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THE EFFECT OF SELF-TALK ON ATHLETIC PERFORMANCE IN FOOTBALL PLAYERS: A MIXED-METHODS STUDY

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Abstract: Self-talk is a cognitive strategy used by athletes to regulate performance, sustain motivation, and optimize focus during task execution. This study, conducted in 2025, examined the effects of self-talk strategies on long-distance (LD) shot performance among regionally amateur licensed male and female football players in Ağrı, Türkiye, using a mixed-methods design. Quantitative data were obtained through a single-group pre-test/post-test design, while qualitative insights were derived from semi-structured interviews exploring athletes' experiences with the intervention. The sample consisted of 16 volunteer football players (8 females, 8 males) selected via purposive sampling. The quantitative results revealed a statistically significant improvement in LD shot accuracy following the self-talk intervention ($t(15) = 27.10, p < .001$, Hedges' $g_{av} = 2.98$, 95% CI [2.25, 3.71]), with no significant gender differences observed. Self-assessment measures also indicated substantial increases in shooting confidence, target consistency, and perceived shot effectiveness. Qualitative findings supported these outcomes, showing that athletes perceived self-talk as helpful for maintaining concentration, boosting confidence, and reducing execution errors, with most expressing an intention to continue using the technique. Overall, the findings suggest that self-talk represents a practical and effective cognitive-behavioral strategy for enhancing both technical precision and psychological resilience in amateur football players. The results further highlight the applicability of self-talk interventions in resource-constrained settings, advancing sports psychology applications for team sports like football.

Keywords: Athletic performance, motor control, self-regulation, self-confidence, motivation

**FUTBOLCULARDA ÖZ KONUŞMANIN SPORTİF PERFORMANSA ETKİSİ:
KARMA YÖNTEMLİ BİR ARAŞTIRMA**

Öz: Öz konuşma, sporcuların performanslarını düzenlemek, motivasyonlarını sürdürmek ve görev sırasında odaklanma düzeylerini optimize etmek amacıyla kullandıkları bilişsel bir stratejidir. Bu çalışma, 2025 yılında Ağrı ilinde bölgesel amatör düzeyde lisanslı kadın ve erkek futbolcular üzerinde yürütülmüş olup öz konuşma stratejilerinin uzun mesafe (LD) şut performansı üzerindeki etkilerini karma yöntemli bir desenle incelemiştir. Nicel veriler tek gruplu ön test-son test deneysel desen aracılığıyla elde edilirken nitel veriler sporcuların müdahale sürecine ilişkin deneyimlerini ortaya koymak amacıyla yarı yapılandırılmış görüşmeler yoluyla toplanmıştır. Araştırmanın çalışma grubunu, amaçlı örnekleme yöntemiyle seçilen 8'i kadın, 8'i erkek olmak üzere toplam 16 gönüllü futbolcu oluşturmuştur. Nicel bulgular, öz konuşma müdahalesi sonrasında LD şut isabet oranlarında istatistiksel olarak anlamlı bir artış olduğunu göstermiştir ($t(15) = 27.10, p < .001$, Hedges' $g_{av} = 2.98$, %95 GA [2.25, 3.71]). Cinsiyet değişkenine göre LD şut performansında anlamlı bir fark gözlenmemiştir. Öz değerlendirme formları, katılımcıların şut özgüveni, hedefleme sıklığı ve algılanan şut etkinliği düzeylerinde de önemli artışlar olduğunu göstermiştir. Nitel bulgular, sporcuların öz konuşma stratejisini dikkatlerini sürdürmede, özgüvenlerini artırmada ve uygulama hatalarını azaltmada yararlı bulduklarını, ayrıca büyük çoğunluğunun bu stratejiyi gelecekte de kullanmayı planladıklarını ortaya koymuştur. Genel olarak, elde edilen bulgular öz konuşmanın hem teknik beceri hassasiyetini hem de psikolojik dayanıklılığı geliştiren pratik ve etkili bir bilişsel-davranışçı strateji olduğunu göstermektedir. Ayrıca sonuçlar, öz konuşma müdahalelerinin kaynak açısından sınırlı ortamlarda da uygulanabilir olduğunu ve takım sporlarında spor psikolojisi temelli bilişsel stratejilerin etkili biçimde kullanılabileceğini ortaya koymaktadır.

