


ORIGINAL RESEARCH

# Children's orientation towards sporting events and sporting emotions

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## Abstract

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Sport, sport emotions, sport orientation, student.

This paper investigated the relationship between middle school students' orientation towards sporting events and their level of sporting emotions. The sample consisted of 212 students from middle schools affiliated with the National Education in Gölbaşı District of Ankara, Türkiye, in the 2022-2023 academic year. Data were collected using a personal information form, the Consumer Orientation towards Sporting Events Scale (COSES), and the Sport Emotion Questionnaire (SEQ). The results show that middle school students' search for anxiety reduction is associated with an increased orientation towards sporting events. There is a positive relationship between students' enjoyment scores and their sport involvement, suggesting that higher enjoyment scores are associated with greater sport involvement. Higher levels of anxiety are associated with higher levels of sport involvement. The increase in their excitement level has a positive effect on their orientation towards sporting events. An increase in their level of happiness has a positive effect on their orientation towards sporting events and thus on their emotions. The correlation matrix showed generally moderate and significant relationships between the scale scores. The psychological constructs of sporting emotions that influence performance in middle school students can be identified and analyzed. When students are aware of their emotions in sport, they are more likely to engage in practices that positively affect their performance. Researchers should conduct evaluations of students' sporting emotions using different psychological constructs to make significant contributions to the field. By exploring different perspectives and approaches, a more comprehensive understanding of the relationship between sporting emotions and student outcomes can be achieved.

## Introduction

Orientation towards sporting events is an essential concept in sport psychology. A clear understanding of sports' social, physical, cognitive, and mental benefits will significantly contribute to developing positive orientations and perceptions towards sports. Hence, sports offer states an advantage in terms of creating opportunities and fostering positive social, cultural, and economic differences (Nicholson et al., 2011). Sports can significantly promote social mobility and enhance the overall well-being of individuals and communities. Research suggests that individuals who actively participate in sporting events tend to have a higher quality of life (Yaşartürk et al., 2019). Engaging in sports contributes to physical fitness and promotes mental well-being, social interaction, and academic performance. Sports can enhance various aspects of life and contribute to overall well-being (Pekel, 2016; Zorba, 2006). The concepts that play a significant role

in sports orientation include socialization, seeking emotions, and seeking information. Socialization is a continuum that encompasses learning and acquiring patterns of behavior, values, and skills necessary for individuals to develop a personality that aligns with the cultural norms and expectations of the society in which they are raised (Grusec & Hastings, 2014). Emotion-seeking is defined as the desires that one cannot intervene in but that arise naturally from within. Therefore, emotion-seeking tendencies in individuals have a biological basis that cannot be easily altered (Sznitman & Engel-Yeger, 2017). Information-seeking is a cognitive process through which individuals strive to understand the cause-and-effect relationships between various factors (Hirschman, 1984).

The word "emotion" is derived from the Latin word "*ēmoveō*," meaning to stir up or move out. Therefore, emotion refers to mobility within individuals, communities, and societies (Ahmed, 2014). In recent

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years, there has been a growing interest among researchers in exploring the field of emotions in sports. Emotions have a substantial impact on both physical and mental health, making them a crucial factor in shaping interpersonal relationships (Altınışık & Çelik, 2022). Theories on emotions describe and evaluate their functions and explain the origins and mechanisms of emotional experiences. These theories offer frameworks and perspectives that help researchers and scholars understand emotions' nature, purpose, and impact on individuals' lives. For example, the James-Lange theory of emotion proposes that physiological changes in the body occur prior to the experience of emotion. According to this theory, our perception of bodily responses to a specific event or stimulus gives rise to the corresponding emotional experience. In other words, our interpretation of physiological changes, such as increased heart rate or sweaty palms, determines the specific emotion we feel. This theory suggests a direct link between bodily sensations and emotional experiences (James, 1884).

