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Analysis of chaotic behaviour according to the playing lines of Iraqi Premier League football players

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Abstract

This research aims to analyze the chaotic behaviour of Iraqi Premier League football players according to the lines of play (defense, midfield, and attack). Chaotic behaviour refers to player actions that may deviate from the expected tactics on the field, affecting team performance. In light of the increasing competition in the Iraqi Premier League, understanding the impact of this behaviour on collective performance is essential to improving the effectiveness of team tactical plans. The research problem lies in the emergence of disorganized behaviour among Iraqi Premier League players, which directly impact team performance. These behaviours vary in their impact depending on the player's position and line of play. The research focuses on determining whether chaotic behaviour supports creativity and changes the flow of play for the better, or whether it leads to team chaos and declining performance. The research sample was selected from Iraqi Premier League players, including players from various lines of play: defence, midfield, and attack. Players were divided according to their positions on the field to analyse their behaviour in matches. The study relied on an analysis of

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league matches using questionnaires to measure psychological and physical factors associated with disruptive behaviour. The disruptive behaviour were categorized and their impact on the team's tactical plans was determined. The results revealed that chaotic behaviour varied from one line to another. Its negative impact was most evident in defence, where it led to errors and an increase in goals conceded. In midfield, the effect was twofold, as it sometimes facilitated creativity and positive interaction with the game. In attack, chaotic behaviour was beneficial in creating unexpected new scoring opportunities. The study recommends developing training programs that target reducing chaotic behaviour in defence and promoting it in attack in positive ways. It also recommends using continuous analysis of player performance to identify and address unhelpful chaotic patterns, while enhancing the ability to innovate on the field within a controlled tactical framework.

Keywords: Chaotic behaviour, game lines, football players

Introduction

Chaotic behaviour is a widespread phenomenon in sports communities, as this phenomenon threatens sports institutions, destabilizes them, affects the players' spirits, and threatens sports clubs. In addition, chaotic behaviour among players in clubs may be due to their inability to perform what is required of them in training sessions or local and official matches. This chaotic behaviour may be a form of release and frustration, due to the lack of ability to perform physically and skilfully for players in the club, and the training requirements desired from them by the coaching staff, which creates undesirable behaviours such as heated debate, verbal altercations, and disobeying the coach's instructions.Therefore, the importance of this research lies in identifying the level of chaotic behaviour among advanced players and comparing it according to the lines of play in an attempt to contribute to and facilitate future academic tasks.Research problem:Football is one of the most popular and widespread sports in the world, and it relies heavily on on-field organization to achieve optimal performance. However, players sometimes encounter chaotic behaviour that significantly impacts their collective and individual performance. This chaotic behaviour manifests itself in ill-advised decisions, excessive emotions, and poor understanding between the various lines of play (defence, midfield, and attack), leading to negative effects on the team's overall performance. With the

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significant development of football and the increasing level of competition, understanding chaotic behaviour and its impact on the lines of play has become of paramount importance for coaches and players alike. Despite the importance of this topic, studies related to the impact of chaotic behaviour on the performance of the lines of play in football remain limited, leaving a knowledge gap that requires further research and investigation. Therefore, the research problem arises in an attempt to understand the chaotic behaviour between the different playing lines of advanced football players. This research endeavor leads us to explore the extent to which chaotic behaviour affects playing performance, cooperation between players, and the final results of matches.

Research objectives:

1- Recognizing the chaotic behavior between the three lines (defense line, midfield line, attack line).
2- Comparison of chaotic behavior among advanced soccer players according to their playing lines.

Research hypothesis:

There are statistically significant differences in the level of chaotic behaviour between the three playing lines (defense line, midfield line, attack line) of the Iraqi Premier League football players.

Research areas:

The researchers conducted their study on a sample of Iraqi Premier League football players in the stadiums of some Iraqi Premier League football clubs during the period from 3/28/2024 to 4/7/2024.

Definition of terms:

Chaotic behaviour:

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(It is a set of behaviour represented by aggression, causing noise, disturbing others, vandalism, causing damage to devices and tools, and violating instructions and regulations, such as speaking to others without permission, interrupting the speaker, etc.) (Lamoza, 2021, p. 148).

Playing lines:

The playing methods have developed rapidly until they reached what they are now, and with the development of the playing methods, fundamental changes have occurred in the players ' positions to serve the three playing lines in carrying out the players 'duties in the required manner within the different playing methods. An invalid source has been specified.

- Defensive line players: Their first duty is to defend and their second duty is to attack.
- Midfielders: Their offensive duty is almost equal to their defensive duty.
- Offensive line players: Their first duty is to attack and their second duty is to defend. An invalid source has been specified.