Anahtar kelimeler: Sportif performans, motor kontrol, öz düzenleme, öz güven, motivasyon



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INTRODUCTION

Cognitive strategies in sports play a central role in athletes' processes of focusing attention, enhancing motivation, and improving performance (particularly under conditions of high cognitive and emotional demand) (Hardy et al., 2017). One such strategy, self-talk, is a cognitive-behavioral technique that assists athletes in strengthening cognitive control during performance, reinforcing positive behaviors, and suppressing negative thought patterns (through internal verbal regulation) (Hardy et al., 2001). From a theoretical perspective, self-talk functions as a self-regulatory mechanism that structures attention, guides motor execution, and supports goal-directed behavior during performance. Research has demonstrated that self-talk is particularly effective in technically demanding skills requiring high attentional focus, with instructional statements (e.g., "stay steady," "focus on the target") proving functional in terms of motor control and skill execution.

Self-talk is generally categorized into two types: instructional and motivational. Instructional self-talk incorporates technical instructions aimed at the accurate execution of movements, whereas motivational self-talk serves to boost self-confidence and support emotional regulation. Rather than being mutually exclusive, these forms often operate complementarily depending on task demands. Studies have revealed that both types exert positive effects on performance (Theodorakis et al., 2000).

The literature indicates that self-talk enhances performance across various sports: it increases serve accuracy in tennis (Hatzigeorgiadis et al., 2008), elevates free-throw success in basketball, and supports overall motor performance improvements under physical fatigue conditions (Galanis et al., 2022) and passing and shooting skills in football (Theodorakis et al., 2000). Furthermore, motivational self-talk has been reported to strengthen self-confidence among football players and augment team synergy (Zourbanos et al., 2009). The effects of self-talk on athletic performance, particularly in the contexts of attention, motivation, and anxiety management, have emerged as a central research topic in sports psychology literature in recent years (Hatzigeorgiadis et al., 2011). Studies on this subject have indicated that self-talk generates a moderate positive effect on fine and gross motor skills in team sports such as football; it is particularly beneficial for skills requiring technical precision (e.g., shot accuracy) and effective in fine motor tasks (Tod et al., 2011), while also enhancing perceptions of self-efficacy (a core component of self-regulated performance) (Bandura, 1997).

Given that football is a complex sport demanding high levels of both physical and mental skills, self-talk stands out as a critical cognitive strategy in this domain. Instructional statements (e.g., "maintain foot position") facilitate the accurate execution of technical movements, while motivational statements (e.g., "you can do it") bolster athletes' self-confidence and mitigate performance anxiety. This dual-function structure renders self-talk particularly suitable for football-specific motor skills that require simultaneous technical accuracy and psychological control. For skills such as the long-distance low shot (LD), which require elevated attention, technical precision, and power, self-talk contributes to directing athletes' attention toward the target, focusing on precise technical details (e.g., striking angle, foot placement), and preserving self-confidence under pressure (Landin & Hebert, 1999; Andersen, 2000).

Task-specific forms of self-talk enhance attentional focus cognitively by facilitating the filtering of extraneous stimuli (thereby reducing attentional overload) (Moran, 1996) and, emotionally, by reducing anxiety and increasing motivation. Accordingly, self-talk not only influences motor execution but also optimizes the psychological conditions under which

performance occurs. At this juncture, research that systematically and directly examines the effects of self-talk on specific technical skills, such as the long-distance low shot, holds critical importance. Existing studies in football demonstrate that self-talk positively influences not only technical skills but also decision-making processes. However, investigations that concurrently assess this effect through both quantitative indicators (e.g., accuracy rate) and subjective perceptions (e.g., perceived utility of the strategy) remain rare. In this respect, mixed-methods research designs provide a methodological advantage by integrating objective performance outcomes with athletes' experiential evaluations (Creswell & Plano Clark, 2018).

Despite substantial evidence supporting the benefits of self-talk in sports, there is limited research examining its impact on long-distance shooting performance in amateur football players, particularly in resource-constrained settings such as rural Türkiye. Moreover, most existing studies have focused on quantitative outcomes without integrating players' subjective experiences, limiting understanding of the practical utility of self-talk strategies.