On the other hand, the Cannon-Bard theory of emotion asserts that the experience of emotion is not solely dependent on physiological changes in the body. According to this theory, both physiological responses and the subjective experience of emotion occur simultaneously and independently. The theory emphasizes the role of the thalamus, a part of the brain, in facilitating emotional experiences by relaying sensory information to the cortex. It suggests that emotions are generated through the combined activation of the thalamus and the cortex rather than being solely driven by bodily responses (Strongman, 2003). According to the Two-Factor Theory proposed by Schachter and Singer, emotions result from the interaction between physiological arousal and cognitive interpretation. This theory suggests that when individuals experience physiological arousal, they rely on cognitive processes, such as experiences, perceptions, and interpretations, to attribute meaning to the arousal. The cognitive interpretation then determines the specific emotion experienced. In essence, both physiological arousal and cognitive appraisal work together to generate emotions (Myers, 2010).

According to various theoretical approaches, emotions significantly impact individuals across multiple domains. Gross (1999) suggests that emotions play a role in influencing decision-making processes, facilitating learning by organizing social behavior, and eliciting motor responses. According to Özgüngör (2018), emotions affect concentration, attention,

memory, and decision-making. It is also essential to study emotions in sports. For many years, researchers primarily emphasized the negative impacts of anxiety and stress in the context of sports. However, recently, there has been a shift towards investigating the effects of various emotions in sports (Robazza et al., 2016).

Some researchers have focused on sports orientation (Çevik et al., 2019; Çiriş & Başkonuş, 2021; Yılmaz et al., 2019; Turan, 2021), while others have investigated the effect of emotions on athletes (Urfa & Aşçı, 2019; Vatan, 2017; Korkmaz & Çetinkaya, 2021). However, current research on sports orientation and emotion levels may not meet the desired standard. While notable advancements have been made in understanding the relationship between sport orientation and emotions, there is still room for further exploration and investigation. Moreover, this is the first study to address middle school students' orientation towards sporting events and their sporting emotions. Children's inclination towards sports during the early stages of their education plays a crucial role in shaping their emotional experiences. Engaging in sports and physical activities at a young age can significantly impact children's emotional development and well-being. Sporting events are vital in helping children socialize, regulate their emotions, and succeed in their educational and social lives. Our research aims to explore the correlation between middle school students' orientation towards sports and their emotional states during sports activities. We aim to investigate how students' interest, engagement, and participation in sports relate to their emotional experiences within the sporting context. By examining this relationship, we seek to better understand how sports orientation influences emotional states such as excitement, enjoyment, anxiety, and satisfaction among middle school students. The findings from our research can provide valuable insights into the interplay between sports orientation and emotional well-being, contributing to the development of strategies and interventions to enhance students' sports engagement and promote positive emotional experiences in sports. In this context, our research hypotheses are as follows:

H1: There is a positive correlation between anxiety and orientation towards sporting events.

H2: There is a positive correlation between dejection and orientation towards sporting events.

H3: There is a positive correlation between anger and orientation towards sporting events.

H4: There is a positive correlation between excitement and orientation towards sporting events.

H5: There is a positive correlation between happiness and orientation towards sporting events.

## Methods

### Research Design

In this cross-sectional correlation study, we developed a theoretical model to examine the association between middle school students' orientation towards sporting events and their levels of sporting emotions. We used the multivariate adaptive regression splines (MARS) model to analyze this relationship. In this model, the dependent variable was "sporting emotions," while the independent variable was "orientation towards sporting events." By employing the MARS model, we aimed to uncover the intricate relationship between these variables and gain insights into how students' orientation towards sporting events influences their emotional experiences in sports (Karasar, 2008).

### Population and Sample

The study population consisted of all middle school students in the academic year 2022-2023 in Ankara, Türkiye. Participants were recruited using convenience sampling, a non-probability sampling technique in which participants are selected based on their convenience or accessibility to the researcher (Gürbüz

& Şahin, 2015). The sample consisted of 212 middle school students from different schools.

### Data Collection Tools

The present study followed the ethical standards for research on human subjects set out in the Declaration of Helsinki. The study was approved by the Ordu University Social and Human Sciences Ethics Committee (Date: 06.10.2022 & No: 2022/182). Permission was obtained from the Ankara Governorship Directorate of National Education. All students were briefed about the research purpose and procedure. They were also informed that they could withdraw from the study at any time without stating a reason. Informed consent was obtained from the parents of children for participation. The data were collected using a survey. The researcher maintained regular communication with the participants and addressed any questions or concerns they had throughout the data collection process. The data were collected using a personal information form, the Consumer Orientation towards Sporting Events Scale (COSES), and the Sport Emotion Questionnaire (SEQ).

