnaire. The statistical population of this research is the sports teams of Kermanshah Secondary School Students who are active in the field of futsal, basketball, volleyball, and track and are member of a sports team. The total number of teams is 33 and the total number of students is 347. In order to better study the target population, sampling was done in a total counting way and questionnaire was distributed among all qualified individuals. The research tools included three standard questionnaires whose information is listed in Table (1).

Table 1. Research Questionnaire Information

Questionnaire	Variables	Number of items	Rating system	
Lang and Low's Emotional Intelligence (2002)	Self-perception evaluation, use of emotions, evaluation of others' emotions, emotion regulation	16	Likert five-point scale	Student and coach
Academic Achievement (Salehi, 2015)	No variables	25	Two values (yes/ no)	Student
Sports success (Vaez Mousavi, 2015)	Psychological implementation, attention, technique, error sensitivity, commitment, progress	29	Likert five-point scale	Coach

In order to collect information, questionnaires for coaches were first distributed among 33 coaches. The coaches of these teams then distributed the research questionnaires to the students. After collecting the data, the research data were entered into SPSS 23 software to extract the initial analysis of descriptive statistics. In the final step, the data were entered into Smart PLS 2 software to examine the relationships between the research variables.

Findings

The information about the research participants is as follows:

Table 2. Research Participant Information

Participants	Variable	Frequency	Frequency percent
Students	Father's education		
	High school diploma	55	15.9%
	and lower	30	8.6%

	Associate degree	187	53.9%
	BA	54	15.6%
	MA	21	6.1%
	PhD		
	Mother's education	70	20.2%
	High school diploma	62	17.9%
	and lower	174	50.1%
	Associate degree	32	9.2%
	BA	9	2.6%
	MA		
	PhD		
Coaches	Education level		
	Associate degree	1	3%
	BA	21	63.6%
	MA	9	27.3%
	PhD	2	6.1%
	Marital status		
	Single	10	69.7%
	Married	23	30.3%
	History of service		
	Below 5 years	9	27.3%
	6-10 years	7	21.2%
	11-16 years	11	33.3%
	17-20 years	4	12.1%
	Above 20	2	6.1%

In addition, the GPA of students was 15.7 with a standard deviation of 1.61, and the lowest GPA is 12 and the highest is 20. Then, structural equation test was used to investigate the relationship between variables. The results of convergent validity and reliability of the variables were extracted as follows.

Table 3. Convergent validity and reliability of variables

Variable	Cronbach's alpha	Composite reliability	Average variance extracted (AVE)
Team success	0.987	0.988	0.761
Student's EI	0.979	0.980	0.760
Coach's EI	0.983	0.984	0.798
academic achievement	0.868	0.862	0.720

The results show that Cronbach's alpha is greater than 0.7 for all four variables and also the composite reliability is greater than 0.7. Thus, all four variables are reliable. For divergent

validity, it is observed that the AVE index for all four variables is greater than 0.5 and lower than the composite reliability, indicating that the variables also have convergent validity. So, in order to evaluate the divergent validity, the Fornell-Larcker matrix was used. AVE is in the main diameter of the matrix, and there is correlation between the variables in other columns. If the variable does not have divergent validity, and the original diameter is larger than its row and column arrays, the results are as follows.

Table 4. Fornell-Larcker Matrix for convergent validity

	Team success	Student's EI	Coach's EI	Academic achievement
Team success	0.872			
Student's EI	0.456	0.872		
Coach's EI	0.537	0.088	0.893	
Academic achievement	0.582	0.700	0.379	0.849

The results show that for all four variables, the matrix diameter is larger than the other arrays of the respective variable. Therefore, the validity does not have a high divergent validity, and the divergence of the measurement can be rejected. Initially, the emotional intelligence variable of the coach was measured by 16 questions. The results for the coach's emotional intelligence variable are as follows.
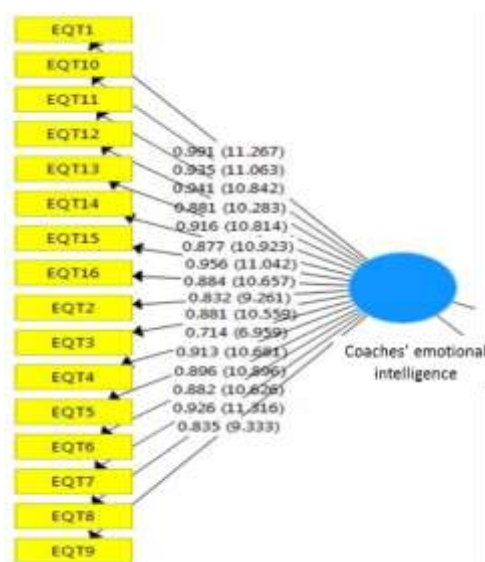