Based on the theoretical and empirical literature, this study hypothesizes that (1) self-talk intervention improves long-distance (LD) shot accuracy, (2) self-talk increases players' self-confidence and attentional focus during shooting, and (3) these effects are observable across both male and female amateur football players, with participants reporting perceived utility of the strategy.

In Türkiye, the sports psychology literature predominantly focuses on professional athletes, with studies at the amateur level remaining relatively limited (Gül Filik & Uz Baş, 2024). Amateur football in rural areas is conducted with constrained infrastructure and limited resources. It is well-established that licensed amateur football players in Ağrı province face similar socio-economic and geographical constraints, resulting in inadequate training facilities. Within such contexts, psychological interventions that are low-cost, easy to implement, and adaptable to field conditions become particularly valuable. In this regard, self-talk strategies emerge as a practical mental tool that can be seamlessly integrated into routine training processes.

In conclusion, while there exists a robust scientific consensus in the literature regarding self-talk as an effective cognitive strategy for enhancing athletic performance, the scarcity of field-based, skill-specific, and mixed-methods studies limits the deepening of knowledge in this area. In this regard, the present study, drawing on the seminal work of Landin and Hebert (1999), investigates the effects of self-talk strategies on long-distance low shot performance among licensed female and male amateur football players at the regional level in Ağrı province using a mixed-methods approach. The quantitative dimension of the study aims to objectively delineate the impact of self-talk on shooting performance through an experimental design, whereas the qualitative dimension seeks to deeply analyze athletes' experiences and perceptions related to self-talk. Through this integrative approach, the study offers a methodologically robust framework that contributes both theoretically and practically to the sport psychology literature, particularly within amateur football settings.

MATERIALS and METHODS

Research Model

This study was designed using a mixed-methods approach, which integrates both quantitative and qualitative methods to provide a comprehensive understanding of the research problem (Creswell & Plano Clark, 2018). Quantitative data allowed us to objectively measure long-distance low (LD) shot performance, while qualitative data, collected through semi-structured interviews, captured players' experiences and perceptions of self-talk. Normality assumptions were verified through Skewness (-0.12), Kurtosis (0.45), Shapiro-Wilk ($p = 0.412$), and Kolmogorov-Smirnov ($p = 0.271$) tests, confirming a normal distribution, after which analyses were conducted using Paired-Samples T-tests. To investigate gender differences, LD shot performances of female and male football players were compared via Independent-Samples T-tests. Effect sizes were calculated using Hedge's g (Lakens, 2013). Analysis of quantitative data was performed using R Studio (v. 4.2.3) software, along with the psych (v. 2.3.6) and ggplot2 (v. 3.4.2) packages.

Participants

The population of this research comprises athletes aged 18-25 years who are actively competing at the regional amateur level in football in Türkiye. The sample consists of 16 licensed and voluntary football players (8 females, 8 males) aged 18-25 years who are actively participating in regional amateur leagues in Ağrı province. The sample group was selected using purposive sampling. An a priori power analysis was conducted using G*Power software for paired-samples t -tests, assuming a medium-to-large effect size (Cohen's $d_z = 0.80$), $\alpha = .05$, and $1 - \beta = 0.80$. The minimum required sample size was determined to be $n = 15$ (Lakens, 2013).

The final sample ($n = 16$) met this threshold, ensuring adequate statistical power to detect meaningful effects. The effect size value used in the power analysis represented a reasonable a priori assumption based on prior field research; the fact that the observed effect size in the present study was substantially higher does not compromise the validity of the analysis but rather reflects the strong intervention effect. Participants were selected according to criteria determined by the head coach and technical staff: (1) playing in positions involving frequent shooting attempts (e.g., forward, attacking midfielder, or winger), and (2) demonstrating high potential for LD shots. Demographic and athletic characteristics of the participants (age, experience, position, and dominant foot) are presented in Table 1.

