



Investigating the relationship between superstition and sports success in Iraqi football league players

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Article Info	Abstract
Original Article	<p>Background: Superstitions and rituals have long been a part of sports culture, with many athletes believing that they can bring good luck or improve their performance.</p> <p>Aim: The aim of this study was to investigate the relationship between superstitions and sports success in Iraqi football league players.</p> <p>Materials and Methods: This study used a descriptive-correlational analysis method, with data collected in the field from a sample of 200 players randomly selected from the population of players in the Iraqi football premier league. Two standard questionnaires, Superstition in Sports and Sports Success Questionnaire, were used to collect data, both of which were designed based on the Likert five value range.</p> <p>Results: The study found that there is a significant relationship between superstitions and sports success, with the most important priority related to the component of "team ritual" (5.58) in superstitions and "commitment" (4.58) in sports success. The study also found that 37% of changes in sporting success are related to superstitious components.</p> <p>Conclusion: Based on the study's findings, it can be concluded that the use of superstitious rituals can have a positive effect on the sports success of athletes.</p>
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1. Introduction

Superstition is a global phenomenon that exists in all forms of competition and games. Superstition has been defined as "a belief or action that stems from ignorance, fear of the unknown, belief in magic and luck, or a misconception of the causality of something" [1]. Almost all athletes have characteristics or are involved in what can be considered as a superstition. These beliefs may be simple things like believing in a lucky number or carrying a lucky device [2, 3, 4, 5, 6]. However, the way in which these beliefs are used and demonstrated, such as the occurrence of a pre-tasking daily behavior, such as betting, may be more complex [2, 7, 8, 9].

The use of superstitious thought and behavior is a common and persistent occurrence. Regrrrry ee e rrrrr gggggee "" "" [10], avoid walking under ladders [11] or knock on wood [12]. Oftentimes, the use of superstitious ritual is associated with particular categories of people, such as sailors or the religious. One such category is that of the athlete. eee tttt tttt t c rrrta yyyyyee better known, are part of a "widely accepted" practice used by athletes across many different cultures [13, 14]. The repetitive nature of these actions leads to use of the term 'Superstitious Ritualss Although the use of these behaviors is prevalent, little research has been done to specifically examine superstition in sport, the psychological implications of superstitious ritual on the athlete and particularly on their subsequent performance.

Many opportunities exist where it is necessary to perform at an optimal level. Whether it is exams, job interview or sports competitions, performance in these

situations can determine many important outcomes. In particular, sport where there is now the added pressure of increased media interest, sponsors to represent, major tournaments to qualify for and often wages to be earned. In light of this, most athletes approach these opportunities as well prepared as possible, however there are still many factors that are outside the control of any athlete. Weather conditions, opposition, variable location and referees are examples of external uncontrollable factors that can leave even the most prepared of athletes lacking confidence in their performance abilities. It appears that often, somewhere in this gap between internal factors (such as preparation), and external factors, the use of superstitious ritual develops [13, 14, 15]

Examples of superstition in sport are regularly seen. Team mascots, lucky numbers and the use of lucky charms are often used by sportspersons. Similarly, there are many professional examples of this behavior. Basketball player Michael Jordan wore the same pair of college basketball shorts underneath his team uniform for every game throughout his career. Famously, Golfer Tiger Woods always wears a red shirt on the last day of any tournament he plays in, and Red Sox shortstop Nomar Garciaparra gets dressed in the same order every game day and makes sure to step into each dugout with both feet touching the ground at the same time [16].

Superstitious behavior in sport can be eeeee a ii c ee rreeiiiiiee formal, sequential and distinct from technical performance, which the athlete believes to be powerful in controlling luck a rrrrr rexrrraa و [14]. Similarly, Dömötör, zzzBBa and Szabo (2016) operationally define superstitious ritual as

aeccceiiiiiee aggggggggeaa''''''''
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 the acting individual [17]. Despite the individual athlete's perceived effectiveness of their superstitious rituals, in reality, there is no link between superstitious behavior and the outcome of the event that follows [13]. Typically, these seemingly arbitrary rituals are engaged in prior to performance as a means of increasing good and preventing bad luck. Due to the perceived effectiveness of these rituals by athletes, superstitious behaviors are often used in all aspects of competition; pregame and in the actual game itself [13]. These behaviors are widespread across cultures [18, 13], across gender [19], across various religions [20] between sports [14], and within, as traditionally the likes of goalies are often more superstitious than outfield players [14].

