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Predicting the Level of Tactical Thinking Based on Certain Psychological Skills among Football Players

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Abstract:

This study aims to assess the levels of selected psychological skills and tactical thinking among football players, as well as determine the contribution of these psychological skills to tactical thinking proficiency. Researchers used the descriptive methodological approach which suits the study's nature, with a sample of 40 football players. Data collection relied on the Tactical Thinking Scale for football players (21 items across four domains) and the Psychological Skills Scale (24 items across six dimensions). Statistical analysis was conducted through the use of SPSS version 27. Ultimately, findings revealed a good proficiency levels in both psychological skills and tactical thinking, alongside a statistically significant effect of psychological skills on enhancing tactical thinking among football players.

Keywords: Psychological skills; tactical thinking; football players.

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1. INTRODUCTION

Tactical thinking represents one of the complex cognitive processes that play a crucial role in enhancing athletic performance, particularly in team sports such as football, where it necessitates rapid and informed decision-making amid the continuous dynamics of gameplay. Tactical thinking is intrinsically linked to the athlete's psychological dimension, encompassing psychological skills such as self-confidence, anxiety control, concentration, and mental imagery, which collectively bolster the player's ability to plan effectively and make accurate decisions.

Numerous field studies have indicated that the level of tactical thinking among football players is influenced by a multifaceted array of factors, including physical, technical, and psychological aspects. For instance, (Amer & Fallak , 2022) demonstrated a statistically significant relationship between tactical thinking levels and specific physical attributes and technical skills among under-15 football players, underscoring the importance of an integrated preparation approach that incorporates psychological elements alongside physical and technical training.

Psychological and cognitive factors exert a substantial influence on optimizing and elevating team athletic performance. These factors instill a strong will in athletes to endure training intensities and confront competitive challenges effectively. They foster psychological resilience, sustained motivation, optimal guidance of athletic orientations, enhanced team communication, and elevated drive levels. Effective utilization of psychological techniques requires profound knowledge, which proves essential during the theoretical preparation and orientation phases emphasized in psychological training (Ben Frouj & Arabi, 2024, p. 851).

Recent studies have revealed a close relationship between the development of psychological skills and the improvement of tactical thinking. This synergy between psychological capacities and technical-tactical demands creates an optimal environment for achieving peak athletic performance. Moreover, targeted psychological interventions have been shown to enhance decision-making efficiency and responsiveness to emergent situations during matches. A key attribute for football players is their possession of cognitive skills that enable sound tactical behavior. Thinking skills have garnered significant attention from

researchers across various life domains, including sports, due to their critical importance in diverse competitive scenarios (Khalil, Hassan, & Kazem, 2015).

The aforementioned evidence highlights the significance of the current study, which aims to predict the level of tactical thinking based on selected psychological skills among football players.

2. Research Questions:

- What is the level of tactical thinking among football players?
- What is the level of mental skills among football players?
- What is the contribution rate of psychological skills to the level of tactical thinking among football players?

3. Study Objectives:

- To identify the level of tactical thinking among football players.
- To identify the level of psychological skills among football players.
- To determine the contribution rate of psychological skills to the level of tactical thinking among football players.

4. Study Terminology:

4-1. Tactical Thinking: "It is a type of thinking performed by the individual athlete during the tactical learning phase and during sports competitions, on the basis of which the athlete's multiple responses are founded" (Al-Khuli, Mahmoud , & Adnan , 1998, p. 98).

4-2. Tactical Action/Tactical Decision-Making: "It is the manner of utilizing the experiences possessed by the player when exposed to multiple and constantly changing game situations to achieve the maximum possible results" (Alawi M. , 1992, p. 232).

4.3The Concept of Tactical Thinking and Tactical Action:

Thinking is a series of mental activities performed by the brain when it is exposed to a stimulus that is received through one or more of the five senses. Thinking plays an important role in the player's performance during the match, as through it the player is able to perceive multiple situations during the match, then analyze them, followed by a tactical response to these situations. The changing situations in a football match demand rapid thinking from the player to make necessary decisions. The correctness of these decisions depends on the player's previous experiences, the intensity of his concentration, and his attention to what is happening on the field (Hanafi, 1997, p. 316).

