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## Control of Cognitive Errors in Sport Managers: Identifying Influencing Factors

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### Article Info

### Abstract

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This study employed a mixed-method approach, combining qualitative and quantitative techniques to examine cognitive biases in sport management. Qualitative data were collected via expert opinions using the Delphi method, involving multiple feedback rounds to reach consensus on key factors. Quantitative data were analyzed with the TOPSIS (Technique for Order Preference by Similarity to Ideal Solution) method to rank these factors. The study population included organizational behavior experts from universities and sport organizations in Shiraz, Iran. Fifteen experts were purposefully selected based on criteria including at least five years of managerial or research experience in sport, authorship of three or more relevant articles in reputable journals, and a master's or doctoral degree in management or related fields. Data were gathered through library research for theoretical foundations and paired questionnaires scored on a 1–9 scale by experts. Analysis utilized the Analytic Hierarchy Process (AHP) via Super Decisions software to weigh criteria, and TOPSIS, executed with BT Top Sis Solver software, to rank factors. TOPSIS results highlighted informational issues as the primary factor affecting cognitive biases in sport managers, with a proximity coefficient of 0.996 based on organizational criteria. This underscores the importance of robust informational capacities in mitigating biases. The study offers practical insights for Iranian sport managers, enhancing understanding of decision-making under pressure, and adds region-specific perspectives to global research on cognitive biases in sport management. It also sets the stage for future research in high-stakes decision-making contexts.

#### Keywords:

Cognitive Biases, Cognitive Errors, Decision-Making, Informational Factors, Sport Managers.

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## Introduction

Managers, as essential and pivotal elements of organizations, play a critical role in achieving organizational success ([Dawid et al., 2019](#)). Effective managerial performance can enhance organizational outcomes, whereas deficiencies in performance may result in significant organizational setbacks ([Scherbaum et al., 2022](#)). Researchers have consistently emphasized the importance of proficient management, noting its substantial influence on organizational performance ([Clare et al., 2022](#); [Mladina & Germani, 2022](#); [Sang et al., 2018](#); [Sholihin et al., 2010](#)). This recognition has spurred ongoing investigations into managerial roles within organizational contexts ([Sayal & Banerjee, 2022](#)), with contemporary studies seeking to explore various dimensions of management in organizational settings ([Alfes et al., 2013](#)).

A key challenge in organizational behavior is the presence of cognitive biases among managers ([Stewart, 2022](#)). Cognitive biases refer to systematic errors in thinking that deviate from rational judgment, often arising unconsciously and leading to distorted perceptions of reality ([Stewart, 2022](#); [Pössel, 2009](#)). Common types include confirmation bias, where individuals favor information aligning with existing beliefs; overconfidence bias, involving an inflated sense of one's abilities; and availability bias, where decisions are overly influenced by readily available information ([Stevanovic et al., 2016](#)). Initially studied outside organizational behavior, these biases have gained prominence due to their critical impact across various organizational domains ([Pössel, 2009](#)). They manifest as ingrained, irrational thought patterns that can trap individuals in negative cycles, potentially becoming self-fulfilling prophecies ([Stevanovic et al., 2016](#)). Such biases significantly shape managers' behavioral patterns and decision-making processes ([Jois, 2009](#)).

In sport management, these cognitive biases can have profound effects on specific areas such as volunteer coordination and organizational strategy. For instance, in managing volunteers, biases like confirmation bias may lead managers to favor volunteers who align with their preconceived notions, potentially overlooking valuable contributions from others. Overconfidence bias could also cause managers to underestimate the complexity of volunteer coordination, resulting in inadequate planning. A recent study by Hosseini et al. ([2025](#)) identified key requirements for effective volunteer participation, including management, social, individual, and cultural factors, which positively influence involvement. However, without awareness of cognitive biases, managers might misinterpret or misapply these requirements, reducing the effectiveness of volunteer programs.

Cognitive biases stem from the mind's tendency to oversimplify complex realities, influenced by factors such as self-esteem, mental health challenges, stereotypes, or unmet expectations (Miller et al., 2020). These misperceptions affect attitudes and trigger emotions like guilt, shame, or frustration, which in turn influence workplace behavior ([Schnapp et al., 2018](#)). In organizational settings, this can lead to decisions poorly aligned with employee needs, posing significant challenges ([Itri & Patel, 2018](#); [Wang et al., 2021](#)). Although no decision-making process is entirely free of errors, cognitive biases exacerbate flawed outcomes, yet their exploration in management remains limited ([Dutra et al., 2018](#)). For instance, Dutra et al. ([2018](#)) identified cognitive biases as a central issue in organizational behavior, while Busse ([2002](#)) suggested that addressing them could enhance managerial performance more rapidly ([Busse, 2002](#)).

Similarly, cognitive biases can impact how sport managers navigate organizational pressures and strategies within their federations. Organizational isomorphism—the tendency of organizations to become similar over time—can be shaped by managerial decisions. Rezasoltani et al. ([2025](#)) validated a model of isomorphism in sports federations, identifying dimensions such as pressures, interventionist factors, activist strategies, and consequences. Managers' cognitive biases, such as availability bias, might cause them to focus on recent or salient examples of isomorphism, potentially leading to reactive rather than proactive strategies. By understanding and mitigating these biases, managers can make more informed decisions, better aligning their organizations with beneficial isomorphic trends or resisting detrimental ones.

Ignoring cognitive biases represents a critical oversight in organizations. Dror et al. argued that recognizing their consequences can accelerate effective responses ([Dror et al., 2015](#)), and Tadajewski highlighted their complexity in organizational contexts, necessitating thorough identification and intervention ([Tadajewski, 2008](#)). Managing cognitive load—balancing physiological and cognitive

demands—is also vital for optimizing performance and minimizing errors (Fuster et al., 2021). In sport management, controlling cognitive biases requires addressing factors like stress, fatigue, and psychological conditions. For example, sleep deprivation impairs decision-making, a critical skill for sport managers (Lastella et al., 2020), while cognitive-behavioral techniques can reduce anxiety and improve decisions under pressure (Chang et al., 2020).

Integrating cognitive psychology into sport managers' training can bolster their decision-making competence (Kryshtanovych et al., 2020). Recent research, such as Fuster et al. (2021), emphasizes improving cognitive load management in team sports, and Perrey (2022) advocates incorporating cognitive demand indicators into training to enhance performance and reduce errors. However, critiques exist: Mujuru and Peisah (2024) argue that an exclusive focus on cognitive biases overlooks communicative and systemic factors, advocating for broader frameworks. This study aims to address these gaps by examining cognitive biases in sport management, offering insights to improve decision-making and performance, as detailed in the subsequent 'Ranking of Interventions for Reducing Cognitive Errors' (Table 6).

Hristov (2022), in a study titled Cognitive Biases in Performance Management System Implementation: Behavioral Strategies to Support Managers' Decision-Making Processes, found that managers are influenced by cognitive biases during decision-making, which diminishes their effectiveness in making strategic decisions. Brehett and Wee (2022), in their research The Impact of Cognitive Biases on Professional Decision-Making: A Review Across Four Occupational Domains, explored methods to mitigate cognitive errors in managerial decision-making. Their findings indicated that specialized training aimed at identifying and correcting cognitive biases can significantly enhance executive decision-making outcomes. Similarly, Enke et al. (2023), in a study titled Cognitive Biases: Mistakes or Hidden Risks? demonstrated that addressing cognitive biases can reduce risks and improve the precision of executive decisions. Soleimani et al. (2022), in a study titled Reducing Cognitive Biases in Recruitment System Development Using Artificial Intelligence: A Knowledge-Sharing Approach, revealed that AI-based recruitment systems may fail to make unbiased decisions about candidates. There is a risk that biases embedded in data and AI algorithms could perpetuate and amplify human biases. To develop AI with reduced bias, collaboration between human resource managers and AI developers is essential for training algorithms and auditing algorithmic biases. The study also highlighted that knowledge sharing—through improved data labeling, understanding job roles, and refining machine learning models—can mitigate biases in AI systems.