Figure 2. Factor loading and t-statistic between coach EI variable and related items

The factor loading indicates the impact rate of question on the variable, which must be at least 0.4 to be effective. The t-statistic also indicates the significance level of factor loading that must be greater than 1.96 to be significant. The results for the emotional intelligence

variable show that for all questions the factor loading is greater than 0.4 and the t statistic is greater than 1.96, so measuring the coach EI using these 16 questions is approved. The following is a summary of the results related to the student's EI variable.
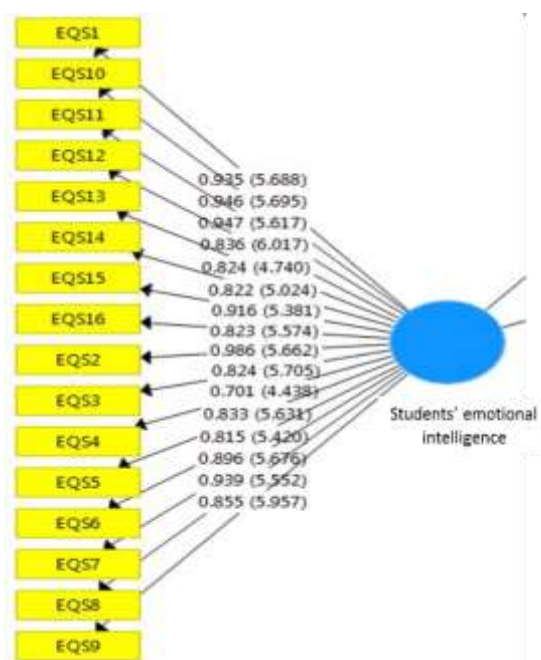

Figure 3. Factor loading and t-statistic between student EI variable and related items

As observed, all questions in this variable have a factor loading greater than 0.4 and a t-statistic greater than 1.96. It indicates the suitability of the sample size in the study.
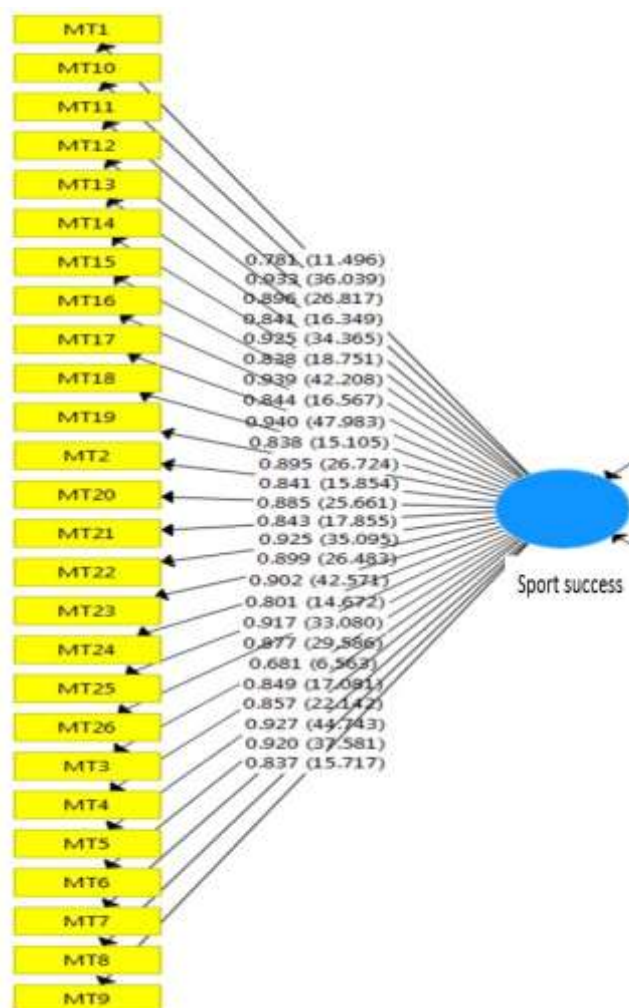
Figure 4. Factor loading and t-statistic between team success variable and related questions