### Personal Information Form

The researcher developed the personal information form. It consisted of five items on age, gender, branch, sports experience, and the status of being a national athlete.

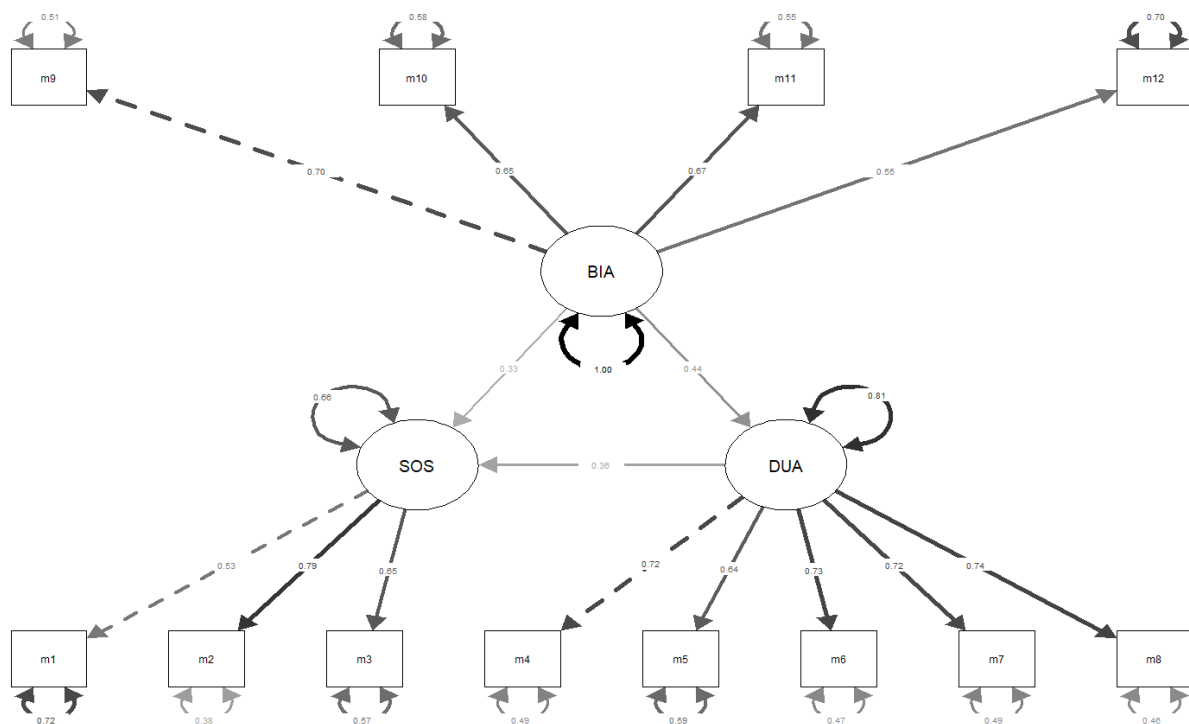


Figure 1. COSES CFA model.

**Table 1**  
COSES goodness of fit values.

Fit Index	Thresholds	Results
Degrees of freedom	-	51
Chi-square/sd	$0 \leq \text{Chi-square/sd} \leq 2$	0.923
RMSEA	$\text{RMSEA} \leq 0.08$	0.001
NFI	$0.90 \leq \text{NFI} \leq 1.00$	0.955
CFI	$0.90 \leq \text{CFI} \leq 1.00$	0.999
SRMR	$\text{SRMR} < 0.10$	0.059
GFI	$0.85 \leq \text{GFI} \leq 1.00$	0.980
AGFI	$0.85 \leq \text{AGFI} \leq 1.00$	0.969

**Consumer Orientation towards Sporting Events Scale (COSES)**

The Consumer Orientation towards Sporting Events Scale (COSES) was developed by Pons et al. (2006) and adapted to Turkish by Çevik et al. (2019). The instrument consists of 12 items rated on a five-point Likert-type scale. It has three subscales: socialization (items 1, 2, and 3), emotion seeking (items 4, 5, 6, 7, and 8), and information seeking (items 9, 10, 11, and 12) (Çevik et al., 2019).