In the complex and dynamic realm of sport management, managers consistently face multifaceted challenges in strategic, operational, and executive decision-making. One of the most critical factors influencing the quality of these decisions is cognitive bias. Cognitive biases are defined as systematic distortions in information processing and decision-making that lead sport managers to make inefficient, irrational, or poorly reasoned decisions contrary to factual evidence. These biases not only affect individual managerial performance but also have broader implications for the structure and functioning of sport organizations, potentially resulting in reduced productivity, resource wastage, diminished policy effectiveness, and weakened organizational competitiveness.

Decision-making in sport environments, characterized by their dynamic, competitive, and multidimensional nature, requires processing vast amounts of information within constrained timeframes. Sport managers must analyze data and circumstances accurately in diverse contexts, such as player selection, club strategy formulation, competition scheduling, financial management, investor recruitment, and overarching policy development. However, many managers fall prey to cognitive biases due to reliance on inefficient mental models or irrational information processing. Despite the significance of cognitive biases in management, research exploring their impact on sport management remains limited. Existing studies in sport management have predominantly focused on technical, economic, and performance-related issues, with insufficient attention paid to the cognitive and behavioral dimensions of sport managers.

This research gap encompasses several key areas: most studies on cognitive biases have been conducted in economics, business management, and decision-making psychology, with little focus on sport management and its unique challenges. Furthermore, few studies have offered practical solutions to mitigate the detrimental effects of cognitive biases in sport-related decision-making. There is also a pressing need to

examine the influence of these biases on high-level policy-making within sports federations, clubs, and governmental sport organizations. Given the pivotal role of managerial decision-making in the success of sport organizations, addressing and managing cognitive biases is imperative.

The objective of this study is to identify prevalent cognitive biases among sport managers, analyze their consequences on sport-related decision-making, and propose practical models to reduce these biases, thereby enhancing sport management. This research has the potential to improve decision-making quality, increase the effectiveness of sport management, and ultimately elevate the standing of professional sports within the country.

### Research Methods

This study adopted a mixed-method approach, integrating qualitative and quantitative phases. The qualitative phase relied on expert opinions and employed the Delphi method to identify and validate influential factors and criteria within sport management. The target population consisted of all experts and knowledgeable individuals in organizational behavior affiliated with universities and sport organizations in Shiraz, Iran. The selection of these experts was guided by specific criteria, including their research experience in organizational behavior and related fields, managerial experience in sport and associated domains, and academic qualifications pertinent to organizational behavior. To ensure their suitability, additional rigorous criteria were applied: a minimum of five years of managerial or research experience in sport, authorship of at least three relevant scientific articles in reputable journals, and possession of a master's or doctoral degree in disciplines related to management or organizational behavior. Using purposive sampling, 15 well-informed and specialized experts in sport management and related fields were selected, comprising a mix of university professors, senior sport managers, and active researchers. This sample size was chosen based on common Delphi method recommendations, which typically suggest 10 to 20 experts to achieve sufficient consensus.

Following the identification and extraction of factors and criteria in sport management from theoretical foundations and prior research, the Delphi method was utilized to screen and confirm these research factors. This process involved presenting an initial list of factors to the experts, followed by three rounds of feedback collection and refinement until consensus was reached. Once key criteria and influential factors were validated, pairwise comparisons of these criteria were distributed to the experts, who were asked to assign scores from 1 to 9 to indicate the relative importance of each criterion in the context of sport management and managerial behavior. After collecting responses and achieving a consistency rate of 0.08 (below the 10% threshold, indicating an acceptable level of consistency in AHP), the Analytic Hierarchy Process (AHP) was applied to rank the criteria, and the weight of each criterion was calculated for subsequent use in the TOPSIS method. The AHP method was selected due to its capacity to structure complex multi-criteria decision-making problems and provide precise weightings for criteria, making it particularly suitable for prioritization in managerial contexts.

Subsequently, the factors influencing the control of managers' cognitive biases, along with the previously identified criteria, were organized into a decision matrix and sent to the experts for further pairwise scoring on a 1–9 scale. The TOPSIS method (Technique for Order Preference by Similarity to Ideal Solution) was then employed to rank these factors based on the criteria, identifying those with the greatest and least impact on cognitive biases among sport managers. The following steps were executed to implement the TOPSIS method:

**Decision Matrix Formation:** The decision matrix in this method includes a series of criteria and options. The model is structured with criteria in columns and options in rows, where each cell reflects the evaluation of each option relative to each criterion. The decision matrix was completed based on expert opinions using a Likert scale ranging from 1 to 5.

$$X = \begin{bmatrix} x_{11} & x_{12} \dots & x_{1n} \\ x_{21} & x_{22} \dots & x_{2n} \\ \vdots & \vdots & \vdots \\ x_{m1} & x_{m2} & x_{mn} \end{bmatrix}$$

Normalization, or non-dimensionalisation, is the second step in solving all multi-criteria decision-making techniques based on a decision matrix. In the TOPSIS technique, normalization is performed using the vector normalization method. During this step, the decision matrix is transformed into a dimensionless matrix.

$$n_{ij} = \frac{x_{ij}}{\sqrt{\sum_1^m x_{ij}^2}}$$

The output of this stage is the following normalized matrix:

$$N = \begin{bmatrix} n_{11} & n_{12} \dots & n_{1n} \\ n_{21} & n_{22} \dots & n_{2n} \\ \vdots & \vdots & \vdots \\ n_{m1} & n_{m2} & n_{mn} \end{bmatrix}$$

In the third step of the TOPSIS method, the normalized decision matrix must be weighted. In this step, researchers multiply the criterion weights obtained by other methods with the normalized matrix to produce a weighted matrix. The TOPSIS method alone cannot calculate the criterion weights. therefore, to prioritize the identified criteria, the AHP (Analytic Hierarchy Process) method was used. This method is also a multi-criteria decision-making model that, through a hierarchical structure, allows the evaluation of various indicators based on their relative importance. In this approach, pairwise comparisons are conducted between indicators to determine each indicator's relative weight, and then the indicators are prioritized based on these weights.

A combined method is used when a single method alone requires extensive time and complex calculations, potentially leading to inaccurate results. The combined AHP and TOPSIS approach effectively reduces the number of calculations and pairwise comparisons by almost half in most decision-making problems, thus enhancing the accuracy of both calculations and results while providing an acceptable and logical solution.

$$V = \begin{bmatrix} v_{11} & v_{12} \dots & v_{1n} \\ v_{21} & v_{22} \dots & v_{2n} \\ \vdots & \vdots & \vdots \\ v_{m1} & v_{m2} & v_{mn} \end{bmatrix}$$

The next step is to determine the Positive Ideal Solution (PIS) and the Negative Ideal Solution (NIS). In this step, positive and negative ideals (A+) and a negative ideal (A-) are calculated for each criterion. Here, it is necessary to specify the type of criteria because they can be either positive or negative. Positive criteria are those for which an increase improves the system, such as product quality; in this case, the ideal solution has the highest value in the criterion column, while the anti-ideal solution has the lowest value. For negative criteria, the reverse is applied.

