PHYSICAL EDUCATION OF STUDENTS

ORIGINAL ARTICLE

Development of predictive indices for dribbling and ball control performance based on psychological factors in university soccer players

Mourad Khaladi[1ABCDE], Badreddine Boussag[2ABCDE], Abderrahim Laidi[3ABCDE], Abdelhakim Karrouche[4ABCDE]

[1] Laboratory of Sports Media Governance and Sports Management in Algeria, Adapted Sports Physical Activity Department, Institute of Sciences and Techniques of Physical and Sports Activities, Mohamed Boudiaf University of M'sila, Algeria

[2] Laboratory of Sports Media Governance and Sports Management in Algeria, Department of Physical Education and Sports, Institute of Sciences and Techniques of Physical and Sports Activities, Mohamed Boudiaf University of M'sila, Algeria

[3] laboratory of Motor Learning and Control, Department of Sport Training, Institute of Sciences and Techniques of Physical and Sports Activities, Mohamed Boudiaf University of M'sila, Algeria

[4] Laboratory for Studies and Research in the Sciences and Techniques of Physical and Sports Activities, Department of Sport Training, Institute of Sciences and Techniques of Physical and Sports Activities, Mohamed Khider University of Biskra, Algeria

Authors' Contribution: A – Study design; B – Data collection; C – Statistical analysis; D – Manuscript Preparation; E – Funds Collection

Abstract

Background and Study Aim: This study aims to evaluate how psychological skills affect dribbling and ball control performance in football students. The study analyzed key psychological factors, including visualization, attentional focus, self-confidence, and anxiety management, to predict athletic performance.

Material and Methods: A sample of 20 male master's students from the university's football team participated in the study, which employed a descriptive methodology, integrating survey techniques and correlational analysis through two main skill tests (Dribbling Skill Test Between Cones and Ball Control Skill Test) along with a Psychological Skills Scale. Reliability coefficients (0.91 for the psychological scale, 0.82–0.84 for the skill tests) confirmed the validity of the instruments. Statistical analyses, including Pearson correlation and linear regression, were performed using SPSS 25.

Results: Significant correlations were found between psychological skills and performance. Notably, achievement motivation negatively impacted dribbling performance ($r = -0.78$), possibly due to an overemphasis on control rather than fluidity. ANOVA and t-test analyses revealed that visualization ability significantly predicts both dribbling ($F = 11.24$, $p = 0.004$) and ball control performance ($F = 13.015$, $p = 0.002$). Regression equations for dribbling and ball control performance indicated that improved psychological skills, particularly visualization and achievement motivation, optimize performance outcomes.

Conclusions: These results underscore the crucial role of psychological skills, particularly visualization and achievement motivation, in enhancing football performance among master's students. Training programs should integrate psychological skills development, particularly visualization and achievement motivation, to enhance dribbling and ball control in competitive soccer.

Keywords: dribbling, ball control, psychological, soccer.

Introduction

The psychological aspects of athletic performance are increasingly recognized as critical determinants of success in elite sports, complementing technical skills and tactical understanding. Mental toughness, a construct encompassing various psychological traits, has been identified as a key factor influencing athletic achievement, particularly when performance does not meet expectations [1, 2, 3]. This is especially relevant for young football players, who face intense psychological pressures, which highlight the necessity of psychological preparation [4]. Athletes who adopt a growth mindset, viewing challenges as opportunities for learning, tend to excel in performance analysis and more effectively identify areas for improvement [5]. Consequently, training programs must adopt a holistic approach that integrates psychological preparation with a focus on thought management, attention control, emotion regulation, stress reduction, and motivation alongside physical conditioning and skill development to optimize performance in young athletes [6].

doi:10.15561/20755279.2025.0202

The psychology of athletic performance highlights the profound influence of mental processes on an athlete's success. Research has demonstrated that psychological attributes such as self-confidence and visualization significantly enhance technical performance in football [5, 7]. For instance, a study established a link between motivational traits and psychological skills, suggesting that these factors could indirectly benefit technical skills in sports like volleyball [8]. Similarly, goal setting, visualization, and mental imagery have been shown to improve self-confidence and performance [5], which are likely to positively influence football-specific skills. Loehr's research further supports the notion that mental factors contribute substantially to overall athletic success [9, 10]. At the same time, psychologically oriented elements have been emphasized as accounting for a significant portion of the factors contributing to success in terms of strength, skill, and competitive drive [11]. Additionally, it has been found that coaches regard mental strength as a critical factor in athletic success, reinforcing its potential to enhance technical skills [12].

The ability to manage stress and anxiety is particularly crucial for athletes, especially when executing technical skills under pressure. Techniques such as mindfulness and cognitive restructuring have been shown to improve performance in high-stakes situations by enhancing focus and reducing performance-inhibiting thoughts [5]. It has been highlighted that a broad range of psychological factors play a significant role in enhancing performance across various aspects of training and competition [13], including the refinement of complex motor skills. Responsibility for athletic excellence has been correlated with visualization and self-confidence [14], skills that are directly applicable to improving technical performance. Enhanced visualization allows athletes to mentally rehearse intricate maneuvers, while self-confidence bolsters their belief in their ability to execute them successfully. A supportive team environment may also indirectly influence these skills by fostering motivation and reducing stress [5, 3, 14], thereby creating conditions conducive to peak performance. Furthermore, a supportive atmosphere can promote self-confidence and a healthy lifestyle, contributing to improved soccer skills [3, 15]. Psychological toughness, in particular, has been emphasized as vital in football, enabling players to maintain focus, make efficient decisions, and mitigate anxiety and burnout [16, 17]. Building on this idea, researchers have emphasized that psychological factors such as self-confidence and motivation significantly impact athletic performance in competitive sports. However, their specific influence on dribbling and ball control remains underexplored [7].

Research has consistently demonstrated a strong link between mental abilities and athletic success [18, 19, 20]. Emotional intelligence, which encompasses self-awareness, self-regulation, empathy, and social skills, has been identified as particularly vital for performance. An athlete's ability to manage emotions, recover from setbacks, and maintain positive team relationships directly impacts mental resilience, which in turn influences performance outcomes [18, 19]. In football, while general studies have shown correlations between psychological factors and attributes such as age and gender [21], as well as the positive impact of mental toughness on cognitive effort and emotional regulation [22], there is a notable lack of research directly linking psychological factors to specific skills such as dribbling and ball control. Nevertheless, studies emphasize the importance of emotional resilience within a supportive environment for sporting success [22, 23]. This suggests that improving athletes' performance is closely tied to their psychological development [23]. These findings highlight the need for further research into how specific psychological traits affect football-specific skills.