Research methodology and sample:

The method chosen by the researcher must be appropriate to solve the problem. Therefore, the researcher used the descriptive method with correlational relationships because it is appropriate to the nature of the research problem.

The research community refers to the total group of elements on which the researcher intends to generalize the results related to the research problem, while the sample is that group or elements that represent the community on which the researcher will conduct all of his work (Al-Kubaisi, 2004, p. 51).

The research community included the Iraqi Premier League football players for the sports season (2023/2024), numbering (22), and the research sample included (11) clubs.

Information collection methods:

.1 Note.

.2 The interview

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.3 Testing and measurement.

.4 Arabic and foreign references and sources.

.5 The Internet.

Devices and tools used in the research:

Chinese-made Lenovo laptop.

Sony camera for documentation purposes.(1)

A stopwatch to measure the time taken to complete the test items and the scales used in the study.

Electronic calculator, Sony type, made in China, number.(1)

A questionnaire to survey experts' opinions in order to identify the most important areas.

A questionnaire to survey experts' opinions in order to identify the most important paragraphs.

Papers and articles.

football field

Field research procedures:

The concept or phenomenon to be measured must be clearly and precisely defined. It must be linked to the researcher's desires and attitudes and be measurable. The target group within the study community is Iraqi Premier League football players.

Disruptive Behaviour Scale:

The researcher will use the Disruptive Behaviour Scale of (Karrar Mohsen Radhi) on the Iraqi Premier League football players (Radi, 2024).

The scale consisted of (6) fields distributed over (36) paragraphs. The first field (self-enhancement) contained (6) paragraphs. The second field (psychological endurance) contained (6) paragraphs. The third field (mental toughness) contained (7) paragraphs. The fourth field

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(bearing responsibility) contained (3) paragraphs. The fifth field (anxiety) contained (8) paragraphs. The sixth field (disturbed behaviour) contained (6) paragraphs.

Paragraph correction key approval

The researcher adopted the Likert gradual measurement method as a key to correcting the scale items. This method is characterized by the following:

It is one of the most widely used methods of measurement (Zahran, 1973, p. 144).

It is a method characterized by a high degree of stability, because the presence of a number of alternatives in front of each paragraph, ranging from complete agreement to complete rejection, increases the degree of stability (Essawi, p. 38).

The Likert method gives the respondent great freedom to express his opinions about each paragraph.

)C.R and Hill, 1967, p. 199.)

The weights of the positively oriented paragraphs were calculated from (5-1) according to the sequence of their five alternatives, and thus the total score of the scale ranged from (40-200) points, as shown in Table.(1-3)

Table(3-1)

Between the key to correct the scale paragraphs, their direction, the type of their alternatives, and their weights in their initial form.

Paragraph direction		Always applies	Applies to most	sometimes applies	Applies to rarely	Never applies to
Positivity	the weight	5	4	3	2	1
Negativity	the weight	1	2	3	4	5

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Exploratory experiment:

After completing the placement of the scale paragraphs and placing the correction key, the researcher subjected the sample of the exploratory experiment, numbering (10) players, as he conducted the exploratory experiment on Monday 3/18/2024 for the chaotic behaviour scale, and its purpose was the following:

Ensure that the content of the paragraphs and scale instructions are clear to the respondents.

To determine the time required to complete the scale for organizational purposes, which was calculated by averaging the time of the first responder with the time of the last responder, as it appeared to the researcher that the time to complete the chaotic behaviour scale ranged between (10-15 minutes). To train the support team (*) to implement the scale and measurement procedures, and to identify the obstacles that the researcher will face when conducting the main survey study.

The main experiment to construct the Disruptive Behaviour Scale:

On Thursday 3/28/2024, the researcher conducted an experiment to construct the scale on a construction sample of (160) players. He tested the sample each in its own club at the time the team was in its club. This experiment continued until Sunday 4/7/2024. The purpose of the experiment was to find the scientific coefficients for the chaotic behaviour scale (validity, reliability, discriminating power, difficulty factor, objectivity).

Scientific parameters of the scale:

Scale validity:

Apparent honesty:

Scale stability:

Objectivity of the scale:

The scale in its final form:

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The scale in its final form contains six independent and separate areas, distributed over them (36) paragraphs with five alternatives (always applies, often applies, sometimes applies, rarely applies, never applies), with a correction key for their weights (5-1) in a positive direction, and with an answer time ranging between (10-15) minutes, and to avoid ambiguity or vagueness in its paragraphs and instructions without affecting the content and purpose of each paragraph, the scale was presented to a linguistic evaluator for linguistic review, and the researcher did not make any modifications to it after this procedure.