The final step involves calculating the distance of each option from the positive and negative ideals to determine each option's relative proximity to the ideal solution. The Euclidean distance of each option from the positive and negative ideals is calculated using the formula provided. Next, the similarity index and option ranking are computed. The similarity index reflects each option's score and is calculated based on the following relationship: the closer this index is to one, the better the option is. The CL value ranges from zero to one, with values closer to one indicating a closer proximity to the ideal solution and thus a better option. The following formulas are used to complete these calculations.

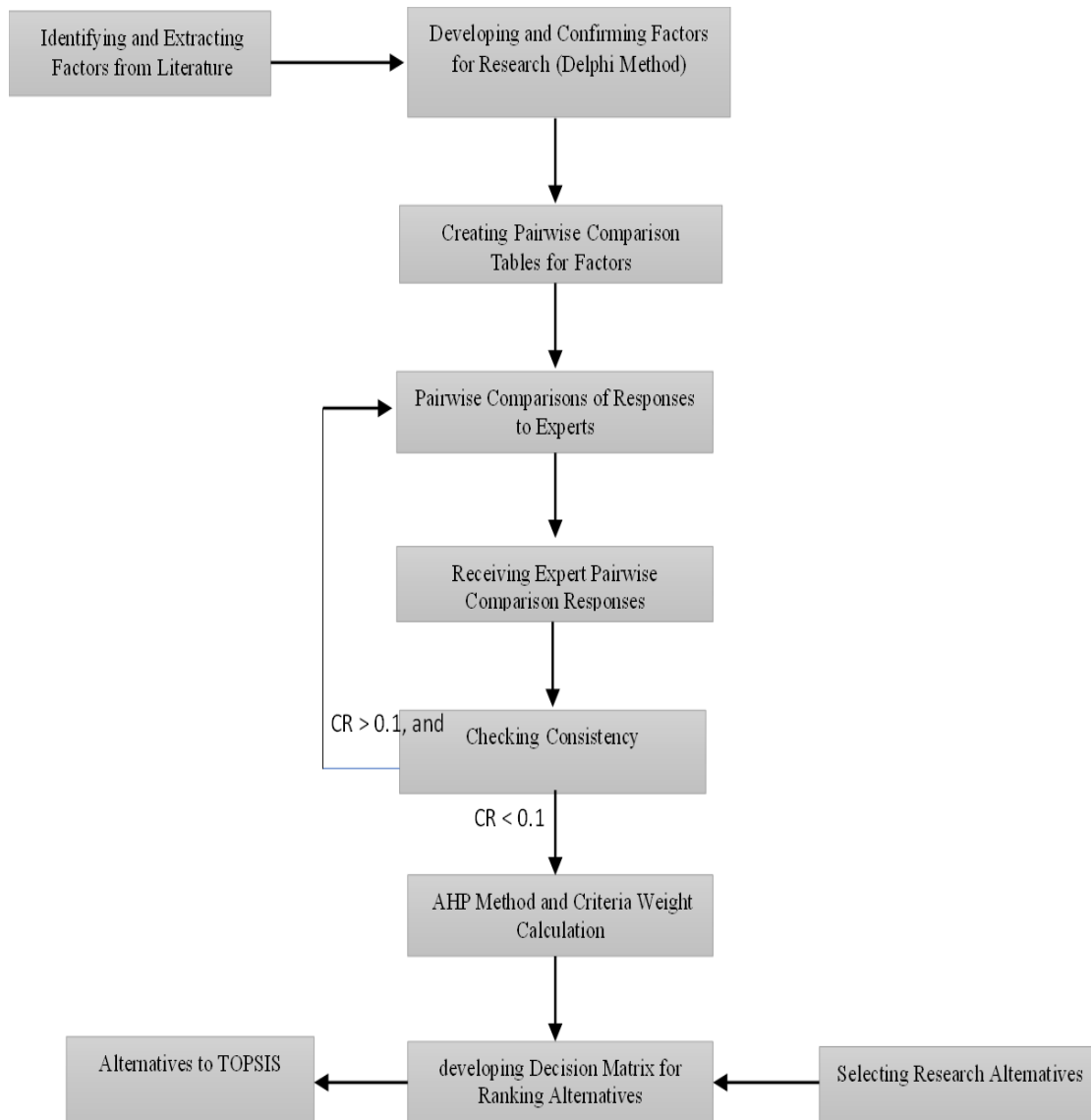
$$d_i^- = \sqrt{\sum_{j=1}^n (v_{ij} - v_j^-)^2}$$

$$d_i^+ = \sqrt{\sum_{j=1}^n (v_{ij} - v_j^+)^2}$$

$$CL_i^* = \frac{d_i^-}{d_i^- + d_i^+}$$

This flowchart illustrates the Analytical Hierarchy Process (AHP) for identifying and ranking research factors, specifically, using pairwise comparison and expert evaluation methods.

TOPSIS was chosen because it offers an efficient multi-criteria decision-making framework that ranks options by their proximity to the ideal solution and distance from the worst solution, providing high precision in multi-criteria analysis—an attribute that made it ideal for determining the most effective methods to control cognitive biases in this study. Figure 1 illustrates the stages of research implementation.



**Figure 1. Development and Confirming Factors for Research (Delphi Method)**

To determine the optimal method for controlling cognitive biases in sport managers, the TOPSIS method was utilized. In this approach, influential factors affecting cognitive biases were first identified, followed by an evaluation of various options for controlling these biases based on the established criteria. Ultimately, the option with the closest proximity to the ideal solution was selected as the best method. The research instrument was validated through several distinct techniques, including assessment of the inconsistency rate (here, 0.08, deemed acceptable), comparison of findings with existing standards, and application of the

Delphi method for content validation. Collectively, these steps enhanced the accuracy and reliability of the research outcomes, ensuring that the tools comprehensively and accurately measured the intended factors.

All data analysis processes in this study were conducted using Super Decisions software for implementing the AHP method and BT Top Sis Solver software for executing the TOPSIS method. Super Decisions is a hierarchical analysis tool that facilitates modeling, pairwise comparisons, and sensitivity analysis, selected for its ease of use and precision in calculations. BT Top Sis Solver, specifically designed for the TOPSIS technique, provides robust capabilities for ranking and selecting optimal options based on multiple criteria, rendering it well-suited for this research.

## Findings

The demographic characteristics show that this sample is experienced and highly educated. In terms of gender distribution, 66.7% were male and 33.3% were female, indicating a higher proportion of men in the study. Education level-wise: 40.0% were PhDs, 33.3% had masters, and 26.7% had bachelors. This implies that 73.3% of the participants have higher education and thus expertise. Descriptively, 20.0% of the participants had less than 15 years of sport experience, 33.3% had 16–20 years of experience, and 46.7% participated in sporting events over 20 years. This indicates that most respondents were bound to have substantial sport experience, with almost half having engaged in this sphere for over 20 years. Generally speaking, from the perspective of socio-demographic data, the sample consists of highly educated and professionally experienced individuals, which grants more authenticity and depth to research in general, and particularly to those spheres where expert knowledge and long-standing engagement become crucially important. Table 1 presents the descriptive outcomes of the research.