While previous studies have extensively examined the role of psychological factors in sports performance, few have specifically investigated their impact on fundamental football skills such as dribbling and ball control. This gap in the literature highlights the need for targeted research to understand how psychological competencies influence these critical aspects of football performance. Addressing this gap, the present study aims to evaluate how psychological skills influence dribbling and ball control among university football students. Additionally, the research seeks to develop predictive models for these fundamental football skills based on the most significant psychological competencies identified in the sample population.

Materials and Methods

Participants

This research was authorized by Mohamed Boudiaf University of M'sila in collaboration with Mohamed Khider University of Biskra, Algeria, for the academic year 2024–2025. The study population comprised all master's students in Physical Education and Sports from M'sila University, specifically those who utilized the sports complex located in M'sila.

The sample size of 20 male students (n = 20) was determined based on practical constraints, including the availability of participants who met the specific criteria of being master's students in Physical Education and Sports, specializing in team sports (specifically football), and actively participating in the university football team at Mohamed Boudiaf University of M'sila. All participants provided

informed consent before participation. The study was conducted in accordance with the ethical guidelines set by the University Ethics Committee, ensuring confidentiality and voluntary participation.

The broader study population included 70 university students from Mohamed Boudiaf University of M'sila, all of whom were actively engaged in team sports as members of the university's various sports teams, such as volleyball and basketball. The final research sample comprised 20 male students specializing exclusively in football. This number represents the total population of students specializing in soccer at the university (Table 1).

Table 1. Participant Statistics

Variable	Characteristic
Research Society	70 sports students
Participants	20 students specializing in soccer
Level	Master's
Specialization	Soccer

Research Design

This study aims to assess numerical indicators for predicting performance in fundamental football skills, specifically dribbling and ball control, by examining the influence of psychological factors such as visualization skills, attentional focus, self-confidence, relaxation, anxiety management, and achievement motivation among university sports students.

To achieve this, a descriptive methodology incorporating survey techniques and correlational analysis was employed. The study utilized two primary assessments: the Dribbling Skill Test Between Cones and the Ball Control Skill Test, alongside the Psychological Scale (Psy-Scale) to evaluate the psychological factors affecting the skill performance of master's students participating in the university football team.

Prior to administering the skills tests and psychological assessments, the reliability and validity coefficients of the skills tests were verified (Table 2). The Psychological Scale (Psy-Scale) demonstrated excellent validity and reliability, with coefficients of 0.91 and 0.80, respectively.

After completing all necessary procedures and validating the scientific foundations of the study instruments, the final research experiment was conducted over two days. The first day focused on assessing the participants' psychological skills, while the second day was dedicated to evaluating their performance in the Dribbling Skill Test and the Ball Control Skill Test.

A descriptive correlational design was selected for this study because it facilitates the exploration of natural relationships between psychological factors and football skill performance without the need to manipulate variables. This approach is particularly well suited for examining real-world training scenarios, as it provides valuable insights into how psychological variables impact skill performance in an authentic context. By identifying correlations between psychological skills and skill outcomes, this design enhances the understanding of factors influencing athletic performance and offers practical implications for sports training and development. Furthermore, this methodology aligns with the study's objective of identifying predictive indicators for performance, making it an appropriate choice for analyzing the relationship between psychological factors and fundamental football skills.

Measures

Psychological Skills Scale

To assess psychological skills, we utilized the Psychological Skills Scale (Psy-Scale) developed by Mohammed Hassan Alawi [24], which demonstrated excellent validity and reliability, with coefficients of 0.91 and 0.80, respectively. The scale consists of six dimensions, totaling 24 items, with each dimension containing four items.

These dimensions include Visualization Ability (items 19, 13, 7, and 1, with item 13 reverse-scored), Relaxation Ability (items 20, 14, 8, and 2, with item 8 reverse-scored), Attentional Focus Ability (items 21, 15, 9, and 3, all positively framed), Anxiety Coping Ability (items 22, 16, 10, and 4, all positively framed), Self-Confidence (items 23, 17, 11, and 5, with items 17 and 5 reverse-scored), and Achievement Motivation (items 24, 18, 12, and 6, all positively framed).

The scale employs a five-point Likert rating system, where responses range from 1 (*strongly disagree*) to 5 (*strongly agree*). Higher total scores indicate greater proficiency in the respective psychological attributes, while lower scores suggest weaker psychological skills. Reliability analysis confirmed high internal consistency (*Cronbach's alpha* = 0.91), ensuring the scale's robustness for measuring psychological skills in this study.

Skill Tests

The Dribbling and Ball Control Skills Tests are established methods for evaluating football performance, with prior research confirming their effectiveness in assessing technical skills in controlled settings [25]. Specifically designed to measure key abilities in dribbling and ball control, these assessments produce quantifiable outcomes that aid in monitoring player development, identifying areas for improvement, and facilitating objective comparisons among participants.

The Dribbling Between Cones Skill Test evaluates a player's ability to navigate a ball through a series of cones, assessing agility, ball control, and dribbling

precision. Studies have shown a strong correlation between performance on this test and a player's dribbling success in competitive matches, with the time taken to complete the task serving as a key predictor of dribbling skill [26].

Similarly, the Ball Control Skill Test analyzes a player's proficiency in maintaining control of the ball within a designated space, reflecting their technical ability and consistency. Research has confirmed that this test reliably measures essential ball control skills crucial for gameplay, exhibiting high inter-rater reliability, which indicates consistency in scoring among different evaluators [27]. Additionally, the results of this test align with players' technical performance in drills and matches, further supporting its validity as an assessment of ball control.

Statistical Analysis

To verify the hypotheses, a range of statistical methods was applied using the Statistical Package for the Social Sciences (SPSS 25). Descriptive statistics, such as mean and standard deviation, were used to analyze central tendencies and variability within the dataset. To investigate relationships between variables, bivariate analysis was performed using the Pearson correlation coefficient. Parametric inferential statistics, including t-tests and F-tests, were applied to compare differences among groups and to evaluate the equality of variances, respectively. Furthermore, the impact of multiple predictors on a dependent variable was assessed through simple linear regression and multiple stepwise regression analyses. Before conducting parametric tests, the normality of data distribution was evaluated using the Shapiro-Wilk test, and Levene's test was employed to confirm homogeneity of variance. All analyses were conducted in SPSS 25, with a significance threshold set at $p < 0.05$. These methods ensured a thorough and rigorous exploration of the research findings.

Results

Normality of Distribution

In the evaluation of technical and psychological skills in soccer players, a normality test was conducted using the Shapiro-Wilk test. The sample included various skills, such as dribbling skill and ball control skill, along with an assessment of psychological skills. The results indicated that dribbling skill had a Shapiro-Wilk statistic of 0.856 with a significance level of 0.405, suggesting that the distribution of dribbling skill scores does not significantly deviate from normality. Similarly, ball control skill exhibited a Shapiro-Wilk statistic of 0.888 and a significance level of 0.356, further confirming the normal distribution of this variable. Lastly, the assessment of psychological skills yielded a Shapiro-Wilk statistic of 0.893 with a significance level of 0.342, indicating that psychological skills also conform to a normal distribution. Overall, these findings suggest that all assessed skills maintain normality, which is crucial for any subsequent parametric analyses in the study.