4.4The Concept of Psychological (Mental) Skills:

Mental skill is of a great importance in sports performance as it enables the athlete to reach a mental state that prevents negative, distracting thoughts from interfering with his sports activity. The training of players to learn mental skills follows the same process as motor skills, meaning that basic skills must be learned first, followed by the application of these mental skills in competitive situations. For example, it is easy to learn a mental skill such as relaxation in a quiet place, but what is required from the player is the ability to maintain calmness during intense competition when the situation demands it (Shimon & Majda , 2001, p. 94).

Many coaches are keen on correcting errors in tactical and physical performance and ask players to practice more. However, the problem is often not due to a lack of physical skills, but rather due to insufficient training of psychological skills; that is, the player is unable to master psychological skills under competitive pressure. Frequently, when we ask players to repeat exercises on their own without pressure, this does not benefit them. Rather, they need to develop their psychological skills such as relaxation and mental imagery under competitive pressure. Additionally, there are other players who need to improve and develop attention focus, self-confidence, and anxiety management, which are referred to as mental or psychological skills (Alawi, 2002, p. 19).

Mental skills play an important role in achieving sports accomplishments. Neglecting this role and failing to pay attention to it damages performance to a significant degree. It is essential to emphasize the importance of these skills and their effective role in reaching a state of optimal performance. The development of mental skills must proceed hand in hand with the development of physical fitness components, as the integration between mental skills is the path to developing motor skills and improving the level of performance (Shimon & Abdul Nabi , 1996, p. 48).

4.5. Types of Mental Skills:

Many researchers in sports psychology have pointed out that there are a large number of psychological skills related to sports. The most important of these include:

- The ability to visualize (mental imagery)
- The ability to relax

- The ability to focus attention
- The ability to manage anxiety
- Self-confidence
- Achievement motivation in sports

There is an interconnected relationship between these skills, as the development and enhancement of one of these skills helps in developing other mental skills.

5. Previous Studies:

5.1. Researcher "HAIXIN LI" (2022) conducted a study titled "Tactical Mentality in Football Players: Selecting Effective Training Strategies to Achieve High-Level Performance." The research aimed to investigate the effect of a training strategy framework developed with the assistance of the Tactics Manager program on developing tactical mentality among football students of various ages. To determine criteria for tactical thinking in play, the ball test method was used. The research sample consisted of 316 students in the first, third, and fifth years studying at four higher education institutions in China. The post-test showed an increase in tactical thinking indicators among football players, with the coefficient of "number of correct answers" increasing in group C by 1.97 points, group B by 1.23 points, and group A by 2.63 points. The research results can help inform the experience of using computer programs to create effective training strategies. (LI, 2022)

5.2. Researchers "Johan Grønset. Martin Langagergaard and Stig Arve Sæther, and "(2024) conducted a study titled "Mental Processes in professional Football Players." The study aimed to explore how professional football players perceive mental processes and their impact on sports performance at elite levels. The study sample consisted of six professional Norwegian players representing five clubs, with an average age of 28.3 years. The study focused on the importance of regulating nervous arousal, mental toughness, and self-confidence in player performance. The results showed that players have significant awareness of the impact of mental processes on their performance, and that sports psychologists contribute effectively to developing players' mental skills. The results also demonstrated that mental toughness was the most important factor, enabling players to deal with difficult situations and pressures. (Johan , Martin , & Stig Arve , 2024)

6. Research Methodology:

The descriptive method was used due to its suitability to the nature of the study.

7. Study Sample:

The study sample consisted of 40 senior-level football players.

8. Study Tools:

8.1. Tactical Thinking Scale:

The tactical thinking scale consists of 21 statements divided into four dimensions. The first dimension is knowledge of ball movements and consists of four statements. The second dimension is knowledge of others and consists of five statements. The third dimension is positioning and decision-making and consists of eight statements. The fourth and final dimension is tactical action in changing situations and consists of four statements, as shown in the following table:

Table No. (01): Distribution of Statements According to Scale Dimensions.

Dimensions of Tactical Thinking	Item Numbers
1. Knowledge of Ball Movements	Items 01 to 04
2. Knowledge of Others	Items 05 to 09
3. Positioning and Decision-Making	Items 10 to 17
4. Tactical Action in Changing Situations	Items 18 to 21

Source: The Researchers.