With many superstitious rituals it is easily discernible that the behavior has no functional use as part of a pre-performance routine, however, the distinction between superstitious ritual and functional routine is not always obvious. Routines are learned behavioral and cognitive strategies, which are used intentionally by sportsmen to facilitate performance [14, 21]. The primary objective of routine is to assist the athlete in focusing on any impending performance, though unlike superstitious behavior, they are not compulsive or rigid and are driven towards improving focus [22]. Pre-performance routines are often developed by sports psychologists [14] or coaching staff for individuals or teams. The subjective nature of superstition means the athlete establishes all rituals independently.

As mentioned by Dömötör et al. (2016), the function of rituals as a whole is to mentally prepare the athlete for competition

[17]. In this sense, superstitious rituals may serve a rational and useful purpose for the individual if engaging in such behavior can assist the athlete in centering focus and eliminating unnecessary distractions. However, if superstitious rituals develop into compulsive behaviors, it is possible that there could be a shift in focus from athletic performance to carrying out the ritual itself. It has been noted in the literature that one such function of superstitious ritual may be that of reducing competitive anxiety, thus enhancing performance outcomes [14, 17, 18]. Prior to competitive events most athletes will experience psychological tension which can result in negative thoughts, feelings or physiological responses [17]. It is clear that these factors are highly undesirable by sportspersons whom seek to achieve an optimal performance. Performance failure studies, have found that engaging in a dual task reduces the likelihood of self-focusing and improves performance under pressure. Tasks such as random alphabet letter generation every 6 sec and counting backwards in multiples of 2 have been shown to distract the athlete from self-focusing and thus reducing the likelihood of high anxiety [22, 23, 24]. Given the results of these studies it could be proposed that superstitious rituals exist as part of a dual task, which distracts the sportsperson from any performance anxieties they may have experienced otherwise. Jahoda (1970) Suggested that as a means of regulating emotional stability, athletes use ritualistic behaviors to decrease anxiety and increase their perceived chance of success [13].

Further, advancing the argument that superstitious rituals occur as an anxiety reduction mechanism, [18] inferred that superstitions may occur as a means to cope

with the stresses athletes experience around competition. This concept was further developed where it was suggested that superstitious behaviors, if associated with the management of anxiety, might simultaneously enable the athlete to build confidence and thus produce a desired performance.

In this regard, in many sports, there are certain superstitious rituals. Some of these sports include baseball, football and basketball [2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13]. In baseball, for example, wearing a brimmed hat during a game and when the team hopes to reverse a defeat is a superstitious behavior [2]. Basketball players, on the other hand, are accustomed to touching each of the two baskets when warming up at the beginning of the game [3].

Despite the existence of such superstitious behaviors in sports, most of these superstitious behaviors are related to a particular athlete. Most athletes have their own superstitious behaviors and habits that they display during competitions. These beliefs also include behaviors such as removing the hat from the head with the right hand only or vomiting before the race [7, 8].

So, the causes of superstition in sports and athletes are different. Some of the superstitious behaviors used by athletes are focused on the sport itself, because there has been a history of superstitious behaviors in the sport [2, 3] or because the failure rate in that sport is very high [2]. However, most superstitious behaviors stem from the individual needs of athletes. These needs include reducing the pressure to succeed, increasing the athlete's self-confidence and even convincing the athlete that the outcome of the competition is

predetermined [5, 7, 10].

Therefore, athletes will use superstitious behaviors to improve their performance. Regardless of the type of sport, there are always reasons for these athletes to believe in their habits. Whether these reasons are related to sports or to the athlete himself, superstitious behaviors are easily performed by athletes on the day of the game [14]. In an interview with McCallum, Lu Nan, a former Minnesota North Star player and manager, described superstitious behaviors in simple terms as "small rituals become entangled and engraved in the mind, and these entanglements become superstition behaviors" [7]. This idea will forever be true of sports and athletes. Therefore, because superstitious behaviors play such an important role in athletes' beliefs, it is important to know the types of these behaviors, the reasons for their use, and the effects they have on athletes. Therefore, talking to athletes with high superstitious behaviors leads to a better understanding of these behaviors [14].

