Exploring the predictive ability of perceived self-efficacy in futsal implications for player selection and interpretation of competitive performance

Explorando la capacidad predictiva de la autoeficacia percibida en el futsal: implicaciones para la selección de jugadores e interpretación del rendimiento competitivo

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Abstract

Objective: Analyze the predictive value of perceived self-efficacy as a psychological variable affecting the performance of futsal players, and to investigate its feasibility as a practical tool in player selection .This objective stems from the urgent need to develop more comprehensive selection mechanisms that go beyond traditional physical and skill tests to incorporate psychological indicators with a deeper explanatory nature, especially in sports known for their high competitive pressure, such as futsal.
Research methodology: The sample included (153) players from Iraqi Premier League futsal clubs. Their self-efficacy levels were measured using a standardized scale, along with an objective assessment of technical and tactical performance. The results of the analysis of variance and regression analysis showed that self-efficacy significantly contributes to distinguishing performance levels, explaining more than 60% of the total variance.
Result: The results of the study confirmed the positive impact of perceived self-efficacy on the athletic performance of futsal players, whether through significant differences between different psychological levels (as shown by the ANOVA test), or through the high predictive power demonstrated by multiple regression analysis, where self-efficacy explained 61.1% of the variance in athletic performance.
Conclusions: Perceived self-efficacy is a psychological variable with strong significance in explaining athletic performance. The results showed significant differences between players depending on their levels of self-efficacy, favoring those with higher levels.

Keywords

Perceived self-efficacy; futsal; player selection; competitive performance; sports prediction.

Resumen

Objetivo: Analizar el valor predictivo de la autoeficacia percibida como variable psicológica que afecta al rendimiento de los jugadores de futsal e investigar su viabilidad como herramienta práctica en la selección de jugadores. Este objetivo surge de la urgente necesidad de desarrollar mecanismos de selección más completos que vayan más allá de las pruebas físicas y de habilidad tradicionales para incorporar indicadores psicológicos con una explicación más profunda, especialmente en deportes conocidos por su alta presión competitiva, como el futsal.
Metodología de la investigación: La muestra incluyó a 153 jugadores de clubes de futsal de la Premier League iraquí. Sus niveles de autoeficacia se midieron mediante una escala estandarizada, junto con una evaluación objetiva del rendimiento técnico y táctico. Los resultados del análisis de varianza y del análisis de regresión mostraron que la autoeficacia contribuye significativamente a la distinción de los niveles de rendimiento, explicando más del 60% de la varianza total. Resultado: Los resultados del estudio confirmaron el impacto positivo de la autoeficacia percibida en el rendimiento deportivo de los jugadores de fútbol sala, ya sea mediante diferencias significativas entre los diferentes niveles psicológicos (como se muestra en la prueba ANOVA) o mediante el alto poder predictivo demostrado por el análisis de regresión múltiple, donde la autoeficacia explicó el 61,1% de la varianza del rendimiento deportivo.
Conclusiones: La autoeficacia percibida es una variable psicológica con una alta significación para explicar el rendimiento deportivo. Los resultados mostraron diferencias significativas entre los jugadores en función de sus niveles de autoeficacia, favoreciendo a aquellos con niveles más altos.

Palabras clave

Autoeficacia percibida; fútbol sala; selección de jugadores; rendimiento competitivo; predicción deportiva.