8.2. Psychological Skills Scale:

In this study, we used the mental (psychological) skills scale, which was designed by Stephen Bull, John Albinson, and Christopher Shambrook (1996) and was translated and adapted by Mohamed Hassan Alawi, to measure some important mental (psychological) aspects of sports performance, which are:

- The ability to visualize (mental imagery)
- The ability to relax
- The ability to focus attention
- The ability to manage anxiety
- Self-confidence
- Achievement motivation in sports

The scale comprises 24 statements, with each of the six dimensions represented

by 4 statements. The player responds to the statements according to a six-point Likert scale (applies to a very large degree, applies to a large degree, applies to a moderate degree, applies to a small degree, applies to a very small degree, does not apply at all). The scale also contains positive statements in the direction of the dimension and negative statements in the opposite direction of the dimension, as shown in the following table:

Table No. (02): Distribution of Positive and Negative Statements According to Scale Dimensions.

dimensions of Mental Skills	Item Numbers	Positive Item Numbers	Negative Item Numbers
1. The Ability to Visualize	1/7/13/19	1/7/19	13
2. The Ability to Relax	2/8/14/20	2/14/20	8
3. The Ability to Focus Attention	3/9/15/21	—	3/9/15/21
4. The Ability to Manage Anxiety	4/10/16/22	—	4/10/16/22
5. Self-Confidence	5/11/17/23	5/17	11/23
6. Achievement Motivation in Sports	6/12/18/24	6/12/18/24	—

Source: The Researchers.

9. Statistical Methods:

Data were processed statistically using SPSS version 27, and the statistical methods used were as follows:

- Arithmetic mean
- Standard deviation
- Hypothetical mean
- Simple linear regression

10. Presentation and Discussion of Results:

10.1. What is the level of tactical thinking among football players?

Table No. (03): Shows the level of mental skills among football players

No.	Mental Dimensions	Unit of Measurement	Hypothetical Mean	Arithmetic Mean	Standard Deviation	Level
01	The Ability to Visualize	Score	14	17.52	2.81	Good
02	The Ability to Relax	Score	14	17.65	2.58	Good
03	The Ability to Focus Attention	Score	14	15.37	3.60	Good
04	The Ability to Manage Anxiety	Score	14	17.57	4.32	Good
05	Self-Confidence	Score	14	18.50	3.54	Good
06	Achievement Motivation in Sports	Score	14	20.07	2.49	Good
07	Overall Scale Score	Score	84	105.15	15.73	Good

Source: The Researchers.

It is evident from Table No. (03), which represents the level of psychological skills among football players, that the arithmetic mean for the ability to visualize dimension was (17.52) with a standard deviation of (2.81). The arithmetic mean for the ability to relax dimension was (17.65) with a standard deviation of (2.58). The arithmetic mean for the ability to focus attention dimension was (15.37) with a standard deviation of (3.60). Regarding the arithmetic mean for the ability to manage anxiety dimension, it was (17.57) with a standard deviation of (4.32). The arithmetic mean for the self-confidence dimension was (18.50) with a standard

deviation of (3.54). The arithmetic mean for the achievement motivation in sports dimension was (20.07) with a standard deviation of (2.49). All these dimensions achieved a "good" level because their hypothetical mean was (14), which is lower than all the arithmetic means of the dimensions. Additionally, the arithmetic mean for the overall scale score was (105.15) with a standard deviation of (15.73), where the hypothetical mean was (84), which indicates a "good" level.

This can be interpreted as evidence that the study sample possesses a solid psychological and cognitive composition, enabling them to comprehend and assimilate instructions provided by the technical staff regarding gameplay strategies and positional awareness on the field during matches. Mental fitness has become fundamental for football players alongside other components, given its profound impact on the player's intellectual excellence in executing required tactics, developing essential skills, and appropriately analyzing tactical situations during competitions. Mental fitness is considered essential for athletes in competitive sports—whether team or individual—and particularly in football (Alhiti, Mawfaq Asaad Al-Hiti's Blog, 2022).

Professional sports demand that athletes possess a comprehensive skill set, with cognitive skills required for adaptation and elite-level development representing some of the most challenging competencies to cultivate (Erkut , Jürgen , & Clifford J, 2019). Research has demonstrated that mental processes (and the cognitive skills acquired through them) constitute critical factors that not only directly influence athletes' capacity to perform at their optimal level (Nesti, 2010), but also indirectly enhance other success-oriented skills at the highest competitive echelons (Mark, Paul, & Barry, 2022). Conscious and active utilization of mental processes, along with their development, is essential for effectively managing suboptimal performance; empirical evidence confirms that these processes are vital for superior performance, particularly in arousal regulation and mental toughness (Chris, John, Mary , Antoinette , & Caroline , 2020). The findings of the current study align with those of (Kararma, 2022), which affirmed that the study sample exhibits a commendable level of psychological skills.