In this regard, one of the reasons for the tendency of people, especially athletes, to superstitious rituals and behaviors, is to achieve victory and success in sports and sports competitions. One of the challenges of understanding skillful behavior is identifying the components that are effective in acquiring and maintaining sports success. Studies of sports success show that many factors play a role in athletes' development. These factors include Exercise, Education, Inner Ability, Age, Psychological Skills, Commitment, and Enjoyment [25, 26, 27, 28, 29, 30, 31]. Sport is an active learning process that results from purposeful practice and the improvement of skills necessary to achieve

a high level of athletic performance. In fact, optimal performance in sports is the result of a combination of technical (technical and tactical), physical (strength, speed, etc.) and mental (concentration, self-confidence, anxiety control, etc.) abilities [32].

Each athlete's success depends on his or her motivation for progress. Motivation for progress in the field of sports psychology is of particular importance and includes the need to master hard work, achieve perfection, overcome problems and obstacles, perform better than others and feel proud of success [33]. In goal orientation theory, factors such as goal orientation, perceived abilities, and successful behavior are important. According to Atkinson theory, successful athletes are at a high level of competitiveness; they have a lot of perseverance to achieve success and exercise without worrying about possible failures [33].

Successful athletes experience a positive arousal when exercising, which allows them to focus heavily on exercise; because they do not feel threatened, they do not feel tired, and they have more control over themselves and the environment. The experience of desirable arousal indicates that the difficulty of the skill is commensurate with the ability of the athlete; So that the athlete is so immersed in sports activities that he does not feel the passage of time [34]. A study of skilled athletes shows that their knowledge structure about skills is more organized and they can solve problems faster and more accurately than others; Be more careful in their decisions and easily adapt to the new environment; For example, a skilled basketball player can look at one or two opposing players while carrying the ball

and see what kind of defense they will use. Then decide whether to dribble, pass, or shoot [34].

According to the studies of Haywood et al. (2021), skilled people analyze problems at a very advanced level; respond to specific situations in advance and quickly identify the appropriate situation. In other words, technical and tactical skills and knowledge of using these skills in specific situations are essential for success [35]. For example, Liliana and Adrian (2013) showed that professional tennis players understand more tactical concepts than academic players or non-professional players [36]. Also, attention and High concentration in athletes increases the speed of reaction and also increases the understanding of different processes and the capacity for attention in difficult and unusual situations [37].

In order to achieve better performance, it is necessary to make progress in the field of physical activity and this is not possible by itself, but requires following a logical and specific training program. The ultimate goal of training in the beginning is to increase motor skills and abilities that lead to improved athlete performance [38].

Therefore, according to the above, the role and importance of superstitious rituals and the psychological effects of these behaviors on athletes' perceptions can be understood and the need to study the effect of these rituals on the success or failure of athletes is felt more than ever.

2. Materials and Methods

The method of the present study is applied in terms of nature and purpose and descriptive-correlational in terms of analysis, the data collection of which was done in the field.

2.1. Participation

The population of the present study included all the players present in the Iraq football premier league, the number of which is announced on the website of the Iraq football federation as about 420 people, which for this reason, using Morgan table and based on the number of people in the population and random sampling, 200 of these people were selected as a statistical sample.

2.2. Instrument

Data collection tools in this study include two standard questionnaires of Superstition in Sports [14] which have 7 components and a total of 38 items and Sports Success Questionnaire [39] which has 6 components and a total of 29 items (Table 1), which both questionnaires were designed based on the Likert five value range.