The fit values of the CFA model to the structural equation model was as follows:  $\chi^2/\text{df} = 0.923$ , RMSEA = 0.001; NFI = 0.955; CFI = 0.999; SRMR = 0.059; GFI = 0.980, and AGFI = 0.969. Since the data were within the

threshold values, it was determined that the model had a good fit index (Table 1).

**Sport Emotion Questionnaire (SEQ)**

The Sport Emotion Questionnaire (SEQ) was developed by Jones et al. (2005) and adapted to Turkish by Urfa & Aşçı (2019). The instrument consists of 22 items rated on a five-point Likert-type scale. The questionnaire has five subscales: anxiety (1, 6, 11, 16, and 21), dejection (2, 7, 12, 17, and 22), anger (3, 8, 13, and 18), excitement (4, 9, 14, and 19), and happiness (5, 10, 15, and 20). The items have factor loadings of 0.49 to 0.85. The subscales have Cronbach's alpha values of 0.77 to 0.87 (Urfa & Aşçı, 2019).

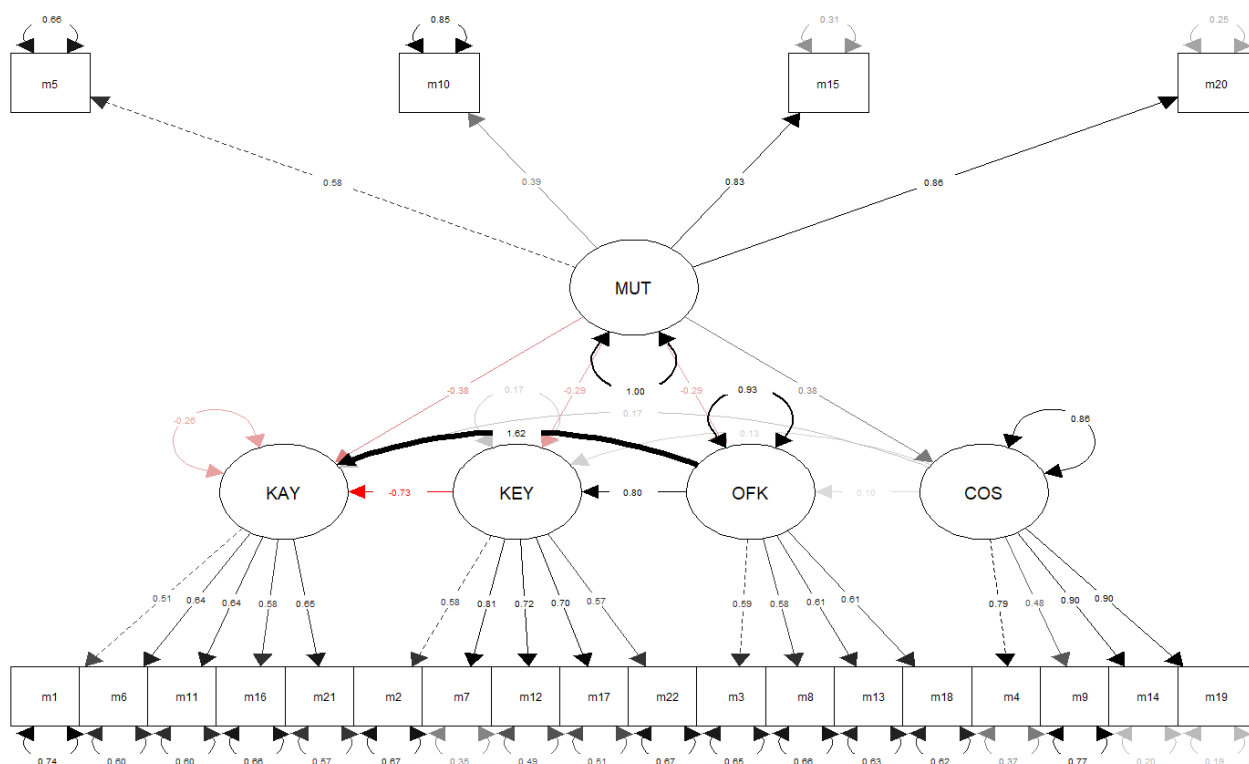


Figure 2. SEQ CFA model.

