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Original Paper

Investigating the Impact of Metacognitive Beliefs and Social Vitality on the Sports Success of Student Athletes in Tehran

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Abstract

The purpose of this research was to investigate the effect of metacognitive beliefs and social vitality on the sports success of Tehran students. The research method was applied, which was descriptive-survey in nature, which is considered as a qualitative research according to the research approach. The statistical population was the students of Tehran, and 305 people were determined to determine the sample size using Cohen's method. The measurement tools were standard questionnaires, which content validity, convergent validity, divergent validity, and content validity were obtained by a survey of professors. Cronbach's alpha coefficient was used to determine the reliability of the questionnaires. Cronbach's alpha coefficients in all three questionnaires were more than the minimum value (0.7). In order to analyze the statistical data, descriptive statistics and inferential statistics were used using Spearman's correlation coefficient and multivariate regression using SPSS21 software. The findings of the research showed that the variables of metacognitive beliefs B=0.198 and social vitality B=0.702 have an effect on the sports success of student athletes. Therefore, it can be concluded that continuous training and exercises in the fields of metacognitive beliefs and social vitality can be effective and useful for male and female student athletes.

Keywords

metacognitive beliefs, social vitality, sports success

1. Introduction

Students in each community are recognized as the most effective and fundamental foundation for the future of each country. Attention to students ' health and psychological, social and academic is very important (grant, 2022). In recent years, education and educational psychology professionals have concluded that the broad expectations and beliefs of learners about their abilities play a vital role in

their academic success. For this reason, attention to metacognitive beliefs has received special attention from researchers (pajars, 2006). Metacognition is a multidimensional concept that refers to higher mastery and awareness of bilateral cognition and knowledge (Wells, 2009). Flavell (1998) Metacognition can be defined as awareness of how a person learns. This concept refers to a person's knowledge of their cognitive processes and ability to monitor and control these processes (Bernstein et al., 2019). In fact metacognition refers to any type of knowledge skill or cognitive activity that can include a cognitive subject or regulate cognitive activity (Bright et al., 2018). Metacognitive skills are important in many different cognitive activities, including: verbal encouragement, exchange of information in a verbal way, writing, reading, perception, attention, language learning, memory, social cognition, and various types of self-study and self-control (Ziegler et al., 2018). Cognitive and metacognitive strategies are the most fundamental tools for examining students ' efforts to succeed in learning environments (Bianca, 2013). The fact is that supporting cognitive and metacognitive processes is considered as an effective predictor of student success in schools (Zimmerman, 2015). Ghadampour et al. (2017) showed that teaching metacognitive and cognitive strategies is effective in increasing the hope of Education. Ali akbarzadeh (2014) also stated in the research that there is a meaningful relationship between metacognition and cognition with the hope of studying in secondary school girls. So metacognition is one of the most effective predictive variables of success in performing hard tasks and responsibilities (Dignath & Buttner, 2008).

As the age of people increases, the importance of presence and activity in social communities in order to maintain their health and well-being increases more and more (Liu et al., 2024). One of the less noticed aspects in studies is the effect of gender on the motivations and the level of participation in brand communities. By better understanding the specific motivations and interaction patterns of male and female consumers in different age groups within these communities, marketers will be able to adjust their marketing strategies to more effectively respond to the needs and desires of target audiences (Haverila et al., 2024). Sports activities help to improve people's quality of life and have a positive effect on their physical, psychological and social aspects. However, in the past, the focus of sports activities was mostly on teenagers and young adults, because it was thought that vigorous physical activity might be harmful to the elderly, unless it had therapeutic aspects. These traditional attitudes and perceptions were based on views about aging that saw aging as inevitable with physical decline (canella et al., 2021). In numerous researches conducted in the field of sports activities for the elderly, many benefits of participation in these activities have been recorded. Lack of physical activity is known as the fourth risk factor for mortality and non-communicable diseases such as cardiovascular diseases, cancer and diabetes. To prevent and delay the onset of chronic diseases, it is recommended that adults adopt a healthy lifestyle with adequate physical activity (Huang et al., 2022). Elderly people are the least active group among the adult age groups, so that between 30 and 80% of this population have little activity (Rohani et al., 2021).