Data Collection Tools

In the quantitative dimension of the study, a single-group pretest-posttest design was utilized, with self-talk interventions administered to each participant, and shot accuracy rates measured before and after the intervention. Athletes' shooting performances were interpreted using visual analysis guidelines (Martin & Pear, 2014). Following instruction in the self-talk strategy ("low" and "focus" cues), LD shot performances were measured under standardized conditions (16.5 m distance, fixed ball position, 15 trials). Performance was evaluated based on shot accuracy rates, with scoring as follows: 0 (shot off-target, ball not directed toward the lower corners), 1 (ball struck the outer part of the miniature net within the goal, such as the post or crossbar, but did not enter the miniature net), 2 (ball entered the miniature net directly).

In the qualitative dimension of the study, semi-structured interviews and scales were utilized. To measure athletes' performance perceptions at the moment of applying the self-talk strategy, a 3-item, 5-point Likert-type scale (1-5 points) was employed, covering dimensions such as confidence in scoring long-distance low shots during matches, frequency of targeting lower

corners in matches, and effectiveness of LD shots in matches. The scale's Cronbach's alpha coefficient (α) was found to be 0.82, supporting the reliability of the measurements (Nunnally & Bernstein, 1994).

To understand athletes' perceptions and experiences regarding the self-talk strategy, semi-structured interviews were conducted, and the interview data were coded using content analysis and systematically evaluated under thematic headings. Interviews were carried out face-to-face at the stadium. Each interview lasted approximately 20-30 minutes, was audio-recorded, and transcribed. The interviews were conducted in an environment conducive to participants' comfortable expression, in accordance with ethical guidelines. The interview protocol consisted of four main questions: (1) Have you previously used self-talk strategies? (2) To what extent did you apply the words "low" and "focus"? (3) What are your perceptions regarding the strategy's effectiveness? (4) What are your views on the strategy's functionality? Interview data were analyzed using Braun and Clarke's (2021) thematic analysis method, encompassing stages of familiarization with the data, open coding, axial coding, theme generation, and theme review. The coding process was conducted by three independent researchers (A.Ö., A.E., E.D.); trustworthiness was ensured through member checking (90% of participants confirmed the transcripts as accurate), data triangulation (integration of interviews, self-assessment surveys, and observational data), and researcher triangulation (consistency between two independent researchers' codings) (Tashakkori & Teddlie, 2010; Braun & Clarke, 2021).

Ethics Approval

During the research process, informed consent was obtained from all participants, and their personal information was kept confidential to ensure anonymity. The study was approved by the Ethics Committee of Ağrı İbrahim Çeçen University (Approval No. E-95531838-050.99-135609, dated 29.05.2025), ensuring compliance with ethical standards throughout.

Analysis of Data

To evaluate athletes' LD shot performance, a shooting drill simulating real match conditions was implemented. The study was conducted between June 15 and July 22, 2025, at the 110x68 m Ağrı İbrahim Çeçen University Stadium. Miniature target nets (2 x 1 m) placed in the lower left and right corners of a standard-sized goal (2.44 x 7.32 m) provided both visual targets and objective performance assessment. Athletes began from a point 16.5 meters from the goal in the upper penalty area region, controlled the ball passed from a feeder 7.3 meters away from the starting point, performed sets of three shots, and completed five sets (15 shots) in total; a maximum of two touches on the ball per shot was permitted, and after each shot, players returned to the starting position to receive the next ball. The drill's alignment with game tempo through appropriate speed and sprints, delivery of balls from three different points, and opportunity for shooting with both feet enhanced its realism and functionality. LD shots were recorded based on striking technique and shot outcome, independent of goalkeeper intervention.

The research was executed in three phases: In the baseline measurement phase, athletes performed shots without the strategy, and their performances were recorded by observers. At the outset, participants were asked, "What are your general thoughts on your LD shot performance?" to allow free expression of their views. Additionally, a brief survey was administered assessing confidence in LD shot performance, frequency of targeting lower corners, and shot effectiveness in matches. In the intervention phase, the self-talk (ST) strategy was introduced to players through individual interviews, conveying a task-focused strategy comprising the words "low" and "focus"; players repeated these statements internally before each shot. In the final phase, athletes performed 15 shots again under the same standardized conditions with the strategy applied, and performances were observed. Post-study interviews evaluated athletes' prior experiences with self-talk, accuracy of usage, perceptions of the strategy's effectiveness, and insights into its functionality. Baseline measurement sessions lasted approximately 3 minutes per individual, with the entire group process completed in about 50 minutes. This integrated method objectively measured pre- and post-intervention performance changes while providing an in-depth examination of athletes' experiences and perceptions of the strategy.