**Table 2**  
SEQ goodness of fit values.

Fit Index	Thresholds	Analysis Results
Degrees of freedom	-	199
Chi-square/sd	$0 \leq \text{Chi-square/sd} \leq 2$	1.609
RMSEA	$\text{RMSEA} \leq 0.08$	0.054
NFI	$0.90 \leq \text{NFI} \leq 1.00$	0.908
CFI	$0.90 \leq \text{CFI} \leq 1.00$	0.963
SRMR	$\text{SRMR} < 0.10$	0.083
GFI	$0.85 \leq \text{GFI} \leq 1.00$	0.945
AGFI	$0.85 \leq \text{AGFI} \leq 1.00$	0.930

The fit values of the CFA model to the structural equation model was as follows:  $\chi^2/\text{df} = 1.609$ , RMSEA = 0.054; NFI = 0.908; CFI = 0.963; SRMR = 0.083; GFI = 0.945; and AGFI = 0.930. Since the data were within the threshold values, it was determined that the model had a good fit index (Table 2).

### Data Analysis

Descriptive statistics (frequency and percentage) were used for categorical variables. The findings include descriptive statistical analysis, correlation analysis, and the application of the multivariate adaptive regression splines (MARS) model. To develop a non-parametric model, MARS uses a weighted sum of piecewise linear basis functions. It is a regression model with nonlinear functions and interactions of predictors (Leblanc & Crowley, 1999; Goh et al., 2017). Spearman correlation analysis was applied since the variables were not normally distributed. Statistical findings were obtained using the earth package (Milborrow, 2023) in the R

program (R Core Team, 2023). The margin of error was 5%.

### Results

As shown in Table 3, almost half of the participants were older than 14 (49.5%). More than half of the participants were women (62.3%). Most participants were engaged in individual sports (84%). More than a quarter of the participants had been engaged in sports for 0 to 2 years (37.3%). Less than a quarter of the participants were national athletes (11.3%).

The dependent variables were anxiety, dejection, anger, excitement, and happiness, while the independent variables were socialization, emotion seeking, information seeking, and total score. Five MARS models were developed based on the dependent and independent variables.

**Table 3**  
Descriptive statistics.

Variables	Groups	n	%
Age (year)	≤12	39	18.4
	13	30	14.2
	14	38	17.9
	≥15	105	49.5
Gender	Man	80	37.7
	Woman	132	62.3
Branch	Individual Sports	34	16.0
	Team Sports	178	84.0
Sports Experience (year)	0-2	79	37.3
	3-5	67	31.6
	6-8	41	19.3
	≥9	25	11.8
Being a National Athlete	Yes	24	11.3
	No	188	88.7

**Table 4**  
Scale scores.

Scales	n	Mean	SD	Median	Min	Max
SOC	212	12.25	1.85	12	7	15
EMOSEEK	212	23.22	2.18	24	15	25
INFSEEK	212	14.36	2.97	14	5	20
TOTAL	212	49.83	5.3	50	33	60
ANX	212	1.23	0.71	1.2	0	3.2
DEJEC	212	0.84	0.67	0.8	0	3
ANG	212	0.95	0.73	0.75	0	3.25
EXC	212	3.10	0.65	3.25	0.75	4
HAPP	212	2.98	0.76	3	0.75	4

SD: Standard deviation; Min: Minimum; Max: Maximum.

**Table 5**  
Correlations.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
SOC (1)	1								
EMOSEEK (2)	0.352**	1							
INFSEEK (3)	0.323**	0.318**	1						
TOTAL (4)	0.680**	0.695**	0.808**	1					
ANX (5)	-0.126	-0.060	0.016	-0.064	1				
DEJEC (6)	-0.113	-0.163*	0.015	-0.100	0.692**	1			
ANG (7)	-0.109	0.004	0.023	-0.039	0.769**	0.652**	1		
EXC (8)	0.257**	0.448**	0.311**	0.461**	-0.059	-0.198**	-0.042	1	
HAPP (9)	0.297**	0.331**	0.158*	0.342**	-0.293**	-0.392**	-0.201**	0.570**	1

