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The Relationship Between Artificial Intelligence Attitudes and Openness to Organizational Change in Field Hockey Referees*

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Abstract

Aim: The aim of this study is to examine the relationship between field hockey referees' attitudes towards artificial intelligence and their openness to organisational change.
Methods: In the study, in addition to examining the effect of the scales among themselves, evaluations were made in terms of demographic characteristics by using general attitude towards artificial intelligence and organisational openness to change scales. In this context, the sample group of the study consisted of a total of 112 field hockey referees, 68 male and 44 female, affiliated to the Turkish Hockey Federation. Descriptive survey model was used for the study. In order to obtain the study data, 'Openness to Organisational Change Scale' developed by Çalışkan (2022) and 'General Attitude Towards Artificial Intelligence Scale' developed by Schepman and Rodway (2020) and adapted into Turkish by Kaya et al., (2022) were applied.
Results: As a result of the study, a positive relationship (r=0.716; p<0.05) was found between the level of openness to organisational change and the level of positive attitude towards artificial intelligence, while a negative relationship (r=0.455; p<0.05) was found between the level of openness to organisational change and the level of negative attitude towards artificial intelligence.
Conclusion: The result obtained in the study explains that an organisation's openness to change is related to the attitude of the members of the organisation towards artificial intelligence.

Keywords

Artificial intelligence,
Opennes to organisitaional change,
Sport,
Hockey.

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Çim Hokeyi Hakemlerinin Yapay Zekâ Tutumlarının Örgütsel Değişime Açıklık ile İlişkisi

Özet

Amaç: Bu çalışmanın amacı çim hokeyi hakemlerinin yapay zekaya yönelik tutumları ile örgütsel değişime açıklıkları arasındaki ilişkiyi incelemektir.
Yöntem: Çalışmada ölçeklerin kendi aralarındaki etkisinin incelenmesinin yanı sıra yapay zekaya yönelik genel tutum ve örgütsel değişime açıklık ölçekleri kullanılarak demografik özellikler açısından değerlendirmeler yapılmıştır. Bu bağlamda çalışmanın örneklem grubunu Türkiye Hokey Federasyonu'na bağlı 68 erkek ve 44 kadın olmak üzere toplam 112 çim hokeyi hakemi oluşturmaktadır. Çalışma için betimsel tarama modeli kullanılmıştır. Çalışma verilerinin elde edilmesi için Çalışkan (2022) tarafından geliştirilen "Örgütsel Değişime Açıklık Ölçeği" ile Schepman ve Rodway (2020) tarafından geliştirilen ve Türkçe uyarlaması Kaya ve ark., (2022) tarafından yapılan "Yapay Zekaya Yönelik Genel Tutum Ölçeği" uygulanmıştır.
Bulgular: Çalışma sonucunda, örgütsel değişime açıklık düzeyi ile yapay zekâya yönelik olumlu tutum düzeyi arasında pozitif bir ilişki (r=0,716; p<0,05) görülürken, örgütsel değişime açıklık düzeyi ile yapay zekâya yönelik olumsuz tutum düzeyi arasında negatif bir ilişki (r=0,455; p<0,05) olduğu tespit edilmiştir.
Sonuç: Çalışmada elde edilen sonuç, bir örgütün değişime açıklığının örgüt üyelerinin yapay zekaya yönelik tutumuyla ilişkili olduğunu açıklamaktadır.

Anahtar Kelimeler

Yapay Zekâ,
Örgütsel Değişime Açıklık,
Spor,
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INTRODUCTION

Technology today exerts a dominant influence across all fields. In this information age, a continuous process of change and development prevails. Sports organizations also sustain their continuity by integrating into the information age. Nearly everyone involved within sports organizations is affected

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by the evolving conditions of the world. Artificial intelligence, in modern organizations, influences not only athletes and referees but essentially everyone connected to sports organizations.