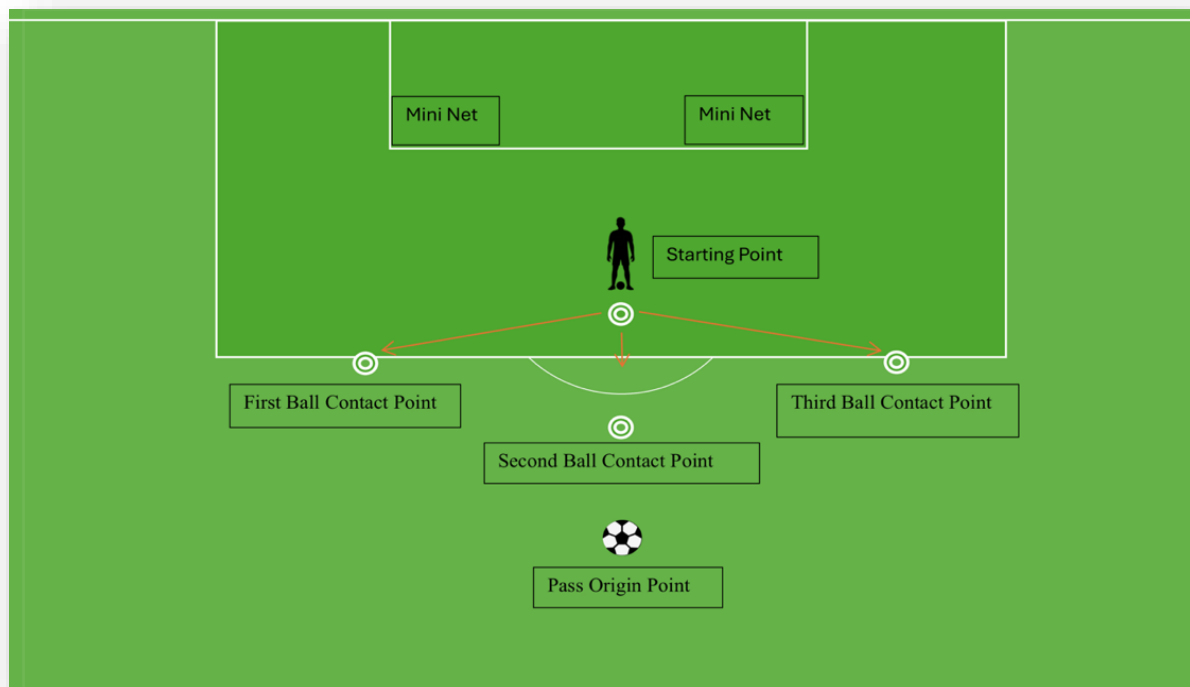


Figure 1. Layout of the drill area for LD shot performance



Figure 2. LD shot drill: setup and execution

RESULTS

In this section, quantitative and qualitative data were analyzed, and the results are presented through tables and figures.

1- Quantitative Results

Table 1. Demographic and athletic characteristics of the participants

Participant	Gender	Age	Weight (kg)	Height (cm)	Experience (years)	Position	Dominant Foot
Athlete 1	Female	20	48	155	2	Right Wing	Right
Athlete 2	Female	22	58	166	7	Striker	Right
Athlete 3	Female	24	47	159	11	Right Wing	Right
Athlete 4	Female	19	50	154	2	Forward	Right
Athlete 5	Female	20	62	160	2	Midfielder	Right/Left
Athlete 6	Female	20	62	161	7	Centre Back	Right
Athlete 7	Female	27	54	158	12	Attacking Midfielder	Right
Athlete 8	Female	20	53	164	5	Forward	Right
Athlete 9	Male	21	69	180	5	Left Back	Left
Athlete 10	Male	22	66	177	5	Attacking Midfielder	Right
Athlete 11	Male	22	64	169	9	Central Midfielder	Right/Left
Athlete 12	Male	21	68	173	6	Striker	Right/Left
Athlete 13	Male	22	85	181	8	Forward	Right
Athlete 14	Male	21	64	178	7	Left Wing	Left
Athlete 15	Male	21	63	171	3	Right Wing	Right
Athlete 16	Male	23	61	174	10	Centre Back	Right
Mean	-	21,56 ± 1,93	60,88 ± 9,47	167,50 ± 9,09	6,31 ± 3,18	-	-