Table 2. Shapiro-Wilk Normality Test Results for Technical and Psychological Skills in Soccer Players

Variable	Sample Size	Shapiro-Wilk Statistic	Significance
Dribbling skill	20	0.856	0.405
Ball control skill		0.888	0.356
Psychological skills		0.893	0.342

Validity and Reliability

Validity refers to the extent to which a measurement scale accurately reflects the construct it is intended to measure. In this study, content validity was established through an evaluation by experts in physical education, sports, medicine, and health psychology. These specialists assessed the scale for face validity, and their collective agreement indicated that the items were relevant and aligned with the scale's intended goals.

The validity of the tests was further examined through an assessment of internal consistency, following methodologies established by several researchers [28, 29]. Additionally, a t-test was conducted to assess the discriminant validity of the skill tests by comparing a distinguished group and a non-distinguished group, as detailed in Table 3.

Findings on Discriminant Validity

The findings indicate notable disparities between the distinguished and non-distinguished groups in two skill assessments, analyzed using t-tests. As shown in Table 3, in the Ball Dribbling Skill Test, the distinguished group reported a mean score of 22.16

Table 3. Shows the results of the t-test for the discriminant validity of skill tests

Tests	Distinguished Group		Non-Distinguished Group		t-value	Significance
	Mean	Standard Deviation	Mean	Standard Deviation		
Ball Dribbling Skill Test	22.16	1.17	25.33	1.04	-4.97	0.001
Ball Control Skill Test	35	0.89	32.66	1.21	3.79	0.004

Note. Significance level: 0.01

(SD = 1.17), whereas the non-distinguished group outperformed them with a mean of 25.33 (SD = 1.04). The t-test result yielded a t-value of -4.97, with a significance level of 0.001, highlighting a highly significant difference between the two cohorts.

Similarly, the Ball Control Skill Test revealed that the distinguished group achieved a mean score of 35 (*SD* = 0.89), compared to the non-distinguished group, which had a mean of 32.66 (*SD* = 1.21). This test produced a *t*-value of 3.79, with a significance level of 0.004, reinforcing the presence of statistically significant differences in skill proficiency between the groups.

Both assessments reached significance at the 0.01 level, thereby confirming the discriminant validity of the skill evaluations employed in this research.

Reliability is defined as the degree of consistency in a measurement scale [30]. In the current study, the reliability of the questionnaire was evaluated using the test-retest method, applying the tests twice to a sample of six players from the study population. The time interval between the first and second applications was 10 days. Subsequently, reliability coefficients were calculated, as illustrated in Table 4.

An analysis of the reliability coefficients for the skill assessments reveals that both the Ball Dribbling Skill Test and the Ball Control Skill Test demonstrate satisfactory reliability across two different applications. As shown in Table 4, the Ball Dribbling Skill Test recorded a mean score of 25.33 (SD = 1.03) in the initial application, which slightly decreased to 25.00 (SD = 1.41) in the subsequent application, yielding a reliability coefficient of 0.82. This indicates a strong level of consistency in the test results, reflecting its stability over time. Similarly, the Ball Control Skill Test recorded a mean of 32.66 (SD = 1.21) during the first administration, which remained consistent in the second round (mean = 32.66, SD = 1.63), achieving a slightly higher reliability coefficient of 0.84. This suggests that both skill tests are dependable evaluative tools, with the Ball Control Skill Test exhibiting marginally greater reliability compared to the Ball Dribbling Skill Test.

Collectively, these reliability coefficients underscore the effectiveness of the tests employed in assessing these specific skills.

Descriptive Statistics

An analysis of soccer players' technical and psychological skills indicated significant differences in scores (Table 5). The average dribbling skill score was 22.05 (*SD* = 1.16), while the mean score for ball control was notably higher at 36.00 (*SD* = 0.83). Regarding psychological skills, self-confidence had the highest mean at 15.03 (*SD* = 2.34), reflecting a strong belief in one's capabilities. In contrast, anxiety coping ability recorded the lowest mean score of 14.88 (*SD* = 2.35), highlighting an area that may require attention for improvement. Other psychological skills had moderate average scores, including imagery ability at 16.87 (*SD* = 1.79), relaxation ability at 15.20 (*SD* = 2.13), attentional focus ability at 15.66 (*SD* = 2.05), and athletic achievement motivation at 17.66 (*SD* = 1.95). These findings provide important insights into the relationship between technical and psychological skills in soccer performance, setting the stage for further correlation and regression analyses.

Table 4. Shows the results of the t-test for the discriminant validity of skill tests

Tests	First Application		Second Application		Reliability Coefficient
	Mean	Standard Deviation	Mean	Standard Deviation	
Ball Dribbling Skill Test	25.33	1.03	25	1.41	0.82
Ball Control Skill Test	32.66	1.21	32.66	1.63	0.84

Note. Significant level: 0.01

Table 5. Descriptive Statistics of Soccer Players' Technical and Psychological Skills

Variables		Mean	Standard Deviation
Soccer's Technical Skills	Ball Dribbling Skill	22.05	1.16
	Ball Control Skill	36.00	0.83
Psychological Skills	Imagery Ability	16.87	1.79
	Relaxation Ability	15.20	2.13
	Attention Focus Ability	15.66	2.05
	Anxiety Coping Ability	14.88	2.35
	Self-Confidence	15.03	2.34
	Athletic Achievement Motivation	17.66	1.95

Correlation Analysis

The Pearson correlation results reveal significant and nuanced relationships between psychological skills and fundamental soccer abilities. As shown in Table 6, the negative correlation between achievement motivation and dribbling performance (r = -0.78, p < 0.001) suggests that players who focus excessively on achievement may prioritize control and safety over creativity and fluidity, potentially hindering dribbling execution. Conversely, the positive correlation between achievement motivation and ball control (r = 0.72, p = 0.001) indicates that a strong drive for achievement enhances precision and mastery, leading to better ball control.

Similarly, imagery ability shows a strong negative correlation with dribbling (r = -0.64, p = 0.004), implying that players with high imagery skills may overthink or rely too heavily on mental visualization, disrupting the spontaneity required for effective dribbling. However, its positive correlation with ball control (r = 0.67, p = 0.002) suggests that imagery ability improves the mental rehearsal and execution of precise ball control techniques.

Relaxation ability also demonstrates a negative correlation with dribbling (r = -0.58, p = 0.011), possibly because excessive relaxation reduces the intensity needed for dynamic dribbling. At the same time, its positive correlation with ball control (r = 0.59, p = 0.009) highlights the importance of composure for maintaining precision.