Table 1. Components and items related to each component

Component	Items
Clothing and Appearance	1 to 12
Fetish	13 to 18
Preparation	19 to 24
Game/ Competition	25 to 28
Team ritual	29 to 32
Prayer and Worship	33 to 35
Coach	36 to 38
Smooth execution	1 to 5
Attention	6 to 10
Technique	11 to 14
Error sensitivity	15 to 19
Commitment	20 to 24
Progress	25 to 29

2.3. Procedure

According to the objectives of the research, the appropriate tool for the present study was a questionnaire. Appropriate questionnaires were selected based on library studies and internet searches. Then, after obtaining the necessary permits from Imam Reza International University and

referring it to the security unit of the Iraq football federation, the questionnaires were distributed in person and online by the researcher among the sample and collected after completion.

2.4. Statistic

In the present study, in order to determine the validity of the research instrument, the questions of the questionnaire were determined based on the model of research analysis and review of research literature and then approved by expert professors (20 in total). Hence, its face and content validity is confirmed. The reliability of the components of the questionnaires was assessed using Cronbach's alpha coefficient, which was 0.71 for clothing and appearance, 0.74 for fetish, 0.76 for preparation, 0.73 for game/competition, 0.74 for team ritual, 0.70 for prayer and worship and 0.79 for coach. Also, 0.83 for smooth execution, 0.78 for attention, 0.76 for technique, 0.72 for error sensitivity, 0.81 for commitment and 0.83 for progress.

To analyze the data, two sections of descriptive statistics (frequency, percentage, mean, standard deviation, tables and graphs) and inferential statistics (skewness and kurtosis test, W. Kendall test, Pearson correlation test and Regression test) were used. In addition, all statistical analyzes were performed using SPSS software version 23.

3. Results

Based on the findings, it was found that the highest and lowest frequencies based on age status with 0.33% and 0.18% are related to the age group "31 years and above" and "26 to 30 years", respectively. The highest and lowest frequencies based on the level of education with 0.44% and 0.3%, respectively, are related to "undergraduate

and diploma" and "master in science". The highest and lowest frequencies based on game experience with 32.5% and 21.5%, respectively, are related to the "6 to 10 years" and "less than 5 years and 11 to 15 years".

Initially, the results of kurtosis and skewness tests, considering that the obtained values were between -2 to +2, show that the data have a normal distribution and parametric tests can be used to analyze the data.

In the following, it is observed that because the significance level of W. Kendall test is less than 0.01, it can be said that there is a significant priority among the components of superstition. Accordingly, the most important priority of the superstitious components is related to the component of "team ritual" and the components of "game/competition", "prayer and worship", "coach", "appearance and clothing", "preparation" and "fetish" are in the second to seventh priorities (Table 2).

Table 2. The mean ranks and priorities of the superstitious components

Statistics	Value	Variable	Mean ranks	Priority
Chi-square	326.014	Team ritual	5.58	First
Degree of freedom	6	Game/Competition	4.96	Second
P-Value	0.001	Prayer & Worship	4.44	Third
		Coach	3.73	Forth
		Appearance & Clothing	3.57	Fifth
		Preparation	3.56	Sixth
		Fetish	2.16	Seventh

Next, the prioritization of sports success components was examined, which the results show that because the level of significance of the W. Kendall test is less than 0.01, so it can be said that there is a significant priority among the components of sports success. Accordingly, the most

important priority of the sports success components is related to the component of "commitment" and the components of "progress", "technique", "attention", "smooth execution" and "error sensitivity" are in the second to sixth priorities (Table 3).

Table 3. The mean ranks and priorities of the sports success components

Statistics	Value	Variable	Mean ranks	Priority
Chi-square	156.044	Commitment	4.58	First
Degree of freedom	5	Progress	3.58	Second
P-Value	0.001	Technique	3.54	Third
		Attention	3.06	Forth
		Smooth execution	3.00	Fifth
		Error sensitivity	2.98	Sixth

Then, using Pearson correlation test, the relationship between superstition and its components with sports success was investigated. The results showed that there is a positive relationship between superstition and its components (except the components of appearance and clothing and

fetish) with sports success ($P < 0.05$), so that the correlation between them was reported to be optimal (Table 4).