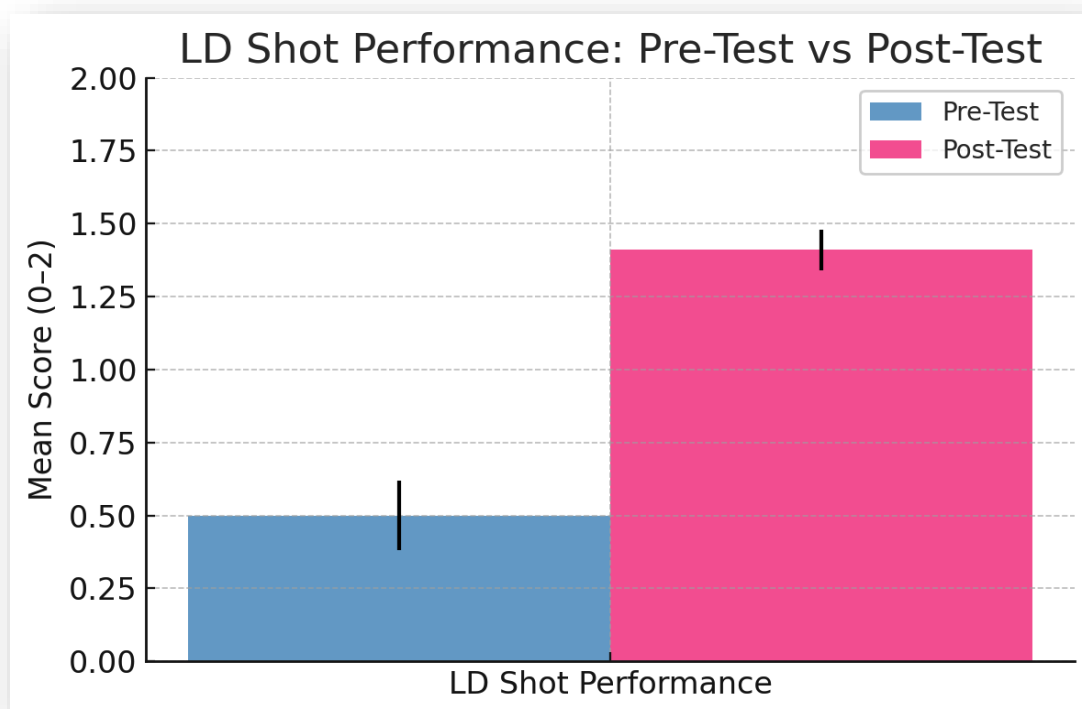
A total of 16 athletes, including 8 females and 8 males, participated in the study. Representing a relatively young sample group, most of the participants were found to have a dominant right foot. As indicated in Table 1, which shows a balanced distribution across playing positions, the participants' football experience ranged between 2 and 12 years.

Table 2. Comparison of Pre- and Post-Test values (Paired Samples T-Test)

Variable	Mean $\pm$ SD (Pre-Test)	Mean $\pm$ SD (Post-Test)	<i>t</i> (15)	<i>p</i>	Hedges' g_{av} (95% CI)
LD Shot Performance Score	0.50 $\pm$ 0.12	1.41 $\pm$ 0.07	27.10	<.001	2.98 [2.25, 3.71]

A statistically significant difference was found between the athletes' pre-test and post-test shooting performance scores. The findings presented in Table 2 indicate that the self-talk strategy substantially enhanced shooting accuracy. A paired-samples t-test showed a significant improvement in LD shot accuracy following the self-talk intervention, $t(15) = 27.10$, $p < .001$, Hedges' $g_{av} = 2.98$, 95% CI [2.25, 3.71], indicating a very large positive effect (Lakens, 2013; Sawilowsky, 2009). Although this magnitude reflects a practically meaningful improvement, it likely also stems from the narrow scoring scale and the low post-test variance.