Attentional focus ability follows a similar pattern, with a negative correlation with dribbling (r = -0.56, p = 0.015), potentially due to over-focusing on details, and a strong positive correlation with ball control (r = 0.71, p = 0.001), emphasizing its role in maintaining consistency and precision.

Anxiety coping ability mirrors this trend, negatively correlating with dribbling (r = -0.57, p = 0.013) as players may become less spontaneous, while positively correlating with ball control (r = 0.56, p = 0.015) by helping players remain calm and composed.

Finally, self-confidence negatively correlates with dribbling (r = -0.58, p = 0.011), possibly due to overconfidence leading to riskier attempts. However, it positively correlates with ball control (r = 0.55, p = 0.016), as confidence enhances controlled and precise movements.

These findings underscore the complex relationship between psychological skills and fundamental soccer abilities, suggesting that targeted training to balance these attributes could optimize performance in both dribbling and ball control.

Regression Analysis

The regression analysis highlights the predictive power of psychological skills in explaining variance in fundamental athletic abilities, particularly ball dribbling and ball control. As shown in Table 7, the regression model predicting dribbling performance based on imagery ability explained 64.2% of the variance (R^2 = 0.642, F = 11.24, p = 0.004), while the model for ball control explained 67% of the variance (R^2 = 0.670, F = 13.01, p = 0.002), indicating a strong relationship between imagery ability and these skills.

Similarly, relaxation ability accounted for 58.6% of the variance in dribbling (R^2 = 0.586, F = 8.36, p = 0.011) and 59.6% in ball control (R^2 = 0.596, F = 8.79, p = 0.009), demonstrating its moderate yet significant influence.

Attentional focus ability showed particularly strong predictive power for ball control, explaining 70.7% of the variance (R^2 = 0.707, F = 16.00, p = 0.001), while its impact on dribbling was moderate, accounting for 56.2% of the variance (R^2= 0.562, F = 7.38, p = 0.015).

Anxiety coping ability explained 57.2% of the variance in dribbling (R^2 = 0.572, F = 7.76, p = 0.013) and 56.2% in ball control (R^2 = 0.562, F = 7.38, p = 0.015), underscoring its role in skill performance.

Self-confidence also contributed significantly, explaining 58.5% of the variance in dribbling (R^2 = 0.585, F = 8.33, p = 0.011) and 55.8% in ball control (R^2 = 0.558, F = 7.24, p = 0.016).

Table 6. The results of the Pearson correlation matrix between psychological skills and the fundamental skills

Psychological Skills	Pearson correlation			
	Ball Dribbling Skill		Ball Control Skill	
	Correlation Coefficient	Significance	Correlation Coefficient	Significance
Imagery Ability	-0.64	0.004	0.67	0.002
Relaxation Ability	-0.58	0.011	0.59	0.009
Attention Focus Ability	-0.56	0.015	0.71	0.001
Anxiety Coping Ability	-0.57	0.013	0.56	0.015
Self-Confidence	-0.58	0.011	0.55	0.016
Achievement Motivation	-0.78	0.000	0.72	0.001

Notably, achievement motivation emerged as the strongest predictor, explaining 78.8% of the variance in dribbling ($R^2 = 0.788, F = 26.23, p < 0.001$) and 71.8% in ball control ($R^2 = 0.718$, $F = 17.04$, $p = 0.001$).

These results collectively suggest that psychological skills, particularly achievement motivation and imagery ability, play a critical role in enhancing fundamental athletic skills, with the regression models demonstrating strong predictive power and statistical significance.

The one-way ANOVA results in Table 8 highlight the significant role of psychological skills in predicting ball dribbling performance. As shown in Table 8, the significant *F*-value for visualization ability ($F = 11.24$, $p = 0.004$) suggests that mental imagery training can be highly effective in enhancing dribbling performance, as players who can visualize and mentally rehearse techniques are likely to perform better in real-world scenarios.

Furthermore, the inclusion of sports achievement motivation in the regression model, which yielded an even higher *F*-value ($F = 12.31$, $p = 0.001$), emphasizes the importance of combining visualization exercises with motivational strategies to maximize performance outcomes. These findings indicate that visualization ability and achievement motivation together explain a greater proportion of the variance in dribbling performance, underscoring their synergistic impact.

The *t*-test results in Table 9 provide valuable insights into the relationship between psychological skills and ball dribbling performance. As shown in Table 9, the significant *t*-values for visualization ability ($t = 3.35$, $p = 0.004$) and sports achievement motivation ($t = 2.87, p = 0.012$) highlight their strong predictive influence on dribbling proficiency.

However, the negative regression coefficients for both visualization ability ($b = -5.89$) and sports achievement motivation ($b = -6.11$) suggest that excessive reliance on these skills may hinder dribbling performance, potentially due to overthinking or prioritizing control over fluidity. These findings imply that while mental imagery

Table 7. The results of the Coefficient of Determination (R^2) and estimation error between psychological skills and basic skills

Psychological Skills	Statistical tests	Skills tests	
		Ball Dribbling Skill	Ball Control Skill
Imagery Ability	Coefficient of Determination	0.642	0.670
	Estimation Error	2.16	1.82
	F-value	11.24	13.01
	Significance	0.004	0.002
Relaxation Ability	Coefficient of Determination	0.586	0.596
	Estimation Error	2.29	1.96
	F-value	8.36	8.79
	Significance	0.011	0.009
Attention Focus Ability	Coefficient of Determination	0.562	0.707
	Estimation Error	2.33	1.73
	F-value	7.38	16
	Significance	0.015	0.001
Anxiety Coping Ability	Coefficient of Determination	0.572	0.562
	Estimation Error	2.31	2.02
	F-value	7.76	7.38
	Significance	0.013	0.015
Self-Confidence	Coefficient of Determination	0.585	0.558
	Estimation Error	2.29	2.03
	F-value	8.33	7.24
	Significance	0.011	0.016
Achievement Motivation	Coefficient of Determination	0.788	0.718
	Estimation Error	1.73	1.70
	F-value	26.23	17.04
	Significance	0.000	0.001

Table 8. The results of one-way ANOVA for linear regression analysis to predict ball dribbling skill performance based on key psychological skills

Physical abilities	Variance source	Sum of squares	Degrees of freedom	Mean squares	F value	Significance
Visualization ability	Regression	52.725	1	52.725	11.24	0.004
	Residuals	75.053	16	4.691		
	Total	127.778	17			
Visualization ability + Sports achievement motivation	Regression	79.422	2	39.711	12.31	0.001
	Residuals	48.356	15	3.224		
	Total	127.778	17			

Table 9. The results of the T-test for the components of the predictive equations for ball dribbling skill performance

Physical Abilities	Coefficients		Standard Error	T Value	Significance
	Nature of Coefficient	Value of Coefficient			
Visualization ability	Regression Constant (a)	38.95	4.16	9.37	0.000
	Regression Coefficient (b)	-5.89	1.76	3.35	0.004
Visualization ability + Sports achievement motivation	Regression Constant (a)	39.74	3.46	11.49	0.000
	Regression Coefficient (b)	-0.30	2.43	12.4	0.000
		-6.11	2.12	2.87	0.012

Table 10. The results of the one-way ANOVA for the linear regression analysis to predict ball control performance based on the most important psychological skills

Physical abilities	Variance source	Sum of squares	Degrees of freedom	Mean squares	F value	Significance
Visualization ability	Regression	43.062	1	43.062	13.015	0.002
	Residuals	52.938	16	3.309		
	Total	96	17			

and achievement motivation are important psychological tools, their overemphasis in training could detract from the spontaneity and creativity required for effective dribbling.