Introduction

Athletic performance in team sports is the result of a complex integration of physical, skill, and psychological dimensions. Psychological factors are crucial in determining performance quality, especially in high-pressure competitive environments that require rapid responses and immediate decision-making. Among the most prominent psychological variables that have attracted the attention of researchers in recent decades is perceived self-efficacy, a central concept in behavioral self-control theory and a psychological indicator that influences athletic achievement (Bandura, 1997). Self-efficacy is defined as an individual's perception of their ability to organize and execute the actions required to achieve specific goals. It is not simply a reflection of skill, but rather a dynamic factor that regulates behavior and influences perseverance and mental flexibility (Feltz et al., 2008). Studies have shown that athletes with high self-efficacy demonstrate greater stability under pressure and more effective responses in complex competitive environments (Beattie et al., 2019) (Zhang et al., 2020). In the context of futsal a fast-paced, highly interactive sport based on instant decisions within confined spaces self-efficacy takes on a more sensitive applied dimension, as it is directly linked to a player's ability to control emotions, make decisions, and execute tasks accurately in changing circumstances (Madloul , et al., 2025). However, athlete selection criteria still often rely on physical and technical indicators, ignoring psychological dimensions that may make a qualitative difference in determining a player's eligibility to join a team or remain in the starting lineup.

Hence, the importance of this study, which seeks to analyze the predictive role of perceived self-efficacy in the selection of futsal players and their athletic performance, with the aim of proposing a more comprehensive and balanced selection model. It also aims to promote the integration of psychological assessments into the technical policies of clubs and coaches, especially in environments characterized by intense competition and interactive pressure.

Research objective

This study aims to analyze the predictive value of perceived self-efficacy as a psychological variable affecting the performance of futsal players, and to investigate its feasibility as a practical tool in player selection. This objective stems from the urgent need to develop more comprehensive selection mechanisms that go beyond traditional physical and skill tests to incorporate psychological indicators with a deeper explanatory nature, especially in sports known for their high competitive pressure, such as futsal.

The importance of the study lies in several aspects:

- Academically: It fills a gap in the Arabic literature related to the role of self-efficacy in team sports, particularly those that rely on momentary decisions in highly complex contexts.
- Practically: It provides a scientific framework that coaches and administrators can employ to evaluate players not only based on momentary performance, but also based on psychological indicators that reflect mental and emotional readiness to compete.
- Practical: It allows for the development of customized training programs to enhance self-efficacy and provide environments that psychologically prepare players for optimal performance during matches.
- Statistically: The study seeks to build a predictive mathematical model that demonstrates the extent to which self-efficacy contributes to explaining variance in performance, enhancing its validity as a measurement and selection tool.
- Thus, this study contributes to enriching our understanding of the psychological factors influencing athletic performance and paves the way for reconsidering the traditional selection policies prevailing in Arab clubs.

Method

Variables

- Independent variable: Perceived self-efficacy, which refers to the player's perception of his ability to handle athletic tasks under pressure and control his behavioral and emotional responses in competitive situations.
- Dependent variable: Athletic performance, measured using a technical/tactical evaluation form that included basic skills (such as passing, shooting, dribbling), tactical decisions, and on-field behavior, in collaboration with specialized coaches with experience in the game.

Measurement Tool

Perceived Self-Efficacy Scale

The Nebras Younis Muhammad Al Murad scale was adopted to measure self-efficacy. It is a locally developed scale based on recent literature in sports psychology. The scale consists of 30 items distributed across three dimensions, as shown in Table (1).

Table 1. Show the dimensions and items of the Perceived Self-Efficacy Scale.

No.	Dimension	Paragraph numbers	Paragraphs
1	General Self-Efficacy	728 ،27 ،20 ،19 ،9 ،	6
2	Social Self-Efficacy	1322 ،21 ،18 ،17 ،16 ،15 ،14 ،	8
3	Sports Self-Efficacy	1،6 ،8 ،12،1023 ،26 , 30 ،29 ،	16

Participants' responses were measured using a five-point Likert scale, ranging from (1) to (5), as shown in Table (2), with higher values reflecting a greater level of perceived self-efficacy.

Table 2. Shows the rating scale for the positive items.

No.	Alternatives	Degree
1	Applies to me completely	5
2	Applies to me a lot	4
3	Applies to me sometimes	3
4	Applies to me a little	2
5	Doesn't apply to me at all	1

Accordingly, the total score of the scale ranges from a minimum of 30 to a maximum of 150, while the hypothetical mean is (90). Participants' scores are interpreted as follows:

Degree below 90 indicate a low level of perceived self-efficacy.