The emergence of artificial intelligence dates back to prehistoric times. For example, Daedelus, the god of wind in Greek mythology, appears as the first artificial human (Öztürk and Şahin, 2018). Although artificial intelligence entered periods of stagnation at some times, its development accelerated during the Renaissance period. The emergence of artificial intelligence in the known sense is based on the 2nd World War. In his article published in 1936, Alan Turing stated that artificial intelligence could have an idea and that it could be tested by humans (Gödel, 2006). Alan Mathison Turing invented a code-breaking machine called "Bombe" and continued his research afterwards (Çoşkun and Gülleroğlu, 2021). Today, artificial intelligence has appeared with a robot depiction that has been the subject of various science fiction films and books. The formation of artificial intelligence in different ways has a parallel connection with the rapid development of technology.

Artificial intelligence (AI) has applications across numerous fields and disciplines, with new areas of application continually being discovered. One such field is sports science. Early AI applications have been particularly used for various purposes within the field of exercise science (Li et al., 2022). A team led by Professor Montoye from Ball State University utilized AI-based human accelerometers to assess physical activities in healthy adults (Montoye et al., 2017). Another team, led by Liu Hua from Sun Yat-sen University, conducted studies on the willingness to participate in sports activities and their effects on socialization (Wang et al., 2019). A group from the Polytechnic University of Barcelona, under the leadership of Professor Martin, focused on using waist accelerometers based on SVM algorithms for individuals with limited mobility (Rodriguez-Martin et al., 2017). A team at the University of Pittsburgh, led by Professor Connaboy, concentrated on developing a machine to scale the risk of muscle injuries in healthy individuals (Eagle et al., 2019). In Spain, Professor Martin and his team at the University of Alicante examined robotic systems incorporating computer vision to monitor and optimize forms of cognitive and physical activity in older adults (Martinez-Martin and Cazorla, 2019).

Beyond exercise science, artificial intelligence has broad applications in sports. AI is known to contribute in various areas such as training and performance analysis, player tracking and management, tactical development, match prediction, and injury risk assessment. AI can evaluate an athlete's training performance by analyzing data obtained through sensors and smart devices, which can then be processed to offer customized training plans. Additionally, it has the advantage of detecting movement errors or performance degradation in athletes and providing feedback accordingly (Bodemer, 2023; Zhang and Fu, 2022)

The application of artificial intelligence (AI) technology to the intricacies of sports and overcoming the limitations of traditional knowledge transfer methods have become crucial topics in sports science during the AI era (Zhang and Fu, 2022). Broadly speaking, AI in sports science can be used in a variety of areas, such as Performance Analysis and Prediction, Injury Risk Analysis, Game Strategies and Tactics, Evaluation of Referee Decisions, Athlete Health and Well-being Monitoring, Injury Prevention, Real-Time Analysis, and Tactical Recommendations (Ustalar et al., 2023).

The development of technology has brought the use of artificial intelligence in sports to an advanced level. It is seen that applications are made in many areas such as obtaining physiological data of athletes and analysing teams. These applications help both to prepare individual training for athletes and to help the coach to determine the best strategies (Li and Xu, 2021). In addition, when we look at the devices used in sports; there are many examples such as wearable devices, ball tracking technologies, VAR system and simulations. Sports organisations continue their continuity by adapting to this type of renewal. Looking at artificial intelligence from the perspective of the referee, it is an important auxiliary tool to reduce the margin of error in matches. Chen stated in his article that artificial intelligence tools will definitely be used in sports. He also stated that the decision to be made in competitions involves more than one rule and is complex to define, and that artificial intelligence should be used as an auxiliary tool for the most accurate decision (Chen, 2021).

One of the current topics that deserve attention in the field of sports is organizational change. At its core, an organization is a structure comprised of two or more people sharing a common goal. One of the most crucial aspects for these structures is sustaining continuity. For organizations to maintain

this continuity, it is essential to adapt to internal and external environmental conditions while adopting a dynamic model. Lawrence (1958) noted that if organizations remain static and resist change, issues such as reduced output, conflict, and hostility may arise. Axtell et al., (2002) defined openness to organizational change as the willingness of members to accept new ideas, the flexibility of the organization, and its adaptability to external conditions.