The two equations predicting ball dribbling skill (BDS) are expressed as follows:

- The first equation:

BDS (C) =38.95− (5.89×visualization ability score)

- The second equation, which incorporates both visualization ability and sports achievement motivation:

BDS (C) =39.74− (0.30×visualization ability score) − (6.11×sports achievement motivation score)

The one-way ANOVA results presented in Table 10 examined the influence of visualization ability on ball control performance using linear regression analysis. The regression model revealed a significant impact of visualization ability on performance, as evidenced by an *F*-value of 13.015 and a *p*-value of 0.002, both of which indicate statistical significance below the conventional alpha level of 0.05. This outcome suggests that visualization ability accounts for a noteworthy portion of the variability in performance. Specifically, the sum of squares attributed to the regression component was 43.062, associated with one degree of freedom, resulting in a mean square of 43.062. In contrast, the residuals contributed a sum of squares of 52.938 with 16 degrees of freedom, leading to a mean square of 3.309. The model's total sum of squares amounted to 96, covering 17 degrees of freedom. Collectively, these results highlight the significance of visualization ability as a psychological skill that plays a crucial role in improving ball control performance.

The analysis of the predictive equation relating visualization ability to ball control performance involved a *t*-test, which yielded significant findings, as outlined in Table 11. The regression constant (*a*) was determined to be 20.16, with a standard error of 3.49, resulting in a *t*-value of 5.773 that

Table 11. The results of the t-test for the components of the predictive equations for ball control performance.

Physical Abilities	Coefficients		Standard Error	T Value	Significance
	Nature of Coefficient	Value of Coefficient			
Visualization ability	Regression Constant (a)	20.16	3.49	5.773	0.000
	Regression Coefficient (b)	5.33	1.48	3.608	0.002

was statistically significant ($p < 0.001$), indicating a significant difference from zero. Additionally, the regression coefficient (b) for visualization ability was calculated to be 5.33, with a standard error of 1.48, yielding a t-value of 3.608, which was also statistically significant ($p = 0.002$). This positive regression coefficient indicates that each unit increase in visualization ability corresponds to an improvement of approximately 5.33 units in ball control performance, emphasizing the essential role of visualization in enhancing ball control. Collectively, these findings highlight the significant predictive capacity of visualization ability in assessing ball control performance, reinforcing the importance of incorporating this skill for master's sport students.

The predictive model for ball control skill (BCS) can be expressed with the following equation:

Equation:BCS (C) =20.16+ (5.33×Visualization ability score)

Discussion

This study examines the relationship between psychological skills and the execution of basic football abilities among participants, revealing that various psychological skills affect football performance differently. Our initial hypothesis posited a significant link between these psychological attributes and fundamental football skills.

The results demonstrate a consistent negative correlation between psychological skills and dribbling, with coefficients ranging from $r = -0.56$ to $r = -0.78$. For instance, the strong negative correlation between achievement motivation and dribbling performance ($r = -0.78$, $p < 0.001$) suggests that players who are excessively focused on achievement may prioritize caution over creativity, which can impair their dribbling capabilities. This finding is consistent with previous research, which emphasizes that a lack of balance in psychological skills can adversely affect performance [31]. Conversely, a notable positive correlation emerges between achievement motivation and ball control ($r = 0.72$, $p = 0.001$), supporting the assertion that enhanced self-efficacy, bolstered by motivation, leads to improved performance outcomes [32].

Additionally, we observed a significant negative correlation between imagery ability and dribbling ($r = -0.64$, $p = 0.004$), indicating that players with strong imagery skills might overanalyze situations, disrupting the spontaneity required for effective dribbling. In contrast, its positive correlation with ball control ($r = 0.67$, $p = 0.002$) aligns with findings that highlight the advantages of imagery techniques in precision tasks [33].

Attentional focus ability mirrored this trend, demonstrating a negative correlation with dribbling ($r = -0.56$, $p = 0.015$), likely due to an excessive focus on details. Meanwhile, its positive correlation with ball control ($r = 0.71$, $p = 0.001$) underscores its role in achieving consistent performance. These conclusions support insights regarding the importance of psychological skills in soccer performance [34].

Moreover, it has been noted that visualization techniques can enhance motor performance, affirming the benefits of combining mental imagery with physical practice to improve dribbling skills [35]. In summary, our findings highlight the diverse effects of psychological skills on performance, reflecting observations that concentrated practice boosts soccer players' abilities in executing complex dribbling and ball control actions [36].

The second hypothesis posited that psychological skills uniquely impact essential football skills among participants. Findings reveal that abilities such as imagery ability, relaxation ability, attentional focus ability, anxiety coping ability, self-confidence, and achievement motivation significantly affect both dribbling and ball control skills, as indicated by the coefficients of determination (R^2).

For instance, imagery ability accounted for 64.2% of the variance in dribbling performance ($R^2 = 0.642$, $F = 11.24$, $p = 0.004$) and 67% in ball control ($R^2 = 0.670$, $F = 13.01$, $p = 0.002$), highlighting a robust association between imagery skills and these competencies. This finding corroborates previous research, which identified enhancements in technical performance through mental imagery training [37].

Attentional focus ability was especially predictive for ball control, explaining 70.7% of the variance ($R^2 = 0.707$, $F = 16.00$, $p = 0.001$), while its influence on dribbling stood at **56.2%** ($R^2 = 0.562$, $F = 7.38$, $p = 0.015$). This suggests its crucial role in precision for ball control, potentially limiting the spontaneity

required for dribbling.

Notably, achievement motivation was a prominent predictor, accounting for 78.8% of the variance in dribbling (R^2 = 0.788, F = 26.23, p < 0.001) and 71.8% in ball control (R^2 = 0.718, F = 17.04, p = 0.001). This aligns with Self-Determination Theory, which emphasizes the impact of intrinsic and extrinsic motivation on performance quality [38].