Figure 3. Pre- and post-test mean scores for athletes' LD shot performance



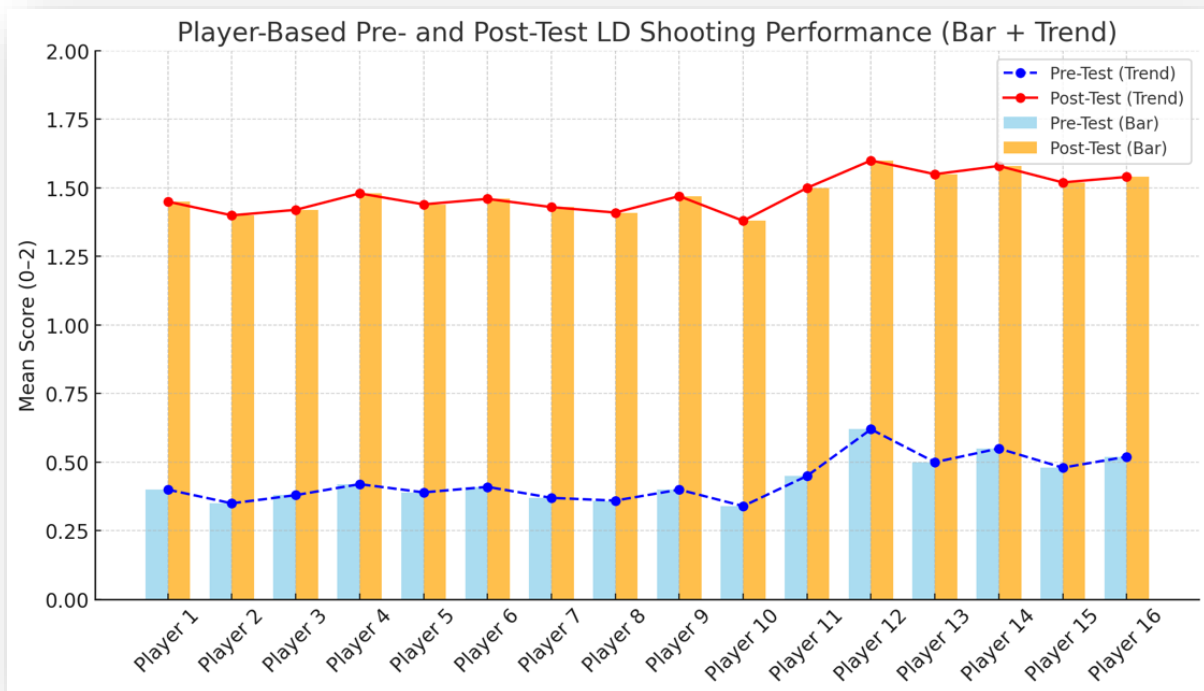


Figure 4. Comparison of pre- and post-test values for LD shot performance on an individual athlete basis

The graphs depicted in Figures 3 and 4 demonstrate that the post-test data exhibit a markedly elevated level relative to the pre-test metrics; that the overall trajectory evinces a consistent upward progression; and that variability persists at a subdued magnitude, thereby manifesting a homogeneous pattern of advancement. This pattern substantiates the efficacy of the self-talk strategy in engendering a statistically significant and coherent enhancement in athletes' perceptual appraisals of their LD shot performance at the individual level.

Table 3. Independent Samples T-Test results pertaining to LD shot performance among female and male football players

Gender	Mean $\pm$ SD	95% CI (Lower–Upper)	<i>t</i> (14)	<i>p</i>
Female	1.43 $\pm$ 0.03	[1.37, 1.49]	0.22	0.83
Male	1.42 $\pm$ 0.10	[1.32, 1.52]	-	-

The analytical findings delineated in Table 3 evince the absence of a statistically significant disparity in LD shot performance between female and male football players ($t(14) = 0.22, p = .83$). Levene's test for equality of variances was not significant ($F(1,14) = 0.47, p = .503$), indicating that the assumption of homogeneity of variances was met.