The popularity of sport today is at a high level. Sports organisations are also developing to regulate and maintain this structure. From past to present, orientation towards different sports branches is increasing. Today, field hockey, which is rapidly developing and the number of athletes is constantly increasing, is among the most popular branches. In addition to this, it is also seen that the field hockey branch follows a path parallel to the development of technology and tries to keep up with today's conditions (Özkan, 2023).

In this context, the study aims to examine the relationship between field hockey referees' general attitudes towards artificial intelligence and their openness to organisational change. Our hypothesis in the study is that there will be a significant positive relationship between field hockey referees' attitudes towards artificial intelligence and their openness to organisational change.

METHOD

Model of the research

In line with the determined purpose and sub- objectives, the descriptive survey model, a quantitative research method, was used in the study. The survey model is a model in which the relationships between two or more variables are examined and the other variable is predicted based on these examined variables (Öksüz and Akyol, 2023). According to Karasar, survey models are research approaches that aim to describe the current situation as it is. Descriptive survey model is used in studies designed to learn people's opinions, attitudes and beliefs (Karasar, 2009). Before starting the research, permission to use the scale was obtained from the author via e-mail. Data were collected through an online questionnaire.

The universe and sample of the research

The population of the study is 154 field hockey referees affiliated to the hockey federation in Turkey. Deliberate sampling method, one of the population sampling models, was used. The deliberate sampling method is a sampling method carried out by the people who are believed to find answers in the research. In this method, people who can answer the questions asked are reached (Altunisik et al., 2010). In the light of this method, the scales were applied to the whole population and the feedback of a total of 112 referees, 68 male and 44 female, was received voluntarily. It is seen that the sample size is acceptable. In order to determine the demographic characteristics of the participants, questions on gender, age, education level, refereeing classification, tenure and technology knowledge level were asked. In addition, the participants were asked to answer questions such as ‘Do technological systems (VAR System, etc.) integrated with artificial intelligence harm refereeing competence?’ and ‘Would you be satisfied with the revision of refereeing duties, authorities and definitions depending on artificial intelligence?’. Informed consent was obtained from the volunteers participating in the study.

Table 1. Frequency and percentage distributions regarding demographic ınformation of the participants

Variable	Category	n	%
Gender	Male	68	60.7
	Woman	44	39.3
Education status	Sports sciences-student	38	33.9
	Sports sciences- graduate	54	48.2
	Other	20	17.9
Age	18-22	46	41.1
	23-27	34	30.4
	28-32	12	10.7
	33+	20	17.9
Referee classification	Candidate	38	33.9
	Province	61	54.5
	National	9	8.0
	International	4	3.6
Term of office	1-3 years	67	59.8

	4-6 years	36	32.1
	7+ years	9	8.0
Technology knowledge level	Low	4	3.6
	Centre	64	57.1
	Forward	44	39.3
Do technological systems integrated with artificial intelligence (VAR System, etc.) harm refereeing competence?	No, it doesn't.	84	75.0
	Partially damaging.	26	23.2
	Yes, it will.	2	1.8
Would you be satisfied with the revision of referee duties, powers and definitions based on artificial intelligence?	No, I won't be pleased.	8	7.1
	I'd be partly pleased.	25	22.3
	Yeah, I'd appreciate that.	79	70.5
Total		112	100

Upon examining the table, it is observed that 60.7% of the participants are male, and 39.3% are female. Of these participants, 33.9% are sports science students, 48.2% are sports science graduates, and 17.9% have other educational backgrounds. In terms of age distribution, 41.1% are between 18-22 years old, 30.4% are between 23-27, 10.7% are between 28-32, and 17.9% are 33 years or older. Regarding their refereeing classification, 33.9% are candidate referees, 54.5% officiate at the provincial level, 8% at the national level, and 3.6% at the international level. It was found that 59.8% of participants have been refereeing for 1-3 years, 32.1% for 4-6 years, and 8% for 7 years or more. Regarding technological knowledge, 3.6% have a low level, 57.1% have an intermediate level, and 39.3% have an advanced level. Additionally, 75% believe that AI-integrated technological systems do not impair refereeing competence, while 23.2% think they cause partial harm, and 1.8% think they do cause harm. As for the satisfaction with the revision of refereeing duties, authorities, and definitions based on artificial intelligence, 7.1% are not satisfied, 22.3% are partially satisfied, and 70.5% are satisfied.