Results

After extracting the results of applying the scale to the application sample of the Iraqi Premier League football players and according to the research variables, and to achieve the research objectives, the researcher presents the statistical treatments of the scale results in the tables below with a discussion of them, and supporting them with sources and scientific studies as follows:

Presenting the statistical description of the chaotic behaviour scale and comparing it with the hypothetical mean for the entire application sample.

Table (1)

The statistical description of the scale of chaotic behaviour and its comparison with the hypothetical mean for the entire application sample

Statistical data		Premier League players	Defensive line players	Midfielders	Offensive line players
Mean	arithmetic mean	123.6500	135.9500	116.7000	118.3000
Median	The mediator	122.5000	140.0000	117.0000	116.0000

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Std. Deviation	standard deviation	14.51688	12.86560	11.58992	10.69235
Skewness	twisting	3010.	0.958-	7570.	5690.
Std. Error of Skewness	standard error	3090.	5120.	5120.	5120.
Minimum	Lowest degree	100.00	105.00	100.00	103.00
Maximum	highest degree	153.00	153.00	148.00	144.00

Table(2)

It shows the level of chaotic behaviour and the value of (T) between the arithmetic mean and the hypothetical mean for Premier League players.

Operations AN o statistics variable	Unit of measurement	Hypothetical arithmetic mean	arithmetic mean	Media teams	t value The accountant	significance value	significance
chaotic behaviour	degree	108	123.65	15.65	8.351	0.000	spiritual

The significance value is significant if it is < 0.05 at a degree of freedom of (95).

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Table(3)

Shows the level of chaotic behaviour and the value of (T) between the arithmetic mean and the hypothetical mean for the Premier League defensive players.

Operations AN o statistics variable	Unit of measurement	Hypothetical arithmetic mean	arithmetic mean	Media teams	t value The accountant	significance value	significance
chaotic behaviour	degree	108	135.95	27.95	9.716	0.000	spiritual

The significance value is significant if it is < 0.05 at a degree of freedom (19).

Table(4)

Shows the level of chaotic behaviour and the value of (T) between the arithmetic mean and the hypothetical mean for the Premier League players.

Operations AN o statistics variable	Unit of measurement	Hypothetical arithmetic mean	arithmetic mean	Media teams	t value The accountant	significance value	significance
chaotic behaviour	degree	108	116.7	8.7	3.357	0.003	spiritual

The significance value is significant if it is < 0.05 at a degree of freedom (19).

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Table (5)

Shows the level of chaotic behaviour and the value of (T) between the arithmetic mean and the hypothetical mean for attacking Premier League players.

Operations AN o statistics variable	Unit of measurement	Hypothetical arithmetic mean	arithmetic mean	Media a teams	t value The accountant	significance value	significance
chaotic behaviour	degree	108	118.3	10.3	4.308	0.000	spiritual

The significance value is significant if it is < 0.05 at a degree of freedom (19).

Discussion

Discussing the level of chaotic behaviour of all sample members, and the sample is divided into (defenders, midfielders, attackers) By analyzing the results shown in the above tables (4-3/4-4/4-5), it becomes clear that there are statistically significant differences at a significance level (α = 0.05) between the different sample groups (defenders, midfielders, attackers) in the level of chaotic behaviour, as the results showed that the group (defenders) recorded higher averages compared to the other groups, which indicates the presence of a clear effect of the position the player occupies on the field on the level of chaotic behaviour. The validity of these differences was verified using the statistical analysis program (SPSS) test - ANOVA), which confirmed the existence of significant differences between the three groups. These statistical differences reflect (the interpretation of the differences based on previous theories and studies. Chaotic behaviour is considered a psychological state in which players express what is happening inside them in order to release it, which creates tension or psychological pressure. Chaotic behaviour can arise from several factors, including genetic factors. Genetic factors are a very important and significant factor and may be a reason for