These results emphasize the importance of psychological skills in enhancing both dribbling (F = 11.24, p = 0.004; F = 7.38, p = 0.015; F = 26.23, p < 0.001) and ball control (F = 13.01, p = 0.002; F = 16.00, p = 0.001; F = 17.04, p = 0.001). Athletes with higher intrinsic motivation are likely to excel in these skills, a notion supported by research that found a positive correlation between intrinsic motivation and soccer skills performance [39].

Furthermore, studies have underscored the role of supportive environments and visualization techniques in enhancing both emotional well-being and motor skills in football [40]. Additionally, it has been confirmed that mental skills training positively influences performance metrics such as dribbling and ball control [41].

Given the significant impact of mental imagery (R^2 = 0.670), attentional focus (R^2 = 0.707), and achievement motivation on overall football performance, it is recommended that coaches incorporate structured psychological strategies, such as mental imagery and goal-setting, into their training regimens. Combining these psychological approaches with physical and technical drills may enhance accuracy in ball control and creativity in dribbling, ultimately improving overall athletic competence.

The third hypothesis explores the relationship between fundamental football skills and psychological factors, specifically visualization ability and sports achievement motivation, in relation to dribbling performance. The analysis indicates that visualization ability significantly predicts performance, with an F-value of 11.24 (p = 0.004), highlighting that mental imagery training can enhance dribbling skills. Incorporating sports achievement motivation into the model further improved results, yielding an F-value of 12.31 (p = 0.001), suggesting that a combination of visualization and motivational strategies may optimize performance. Both psychological factors exhibited notable predictive strength, as evidenced by t-values for visualization ability (t = 3.35, p= 0.004) and sports achievement motivation (t = 2.87, p = 0.012). However, the negative regression coefficients (b = -5.89 for visualization; b = -6.11 for motivation) imply that an overemphasis on these skills could impede dribbling fluidity. The regression model illustrates that visualization ability accounts for a considerable amount of performance variability, with a significant F-value of 13.015 (p = 0.002). The regression constant of 20.16 (p < 0.001) and a coefficient of **5.33** (p= 0.002) for visualization ability indicate that each unit increase in this skill corresponds to a 5.33-unit enhancement in ball control. This aligns with previous findings asserting that mental imagery improves technical execution [42].

Additionally, these results align with research indicating that combining visualization with physical practice leads to greater performance improvements [43]. It has also been emphasized that motivation and self-confidence can mitigate anxiety, allowing for better skill execution under pressure [44]. However, the negative regression coefficients suggest that excessive reliance on these constructs may limit spontaneity, a concern echoed by recent studies [45]. The necessity of establishing specific goals, as articulated in goal-setting theory, reinforces the importance of focused objectives in training to enhance performance [46]. Furthermore, it has been proposed that integrating visualization with motivation, such as envisioning successful dribbles while aiming for speed, can improve technical capabilities [47]. In sum, visualization ability and sports achievement motivation are crucial factors in improving dribbling and ball control performance (F = 13.015, p = 0.002; F = 12.31, p = 0.001). These findings suggest that football training programs should incorporate structured mental imagery and motivational strategies while also fostering players' spontaneity and creativity on the pitch.

While the findings of this study offer valuable insights, it is important to acknowledge its limitations. The small sample size (n = 20) limits the generalizability of the results, indicating that caution should be exercised when applying these findings to larger populations. Future research should strive to incorporate larger and more diverse samples and may benefit from the use of objective measures, such as neurocognitive assessments, to more accurately evaluate cognitive and psychological constructs. Additionally, although this study sheds light on the role of psychological skills in dribbling and ball control performance, further investigation is needed to explore the relationships between these psychological factors and performance-specific variables. To deepen the understanding of the intricacies involved in talent prediction in sports, subsequent studies should integrate psychological evaluations and skill assessments across different age groups and levels of expertise. Examining how psychological predictors interact with environmental factors, such as training methods and gameplay strategies, would provide valuable insights for coaches and educators seeking to enhance athletic performance.

Our findings confirm that psychological skills significantly influence fundamental football skills,

underscoring the importance of incorporating mental training strategies into athletic development programs. Emphasizing the development of psychological attributes alongside technical skills can produce more well-rounded athletes, ultimately enhancing overall performance.

Coaches are encouraged to implement mental imagery, targeted motivational strategies, and goal-setting practices that foster both technical proficiency and the creativity needed for effective gameplay. These approaches contribute broadly to an athlete's success on the field.

Conclusions

This study established a significant link between various psychological skills, including visualization ability, relaxation techniques, attentional focus, anxiety management, self-confidence, and achievement motivation, and key soccer skills, namely dribbling and ball control. Notably, visualization emerged as the strongest predictor of performance. Two predictive models were developed. One focused on dribbling performance, incorporating visualization and achievement motivation, while the other predicted ball control, based solely on visualization. Key findings included a strong prediction of ball control performance by visualization (R^2 = 0.71, p = 0.001) and a negative relationship between achievement motivation and dribbling (r = -0.78, p < 0.001).

Given the strong correlation between visualization and ball control, coaches should integrate mental imagery exercises into their programs to enhance players' technical skills, particularly in ball control. For instance, regular visualization sessions could help players mentally rehearse techniques such as trapping and passing, thereby improving muscle memory. Additionally, the negative impact of achievement motivation on dribbling suggests the need for training approaches that prioritize process-oriented goals, such as technical improvement, rather than focusing solely on outcomes. Incorporating relaxation techniques and attentional focus exercises may further help players manage anxiety during high-pressure scenarios.

However, limitations such as a small sample size (n = 20) and reliance on self-reported data may restrict the broader applicability of these results. Future research should include larger and more diverse participant groups, along with objective performance evaluations, to minimize bias. Additionally, examining the long-term impact of psychological skill training on soccer performance could provide deeper insights into optimizing player development. Implementing targeted programs to enhance imagery, relaxation, attentional focus, and self-confidence may lead to noticeable improvements in performance, ultimately benefiting both coaches and players in their pursuit of competitive excellence.

Suggestions

Based on the robust findings of this study, the following prioritized recommendations are proposed:

1. Training Recommendations
   - Football training should incorporate visualization techniques to enhance ball control, given the strong correlation (R^2 = 0.71, p = 0.001) observed in research. Integrating mental imagery exercises, where players envision successful ball control situations, is crucial.
   - Additionally, coaches should implement relaxation and anxiety management strategies, such as deep breathing, progressive muscle relaxation, and mindfulness meditation, to help athletes improve focus and maintain consistent performance under competitive pressure.
2. Psychological Skill Development
   - Institutions and sports organizations should establish psychological skill-building programs for student-athletes, focusing on techniques such as imagery, attentional concentration, and self-confidence. These programs should include guided exercises in positive self-talk, goal setting, and mental rehearsal to enhance both individual and team performance.
   - Coaches and sports psychologists are encouraged to emphasize achievement motivation strategies that prioritize process-oriented goals, such as refining techniques, over outcome-oriented goals, such as winning. This recommendation is based on the negative impact of achievement motivation on dribbling performance (r = -0.78, p < 0.001).
3. Directions for Future Research
   - Further research is needed to investigate the long-term impacts of psychological training interventions in competitive football, involving larger and more diverse participant cohorts to validate the current findings.
   - Additionally, future studies should explore the interplay between psychological traits and performance skills, such as passing accuracy and shooting precision. The aim should be to develop comprehensive predictive models that connect psychological factors with athletic performance outcomes.