Data collection tools of the research

Openness to Organisational Change Scale: Developed by Çalışkan (2022), the scale's validity was confirmed through exploratory and confirmatory factor analyses. These analyses revealed that the "Openness to Organisational Change Scale" comprises a single dimension with 6 items, and no items are reverse-scored. It uses a 5-point Likert scale. Reliability analyses demonstrated that the scale is highly reliable, with Cronbach Alpha values of 0.845, 0.857, and 0.921 for different groups in the original study. These results indicate that the scale is a valid and reliable tool for measuring organisational openness to change among individuals working in various businesses and institutions in Turkey.

General Attitude Towards Artificial Intelligence Scale: The scale developed by Schepman and Rodway (2020) has been adapted into Turkish by Kaya et al. (2024). It comprises two sub-dimensions: negative attitudes towards artificial intelligence and positive attitudes towards artificial intelligence, consisting of a total of 20 items. The items assessing negative attitudes are reverse-coded, and responses are collected using a 5-point Likert scale. The adaptation study reported Cronbach's Alpha values between 0.82 and 0.88, with reliability coefficients of 0.77 for the positive attitude sub-dimension and 0.83 for the negative attitude sub-dimension.

Table 2. Reliability and kolmogorov-smirnov (k-s) normality analysis and descriptive statistics of scale scores

Sub-dimension	n	X	SS	Cronbach Alpha (α)	K-S (p)
Openness to organisational change	112	4.54	0.62	0.894	0.000
Positive attitude	112	4.31	0.83	0.947	0.000
Negative attitude	112	3.79	1.23	0.952	0.000

Upon examining the table, it is evident that the scales used in the study demonstrate sufficient reliability for analysis ($\alpha>0.60$). The results of the Kolmogorov-Smirnov (K-S) test indicate that the data do not follow a normal distribution. Participants' levels of openness to organizational change and positive attitudes towards artificial intelligence are high, whereas their level of negative attitudes towards artificial intelligence is below average.

Data analysis of the research

SPSS 25.0 programme was used to analyse the data obtained within the scope of the research. Firstly, reliability analysis was applied to the scale data in the analysis process. One Sample Kolmogorov-Smirnov values were examined to determine the suitability of the data for normal distribution, and as a result of the analysis, it was determined that the data were not suitable for normal distribution. Since the

data were not suitable for normal distribution, Mann Whitney U test was applied to compare the scale scores with the gender variable, and Kruskal Wallis H test was applied to compare the scale scores with the variables of educational status, age, refereeing class, tenure and technology knowledge level. Spearman correlation analysis was used to examine the relationship between the scale scores, with a significance level set at $p<0.05$.

FINDINGS

Table 3. Comparison of openness to organisational change and general attitude towards artificial ıntelligence scale scores according to demographic variables