Metacognitive beliefs and self-regulation play an important role in promoting sports success by

increasing mental processes and behaviors of athletes. Research has shown that metacognitive strategies, such as theorizing and reflecting, are associated with improved volitional regulation and cognitive control, leading to better self-regulation in athletes (Aleksandra, 2020). Coaches who implement metacognitive questioning programs can positively influence their self-regulation skills and ultimately improve cognition, thinking abilities, and behavior. In addition, talented athletes who have strong metacognitive skills. Are equipped to manage their health and performance, and high self-monitoring abilities are associated with a reduction in excessive time-loss injuries, especially in girls, which highlights the importance of reflection and self-monitoring in injury prevention and athletic success. he does. Finally, the integration of metacognitive beliefs and self-regulatory practices can significantly contribute to enhancing athletic performance and overall success (Sabaliauska, 2022). DesClouds and Durand (2023) In a research, they concluded that self-regulation increases growth, performance and well-being in sports. Kelly et al. (2022) In a research, they showed that self-regulation strategies are significantly related to physical activity and are useful in developing skills in sports programs. Carl & Rebecca (2020) In a research, they came to the conclusion that metacognitive beliefs and strategy training increase self-regulation to improve sports performance. Olga (2020) In her research, she stated that self-regulation beliefs lead to achieving goals and improving sports performance. Azilawati and Hung (2012) In their research, they came to the conclusion that metacognitive beliefs increase self-regulation for sports performance and self-regulation is very important for success in sports efforts.

2. Methodology

The research method is applied in terms of purpose, descriptive-survey in terms of nature, and in terms of research approach, it is a qualitative research that was conducted by field method. The statistical population of this research was male and female student athletes. Various methods have been considered to determine the sample size; Finally, the sample size was calculated using Cohen's formula based on statistical power analysis. To determine the sample size based on Cohen's formula, the power of the test was 0.80, the effect size was 0.25 and the confidence level was 0.95 equal to 318 people for advanced students and 318 people for beginner students. After collecting the questionnaire, 0.04, the questionnaire could not be used and finally the statistical sample of 305 people was determined. The measurement tools include 1- Wells' Metacognitive Beliefs Questionnaire (2004), which includes 30 questions in 5 components of uncontrollability and risk, positive beliefs about worry, cognitive self-awareness, cognitive certainty, and the need to control thoughts, 2- Social Vitality Questionnaire (Cleanliness & Azizi, 2017) that this questionnaire is made of 12 questions in one dimension. 3- Sports Success Questionnaire (Mousavi & Vaez Mousavi, 2014) which used 29 questions in 5 components of smooth performance, attention, technique, error sensitivity, commitment and progress. The scoring method of the questionnaire was based on a 5-point Likert scale, including completely agree, agree, have no opinion, disagree, and completely disagree, which respectively have a score of 5 to 1

(completely agree, 5, completely disagree). In order to check the convergent validity, the average output variances (AVE) was obtained, which was more than 0.5. Divergent validity was also obtained by comparing the square root of AVE with the correlation between the real-factor variables of each construct. Also, in this research, Cronbach's alpha coefficient was used to determine the reliability of the questionnaires. Cronbach's alpha coefficients in all three questionnaires were more than the minimum value (0.7). In order to analyze the statistical data, descriptive statistics methods such as calculating the mean, standard deviation, and in the inferential statistics section, Smirnov's Kolmograph test was used to determine the normality of the statistical population, and in the inferential section, Spearman's correlation coefficient and multivariate regression were used using SPSS21 software.

3. Result

The demographic findings of the sample showed that 158 people, i.e., 51.8% were male athletes and 147 people, i.e., 48.2% were female athletes. The findings related to the age of the athletes sample showed that 52 people i.e., 17% are 15 years old, 66 people i.e. 21.6% are 16 years old, 87 people i.e., 28.5% are 17 years old and 100 people are 32.8%.

Table 1 shows the descriptive findings related to the characteristics of metacognitive beliefs and social vitality and sports success of students at two advanced and beginner levels.

Table 1. Descriptive Findings of Variables of Metacognitive Beliefs, Social Vitality and Sports Success

Variable	**Student athlete**		
	Metacognitive beliefs	social vitality	sports success
Average	3.66	3.60	3.41
Middle	3.74	3.75	3.51
fashion	4	4	4
The standard deviation	0.381	0.473	0.389
Variance	0.152	0.224	0.152
variation range	2	2	2
the least	2	2	2
the most	5	5	4

The table shows the descriptive findings of metacognitive beliefs variables, social vitality and sports success of student athletes. Based on the above table, the average of metacognitive beliefs in students is 3.66 percent, the average social vitality in students is 3.60 percent, and the average of sports success in students is Athletes are 41.3%.