By integrating focused psychological training into football programs, coaches can significantly enhance players' skill development and performance.

This underlines the vital importance of mental preparation in achieving success in sports. These evidence-based recommendations aim to connect psychological skills with on-field performance, fostering the overall development of athletes.

Acknowledgments

We would like to express our gratitude to all the master's sport students from the Institute of Science and Technology of Physical and Sports Activities (STAPS) at Mohamed Boudiaf University, M'sila, who willingly participated in our study.

Funding

This study received no specific funding and was conducted using the authors' own financial resources.

Conflicts of Interest

The authors declare that there are no conflicts of interest related to the topics addressed in this manuscript.

References

1. Cox RH. *Sport Psychology: Concepts and Applications*. New York City, NY, USA: McGraw-Hill; 2007.
2. Butt J, Weinberg R, Horn T. The Intensity and Directional Interpretation of Anxiety: Fluctuations Throughout Competition and Relationship to Performance. *The Sport Psychologist*, 2003;17 (1): 35–54. https://doi.org/10.1123/tsp.17.1.35
3. Zeiger JS, Zeiger RS. Mental toughness latent profiles in endurance athletes. Chen MA (ed.) *PLOS ONE*, 2018;13 (2): e0193071. https://doi.org/10.1371/journal.pone.0193071
4. Mukhtar HM. *Scientific foundations in football training*. Cairo: Dar Al-Fikr Al-Arabi; 1978.
5. Josh R. Impact of psychological factors on athletic performance, motivation, and well-being. *J Psychol Psychother*. 2024;14:473.
6. Ratib UK. *Training Psychological Skills and Applications in Sports*. Cairo: Dar al-Fikr Al-arabi; 2000.
7. Antonio J. Psychological Factors Affecting Athletes' Motivation and Performance in Competitive Sports in Mexico. *International Journal of Physical Education, Recreation and Sports*, 2023;1 (1): 13–23. https://doi.org/10.47604/ijpers.2141
8. Mahmud Hatamleh, Al-alwan B, Mughayrah I. Psychological skills of volleyball players and their relationship with athletic motivational traits. *J Educ Sci Stud*. 2011;38 (Suppl 7):45–52.
9. Loehr JE. *Athletic excellence: Mental toughness training for sports*. Forum Publishing Company; 1985.
10. Loehr J. *Mental toughness training for sports: Achieving athletic excellence*. Plume; 1982.
11. Gucciardi DF, Hanton S, Fleming S. Are mental toughness and mental health contradictory concepts in elite sport? A narrative review of theory and evidence. *Journal of Science and Medicine in Sport*, 2017;20 (3): 307–311. https://doi.org/10.1016/j.jsams.2016.08.006
12. Gould D, Hodge K, Peterson K, Petlichkoff L. Psychological Foundations of Coaching: Similarities and Differences among Intercollegiate Wrestling Coaches. *The Sport Psychologist*, 1987;1 (4): 293–308. https://doi.org/10.1123/tsp.1.4.293
13. Jones G, Hanton S, Connaughton D. A Framework of Mental Toughness in the World's Best Performers. *The Sport Psychologist*, 2007;21 (2): 243–264. https://doi.org/10.1123/tsp.21.2.243
14. Said Nizar Said. Psychological skills of handball players and their relationship to the dimensions of sporting excellence. *Sciences Journal of Physical Education*. 2011;4 (2):34–40.
15. Gerber M, Best S, Meerstetter F, Walter M, Ludyga S, Brand S, et al. Effects of stress and mental toughness on burnout and depressive symptoms: A prospective study with young elite athletes. *Journal of Science and Medicine in Sport*, 2018;21 (12): 1200–1205. https://doi.org/10.1016/j.jsams.2018.05.018
16. Gucciardi DF. Mental toughness: progress and prospects. *Current Opinion in Psychology*, 2017;16: 17–23. https://doi.org/10.1016/j.copsyc.2017.03.010
17. Anthony DR, Gordon S, Gucciardi DF. A qualitative exploration of mentally tough behaviour in Australian football. *Journal of Sports Sciences*, 2020;38 (3): 308–319. https://doi.org/10.1080/02640414.2019.1698002
18. Lin Y, Mutz J, Clough PJ, Papageorgiou KA. Mental Toughness and Individual Differences in Learning, Educational and Work Performance, Psychological Well-being, and Personality: A Systematic Review. *Frontiers in Psychology*, 2017;8: 1345. https://doi.org/10.3389/fpsyg.2017.01345
19. Mahoney JW, Gucciardi DF, Ntoumanis N, Mallet CJ. Mental Toughness in Sport: Motivational Antecedents and Associations With Performance and Psychological Health. *Journal of Sport and Exercise Psychology*, 2014;36 (3): 281–292. https://doi.org/10.1123/jsep.2013-0260
20. Gandrapu A, Rakesh KR. Sports Psychology: Mental Skills Training and Performance Enhancement Strategies for Athletes. *Innovations in Sports Science*, 2024;1 (3): 1–4. https://doi.org/10.36676/iss.v1.i3.13
21. Kruer KL. *The use of mental skills by female and male soccer players at the NCAA division I, II, and III level*. Spalding University; 2002.
22. Meggs J, Chen MA, Koehn S. Relationships Between Flow, Mental Toughness, and Subjective Performance Perception in Various Triathletes. *Perceptual and Motor Skills*, 2019;126 (2): 241–252.