Variables		n	Openness to organisational change	Positive attitude	Negative attitude
Gender	Male	68	4.54±0.61	4.40±0.67	3.71±1.25
	Woman	44	4.54±0.64	4.17±1.01	3.90±1.21
	Significance		U=1409.0; p=.592	U=1416.5; p=.632	U=1344.0; p=.362
Education status	Sports sciences- student	38	4.56±0.62	4.21±1.02	3.74±1.39
	Sports sciences- graduate	54	4.65±0.51	4.47±0.67	4.10±1.04
	Other	20	4.22±0.76	4.07±0.76	3.03±1.11
	Significance		x^2 =8.0; p=.019	x^2 =5.4; p=.068	x^2 =11.5; p=.003
	Differences		1>3, 2>3	-	1>3, 2>3
Age group	18-22	46	4.54±0.64	4.28±0.94	3.82±1.30
	23-27	34	4.67±0.53	4.61±0.59	4.20±1.15
	28-32	12	3.99±0.75	3.76±0.82	3.55±1.12
	33+	20	4.67±0.44	4.20±0.73	3.15±1.05
	Significance		x^2 =11.2; p=.010	x^2 =11.6; p=.009	x^2 =11.5; p=.009
	Differences		1>3, 2>3, 3<4	1>3, 2>3, 2>4	1>4, 2>4
Classification	Candidate	38	4.60±0.59	4.59±0.57	4.32±0.90
	Province	61	4.62±0.49	4.22±0.94	3.54±1.36
	National	9	4.06±0.98	3.95±0.80	3.32±1.17
	International	4	3.92±1.00	3.83±0.34	3.53±0.54
	Significance		x^2 =6.8; p=.080	x^2 =8.4; p=.038	x^2 =13.6; p=.004
	Differences		-	1>4	1>2, 1>3, 1>4
Term of office	1-3 years	67	4.47±0.65	4.23±0.91	3.71±1.32
	4-6 years	36	4.71±0.49	4.58±0.57	4.10±1.07
	7+ years	9	4.43±0.73	3.81±0.71	3.07±0.83
	Significance		x^2 =4.7; p=.095	x^2 =8.8; p=.013	x^2 =6.9; p=.031
	Differences		-	1>3, 2>3	2>3
Technology knowledge level	Low	4	4.46±0.98	4.10±1.34	3.03±2.01
	Centre	64	4.46±0.63	4.14±0.89	3.75±1.19
	Forward	44	4.67±0.54	4.58±0.59	3.91±1.22
	Significance		x^2 =4.2; p=.124	x^2 =6.3; p=.042	x^2 =1.2; p=.549
	Differences		-	2<3	-

p<0,05

The table reveals that there is no statistically significant difference in openness to organizational change, positive attitude, and negative attitude levels based on participants' gender ($p>0.05$). However, there are statistically significant differences in scale scores for some of the other variables ($p<0.05$).

Regarding education level, there is no significant difference in positive attitudes toward artificial intelligence (AI) ($p>0.05$). However, other participants have significantly higher levels of negative attitudes toward AI compared to sports science students and graduates ($p<0.05$). Additionally, sports science students and graduates have a significantly higher level of openness to organizational change compared to other participants ($p<0.05$).

In terms of age groups, participants in the 18-22, 23-27, and 33+ age groups have significantly higher levels of openness to organizational change compared to those in the 28-32 age group ($p<0.05$). Participants in the 18-22 and 23-27 age groups show a significantly higher level of positive attitude toward AI than those in the 28-32 age group, and participants in the 23-27 age group have a significantly higher positive attitude toward AI than those in the 33+ age group ($p<0.05$). Participants aged 33+ exhibit significantly higher levels of negative attitudes toward AI compared to those in the 18-22 and 23-27 age groups ($p<0.05$).

Based on refereeing classification, there is no significant difference in openness to organizational change ($p>0.05$). However, in terms of attitudes toward AI, candidate referees have

significantly higher positive attitude levels compared to international referees ($p<0.05$). Conversely, referees at the provincial, national, and international levels have significantly higher levels of negative attitudes compared to candidate referees ($p<0.05$).

For tenure, there is no statistically significant difference in openness to organizational change ($p>0.05$). However, participants with 1-3 and 4-6 years of experience have significantly higher levels of positive attitudes toward AI than those with 7+ years of experience ($p<0.05$). Furthermore, participants with 7+ years of experience have significantly higher levels of negative attitudes toward AI compared to those with 4-6 years of experience ($p<0.05$).

Regarding technological knowledge level, there is no statistically significant difference in openness to organizational change or negative attitudes toward AI ($p>0.05$). However, participants with advanced technological knowledge have significantly higher levels of positive attitudes toward AI compared to those with low and intermediate technological knowledge levels ($p<0.05$).

Table 4. Spearman correlation analysis to examine the relationship between openness to organisational change and general attitude towards artificial ıntelligence

Variables		Openness to organisational change	Positive attitude	Negative attitude
Positive attitude	r	0.716***	-	
Negative attitude*	r	0.455***	0.537***	-

****p<0,001; *A positive relationship with a negative attitude score is considered as a negative relationship*

The table shows that there is a moderately strong positive and significant relationship between openness to organizational change and positive attitudes toward artificial intelligence ($r=0.716$; $p<0.05$). Conversely, there is a moderately strong negative and significant relationship between openness to organizational change and negative attitudes toward artificial intelligence ($r=0.455$; $p<0.05$).