**Table 1- Descriptive findings of the research**

Demographic characteristics	Groups	Frequency	Percentage
Gender	Man	10	66.7%
	Female	5	33.3%
Level of education	Ph.d	6	40.0%
	Master	5	33.3%
	Bachelor	4	26.7%
Sport History	Under 15 years	3	20.0%
	20-16 years	5	33.3%
	More than 20 years	7	46.7%

By analyzing the research conducted on the cognitive biases of different managers, 20 factors could be derived that might affect cognitive errors in managers and, therefore, might affect the decision-making approach. Those factors have been presented in Table 2, viz: organizational weaknesses, individual and group influence on decision-making, supporters, individual mistakes, failure to follow organizational regulations, inefficient environment, sabotage and financial corruption, establishment of traditional practices within the organization, unstable decision-making, information problems, inability of manager to influence all the components, unstable organizational culture, political deviation, technical problem, static structure of organizational decision-making, inappropriate recruitment and selection, financial deviation within the organization, value conflict, personality aspect of manager, and establishing emotional laws. Expert opinions were incorporated to confirm the importance of these factors about the issue at hand: cognitive errors in sport managers.

**Table 2- Factors Influencing the Control of Managers' Cognitive Errors Extracted from Theoretical Foundations and Research**

row	Factors affecting the CE of sport managers	Research used	explanation
1	environmental inefficiency	<a href="#">Acciarini et al. (2021)</a> ; <a href="#">Itri &amp; Patel (2018)</a> ; <a href="#">Simons &amp; Thompson (1998)</a>	Refer to structural issues within the organization that can hinder effective decision-

row	Factors affecting the CE of sport managers	Research used	explanation
2	organizational weaknesses	<a href="#">Rostami et al. (2023)</a> ; <a href="#">Sayal &amp; Banerjee (2022)</a> ; <a href="#">Moosavi &amp; Gholami (2017)</a> ; <a href="#">Qavamifar &amp; Hassanpour (2021)</a> ; <a href="#">Khajavi &amp; Alizadeh Talatapeh (2021)</a> ; <a href="#">Jois (2009)</a>	making.
3	technical issues	<a href="#">Itri &amp; Patel (2018)</a> ; <a href="#">Dutra et al. (2018)</a> ; <a href="#">Perrey (2022)</a> ; <a href="#">Wang et al. (2021)</a> ; <a href="#">Acciarini et al. (2021)</a> ; <a href="#">Sang et al. (2018)</a> ; <a href="#">Dokholyan et al. (2022)</a> ; <a href="#">Koester (2023)</a>	A lack of technology and information flow can mislead managers
4	informational issues	<a href="#">Khajavi &amp; Alizadeh Talatapeh (2021)</a> ; <a href="#">Dutra et al. (2018)</a> ; <a href="#">Berthet (2022)</a> ; <a href="#">Itri &amp; Patel (2018)</a> ; <a href="#">Acciarini et al. (2021)</a> ; <a href="#">Dutra et al. (2018)</a> ; <a href="#">Buiak (2021)</a> ; <a href="#">Tokuda et al. (2011)</a>	
5	individual errors	<a href="#">Pössel (2009)</a> ; <a href="#">Miller et al. (2020)</a> ; <a href="#">Shabunina et al. (2023)</a> ; <a href="#">Fuster (2021)</a> ; <a href="#">Rostami et al. (2023)</a> ; <a href="#">Berthet (2022)</a> ; <a href="#">Itri &amp; Patel (2018)</a> ; <a href="#">Dutra et al. (2018)</a> ; <a href="#">Koester (2023)</a> ; <a href="#">Rahmanseresh, &amp; Valyan, (2023)</a>	Emphasize that managers' personal mistakes and inherent characteristics can lead to wrong decisions.
6	personality factors of managers	<a href="#">Itri &amp; Patel (2018)</a> ; <a href="#">Dutra et al. (2018)</a> ; <a href="#">Shabunina et al. (2023)</a> ; <a href="#">Scherbaum et al. (2022)</a> ; <a href="#">Sang et al. (2018)</a> ; <a href="#">Clare et al. (2022)</a> ; <a href="#">Alfes et al. (2013)</a> ; <a href="#">Qavamifar &amp; Hassanpour (2021)</a> ; <a href="#">Berthet (2022)</a>	
7	organizational culture	<a href="#">Tadajewski (2008)</a> ; <a href="#">Scherbaum et al. (2022)</a> ; <a href="#">Moosavi &amp; Gholami (2017)</a> ; <a href="#">Qavamifar &amp; Hassanpour (2021)</a>	Challenges caused by the inconsistency or conflict of values and cultures in the organization.
8	The difference between the values	<a href="#">Simons &amp; Thompson (1998)</a>	
9	political deviation	<a href="#">Shabunina et al. (2023)</a> ; <a href="#">Tadajewski (2008)</a>	Corrupt or abusive behavior that can distort decision-making
10	financial deviation in the organization	<a href="#">Mladina &amp; Germani (2022)</a> ; <a href="#">Clare et al. (2022)</a> ; <a href="#">Lukito (2023)</a> ; <a href="#">Dawid et al. (2019)</a>	
11	non-compliance with organizational rules	<a href="#">Moosavi &amp; Gholami (2017)</a>	Show that ignoring rules or omitting key stakeholders can lead to decision-making errors.
12	Lack of participation in decision-making	<a href="#">Shabunina et al. (2023)</a> , <a href="#">Rostami et al. (2023)</a>	
13	establishment of emotional regulation	<a href="#">Shabunina et al. (2023)</a>	Emotional instability and poor employment choices affect the overall environment.
14	inappropriate hiring and recruitment	<a href="#">Stewart (2022)</a> ; <a href="#">Sayal &amp; Banerjee (2022)</a> ; <a href="#">Simons &amp; Thompson (1998)</a>	
15	formation of traditional practices in organizations	<a href="#">Simons &amp; Thompson (1998)</a>	The problem caused by the use of old methods that may not be compatible with the modern conditions of sport management.
16	lack of managerial influence across all components	<a href="#">Khajavi &amp; Alizadeh Talatapeh (2021)</a> ; <a href="#">Dawid et al. (2023)</a> ; <a href="#">Stewart (2022)</a> ; <a href="#">Simons &amp; Thompson (1998)</a> ; <a href="#">Mladina &amp; Germani (2022)</a>	Shows that rigid decisions and weak managerial influence can prevent effective results.
17	organizational decision-making structure	<a href="#">Rostami et al. (2023)</a> ; <a href="#">Sayal &amp; Banerjee (2022)</a> ; <a href="#">Moosavi &amp; Gholami (2017)</a> ; <a href="#">Qavamifar &amp; Hassanpour (2021)</a> , <a href="#">Khajavi &amp; AlizadehTalatapeh (2021)</a> ; <a href="#">Jois (2009)</a>	
18	sabotage and financial corruption	<a href="#">Moosavi &amp; Gholami (2017)</a>	Refers to intentional disruptions that have a greater impact on the organization's results.
19	Individual and group influences in decision-making	<a href="#">Shabunina et al. (2023)</a> ; <a href="#">Mladina &amp; Germani (2022)</a>	Show that internal and external pressures and inconsistent approaches can distort decision-making processes.
20	decision-making instability	<a href="#">Mladina &amp; Germani (2022)</a> ; <a href="#">Sholihin et al. (2010)</a> ; <a href="#">Simons &amp; Thompson (1998)</a> ; <a href="#">Alfes et al. (2013)</a>	



row	Factors affecting the CE of sport managers	Research used	explanation
		<a href="#">Rahmanseresh &amp; Valyan (2023)</a>	

Using the identified theoretical underpinnings, three criteria at the organizational, managerial, and social levels were also identified in the field of sport. These include:

- **Organizational Criteria:** Development of interest in the control of cognitive errors in sport, development of public movements, and association formation in sport; providing job incentives to increase performance in the control of cognitive errors, the importance of social capital formation in sport organizations, and gaining audience satisfaction.