Degree close to 90 represent a moderate level of self-efficacy.

Degree above 90 reflect a high level of perceived self-efficacy.

The validity and reliability of the scale were verified through Cronbach's alpha coefficient, which reached 0.89, indicating high internal consistency and enhancing its suitability for use in the targeted sports community.

Statistical analyses were also employed to test the validity of the perceived self-efficacy scale as a psychological indicator used in the athlete selection process. The study sought to explore whether differences in self-efficacy scores are associated with statistically significant differences in athletic performance, and whether this variable possesses predictive ability that enables it to contribute to determining a player's worthiness to join the team or remain in the starting lineup. Thus, the statistical approach was adopted as the primary tool for transforming psychological data into interpretable and reliable indicators to support selection decisions.

Main Experiment

The researcher applied the final version of the Perceived Self-Efficacy Scale to a selected sample of 153 players from the Iraqi Futsal League. This was done after verifying the validity of the tool and its suita-

bility for the study objectives in terms of reliability and validity. Data collection was conducted electronically via a digital questionnaire designed using Google forms and distributed to the players in coordination with the clubs' coaching and administrative staff.

Due to the nature of the electronic system used, the form was designed to be sent only after complete responses to all items, ensuring the absence of incomplete responses or missing data. The study objectives and the response mechanism were clearly explained to the participants, enhancing the accuracy and relevance of the responses.

In parallel, an assessment of athletic performance was conducted using a technical and tactical questionnaire prepared in collaboration with specialized coaches. The assessment included skill and behavioral aspects during official competitions. After collecting the data, statistical treatments were conducted using SPSS to test the study's hypotheses related to the ability of perceived self-efficacy to predict athletic performance, and to explore the extent to which it can be adopted as an auxiliary psychological indicator in athletic selection.

Findings

Descriptive Analysis of the Perceived Self-Efficacy Variable

Table (3) shows the descriptive statistical indicators for the perceived self-efficacy scale scores among the study sample of (153) players. These indicators include measures of central tendency and dispersion, as well as skewness and kurtosis coefficients, with the aim of verifying the data distribution and its readiness for inferential analysis.

Table 3. Shows the statistical indicators for the perceived self-efficacy scale.

Perceived Self-Efficacy Scale						
Total		Maximum Degree		Minimum Degree		
11707		87		67		
Measures of central tendency				Measures of dispersion		
Arithmetic mean	Median	Mode		Range	Standard deviation	Contrast
76.52	76	75		20	4.75	22.58
Standard Error	Trimmed Mean	Kolmogorov-Smirnov Test		Sig	Level Sig	Sample volume
0.38	76.46					
Skewness	kurtosis	value calculated	value tabular			
.1900	-0.687	.0700	0.11	0.067	0.05	153

The results in Table (3) indicate that the mean perceived self-efficacy score was 76.52, which falls above the default mean for a scale ranging from 30 to 150 using a five-point Likert scale. This indicates that the majority of players possess a moderate to good level of self-efficacy. The closeness of the median (76.00) and mode (75.00) to the mean reflects a clear degree of symmetry in the distribution.

The skewness coefficient (0.1900) indicates a slight rightward shift, but it is within the statistically acceptable limits and does not affect the accuracy of the analysis. Similarly, the kurtosis coefficient (-0.687) indicates that the distribution is less flat than the standard normal distribution, which is known as a relatively flat distribution.

The Kolmogorov-Smirnov test's p-value (Sig = 0.067), which exceeds the significance level (0.05), confirms that the data distribution does not significantly differ from a normal distribution. Therefore, the distribution is considered statistically acceptable, justifying the use of parametric statistical analyses such as ANOVA and multiple regression in the following paragraphs.