Next, using regression test, we examined the prediction of sports success variable by superstitious components. It should be noted that the components of

appearance & clothing, and fetish were excluded from this equation due to their lack of correlation with sports success. According to the results, the statistic value of Durbin Watson, which should be a number between 1.5 to 2.5, was 1.69. Also, the correlation coefficient and the coefficient of explanation between the scores of the components of superstition and sports success have been determined where the correlation coefficient is equal to 0.56 and the coefficient of explanation is equal to 0.37, it can be said that 37% of the changes in sports success are related to superstitious components (Table 5).

Then, as shown in Table 6, the F test is equal to 21.356 and the error level is equal to 0.001, so the effect of superstition components on sports success is confirmed.

Finally, Table 7 is used to estimate the regression equation formula. According to this table, the formula for calculating sports success is as follows: As can be seen, the components of game/competition, team ritual, and prayer and worship are the predictors of sports success.

$$\text{Sports success} = 1/258 + 0/327 * (\text{game/competition}) + -0/361 * (\text{team ritual}) + 1/045 * (\text{prayer and worship})$$

Table 4. The results of the correlation test between superstition and its components with sports success

Variables	Correlation coefficient	P-Value
Appearance and clothing and sports success	-0.001	<u>0.81</u>
Fetish and sports success	0.02	<u>0.71</u>
Preparation and sports success	0.63	0.001
Game/Competition and Sports Success	0.56	0.001
Team ritual and sports success	0.17	0.01
Prayer and worship and sports success	0.70	0.001
Coach and sports success	0.67	0.001
Superstition and sports success	0.32	0.03

Table 5. Results of regression test

R	R ²	Adjusted R ²	Standard error of the estimate	Durbin-Watson statistic	P-Value
0.56	0.39	0.37	0.36289	1.69	0.001

Table 6. Regression analysis of variance related to the effect of superstition components on sports success

Source of changes	Sum of squares	df	Mean square	F	Sig
Regression	1.317	5	1.371	21.356	0.001
Residual	25.547	194	0.064		
Total	26.864	199			

Table 7. Model coefficients

	Unstandardized coefficients		Standardized coefficients	t	Sig
	B	Std. error	Beta		
Constant	1.258	1.097		1.147	0.001
Preparation	-0.169	0.217	-0.122	-0.779	<u>0.43</u>
Game/Competition	0.947	0.261	0.327	3.625	0.001
Team Ritual	-0.736	0.257	-0.361	-2.865	0.005
Prayer & Worship	0.865	0.186	1.045	4.648	0.001
Coach	-0.313	0.221	-0.189	-1.421	<u>0.15</u>

4. Discussion

Based on the results of the study, it was found that there is a significant priority between the components of superstition. Thus, the most important priority of the superstitious components is related to the "team ritual" component, and the components of "game/competition", "prayer and worship", "coach", "appearance and clothing", "preparation" and "fetish" are in the second to seventh priorities which this finding is in line with the findings of Azizi et al. (2020) [39], Zare, Zare and (2017) [40], and Mandal (2018) [37].

In this regard, Azizi et al. (2020), found that the most important priority of the components of superstition is related to the component of "team ritual" and the components of "game/competition", "prayer and worship", "preparation", "appearance and clothing", "coach" and "fetish" are in the second to seventh priorities, which the first three priorities are in line with the first three priorities of the present study. Also, they found that overall the tendency to superstition among Iranian football players is moderate (about 41%) and there is a significant relationship between indicators of education, marital status, feelings of insecurity about the game, importance of game outcomes, pre-game anxiety, ethnicity, place of birth, and a tendency toward superstition [39]. It was also found that increasing the level of education and reducing the anxiety caused by the game can play a key role in reducing the tendency to superstition among football players.

Mandal (2018) found that the types of superstitions that each athlete discusses included luck, individual etiquette, team etiquette, clothing and equipment, and food and eating habits. Participants used these

rituals and behaviors as a way to ward off bad luck, deal with high levels of stress and anxiety, control unreliable factors, and recover and prevent future harm [37].

Based on this finding and the findings of other studies, it can be said that Iraqi football players are generally in a moderate position in terms of superstition (in line with Zare et al. (2017) [40]) and have a high score in some components and a low score in some. As it turns out, they did not have good conditions in the components of game/competition, team ritual, and prayer and worship, which mean that they are more active in these areas than in areas such as appearance and clothing, fetish, preparation and coach.