- **Social Reflection in Sport Organizations:** Immediately and positively responding to the existing needs and demands, reinforcing the ethical indicators in the structures of sport, social identity, and social reflection power within the organization has been created; social skills in sport have improved, and self-interest has decreased as needs and demands are considered.

**Managerial Systems Criteria:** Sporting financial policies, the need to decrease general tension in the sport structure, the attractiveness of sport, working toward holistic thinking in the sport structure, the assurance of administrative healthiness in sport, the establishment of committed management in sport organizations, and providing monitoring systems in sport organizations. Table 3 presents the key concepts related to these criteria, especially in the context of sport management, along with the rankings of these factors based on the AHP method.

**Table 3- Organizational, Managerial, and Social Criteria in the Sport Field and Their Prioritization Using the AHP Method**

Row	Indicators		Prioritize
1	Effective systems leadership in sport structures	This model emphasizes leadership in sport structures and highlights the importance of strong leadership to overcome challenges.	0.034
2	forming a comprehensive mindset in sport culture	It advocates for a comprehensive approach to managing sport organizations, encouraging diverse thinking and strategies.	0.117
3	establishing oversight systems in sport structures	This study highlights the necessity for efficient administrative systems in sport management.	0.050
4	need to reduce general tensions in sport environments	This highlights the need for a management approach that addresses the needs and concerns of all stakeholders.	0.087
5	Strengthening ethical standards in sport structures	This underscores the importance of creating systems to monitor and guide the performance of sport managers.	0.078
6	the necessity for administrative health care in sport	The program focuses on reducing tension and stress in the sport community to create a healthier environment for athletes and staff.	0.012
7	the need for sport organizations to foster social capital	This highlights the importance of meeting fans' and stakeholders' needs to ensure ongoing support and engagement.	0.096
8	The importance of satisfying the audience	This study discusses the role of community-based initiatives in increasing participation and addressing community needs.	0.049
9	establishing public movements and sport associations	This demonstrates that effective error management can improve performance and decision-making.	0.042
10	Highlights the positive functions of reducing CE among managers.	This study highlights the necessity of building social capital in sport organizations to enhance	0.038

Row	Indicators		Prioritize
11	Job incentives to improve cognitive error control	collaboration and efficiency. It stresses the need to create enthusiasm and focus on managing cognitive biases in sport management.	0.022
12	Creating interest in error control in sport	It recommends creating incentives to enhance performance and manage cognitive biases.	0.147
13	Creating concern-driven management in the sport structure	It encourages organizations to prioritize collective needs over individual interests.	0.027
14	Reducing social tensions in sport	It emphasizes initiatives to reduce social conflicts in the sport field.	0.061
15	reducing unilateral self-interest by addressing needs and demands	This underscores the importance of ethical principles in sport organizations to build trust and integrity.	0.020
16	Formation of social identity	This study examines the development of collective identity in sport organizations to strengthen a sense of belonging.	0.014
17	Improving social skills in sport	This study emphasizes the need to increase interpersonal skills among sport stakeholders.	0.036
18	Positive and quick response to existing demands and needs	This highlights the necessity for organizations to be agile and responsive to meet the needs and demands of their environments.	0.011

Of all the indices, the following were ranked higher and of greater importance according to the results obtained from the AHP method: Creation of interest in controlling cognitive errors, 0.147; holistic thinking in structure of sport, 0.117; formation of social capital in sport organizations, 0.096; decrease in general tensions in sport environment, 0.087; strengthening of ethical indicators in sport structure, 0.078. The remaining criteria are still important but less priority, concerned with a decrease in social tension, public satisfaction, and the rush to respond to requests, all contributing to better conditions within a management environment in sport.

Table 4 presents the normalized weighted scores of the criteria for the three categories: organizational criteria, social reflection in organizations, and managerial systems. This table shows the factors that influence cognitive error control. Each of these factors has a normalized score representing its relative importance for each criterion. For any given factor, a higher score indicates greater importance for each criterion. The ranking of the informational problems is 0.267, and organizational weakness is the most important factor with a ranking of 0.251.

**Table 4- Normalized Weighted Matrix**

Factors affecting CE control among sport managers	Social reflection in organization	Organizational strategies	Management systems
Environmental inefficiency	0.222	0.163	0.222
Individual errors	0.182	0.219	0.166
Technical issues	0.215	0.172	0.245
organizational weaknesses	0.251	0.232	0.255
Informational issues	0.248	0.267	0.249
Manager personality factors	0.244	0.248	0.235
Instability of organizational culture	0.209	0.210	0.212
The difference between the values	0.225	0.207	0.212
Political deviation	0.235	0.210	0.239
Financial deviation in the organization	0.202	0.216	0.215
Non-compliance with organizational rules	0.235	0.219	0.225
Establish emotional rules	0.222	0.216	0.232
inappropriate hiring and recruitment	0.205	0.235	0.202
formation of traditional practices in the organization	0.222	0.223	0.225
lack of managerial influence across all components	0.235	0.232	0.242
Sabotage and financial corruption	0.228	0.232	0.215
rigid organizational decision-making structure	0.251	0.245	0.235

Factors affecting CE control among sport managers	Social reflection in organization	Organizational strategies	Management systems
Individual and group influences in decision-making	0.209	0.235	0.199
Lack of participation in decision-making	0.199	0.213	0.232
decision-making instability	0.212	0.245	0.182

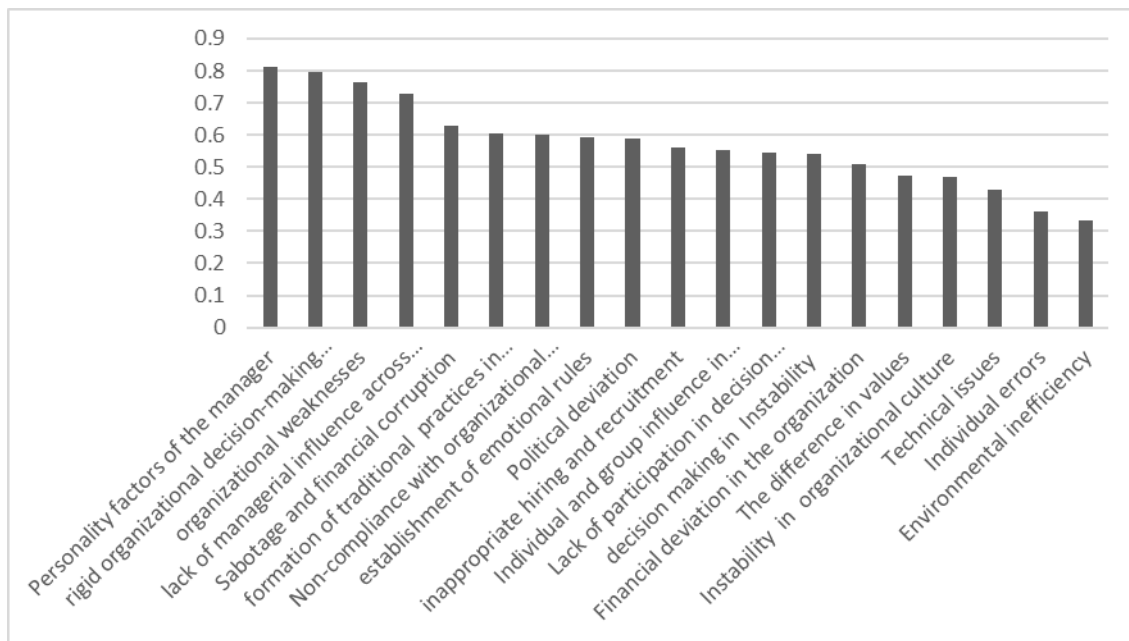
Table 5 summarizes the results of identifying positive and negative ideal solutions for controlling cognitive biases in sport management. This analysis identifies activities that should be minimized to decrease cognitive bias and enhance management efficiency. Organizational criterion: with a score of 0.108 in the positive ideal, the importance of the strategy in enhancing cognitive bias control, and with a score of 0.066 in the negative ideal, gives them the attention and need for improvement in that respect. Taken together, these tables constitute a basis for a comprehensive interaction between cognitive biases and various organizational factors, simultaneously advancing a quantitative approach to improving management practices in sport organizations.