To verify the extent to which the distribution of perceived self-efficacy scores among the sample members was moderate, a histogram was used to display the actual distribution of the players' scores compared to the normal curve. This procedure is an essential step in verifying the validity of the data for conducting parametric statistical analyses. Figure (1) illustrates the centering of the scores around the mean and their consistency with the normal curve.

Figure 1. Shows the frequency histogram of the distribution of players' responses on the perceived self-efficacy scale.

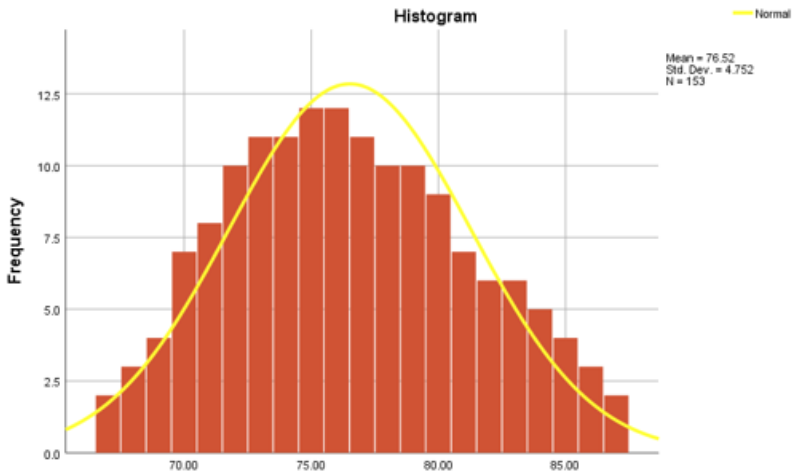

Figure (1) displays the distribution of scores for the study sample (n = 153) on the perceived self-efficacy scale. It is noted that the yellow curve, representing the normal distribution, matches well with the frequency columns for the actual scores. Most of the frequency is centered around the mean (76.52), with a standard deviation of (4.75), indicating that scores are centered around the mean values and that there are no sharp deviations.

The clear similarity in shape between the sample distribution and the normal curve reflects acceptance of the hypothesis that the data follow a normal distribution and enhances the validity of using parametric statistical analyses such as ANOVA and regression. The balanced distribution of the data also lends additional credibility to the study results, particularly in interpreting the differences between self-efficacy levels and their expectations for athletic performance.

Five-Dimension Classification of Perceived Self-Efficacy Levels

The players' perceived self-efficacy levels were classified using the standard normal distribution method, based on the sample's mean score (76.52) and standard deviation (4.75), with the aim of distinguishing individual differences in self-confidence levels within the studied athletic community. Table (4) shows the numerical limits for each category.

Table 4. Shows the classification of the five levels of perceived self-efficacy.

Level	Degree range
Very Low	Below 67.02
Low	67.02 to below 71.77
Medium	71.77 to below 81.27
High	81.27 to below 86.02
Very High	86.02 above

This five-way classification in Table (4) reflects a precise standard structure, enabling the analysis of players' psychological data according to a logical progression that contributes to explaining differences in performance. It also serves as a reliable basis for classifying players for psychological selection and targeted training planning based on perceived self-efficacy levels.

One-Way ANOVA

To detect significant differences in athletic performance between perceived self-efficacy levels, a one-way ANOVA test was used after classifying players into five psychological categories, as previously mentioned.

Table 5. Shows the results of the one-way ANOVA for athletic performance according to perceived self-efficacy levels.

Source of Variance	Sum of Squares (SS)	Degrees of freedom (df)	Mean squares (MS)	Value F	(Sig.)
Between Groups	548.20	4	137.05	9.72	0.000
Within Groups	2075.44	148	14.02		
Total	2623.64	152			

The results of the ANOVA test in Table (5) indicate statistically significant differences in athletic performance between levels of perceived self-efficacy. The value of F = 9.72 at a significance level of (Sig. = 0.000), which is less than (0.05). This confirms that self-efficacy plays an influential role in determining athletic performance.