The results show that factor loadings for all questions are greater than 0.4 and t-statistic is greater than 1.96. Therefore, measuring team success with these questions is acceptable. The academic achievement variable was measured using 25 questions, and its results of confirmatory factor analysis are as follows.
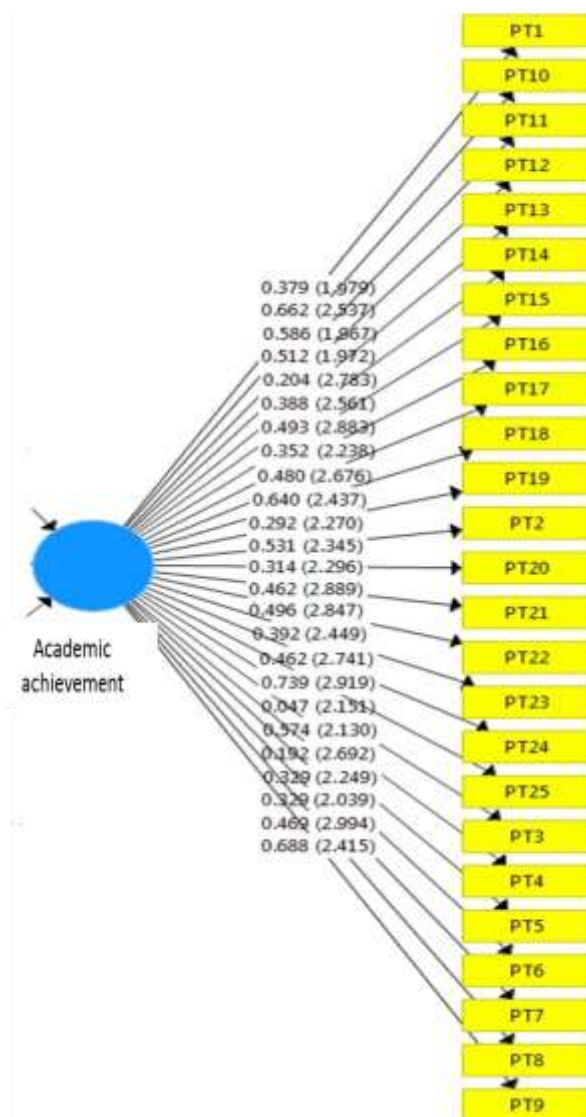
**Figure 5. Factor loadings and t statistics between academic achievement
and related questions**

The results show that the academic achievement variable was correctly measured using 25 questions. The factor loadings for all questions are greater than 0.4 and the significance is greater than 1.96. According to the results, all four variables of the research are validated in terms of measurement model. The relationships between these variables are discussed below.
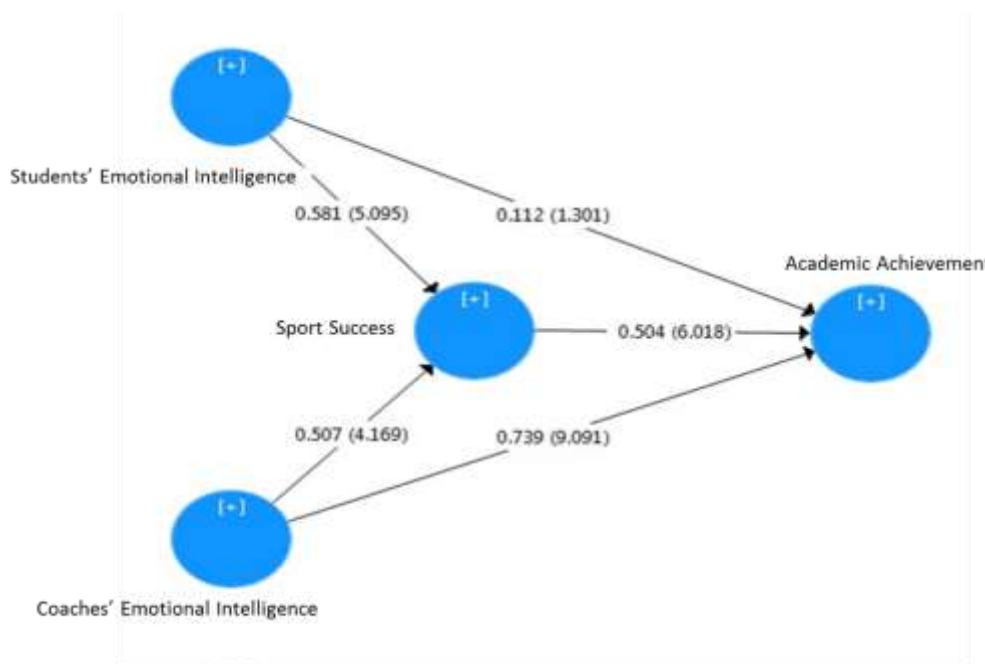
Figure 6. Path coefficient and t-statistic of relationships between variables

The relationships between variables are shown in Table (5).