Table 2. Data Normality Test

Variables		Number	K-S	ST.d	Sig
Student athlete	Metacognitive beliefs	305	0.085	0.381	0.000
	social vitality	305	0.130	0.473	0.000
	sports success	305	0.134	0.389	0.000

Based on the results listed in Table 2, in all cases, a significance value smaller than 0.05 has been obtained; Therefore, there is a possibility of rejecting the assumption.

Table 3. Simple Correlation Coefficients between Metacognitive Beliefs and Social Vitality with Sports Success of Student Athletes

Variables	social vitality		Metacognitive beliefs	
sports success	**P**	**R**	**P**	R
	0.000	0.812	0.000	0.693

As can be seen in Table 3, the correlation between sports success and metacognitive beliefs for student athletes is R=0.693 with a significance level of P=0.000 and the correlation between sports success and social vitality in student athletes is 812 R=0.000 is significant with a significance level of P=0.000. Multivariate regression was used to determine the multiple correlation of metacognitive beliefs and social vitality with sports success of student athletes. which variables of metacognitive beliefs and social vitality as predictor variables and sports success variable as criteria variables.

Table 4. Results of Multivariable Regression Analysis of Metacognitive Beliefs and Social Vitality with Sports Success in Student Athletes

Indicator	SS	df	MS	F	P	R	R^2
Regression	34.948	2	11.474				
left over	11.142	302	0.037	473.614	0.000	0.871	0.758
Total	46.090	304					

Table 5. Beta Coefficient and Standard Results of Multivariate Regression Analysis in Student Athletes

Variables	Standard beta coefficient	Non-beta standardized coefficient	T	P
Metacognitive beliefs	0.198	0.202	4.049	**0.000**
social vitality	0.702	0.578	14.342	**0.000**

According to the results presented in Table 5, the variable coefficients of metacognitive beliefs (B=0.198 and T=4.049) and social vitality (B=0.702 and T=14.342) have an effect on the sports success of student athletes, as well as the variables of metacognitive beliefs and Social vitality can significantly predict the sports success of student athletes. According to Table 5, the coefficient of determination obtained indicates that 75% of the changes in success are explained by metacognitive beliefs and social vitality; That is, the increase in metacognitive beliefs and social vitality increases sports success in student athletes.

4. Discussion and Conclusion

The purpose of this research was to investigate the effect of metacognitive beliefs and social vitality on the sports success of student athletes in Tehran. The results of the research showed that metacognitive beliefs and social vitality have a positive and significant effect on the sports success of student athletes in both girls and boys. Also, metacognitive beliefs and social vitality can explain the changes in sports success of student athletes in boys and girls. According to the findings of the current research, the researcher came to the conclusion that having social vitality in male student athletes has a greater impact on achieving sports success than female student athletes. which may be due to the better understanding of male student athletes with their abilities and talents, or more motivations that they give to male student athletes on their own behalf or from outside. And also, this effect may be more due to the abilities of male student athletes in controlling the emotions of the competitions and knowing the opponents better. Also, the researcher came to the conclusion that having metacognitive beliefs of male student athletes has a greater effect on achieving sports success than female students. This effect may be more due to psychological factors such as self-knowledge and self-confidence or accepting more risk in competitions than female student athletes. In the dimension of metacognitive beliefs, Martins (2010) showed that there is no difference between boys and girls in metacognitive skills, which contradicts the findings of the present study. In this regard, Stani et al. (2012) stated that girls show higher levels of applied metacognition in physical activity than boys. The findings of this research are in agreement with the findings of Deskeld and Durand (2023), Kelley et al. 2022), Carr and Rubka (2020), Olga (2020) and Azilavati and Hong (2012) are aligned. Therefore, according to the findings of this realization, it can be said that metacognitive beliefs, as thoughts and attitudes that a person has about her cognitive processes, can have a significant impact on sports success. These beliefs help athletes to perform better in their sports by using more effective strategies. Male athletes usually have stronger and more stable metacognitive beliefs that allow them to better face sports challenges and pressures. These athletes are able to achieve higher success by self-monitoring, self-regulation and modifying their strategies. In contrast, female athletes may still need to develop and strengthen these beliefs in order to achieve similar athletic success.

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