https://doi.org/10.1177/0031512518803203
23. Reverberi E, D'Angelo C, Littlewood MA, Gozzoli CF. Youth Football Players' Psychological Well-Being: The Key Role of Relationships. *Frontiers in Psychology*, 2020;11: 567776. https://doi.org/10.3389/fpsyg.2020.567776
24. Allawi MH. *Encyclopedia of psychological tests for athletes*. Cairo: Book Center for Publishing; 1998.
25. Amru Abu al-Majd Jamal, Ismail al-Namki. *Planning Programs for Youth Development in Football*. 1st ed. Cairo: Maktabat al-Kutub; 1998.
26. Smith J, Brown A, Jones L. Correlation of Dribbling Skills and Match Performance in Football. *J Sports Sci.* 2020;15 (2):3441.
27. Johnson M, Lopez R. Evaluating Ball Control Skills: Reliability and Performance Correlation in Football Players. *Int J Sports Perform Anal*. 2019;12 (1):78–85.
28. Cortina JM. What is coefficient alpha? An examination of theory and applications. *Journal of Applied Psychology*, 1993;78 (1): 98–104. https://doi.org/10.1037/0021-9010.78.1.98
29. Cronbach LJ. Coefficient Alpha and the Internal Structure of Tests. *Psychometrika*, 1951;16 (3): 297–334. https://doi.org/10.1007/BF02310555
30. Said K. Construction and validation of adherence to treatment scale among patients with essential high blood pressure. *Guru J Behav Soc Sci*. 2017;5 (1):639–44.
31. Yaseen SFA. *The Impact of the International Funds and Support on Inmates Correction and Rehabilitation in Palestine.* [Doctoral dissertation]. Arab American University; 2019.
32. Vealey RS. Self-Confidence in Athletes. In: *Encyclopedia of Applied Psychology*, Elsevier; 2004. P. 361–368. https://doi.org/10.1016/B0-12-657410-3/00803-5
33. Reinebo G, Alfonsson S, Jansson-Fröjmark M, Rozental A, Lundgren T. Effects of Psychological Interventions to Enhance Athletic Performance: A Systematic Review and Meta-Analysis. *Sports Medicine*, 2024;54 (2): 347–373. https://doi.org/10.1007/s40279-023-01931-z
34. Höner O, Feichtinger P. Psychological talent predictors in early adolescence and their empirical relationship with current and future performance in soccer. *Psychology of Sport and Exercise*, 2016;25: 17–26. https://doi.org/10.1016/j.psychsport.2016.03.004
35. Cumming J, Williams SE. The Role of Imagery in Performance. In: Murphy SM (ed.) *The Oxford Handbook of Sport and Performance Psychology*, 1st ed. Oxford University Press; 2012. p. 213–232. https://doi.org/10.1093/oxfordhb/9780199731763.013.0011
36. Wang MY. Focus and performance in university soccer players. *Int J Sports Psychol.* 2020;12:23–30.
37. Jones MV, Swain ABJ, Hardy L. The effects of mental imagery on the execution of motor skills in sport: A systematic review. *J Sports Sci.* 2017;35 (19):1869–1882.
38. Deci EL, Ryan RM. The 'What' and 'Why' of Goal Pursuits: Human Needs and the Self-Determination of Behavior. *Psychological Inquiry*, 2000;11 (4): 227–268. https://doi.org/10.1207/S15327965PLI1104_01
39. Vallerand RJ, Fortier MS, Guay F. Self-determination and persistence in a real-life setting: Toward a motivational model of high school dropout. *Journal of Personality and Social Psychology*, 1997;72 (5): 1161–1176. https://doi.org/10.1037/0022-3514.72.5.1161
40. Bento T, Vitorino A, Cid L, Monteiro D, Couto N. Analysing the Relation between Passion, Motivation, and Subjective Well-Being in Sport: A Systematic Review. *Sports*, 2024;12 (10): 279. https://doi.org/10.3390/sports12100279
41. Thelwell RC, Maynard IW. The Effectiveness of Mental Skills Training for Enhancing Performance in Sport: A Meta-Analysis. *Int J Sports Sci Coach*. 2010;5 (4):543–558.
42. Tod D, Hardy J, Oliver E. Effects of Self-Talk: A Systematic Review. *Journal of Sport and Exercise Psychology*, 2011;33 (5): 666–687. https://doi.org/10.1123/jsep.33.5.666
43. Driskell JE, Copper C, Moran A. Does mental practice enhance performance? *Journal of Applied Psychology*, 1994;79 (4): 481–492. https://doi.org/10.1037/0021-9010.79.4.481
44. A. Peralta AZ, T. Rafailes FJ, G. Paez GG, T. Vista EM, B. Rivera FJ, B. Corcuera JK. Exploring the Influence of Sports on Student-Athletes' Competitive Mindsets during the COVID-19 Pandemic. *International Journal of Physical Education, Fitness and Sports*, 2024; 27–49. https://doi.org/10.54392/ijpefs2423
45. Hidayat Y, Yudiana Y, Hambali B, Sultoni K, Ustun UD, Singnoy C. The effect of the combined self-talk and mental imagery program on the badminton motor skills and self-confidence of youth beginner student-athletes. *BMC Psychology*, 2023;11 (1): 35. https://doi.org/10.1186/s40359-023-01073-x
46. Locke EA, Latham GP. Building a practically useful theory of goal setting and task motivation: A 35-year odyssey. *American Psychologist*, 2002;57 (9): 705–717. https://doi.org/10.1037/0003-066X.57.9.705
47. Vealey RS. Mental Skills Training in Sport. In: Tenenbaum G, Eklund RC (eds.) *Handbook of Sport Psychology*, 1st ed. Wiley; 2007. P. 285–309. https://doi.org/10.1002/9781118270011.ch13

Information about the authors:

Mourad Khaladi; (Corresponding Author); https://orcid.org/0009-0006-0102-6538; khaladi.mourad@univ-msila.dz; Laboratory of Sports Media Governance and Sports Management in Algeria, Adapted Sports Physical Activity Department, Institute of Sciences and Techniques of Physical and Sports Activities, Mohamed Boudiaf University of M'sila; M'sila, Algeria.

Badreddine Boussag; https://orcid.org/0009-0002-5963-510X; badredinne.boussag@univ-msila.dz; Laboratory of Sports Media Governance and Sports Management in Algeria, Department of Physical Education and Sports, Institute of Sciences and Techniques of Physical and Sports Activities, Mohamed Boudiaf University of M'sila; M'sila, Algeria.

Abderrahim Laidi; https://orcid.org/0009-0001-3132-2702; abderrahim.laidi@univ-msila.dz; Laboratory of Motor Learning and Control, Department of Sport Training, Institute of Sciences and Techniques of Physical and Sports Activities, Mohamed Boudiaf University of M'sila; M'sila, Algeria.

Abdelhakim Karrouche; https://orcid.org/0009-0002-6507-6543; abdelhakim.karrouche@univ-biskra.dz; Laboratory for Studies and Research in the Sciences and Techniques of Physical and Sports Activities, Department of Sport Training, Institute of Sciences and Techniques of Physical and Sports Activities, Mohamed Khider University of Biskra; Biskra, Algeria.

Cite this article as:
Khaladi M, Boussag B, Laidi A, Karrouche A. Development of predictive indices for dribbling and ball control performance based on psychological factors in university soccer players. *Physical Education of Students,* 2025;29(2):100–113.
https://doi.org/10.15561/20755279.2025.0202

Received: 30.01.2025

Accepted: 09.03.2025; Published: 30.04.2025