**Table 5- Determination of positive and negative ideal solutions.**

Optimal solution	Organizational strategies	social reflection in the organization	Management systems
+	0.108	0.060	0.090
-	0.066	0.043	0.058

**Table 6- Ranking of Interventions for Reducing Cognitive Errors**

Methods	Proximity coefficient	Ranking
Information issues	0.955	First
Manager personality factors	0.810	Second
rigid organizational decision-making structure	0.796	Third
organizational weaknesses	0.764	Fourth
lack of managerial influence across all components	0.728	Fifth
Sabotage and financial corruption	0.628	Sixth
formation of traditional practices in the organization	0.604	Seventh
Non-compliance with organizational rules	0.602	Eighth
establishment of emotional rules	0.591	ninth
Political deviation	0.590	tenth
inappropriate hiring and recruitment	0.562	Eleventh
Individual and group influences in decision-making	0.554	twelfth
Lack of participation in decision-making	0.543	Thirteenth
Decision-making in uncertainty	0.542	Fourteenth
Financial deviation in the organization	0.508	fifteenth
The difference between the values	0.473	Sixteenth
Instability in Organizational Culture	0.469	Seventeenth
Technical issues	0.429	Eighteenth
Individual errors	0.361	nineteenth
Environmental inefficiency	0.333	Twentieth



**Figure 2. Radar chart of the most suitable organizational, managerial, and social criteria for controlling cognitive biases among sport managers.**

Among all the methods, informational issues have the highest closeness coefficient at 0.955; therefore, solving information-related problems has to be of crucial importance to decrease cognitive biases in sport management. Further in importance come manager personality features (0.810) and the static structure of organizational decision-making-0.796-where it is shown that substantial features of managers and rigidity in processes of decision-making play a great role. The bottom-ranked methods were environmental inefficiency and individual errors, 0.361, indicating that although relevant, these factors are less effective in reducing the impact of cognitive biases than the higher-ranking methods. This ranking helps identify imperative areas for intervention to improve cognitive control in sport management. A further ranking also graphically underscores the need to address information and managerial characteristics.

## Discussion

The most striking feature of the findings is how cognitive biases influence managerial decisions. This corroborates prior literature, suggesting that biases are detrimental to organizational performance ([Stewart, 2022](#); [Pössel, 2009](#)) and the performance of managers ([Dutra et al., 2018](#)). Managers are a vital part of an organization and hence strongly influence organizational performance, either toward success or failure ([Dawid et al., 2019](#)). However, in situations where managers suffer from cognitive biases, their decisions are biased and result in undesirable outcomes. The results revealed that various factors, such as informational issues, personality and character traits, flexibility in decision-making structures, technical problems, and individual factors have a direct impact on the cognitive biases of sport managers. These rankings show the importance order of each factor in provoking cognitive errors among sport managers in Iran.

Informational issues emerged as the most critical factor influencing cognitive biases among sport managers. Incomplete or distorted information can precipitate errors in decision-making, such as misjudging player performance or resource allocation. For instance, a sport manager relying on outdated injury reports might overestimate a player's readiness, resulting in poor team selections ([Khajavi & Alizadeh Talatapeh, 2021](#)). Lack of timely access to accurate data further exacerbates this, a prevalent issue among Iranian sport managers due to systemic delays. These findings underscore that effective information management—ensuring precise data availability and analytical capacity—is paramount for enhancing cognitive performance ([Berthet, 2022](#); [Itri & Patel, 2018](#)). Supporting studies, such as [Acciarini et al. \(2021\)](#) and [Buiak \(2021\)](#), highlight structured information flows as vital for decision quality, while [Tokuda et al. \(2011\)](#)

emphasize proper filtering to reduce biases, collectively reinforcing the centrality of robust information systems in sport management.

Personality traits ranked as the second most influential factor, reflecting how traits like overconfidence or risk aversion distort judgment. In high-pressure contexts, an overconfident manager might overcommit resources to a risky strategy, such as an aggressive recruitment drive, ignoring evidence of potential failure ([Scherbaum et al., 2022](#)). This aligns with organizational psychology insights, where behavioral attributes shape decision-making accuracy ([Clare et al., 2022](#); [Alfes et al., 2013](#)). In Iranian sport organizations, such traits amplify biases, suggesting that developing emotional regulation and critical thinking skills could mitigate their impact ([Shabunina et al., 2023](#); [Berthet, 2022](#)). This connects to broader management literature, where emotional intelligence is a recognized buffer against biases ([Goleman, 1995](#)), indicating potential cross-disciplinary applications.

Rigid organizational structures, ranked third, hinder adaptability in dynamic sport environments. Flexible decision-making processes enable managers to respond to emerging challenges, reducing biases like groupthink ([Moosavi & Gholami, 2017](#)). For example, inflexible hierarchies in Iranian sport organizations might delay responses to player injuries, entrenching status quo biases ([Jois, 2009](#)). Rostami et al. ([2023](#)) and Sayal and Banerjee ([2022](#)) argue that rigid structures diminish decision accuracy. Organizational weaknesses, such as poor coordination, further compound biases by forcing reliance on assumptions rather than data-driven analysis ([Qavamifar & Hassanpour, 2021](#)).

However, these findings are not without critique. Mujuru and Peisah contend that an overemphasis on cognitive biases overlooks systemic factors like communication breakdowns or resource constraints, which may equally impair sport management decisions ([Mujuru & Peisah, 2024](#)). For instance, a manager's biased player selection might stem from inadequate team feedback rather than purely cognitive errors. This suggests a need for integrated frameworks combining cognitive and systemic perspectives, a gap this study partially addresses but does not fully resolve. Limited managerial influence, another key factor, reflects restricted control across organizational levels, fostering biases like the halo effect ([Khajavi & Alizadeh Talatapeh, 2021](#)). In practice, this might manifest as overrating a star player's contribution based on past success, ignoring broader team dynamics ([Dawid et al., 2019](#)).

This study's focus on sport management distinguishes it from broader organizational research (e.g., [Moosavi & Gholami, 2017](#); [Dutra et al., 2018](#)), offering novel insights through its mixed-methods approach (Delphi, AHP-TOPSIS). Technical issues, a standout finding, illustrate how delayed data access hampers rapid decisions—like mid-game tactics—linking to cognitive load theories in organizational psychology ([Wang et al., 2021](#)). Local factors, such as traditional practices in Iran, further contextualize biases, a nuance less explored in prior works ([Stewart, 2022](#)). Personality traits' high ranking also bridges sport management to organizational psychology, where traits like adaptability mitigate biases across sectors ([Alfes et al., 2013](#)).