Table 5. Path coefficient and t-statistic of relationships between variables

Relation	Path coefficient	Standard deviation	T statistics	Significance	Result
Team Success -> academic achievement	0.504	0.083	6.086	0.000	Has effect
Student's EI > Team Success	0.507	0.120	4.169	0.000	Has effect
Student's EI > academic achievement	0.739	0.081	9.091	0.000	Has effect
Coach's EI > team success	0.581	0.113	5.095	0.000	Has effect
Coach's EI > team success	0.112	0.160	1.301	0.169	No effect

According to Table 5, emotional intelligence variable has a significant effect on team success and team progress, with the exception of coach's EI that does not affect students' academic achievement. Also, the effect of emotional intelligence of coaches and students on academic achievement was mediated by team success, the results of which are as follows.

Table 5. Indirect effect of EI variables on academic achievement

Relation	Path coefficient	SD	T statistics	Significance
student's EI > team success > academic achievement	0.255	0.084	3.043	0.006
coach's EI > team success > academic achievement	0.293	0.275	3.065	0.006

As observed, the emotional intelligence of the coach and the student indirectly has a significant impact on academic achievement through to team success. To ensure the accuracy of the results and to fit the model, there are indices that must be placed in the appropriate range. Coefficient of determination and adjusted coefficient of determination of dependent variables are given as follows.

Table 6. Coefficient of determination and adjusted coefficient of determination of dependent variables

Variable	Coefficient of determination	Adjusted coefficient of determination
Team success	0.543	0.512
academic achievement	0.346	0.278

According to coefficient of determination for team success, it can be said that 54.3% of team success is predictable with the coach's emotional intelligence and the student's emotional intelligence. Also, the variables of teacher and student emotional intelligence and team success can predict 34.6% of academic achievement. To fit the model, SRMR and NFI indexes were used. The model has a good fit if value of SRMR is below 0.08 and NFI is greater than 0.9. The model fit indexes are as follows.

Table 7. Fit model indexes

Index	Index value	Result
SRMR	0.033	Fit
NFI	0.986	Fit

The results show that the research model has a good fit and the results are valid.

Discussion and Conclusion

The purpose of this research was to study the effect of teachers' and students' emotional intelligence on students' academic achievement. The results showed that the emotional intelligence of the coaches influenced the students' academic achievement. Chamundeswari (2013) believes that emotional intelligence has a positive effect on students' academic achievement. Arfara and Samanta (2016) believe that emotional intelligence improves students' academic status by improving their mental capacities such as self-regulation. Self-regulation is the psychological attribute by which one avoids abnormal behaviors and moves to shape correct behaviors (Roy et al., 2013). In addition, Preeti (2013) on the function of emotional intelligence on academic achievement believes that emotional intelligence can improve students' academic ability, but the variables that influence academic achievement are extensive and it is likely that students with lower levels of emotional intelligence have better academic status, but the point is that students with higher levels of emotional intelligence are more likely to succeed in the workplace. Therefore, students' emotional intelligence is one of the factors that is essential for enhancing students' academic success and career prospects (Vahidi et al., 2016).

On the other hand, the effect of coach EI on students' academic achievement was not significant. The results of Mohammadi and Setaresanj (2012), Mehdi Nejad et al. (2017), Akerjordet and Severinsson (2010) all support the effect of teacher's emotional intelligence and academic achievement. Team coaches are mostly engaged in students in the sport environment and are less concerned with their academic affairs so it is natural that coaches have less influence on students' academic achievement than other research on teachers.

The results showed that emotional intelligence of coach and student had a significant effect on sport success. Roy et al. (2013) believe that explaining emotional intelligence improves motivation and desire for success in the individual, thus emotional intelligence has a positive effect on the achievement of sport success. Birwatkar's (2013) research results also support this relationship, believing that promoting self-regulation and regulating mental states will help better decision-making in match and sport situations. On the other hand, emotional intelligence reduces stress related to pre-sport events by improving mental states, thereby improving athlete performance and contributing to sport success (Birwatkar, 2013). Therefore, emotional intelligence in the athlete and coach can help to better understand the conditions of the competition and improve the psychological capacity of the sport to succeed.

Moreover, the results showed that the emotional intelligence of coach and student indirectly influenced academic achievement by sport success. Fabio and Kenny (2016) believe

that people with higher levels of emotional intelligence are more concerned about their health and well-being, which will help improve their working and educational conditions.

Lastly, considering the results, emotional intelligence, both in the coach and in the students, can contribute to sport success and academic achievement. It is therefore essential for coaches, teachers, and students to become familiar with the importance of emotional intelligence and its functions so that they can benefit from it in different situations. Dolev and Leshman (2016) believe that emotional intelligence is improved by training. Therefore, sport federations and the education system should incorporate emotional intelligence training into coaches' and teachers' training programs and justify them well on the importance of emotional intelligence.

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