Table No. (04): Shows the level of tactical thinking among football players.

No.	Dimensions of Tactical Thinking	Unit of Measurement	Hypothetical Mean	Arithmetic Mean	Standard Deviation	Level
01	Knowledge of Ball Movements	Score	14	17.75	2.33	Good
02	Knowledge of Others	Score	17.5	22.28	2.68	Good
03	Positioning and Decision-Making	Score	28	31.91	5.60	Good
04	Tactical Action in Changing Situations	Score	14	18.02	2.91	Good
05	Overall Scale Score	Score	73.5	89.97	8.40	Good

Source: The Researchers.

Table 03, which represents the level of tactical thinking among football players, reveals the following statistical findings: the arithmetic mean for the "Knowledge of Ball Movements" domain was 17.75 (SD = 2.33), while the mean for the "Knowledge of Others" domain was 22.28 (SD = 2.68). The arithmetic mean for the "Positioning and Decision-Making" domain reached 31.91 (SD = 5.60), and

for the "Behavior in Changing Situations" domain, it was 18.02 (SD = 2.91). All domains exhibited a "good" level, as their arithmetic means exceeded the hypothetical means; the overall scale mean was 89.97 (SD = 8.40), surpassing the hypothetical mean of 73.5, confirming a commendable overall tactical thinking proficiency.

These statistical results can be interpreted as evidence that players demonstrate robust tactical cognition, particularly manifesting mental toughness as a paramount cognitive process underpinning their performance. Mental toughness constitutes a fundamental psychological attribute essential for navigating challenging situations before, during, and after matches (Richard , Neil , & Iain , 2005).

Mental toughness also emerges as a product of age and accumulated experience, given that most study participants progressed through youth categories to reach senior levels. Older players typically possess greater experiential exposure, enabling superior situational management compared to younger counterparts.

Football tactics necessitate multifaceted strategies and methods compelling players to leverage their intelligence and tactical acumen in defensive and offensive planning, as well as all in-game actions (Kammash, 1988).

10.3. There is a statistically significant effect at the significance level ($\alpha \leq 0.05$) of the level of psychological skills in improving the level of tactical thinking among football players.

In order to test this hypothesis, the simple linear regression model was used, and the results of this analysis are shown in the following table:

Table No. (05): Results of Simple Linear Regression Analysis Testing the Effect of Psychological Skills Level in Improving Tactical Thinking Level Among Football Players (n=40)

Independent Variable	B		Standard Error	Beta Value	Calculated t-Value	Significance Level (Sig)
Tactical Thinking	C*0*	56.188	7.364	—	7.630	0.001

	C1	0.321	0.069	0.601	4.638	0.001
Correlation Coefficient (R)			0.601			
Coefficient of Determination (R^2)			0.361			
Calculated F-Value			21.509			
Tabulated F-Value			3.84			
Significance Level (Sig)			0.000			

Source: The Researchers .

From the results presented in the above table, we observe that the calculated F-value (21.509) is greater than its tabulated value of (3.84) at degrees of freedom (1, 38) at the significance level of 0.05. This requires rejecting the null hypothesis and accepting the alternative hypothesis, which states that there is a statistically significant effect at the significance level ($\alpha \leq 0.05$) of the level of psychological skills in improving the level of tactical thinking among football players. This result is further confirmed by the F significance level of (0.001), which is less than 0.05, the adopted significance level. The explanatory power reached ($R^2 = 0.361$), which means that the level of psychological skills explains 36.10% of the variation occurring in the dependent variable (improving the level of tactical thinking), and the remaining (63.90%) is attributed to other factors not included in the model. We also observe that the value of Pearson's correlation coefficient equals 0.601.