#### Practical Recommendations:

- **Information Management:** Implement real-time data systems and train managers in analytical skills to counter informational biases, as supported by Khajavi and Alizadeh Talatapeh ([2021](#)) and Tokuda et al. ([2011](#)).
- **Personality Development:** Conduct workshops on emotional regulation to reduce overconfidence, aligning with Clare et al. ([2022](#)) and organizational psychology principles ([Goleman, 1995](#)).
- **Structural Reforms:** Foster participatory decision-making to enhance flexibility, reducing groupthink ([Rostami et al., 2023](#); [Simons & Thompson, 1998](#)).
- **Technical Solutions:** Invest in technology to address delays, improving decision accuracy ([Perrey, 2022](#)).
- **Oversight:** Establish transparent mechanisms to curb financial and political biases ([Mladina & Germani, 2022](#)).

## Conclusion

This study reveals that cognitive biases significantly influence the decision-making processes of sport managers. Managers are central to organizational success or failure, yet biases undermine their effectiveness. Informational challenges, ranked highest, such as incomplete or distorted data, lead to flawed decisions, while personality traits like overconfidence or risk aversion, ranked second, amplify biases. Rigid organizational structures, ranked third, hinder adaptability. Focusing on sport management in Iran, this research employs the AHP-TOPSIS method to highlight technical issues and contextual factors like traditional practices, offering practical recommendations: federations should implement managerial dashboards and bias-awareness workshops, clubs should adopt personality development programs and statistical models, governmental bodies should ensure transparent oversight and support bias-focused research, technical staff should use training simulations and data-driven analyses, and HR departments should develop AI-based recruitment systems and diverse teams. These measures enhance player transfers, HR management, and athlete preparation for international competitions. However, limitations include a purposive sample of 15 experts and a focus on Shiraz, limiting generalizability. A future study, “A Cross-Cultural, Longitudinal Study on Cognitive Bias Mitigation in Sport Management,” is proposed to explore technology-driven interventions with a larger, global sample. This research bridges a gap in sport management literature, laying the groundwork for improved decision-making through enhanced systems, competencies, and structures.

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## Conflicts of Interest

There is no conflict of interest.

## References

- Acciarini, C., Brunetta, F., & Boccardelli, P. (2021). Cognitive biases and decision-making strategies in times of change: a systematic literature review. *Management Decision*, 59(3), 638-652. <https://doi.org/10.1108/MD-07-2019-1006>
- Alfes, K., Truss, C., Soane, E. C., Rees, C., & Gatenby, M. (2013). The relationship between line manager behavior, perceived HRM practices, and individual performance: Examining the mediating role of engagement. *Human Resource Management*, 52(6), 839-859. <https://doi.org/10.1002/hrm.21512>
- Berthet, V. (2022). The impact of cognitive biases on professionals' decision-making: A review of four occupational areas. *Frontiers in Psychology*, 12, 802439. <https://doi.org/10.3389/fpsyg.2021.802439>
- Buiak, L., Gonchar, O., Dzhulii, L., Yemchuk, L., Skorobohata, L., & Bondarenko, M. (2021, September). Economic and Mathematical Modeling in the Information and Intellectual Support of Management Decisions. In *11th International Conference on Advanced Computer Information Technologies (ACIT)* (pp. 299-304). IEEE. <https://doi.org/10.1109/ACIT52158.2021.9548368>
- Busse, D. K. (2002). *Cognitive Error Analysis* [Doctoral Dissertation, University of Glasgow]. [https://www.dcs.gla.ac.uk/~johnson/papers/Phd\\_DBusse.pdf](https://www.dcs.gla.ac.uk/~johnson/papers/Phd_DBusse.pdf)
- Chang, M. O., Peralta, A. O., & de Corcho, O. J. P. (2020). Training with cognitive behavioral techniques for the control of precompetitive anxiety. *International Journal of Health and Medical Sciences*, 3(1), 29-34. <https://doi.org/10.31295/ijhms.v3n1.121>
- Clare, A., Sherman, M., O'Sullivan, N., Gao, J., & Zhu, S. (2022). Manager characteristics: Predicting fund performance. *International Review of Financial Analysis*, 80, 102049. <https://doi.org/10.1016/j.irfa.2022.102049>
- Dawid, H., Harting, P., & van der Hoog, S. (2019). Manager remuneration, share buybacks, and firm performance. *Industrial and Corporate Change*, 28(3), 681-706. <https://doi.org/10.1093/icc/dty073>
- Dokholyan, S., Ermolaeva, E. O., Verkhovod, A. S., Dupliy, E. V., Gorokhova, A. E., Ivanov, V. A., & Sekerin, V. D. (2022). Influence of management automation on managerial decision-making in the agro-industrial complex. *International Journal of Advanced Computer Science and Applications*, 13(6), 597-603. <https://B2n.ir/z61721>

- Dror, I. E., Thompson, W. C., Meissner, C. A., Kornfield, I., Krane, D., Saks, M., & Risinger, M. (2015). Context management toolbox: A linear sequential unmasking (LSU) approach for minimizing cognitive bias in forensic decision making. *Journal of Forensic Sciences*, 60(4), 1111-1112. <https://escholarship.org/content/qt9k92k30m/qt9k92k30m.pdf>
- Dutra, M., Monteiro, M. V., Ribeiro, K. B., Schettino, G. P., & Amaral, A. C. K.-B. (2018). Handovers among staff intensivists: a study of information loss and clinical accuracy to anticipate events. *Critical Care Medicine*, 46(11), 1717-1721. <https://B2n.ir/y44144>
- Enke, B., Gneezy, U., Hall, B., Martin, D., Nelidov, V., Offerman, T., & Van De Ven, J. (2023). Cognitive biases: Mistakes or missing stakes?. *Review of Economics and Statistics*, 105(4), 818-832. [https://doi.org/10.1162/rest\\_a\\_01093](https://doi.org/10.1162/rest_a_01093)
- Fuster, J., Caparrós, T., & Capdevila, L. (2021). Evaluation of cognitive load in team sports: literature review. *PeerJ*, 9, e12045. <https://doi.org/10.7717/peerj.12045>
- Goleman, D. (1995). *Emotional Intelligence*. NY.
- Hristov, I., Camilli, R., & Mechelli, A. (2022). Cognitive biases in implementing a performance management system: behavioral strategy for supporting managers' decision-making processes. *Management Research Review*, 45(9), 1110-1136. <https://doi.org/10.1108/MRR-11-2021-0777>
- Hosseini, S. E. , Khadem, A. , SoleymaniThehrani, M. , Kalashi, M. and Pourkiani, M. (2025). Requirements for Volunteers' Participation in Sports. *Archives in Sport Management and Leadership*. (Article in Press). <https://doi.org/10.22108/asml.2025.143364.1056>
- Itri, J. N., & Patel, S. H. (2018). Heuristics and cognitive error in medical imaging. *American Journal of Roentgenology*, 210(5), 1097-1105. <https://doi.org/10.2214/AJR.17.18907>
- Jois, G. U. (2009). Stare decisis is cognitive error. *Brook. L. Rev.*, 75, 63. <https://heinonline.org/HOL/LandingPage?handle=hein.journals/brklr75&div=5&id=&page=>
- Khajavi, S., & AlizadehTalatpeh, V. (2021). Modeling the Affectability of Managers' Decisions from Cognitive Biases Based on Accounting and Economic Variables: A System Dynamics Approach. *Accounting and Auditing Review*, 28(1), 54-79. <https://doi.org/10.22059/acctgrev.2021.312630.1008457> [In Persian].
- Koester, D. (2023). The (cognitive) future of motor control and learning. *Frontiers in Sports and Active Living*, 5, 1181808. <https://doi.org/10.3389/fspor.2023.1181808>
- Kryshtanovych, S., Bilostotska, O., Ulianova, V., Tkachova, N., & Tkachov, A. (2020). Experience in the application of cognitive techniques in the field of physical education and sports. *BRAIN. Broad Research in Artificial Intelligence and Neuroscience*, 11(2), 147-159. <http://dx.doi.org/10.70594/brain/11.2/79>
- Lastella, M., Onay, Z., Scanlan, A. T., Elsworthy, N., Pitchford, N., & Vincent, G. E. (2020). Wakeup call: reviewing the effects of sleep on decision-making in athletes and implications for sports officials. *Montenegrin Journal of Sports Science and Medicine*, 9, 65-71. <https://B2n.ir/x91030>
- Lukito, A. S. (2016). Building anti-corruption compliance through national integrity system in Indonesia: A way to fight against corruption. *Journal of Financial Crime*, 23(4), 932-947. <https://doi.org/10.1108/JFC-09-2015-0054>
- Miller, K., Holcombe, A., & Latham, A. J. (2020). Temporal phenomenology: phenomenological illusion versus cognitive error. *Synthese*, 197, 751-771. <https://doi.org/10.1007/s11229-018-1730-y>
- Mladina, P., & Germani, S. (2022). Stock-Market Risk Factors and Manager Performance. *Journal of Portfolio Management*, 48(5), 40-48. <https://www.pm-research.com/content/ijjportgmt/48/5/40>
- Moosavi, S. M., & Gholami, A. (2017). Organizational structure, and corporate culture-financial corruption at the level of staff. *Journal of Management and Accounting Studies*, 5(1), 76-81. <http://uctjournals.com/archive/ujmas/2017/March/14.pdf>
- Mujuru, C., & Peisah, C. (2024). Beyond error: A qualitative study of human factors in serious adverse events. *Journal of Healthcare Risk Management*, 44(2), 7-13. <https://doi.org/10.1002/jhrm.21583>
- Perrey, S. (2022). Training monitoring in sports: it is time to embrace cognitive demand. *Sports*, 10(4), 56. <https://doi.org/10.3390/sports10040056>
- Pössel, P. (2009). Cognitive Error Questionnaire (CEQ): Psychometric properties and factor structure of the German