In other words, players with high self-efficacy achieve better athletic performance compared to their peers with low self-efficacy, which supports the use of self-efficacy as a reliable psychological tool in athletic selection processes.

Multiple Regression Analysis

This analysis aims to test the extent to which perceived self-efficacy can predict athletic performance and to determine the amount of variance these psychological variables can explain in performance.

Table 6. Shows the results of the multiple regression analysis of athletic performance based on perceived self-efficacy.

Independent variable	Beta (β)	T value	(Sig.)	R^2	Interpretation
Perceived self-efficacy	0.45	7.21	0.000	0.611	Explains 61.1% of the performance variance

The results of the regression analysis in Table (6) indicate that perceived self-efficacy contributes significantly to predicting athletic performance. The Beta value was 0.45, and the R^2 value was 0.611. This means that this psychological variable explains 61.1% of the total variance in players' performance.

The probability value (Sig. = 0.000) is less than the accepted significance level (0.05), which strengthens the strength of the predictive relationship and confirms that self-efficacy is an effective psychological indicator in determining the quality of athletic performance.

This result supports the findings of (Bandura ,1997) and (Feltz et al. 2008), who argue that self-efficacy not only affects a player's current performance but also has a high explanatory ability for their future performance in intense competitive environments.

Discussion

The results of the study confirmed the positive impact of perceived self-efficacy on the athletic performance of futsal players, both through significant differences between different psychological levels (as shown by the ANOVA test) and through the high predictive ability demonstrated by multiple regression analysis, where self-efficacy explained 61.1% of the variance in athletic performance.

These results are consistent with (Bandura, 1997), who considered self-efficacy a pivotal factor in regulating human behavior and reacting to stressful situations. They are also consistent with (Feltz et al, 2008), who asserted that athletes with high self-efficacy demonstrate more consistent performance under pressure and possess a greater ability to persist and control their competitive behavior.

The results of this study are also consistent with the findings of (Zhang et al, 2020), in their meta-analysis, demonstrated a significant relationship between self-efficacy and performance in sports settings. They confirmed that enhancing an athlete's self-confidence contributes to improving their response to changing situations, which is a key requirement in a fast-paced sport like futsal.

These findings also reinforce (Stenling et al, 2015) (Saleh, et al., 2021) argument regarding the relationship between intrinsic motivation and perceived competence, and their role in enhancing mental and

emotional performance. (Weinberg and Gould 2020) also emphasized the need to integrate psychological assessments into selection and training planning tools, particularly in sports that rely on rapid responses and team coordination.

Accordingly, perceived self-efficacy represents one of the most ability psychological indicators in sports performance settings, not only in explaining current differences between players, but also in predicting their ability to develop and adapt to future competitive situations. This gives it strong legitimacy as a fundamental component of the psychological selection process for athletes.

Conclusions

- Perceived self-efficacy is a psychological variable with strong significance in explaining athletic performance. The results showed significant differences between players depending on their levels of self-efficacy, favoring those with higher levels.
- Regression analysis showed that perceived self-efficacy explained 61.1% of the variance in athletic performance, confirming its effectiveness in predicting performance in competitive environments.
- Perceived self-efficacy demonstrates a high discriminatory ability among players, making it a practical psychological tool for supporting athletic selection decisions, alongside physical and technical indicators.
- The normal distribution of scores and the coherence of the scale's structure enhance the reliability of the results, support the integration of self-efficacy into individual, and group psychological preparation programs in team sports.

Recommendations

- The necessity of adopting perceived self-efficacy as a helpful psychological indicator in selecting futsal players, especially during the final selection stages.
- Training coaches and technical staff to use simplified psychological scales and incorporating their results into player evaluation files.
- Incorporating specialized training programs aimed at enhancing self-confidence and coping skills, particularly for groups that have demonstrated low self-efficacy scores.
- Conducting future studies that address the relationship between perceived self-efficacy and other indicators, such as mental discipline or decision-making speed, to deepen our understanding of the components of mental performance in futsal.

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