DISCUSSION

The purpose of this study is to examine the relationship between field hockey referees' attitudes toward artificial intelligence (AI) and their openness to organizational change. In line with this objective, a review of the literature shows that separate studies exist on AI and openness to organizational change. However, there is a lack of sufficient sources examining the relationship between these two variables in the context of sports sciences.

With the advancement of technology, the role of AI in sports organizations cannot be overlooked. Furthermore, the reactions of organizations to change are also of significant importance. Therefore, this study investigates the relationship between sports organizations and AI.

The scales used in this study demonstrate adequate reliability for analysis. Kolmogorov-Smirnov test results show that the data do not follow a normal distribution. Participants' levels of openness to organizational change were found to be high. Regarding AI, participants displayed a high level of positive attitude and a negative attitude level below the average. Choi (2011) emphasized in his study that multiple factors contribute to organizational change, identifying organizational climate, skills, and culture as key elements. A high level of openness within an organization is critical to its success. Additionally, a high level of organizational change is essential for an organization to keep pace with the times and remain open to innovative transformations. In a related study, it was noted that the extent to which group members adopt or resist change has a clear impact on the level of implementation, organizational inputs, and overall success of ongoing organizational change (Albrecht et al., 2020). Further studies have highlighted that for organizations to operate in a dynamic environment, they must continually adapt their culture, processes, structure, and strategies (Armenakis et al., 1993). This supports the concept of openness to organizational change.

One of the developments supporting organizational change is AI, which is increasingly used across various sports disciplines. For example, an algorithm developed to analyze and correct basic stances in volleyball (Sun and Sun, 2022), or the Video Assistant Referee (VAR) system, which minimizes the potential for refereeing errors, are examples of AI applications in sports (Şahin and Yıldırım, 2023). The AI systems utilized by field hockey referees are also exemplified, as in many other sports disciplines. The research findings align with the results of this study, demonstrating similar trends.

No statistically significant difference was found in positive attitudes toward artificial intelligence (AI) based on participants' education levels. However, other participants exhibited

significantly higher levels of negative attitudes toward AI compared to those who were sports science students and graduates. In terms of openness to organizational change, sports science students and graduates showed significantly higher levels of openness compared to other participants. Several studies have also indicated that openness to organizational change shows significant differences depending on the education variable. Zadeoğulları (2010) found that the dimensions of openness to organizational change varied by education level, with university and postgraduate graduates displaying higher levels of openness to change. In a 2007 study, Devos identified a significant and positive relationship between openness to change and education level. Gül (2018) found that employees with postgraduate degrees demonstrated higher levels of openness to organizational change, emotional attitudes, behavioral attitudes, and cognitive attitudes than other educational groups. In a 2006 study by Bingül, the highest level of openness to change was found among university graduates, with the lowest level observed among high school graduates. This suggests that participants with higher levels of education in sports science tend to have more positive attitudes toward AI and are also more open to organizational change. The higher levels of negative attitudes toward AI among participants with other education backgrounds may be due to less exposure to AI in their sports experience. Additionally, sports science students and graduates might be more open to change as they are likely to play more active roles within sports organizations. Therefore, it can be stated that the openness to organizational change is significantly lower among other participants according to the study's results.

When analyzed by age group, participants in the 18-22, 23-27, and 33+ age groups demonstrated significantly higher levels of openness to organizational change compared to those in the 28-32 age group ($p<0.05$). Additionally, participants in the 18-22 and 23-27 age groups exhibited significantly higher positive attitudes toward artificial intelligence (AI) compared to the 28-32 age group. The 23-27 age group also displayed significantly higher positive attitudes toward AI compared to the 33+ age group ($p<0.05$). Conversely, participants in the 33+ age group had significantly higher levels of negative attitudes toward AI than those in the 18-22 and 23-27 age groups ($p<0.05$).