- translation. *Journal of Psychopathology and Behavioral Assessment*, 31, 264-269. <https://doi.org/10.1007/s10862-008-9117-x>
- Qavamifar, A., & Hassanpour, H. (2021). Identifying functions affecting the cognitive performance of strategic managers. *Journal of Human Resource Studies*, 11(2), 50-70. <https://doi.org/10.22034/jhrs.2021.281368.1666> [In Persian].
- Rezasoltani, N. , Moharramzadeh, M. , Azizian Kohan, N. and Naghizadeh-Baghi, A. (2025). Validation of Organizational Isomorphism Model Using Fuzzy Delphi Method. *Archives in Sport Management and Leadership*. (Article in Press). <https://doi.org/10.22108/asml.2024.142642.1050>
- Rahmanseresht, H., & Valyan, A. (2023). Cognitive Dimensions of Decision-Making in Managers; Do Managers Have Different Cognitive Processes in Decision-Making?. *Public Management Researches*, 16(59), 59-84. <https://doi.org/10.22111/jmr.2023.43359.5840> [In Persian].
- Rostami, A. G., Safari, O., Abdi, K., & Turkfar, A. (2023). Phenomenological Analysis of the Consequences of Sports Managers' Cognitive Errors Using the Three-Pronged Model Clubs. *Sport Management Journal*, 15(3), 281-268. <https://doi.org/10.22059/jsm.2022.341504.2932> [In Persian].
- Sang, P., Liu, J., Zhang, L., Zheng, L., Yao, H., & Wang, Y. (2018). Effects of project manager competency on green construction performance: The Chinese context. *Sustainability*, 10(10), 3406. <https://doi.org/10.3390/su10103406>
- Sayal, A., & Banerjee, S. (2022). Factors influence performance of B2B SMEs of emerging economies: view of owner-manager. *Journal of Research in Marketing and Entrepreneurship*, 24(1), 112-140. <https://doi.org/10.1108/JRME-06-2020-0082>
- Scherbaum, C. A., Naidoo, L. J., & Saunderson, R. (2022). The impact of manager recognition training on performance: a quasi-experimental field study. *Leadership & Organization Development Journal*, 43(1), 57-70. <https://doi.org/10.1108/LODJ-04-2021-0144>
- Schnapp, B. H., Sun, J. E., Kim, J. L., Strayer, R. J., & Shah, K. H. (2018). Cognitive error in an academic emergency department. *Diagnosis*, 5(3), 135-142. <https://doi.org/10.1515/dx-2018-0011>
- Shabunina, V., Sarancha, V., & Tur, O. (2023). Influence of Social and Psychological Factors of Information Activity on Managerial Decision-Making. *Informology*, (4), 5-13. <http://elib.nakkkim.edu.ua/handle/123456789/5266>
- Sholihin, M., Pike, R., & Mangena, M. (2010). Reliance on multiple performance measures and manager performance. *Journal of Applied Accounting Research*, 11(1), 24-42. <https://doi.org/10.1108/09675421011050018>
- Simons, R. H., & Thompson, B. M. (1998). Strategic determinants: the context of managerial decision making. *Journal of Managerial Psychology*, 13(1/2), 7-21. <https://doi.org/10.1108/02683949810369093>
- Soleimani, M., Intezari, A., & Pauleen, D. J. (2022). Mitigating cognitive biases in developing AI-assisted recruitment systems: A knowledge-sharing approach. *International Journal of Knowledge Management (IJKM)*, 18(1), 1-18. <https://B2n.ir/k75909>
- Stevanovic, D., Lalic, B., Batinic, J., Damjanovic, R., Jovic, V., Brkic-Cvetkovic, S., & Jancic, J. (2016). Children's Negative Cognitive Error Questionnaire—Revised: The factor structure and associations with anxiety and depressive symptoms across age, gender, and clinical/community samples. *Cognitive Therapy and Research*, 40, 584-592. <https://doi.org/10.1007/s10608-016-9767-z>
- Stewart, S. D. (2022). Performance, Perception, and Manager Selection. *Journal of Portfolio Management*, 48(5), 87-103. <https://www.pm-research.com/content/ijpormgmt/48/5/87>
- Tadajewski, M. (2008). Incommensurable paradigms, cognitive bias and the politics of marketing theory. *Marketing Theory*, 8(3), 273-297. <https://doi.org/10.1177/1470593108093557>
- Tokuda, Y., Kishida, N., Konishi, R., & Koizumi, S. (2011). Cognitive error as the most frequent contributory factor in cases of medical injury: a study on verdict's judgment among closed claims in Japan. *Journal of Hospital Medicine*, 6(3), 109-114. <https://doi.org/10.1002/jhm.820>
- Wang, Z., Zeng, S., Guo, J., & Che, H. (2021). A Bayesian network for reliability assessment of man-machine phased-mission system considering the phase dependencies of human cognitive error. *Reliability Engineering & System Safety*, 207, 107385. <https://doi.org/10.1016/j.ress.2020.107385>