\*p<0.05, \*\*p<0.01

**Table 6**  
MARS findings.

*The equations of basis functions*

For anxiety	$ANX = 1.190 + 0.135 \times MAX(0, INFSEEK - 13) - 0.141 \times MAX(0, TOTAL - 51)$
For dejection	$DEJEC = 0.831 + 0.094 \times MAX(0, DEJEC - 13) - 0.086 \times MAX(0, TOTAL - 50)$
For anger	$ANG = 1.110 + 0.377 \times MAX(0, 10 - SOC) - 0.128 \times MAX(0, SOC - 12) - 0.069 \times MAX(0, 48 - TOTAL)$
For excitement	$EXC = 2.810 - 0.279 \times MAX(0, SOC - 13) - 0.102 \times MAX(0, INFSEEK - 10) + 0.139 \times MAX(0, TOTAL - 44)$
For happiness	$HAPP = 2.480 + 0.099 \times MAX(0, SOC - 10) + 0.582 \times MAX(0, EMOSEEK - 23) - 0.752 \times MAX(0, EMOSEEK - 24)$

Table 5 shows the correlations between the scale scores. According to the correlation matrix, there were moderate and significant correlations between the scale scores.

The results of the MARS showed that information-seeking and general orientation towards sporting events significantly affected participants' anxiety levels. The coefficients in the basis functions showed that the higher the information-seeking and general orientation towards sporting events, the lower the anxiety. The information-seeking and general orientation towards sporting events explained 8% of the total variance of anxiety ( $R^2 = 0.080$ ).

The results of the MARS showed that information-seeking and general orientation towards sporting events significantly affected participants' dejection levels. The coefficients in the basis functions showed a positive relationship between information-seeking and dejection. The results also showed a negative relationship between general orientation towards sporting events and dejection. The information-seeking and general orientation towards sporting events explained 4.2% of the total variance of dejection ( $R^2 = 0.042$ ).

The results of the MARS showed that socialization and general orientation towards sporting events significantly affected participants' anger levels. The



model's coefficients of the basis function showed that when the socialization score was below 10, the decrease in socialization scores increased participants' anger levels. However, increased socialization scores decreased participants' anger levels when the socialization score was above 12. As the participants' general orientation towards sporting events increased, their anger decreased. Socialization and general orientation towards sporting events explained the anger levels of the participants by 7.1% ( $R^2 = 0.071$ ).

The results of the MARS showed that socialization, information-seeking, and general orientation towards sporting events significantly affected participants' excitement. The basis function coefficients showed that the higher the socialization and information-seeking levels, the higher the excitement levels. The results also showed that the higher the general orientation towards sporting events, the higher the excitement. Socialization, information-seeking, and general orientation towards sporting events explained 25.4% of the total variance of excitement ( $R^2 = 0.254$ ).

The results of the MARS showed that socialization and emotion-seeking significantly affected participants' happiness levels. The basis function coefficients showed a positive association between socialization and happiness. An increase in emotion-seeking scores in the range of 23-24 increased participants' happiness levels. However, the increasing emotion-seeking scores above 24 decreases participants' happiness levels. Socialization and emotion-seeking explained 17.5% of the total variance of happiness ( $R^2 = 0.175$ ).

## Discussion

In the field of sports sciences, relatively limited research has been conducted on sporting emotions and orientation towards sporting events. This study aimed to fill this research gap by exploring the relationship between these two constructs. The findings were interpreted with related concepts and theories, shedding light on the underlying mechanisms and providing insights into the hypotheses.

The initial findings revealed a moderate correlation between the scale scores, indicating that sporting emotions among middle school students can predict their orientation towards sporting events. This outcome aligns with previous literature supporting this relationship (Toros et al., 2023; Urfa & Aşçı, 2019; Savaş, 2019; Güvendi et al., 2018). However, other researchers have reported contrasting findings, who found a negative correlation between sporting emotions

and the orientation towards sporting events (İslam, 2022; Güvendi et al., 2020; Yalçın, 2018).

The second finding indicates that engaging in information-seeking activities contributes to a stronger orientation towards sporting events among middle school students. This finding suggests that students more oriented towards sporting events tend to experience lower anxiety levels. This outcome aligns with the assertion made by Gross (1999) that emotions have a significant impact on various motor responses. Participation in sports has been shown to reduce anxiety and stress while promoting psychological well-being (Canan & Ataoğlu, 2010). Notably, the negative emotional state associated with anxiety can be transformed into a positive emotion through an increased orientation towards sporting events. Thus, this result supports Hypothesis I and is consistent with previous research in the field (Pons et al., 2006; Yousaf et al., 2015).