In contrast to this study, Babalola (2013) found no significant relationship between age and openness to organizational change, attributing this to the possibility that participants underestimated their openness to change or made premature judgments. Grimm and Smith (1991) discovered in their study on managers that younger managers adapted more easily to changing environmental conditions. They suggested that, as age increases, it may become more challenging to adapt to and meet the demands of change. Consequently, age is expected to negatively affect attitudes toward change, with older employees likely to have more negative attitudes toward change (Gürbüz and Bayık, 2019).

Regarding classification level, no statistically significant difference was found in openness to organizational change. However, in terms of attitudes toward AI, candidate referees showed significantly higher positive attitude levels than international referees, while referees at the provincial, national, and international levels exhibited significantly higher levels of negative attitudes compared to candidate referees. Devos and Buelens (2003) found no significant differences related to seniority in their study on openness to organizational change, which aligns with the findings of this study. The international referees may show significant differences due to their greater exposure to AI elements in their respective roles. Additionally, it can be assumed that referees at the international level have observed both the advantages and disadvantages of AI in practice.

There was no statistically significant difference in openness to organizational change based on tenure. However, participants with 1-3 and 4-6 years of experience showed significantly higher positive attitudes toward artificial intelligence (AI) compared to those with 7+ years of experience. Additionally, participants with 7+ years of experience had significantly higher negative attitudes toward AI than those with 4-6 years of experience. In a study by Tan et al., on teachers, a significant difference was found between groups in terms of professional seniority, with total AI scale scores and positive attitude sub-dimension scores higher among teachers with 6-10 years of seniority compared to those with 11+ years. These results suggest that participants with shorter tenures may support a more modern and contemporary approach, whereas those with longer tenures, possibly viewing AI from a more traditional perspective, exhibit higher levels of negative attitudes and lower levels of positive attitudes toward AI.

Regarding technological knowledge levels, no statistically significant differences were found in openness to organizational change or negative attitudes toward AI. However, participants with advanced technological knowledge displayed significantly higher levels of positive attitudes toward AI compared

to those with low and intermediate technological knowledge levels. This suggests that individuals who are more engaged with technology and adapt to contemporary requirements tend to have a greater interest in AI.

There is a moderately strong positive relationship between openness to organizational change and positive attitudes toward AI. Conversely, there is a moderately strong negative relationship between openness to organizational change and negative attitudes toward AI. In contrast to this study, Sheela (2022) found that participants had significantly stronger negative attitudes toward AI than positive ones, suggesting that this could be due to a lack of adequate knowledge about AI. AI technology is becoming increasingly important in sports; therefore, members open to organizational change may exhibit a significantly positive attitude toward AI.

RESULTS

The findings of the study reveal that gender does not have a statistically significant effect on either of the two variables. Openness to organizational change is significantly related to education and age, while no significant relationships were found between openness to organizational change and classification, tenure, or technological knowledge level. Additionally, age, classification, tenure, and technological knowledge level were associated with positive attitudes toward artificial intelligence (AI). Significant relationships were also observed between negative attitudes toward AI and education, age, classification, and tenure, whereas no relationship was found between technological knowledge level and negative attitudes.

Openness to change within organizations can facilitate rapid development and progress among both members and leaders during periods of innovation. According to the study results, AI-integrated systems, such as the Video Assistant Referee (VAR), are perceived as harmless by members and have been widely adopted within the organization. Furthermore, members appear to be satisfied with the revision of the organization based on AI, suggesting that this change has had a positive impact on participants.

SUGGESTIONS

- By offering more seminars, courses, and similar programs related to AI in sports, the attitudes of members towards AI can be positively enhanced.
- Implementing more AI-integrated systems in sports competitions could lead to more favorable perceptions and benefits regarding AI. Increasing the marketing and in-service training of AI in this context could also yield positive effects.
- Encouraging researchers in the field of sports to include evolving AI technologies in their studies can contribute to advancements in this area. Raising awareness in other disciplines and supporting an increase in scientific studies on this topic would also be beneficial.
- Organizations should be equipped with the necessary tools to adapt to new conditions.
- Based on the study’s findings, participants demonstrated both positive and negative attitudes toward AI depending on various factors. These recommendations can be utilized to address such discrepancies and support sports organizations in revising themselves with technology.

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