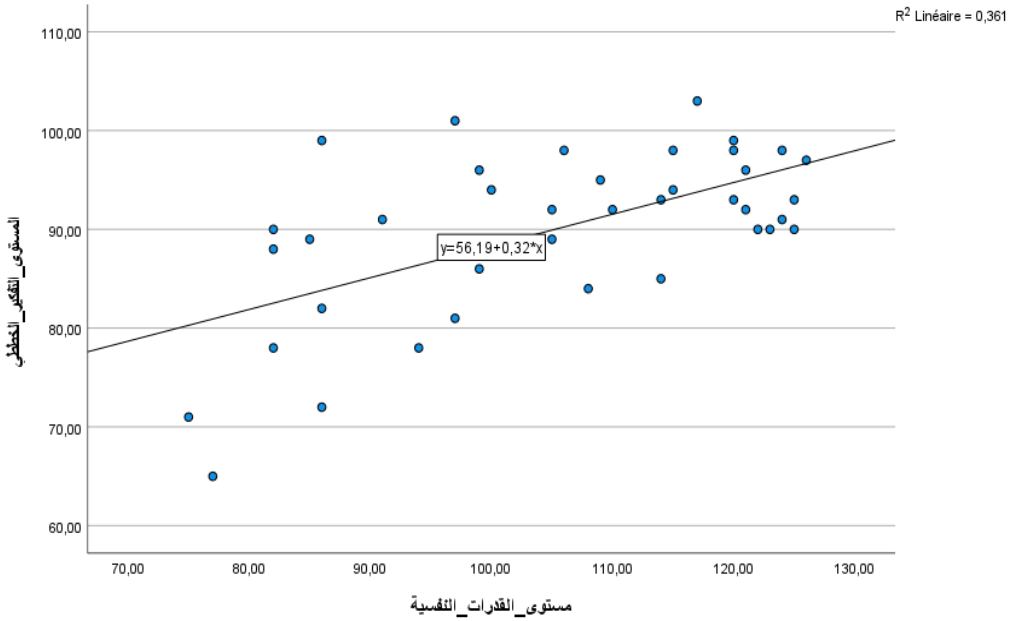
Based on the results of simple linear regression and the examination of regression coefficients B and Student's t-test, we conclude that the coefficient of the independent variable, psychological skills, was statistically significant because the corresponding probability (Sig) of (0.000) is less than 0.05. Furthermore, there is a positive relationship between them, such that whenever the level of psychological skills increases by one unit, the level of tactical thinking increases

by 0.321 units.

Based on the previous discussion, we can formulate the simple linear regression model for the relationship between the two variables as follows:

Y = 56.19 + 0.32X

Tactical Thinking = 56.19 + 0.32 Psychological Skills



Source: The Researchers.

Advanced physical, technical, and tactical competencies are essential yet insufficient for success in modern football. Research demonstrates that the most successful athletes consistently require and utilize psychological skills—such as relaxation, imagery, goal-setting, and self-talk—to optimize their performance (Erkut , Jürgen , & Clifford J, 2019, p. 19). Consequently, psychological skills training must constitute an integral component of football practice and preparation.

The efficacy of gameplay strategies increasingly depends on interconnected and interdependent foundational elements that cannot be isolated from one another. Alongside physical, technical, tactical, and cognitive preparation, psychological conditioning exerts equivalent importance and impact; in critical moments, psychological and motivational factors often prove decisive. Players

endowed with psychological and volitional attributes—such as perseverance, resilience, self-confidence, boldness, and courage—frequently resolve pivotal tactical situations (Alhiti, 2025) .(Al-Atrash, 2008) Affirmed the substantial efficacy of psychological skills in elevating tactical and offensive performance levels in football. This assertion aligns with the study conducted by (Kahlouch & Baziaou, 2022), which emphasized the critical role of mental imagery—a fundamental psychological skill—in enhancing tactical proficiency among football players. Accordingly, predicting tactical thinking levels through specific psychological indicators emerges as an indispensable tool for player evaluation and development, enabling comprehensive training programs that integrate psychological and technical dimensions to achieve optimal athletic outcomes.

11. CONCLUSION*:*

Drawing from the study's results, which investigated the prediction of tactical thinking levels based on selected psychological skills among football players—with objectives encompassing the assessment of tactical thinking proficiency and psychological skills levels, alongside determining the psychological skills' contribution to tactical cognition—the following outcomes emerged post-statistical data processing:

- Psychological skills among football players manifest at a commendable proficiency level.
- Tactical thinking among football players manifests at a commendable proficiency level.
- Psychological skills exert a statistically significant effect on enhancing tactical thinking proficiency among football players.

Consequently, researchers recommend prioritizing all facets of the training process due to their profound significance in elevating individual and team performance levels. This necessitates employing specialized personnel for each domain to enable meticulous attention to detail and transformation of weaknesses into strengths.

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