Also, based on the prioritization of the components, it is found that in their view, things like shaking hands with teammates before the match, encouraging teammates during the match, and having exciting conversations before the match, improve their performance. Also, doing things like asking fans for encouragement during the game, believing that scoring the first goal or point in the game will make them happy, shaking hands with a teammate who has scored in the game, and chewing gum before the game will cause It raises their morale and ultimately improves their performance.

Furthermore, it was also found that there is a significant priority among the components of sports success, so that the most important priority of the components of sports success is related to the component of "commitment" and the components of "progress", "technique", "attention", "smooth execution" and "Sensitivity to error" are in the second to sixth priorities. This finding is in line with the findings of Mousavi and Vaez Mousavi (2015) [38],

Ranjbar et al. (2022) [41] and Silva et al. (2022) [42].

In this regard, Mousavi and Vaez Mousavi (2015), have identified the components of smooth execution, attention, technique, error sensitivity, commitment and progress, which explain 67.68% of the total variance [38].

Ranjbar et al. (2022) concluded that the environmental structure of female footballers has unlikely matters, problems, difficulties and deprivations that rely on women's hope for success, their perceived merit, work values and plans [41].

In this regard, Silva et al. (2022) found that national basketball players had the highest and Asian tennis players, had the lowest level of motivation for success in sport [42].

According to the findings of the present study and the findings of other studies, it can be said that in general, the status of sports success and its components in the sample are acceptable and these people consider themselves successful people.

Also, prioritizing the components of sporting success shows that from their point of view, such things as attending training and competitions on time, respecting competitors, encouraging teammates during the competition, respecting their sport and its rules, and behaving in defeat and victory, have been the first priority for them, and thus, they have introduced themselves as very committed people to their sport.

Finally, the results showed that there is a positive and significant relationship between superstition and its components (except for the components of appearance & clothing, and fetish) with sports success ($P < 0.05$), so that the correlation between them was reported to be optimal. Also, the correlation coefficient and explanation

coefficient between the scores of superstition components and sports success have been determined, in which since the correlation coefficient is equal to 0.56 and the explanation coefficient is equal to 0.37, it can be said that 37% of changes in sport success are related to components of superstition which this finding is in line with the findings of Keshtidar et al. (2020) [43], Sarabandi and Rezaei (2017) [44], Servatyari, Garousi and Yousefi (2019) [45].

In this regard, Keshtidar et al. (2020) [43], concluded that the level of superstition can increase the effectiveness of professional athletes, as shown in the present study; some level of superstition can lead to sports success.

Sarabandi and Rezaei (2017) found that in order to achieve success, the athlete always needs to maintain a desirable level of perfectionism and the necessary motivation can be a driving force to reach the peak performance [44].

Servatyari et al. (2019) stated that there is a significant relationship between development goals and sport success [45].

5. Suggestions

1. It is suggested that in another study, research variables on individual athletes be examined and the results compared with the results of the present study;
2. It is suggested that a study compares the issue of superstition in some selected countries where it is more prevalent.

6. Conclusion

Finally, according to the results of research and findings of other researchers, it is clear that having a level of superstition and superstitious rituals can cause changes in the level of sports success and 37% predict changes in sports success. Therefore, it can

be said that superstitious rituals, contrary to what they seem, are not inherently harmful and, depending on the type of action that is performed, can even improve the performance and success of sports.

Conflict of interest

The authors declared no conflicts of interest.

Authors' contributions

All authors contributed to the original idea, study design.

Ethical considerations

The authors have completely considered ethical issues, including informed consent, plagiarism, data fabrication, misconduct, and/or falsification, double publication and/or redundancy, submission, etc. The participants were informed about the purpose of the research and its implementation stages; they were also assured about the confidentiality of their information. Moreover, they were allowed to leave the study whenever they want, and if desired, the results of the research would be available to them.

Data availability

The dataset generated and analyzed during the current study is available from the corresponding author on reasonable request.

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