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shaping the behaviour and attitudes of players, in addition to weak socialization, as social relationships play a major role in shaping the personality and behaviour of players. There are also many traits and characteristics related to interaction with parents and their children. Among the factors that contribute to the occurrence of chaotic behaviour among players is the failure to use the appropriate method of dealing with children, and the failure to care for them and meet their needs, which results in the emergence of various future deviations in children's behaviour, including chaotic behaviour (Al-Sumaili, 2009, p. 107). In addition to the environment in which players live within sports clubs and training units, it may not meet the needs and desires of the players, or it may foster negativity and harshness in dealing with players. This causes them to develop disorders and chaotic behaviour that affect their relationships with others and weaken their ability to focus to deliver good and excellent performance. The researcher also believes that bullying is one of the reasons for the emergence of chaotic behaviour among football players. Also, the art of imitation is another factor that causes chaotic behaviour, meaning that many players take players from different leagues as role models, and they work to imitate their behaviour on and off the field, especially if the players are chaotic and inherit their behaviour, then their behaviour will certainly be chaotic. The researcher believes that this result is attributed to the fact that the football team works as an integrated system and each line of play differs in its performance during the match according to the coach’s plan. (Wahed Issa et al., 2024) Therefore, defensive players are usually distinguished by their physical strength and rough play in order to defend the goal from the opposing team’s attack. This shows that the preparation of defensive players during training units does not focus on planning, organization, and choosing good behaviour during the match, but rather on how to defend the goal, regardless of the behaviour displayed by the defender, in addition to not Understanding the coach's plan or the lack of organization and evaluation of the players' behaviour is what causes defenders to display chaotic behaviour.Especially since the social environment in which the players live is characterized by chaos and disorganization, and is filled with anxiety and fear, these traits and chaos will certainly be ingrained in their behaviour and may affect their performance during matches. The researcher adds that a player who possesses a high degree of attention and concentration, (Kadhim & Mahmood, 2023) without engaging in unsportsmanlike or chaotic behaviour, can quickly shift their attention and

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transfer the ball to the appropriate location, i.e. to a fellow player. Conversely, we see a player who cannot shift their attention and concentration easily because their attention is distracted by variables" . (Kadhim, 2024) In ball games, the player performs multiple reactions toward the ball. Many games require quick reactions to control the opposing player's manoeuvres, as well as quick reactions to keep up with the movement of team members. The player generates reactions to twenty or thirty situations in less than a second ".This requires a high degree of attentional control, as" the training curriculum inevitably leads to improved performance if it is built on a scientific foundation in organizing the training process) "Yasser, 2002, p. 98)

(6) Table

The results of the one-way variance test (AN0VA) show the arithmetic means, standard deviations, and the calculated (F) value between the groups and the type of difference in chaotic behaviour.

Groups	arithmetic mean	standard deviation	Calculated value of (F)	significance value	Type of difference
Defensive line players	135.95	12.8656	16.530	0.000	spiritual
Midfielders	116.7	11.58992			
Offensive line players	118.3	10.69235			

The significance value is significant if it is < 0.05 at a degree of freedom of (2 - 57).

In order to identify the true differences between the research groups and the best of them in the post-tests of the variables under study, the least significant difference (LSD) test was conducted between those groups.

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Table(7) Shows the results of the LSD test to find out the least significant difference in chaotic behaviour.

Groups	Arithmetic means	Media teams	significance value	The result
Defensive line players	135.95	19.25	0.000	spiritual
Midfielders	116.7			
Midfielders	116.7	-1.6	0.000	spiritual
Offensive line players	118.3			
Offensive line players	118.3	17.65	0.000	spiritual
Defensive line players	135.95			

Discussing the comparison of chaotic behaviour between (defenders, midfielders, and attackers):

According to the data presented in Table (4-6/4-7) and Figure (4-9), the results show that defenders suffer from the highest levels of chaotic behaviour compared to attackers and midfielders, with the differences being statistically significant at the (p (0.05 > level. This high level of chaos among defenders can be attributed to the nature of the defensive role, which requires innovation and rapid interaction with playing situations, which can sometimes lead to random and ill-considered decisions. In contrast, the results showed that attackers and midfielders recorded the lowest levels of chaotic behaviour, reflecting the high discipline and tactical commitment required by this position. Midfielders ranked midway between attackers and defenders in terms of levels of chaotic behaviour, showing a balance between offensive and defensive demands, but with some chaos due to the multitasking they perform. (Khedir, 2018)

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Conclusions:

1-The scale has proven effective in measuring disruptive behaviour in players.

2- Iraqi Premier League football players have a chaotic behaviour.

3-Defenders have a more chaotic behaviour than midfielders and attackers.

Recommendations:

1- The necessity of using the Chaotic Behaviour Scale by coaches on players of Iraqi Premier League football clubs to diagnose players with chaotic behaviour in order to develop an appropriate psychological and training program for them.

2- Instructing coaches to provide a suitable environment for players and to pay attention to psychological aspects.

3- It is necessary to keep players away from external disputes and to keep them focused on the match to avoid chaotic behaviour.

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