The third finding reveals a positive correlation between dejection and orientation towards sporting events, indicating that middle school students who are more oriented towards sporting events tend to experience higher levels of dejection. Considering that dejection is generally associated with positive experiences, middle school students are expected to be inclined towards sports activities that bring them joy. Consequently, it can be inferred that middle school students who display a stronger orientation towards sporting events and derive greater enjoyment from them are more likely to maintain good health and vitality, progress through developmental stages effectively, and adapt to their environment. This result supports hypothesis II and aligns well with existing literature in the field (Ekeland et al., 2005; Öztürk et al., 2016).

The fourth finding indicates that anger impacts middle school students' orientation towards sporting events, suggesting that anger decreases as socialization scores increase to a certain degree. This implies that middle school students oriented towards sporting events tend to engage in more socialization activities, positively influencing their sporting emotions. This finding aligns well with the James-Lange theory of emotion. Students who effectively communicate with their peers, assume responsibilities, accept both successes and failures, develop a sense of belonging, and channel their anger through sports, tend to exhibit higher levels of socialization, both psychologically and socially. This result provides support for hypothesis III

and is consistent with prior literature in the field (Korkmaz & Uslu, 2020; Alemdağ & Öncü, 2015; Hacıcaferoğlu et al., 2017). Filiz (2010) and Yıldız (2015) stated that gender has no effect on socialization. Our result was not similar to these results.

The fifth finding reveals that excitement plays a significant role in middle school students' orientation towards sporting events, indicating that those more inclined towards sports tend to experience heightened excitement. The self-confidence gained through socialization further reinforces these positive outcomes. Therefore, our findings align closely with the Cannon-Bard theory of emotion (Strongman, 2003), which posits that emotions elicit physiological changes. Furthermore, middle school students' orientation towards sporting events positively influences their academic, familial, and social spheres. This outcome supports hypothesis IV and is consistent with relevant literature (Demirhan, 1995; Polat & Yalçın, 2014; Haase et al., 2004; İslam, 2022).

The sixth finding demonstrates a positive correlation between happiness and the orientation towards sporting events among middle school students, indicating that those more inclined towards sports tend to experience greater happiness. Engaging in sports promotes increased physical exercise, enhancing happiness and improving psychological and mental well-being. This outcome aligns with the Two-Factor Theory, which suggests that experiences, perceptions, and interpretations influence emotions (Myers, 2010). Individuals actively participating in sports often experience higher happiness levels, enhancing their perception, attention, determination, and motivation. This positive impact extends to their socialization, suggesting they are more likely to develop skills, attention, confidence, and motivation, resulting in improved academic performance and stronger familial relationships. This finding confirms hypothesis V and aligns with relevant literature (Demirhan, 1995; Büyüköztürk, 2016; Kızmaz, 2004; Yılmaz, 2006).

## Conclusion

Anxiety, anger, happiness, excitement, and dejection affect middle school students' orientation towards sporting events. Anxiety and anger become positive when middle school students orient towards sporting events. Moreover, dejection, excitement, and happiness are enhanced by an increased orientation towards sporting events. Our results confirm our hypotheses. The sporting emotions experienced by students have a positive influence on their socialization, emotional well-

being, and information-seeking behavior regarding their orientation towards sports. In light of this, raising awareness among middle school students about their sporting emotions is essential. Such awareness is believed to enhance their educational performance and social interactions, fostering positive mental development. By understanding the psychological aspects of sporting emotions that impact students' performance, measures can be taken to facilitate their success and happiness in their academic lives.

Additionally, it can contribute to healthier developmental periods, making education more enjoyable and engaging and catalyzing increased achievement. Practices to improve performance can be implemented based on students' awareness of their sporting emotions. Evaluating students' sporting emotions using various psychological frameworks can further enhance their contribution to the field.

## Authors' Contribution

Study Design: Aİ; Data Collection: Aİ; Statistical Analysis: Aİ; Manuscript Preparation: Aİ; Funds Collection: Aİ

## Ethical Approval

The study was approved by the Ordu University of University Social and Human Sciences Ethics Committee (Date: 06.10.2022 & No: 2022/182) and it was carried out in accordance with the Code of Ethics of the World Medical Association also known as a declaration of Helsinki.

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## Conflict of Interest

The author hereby declares that there was no conflict of interest in conducting this study.

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