Table 4. Pre- and post-test comparison of self-evaluation for LD shot performance

Item	Pre ($\bar{X} \pm S$)	Post ($\bar{X} \pm S$)	<i>t</i>	<i>p</i>
Confidence Level in Scoring Goals with LD Shots	3.00 $\pm$ 0.73	4.44 $\pm$ 0.51	-10.12	<.001*
Frequency of Targeting Lower Corners	3.06 $\pm$ 0.68	4.38 $\pm$ 0.50	-10.55	<.001*
Effectiveness of LD Shots	3.25 $\pm$ 0.68	4.69 $\pm$ 0.48	-11.48	<.001*
Mean (N = 16)	3.10 $\pm$ 0.58	4.50 $\pm$ 0.47	-12.21	<.001*

The findings from the self-evaluation questionnaire have elucidated a pronounced advancement in athletes' perceptual appraisals of their LD shot performance after the implementation of the self-talk strategy. The data presented in Table 4 indicate an augmentation in the athletes' confidence levels, an escalation in the frequency of targeting lower corners, and an elevated assessment of the efficacy of their shots. In aggregate, a comparative analysis of pre- and post-test outcomes reveals a statistically significant progression in the athletes' perceptions of their performance.

Table 5. Inter-Observer reliability (Cohen's κ) values

Observer Pair	Cohen's κ	Comment
Observer 1–2	.93	Excellent Agreement
Observer 1–3	.91	Excellent Agreement
Observer 2–3	.95	Excellent Agreement
Mean	.93	Excellent Agreement

The inter-observer reliability analysis presented in Table 5 demonstrates excellent concordance among observers ($\kappa = 0.93 > 0.80$) (McHugh, 2012).

2- Qualitative Results

Table 6. Thematic analysis results of the Self-Talk Strategy

Theme	Description	Example Quote	Supporting Data
Motivational Effect	The self-talk strategy provided athletes with confidence and motivation.	“When I tell myself to focus, my mind becomes clear, and I make better decisions on the field.” (Female football player)	Most participants reported using self-talk words during stressful moments.
Performance Enhancement	The strategy improved athletes' concentration and performance.	“When I say ‘focus’ during the match, I can concentrate better on the ball, and my shots become more accurate.” (Male football player)	Self-assessment survey: the word “focus” received an average score of 4.2/5; observational data confirmed that the strategy was applied at critical moments.
Strategy Habituation	Regular use made the strategy more effective and natural.	“At first it felt strange, but now I want to use it in every match.” (Female football player)	Observation notes indicated frequent repetition of self-talk words during matches.

The results presented in Table 6 indicate that the self-talk strategy had positive effects on athletes. Players reported that using the words “low” and “focus” helped them remain calm and confident during stressful situations. Survey results revealed that 84% of the athletes perceived the strategy as performance-enhancing, and athletes who used it regularly stated that it became more natural and effective over time.

DISCUSSION

This mixed-method study examined the effects of a self-talk intervention on long-distance (LD) shooting performance among licensed male and female amateur football players in Ağrı, Türkiye, using a mixed-methods design. The discussion is organized according to the study hypotheses, with quantitative findings addressed first, followed by qualitative insights, to enhance clarity and coherence. The findings provide strong support for all three hypotheses: (1) self-talk improves LD shot accuracy, (2) self-talk increases players' self-confidence and attentional focus during shooting, and (3) these effects are observable across both male and female players, with participants reporting perceived utility of the strategy.

Quantitative analyses demonstrated a statistically significant and exceptionally large improvement in LD shooting accuracy following the intervention ($t(15) = 27.10$, $p < .001$, Hedges' $g_{av} = 2.98$, 95% CI [2.25, 3.71]), confirming Hypothesis 1. This corresponds to a 181% raw increase (pre-test mean = 0.50 to post-test mean = 1.41). According to Sawilowsky (2009), effect sizes above 2.0 are classified as "huge," indicating a profound practical impact. Comparisons with prior literature highlight the strength of this effect: Tod et al. (2011) reported $d_z = 0.48$ for fine motor skills, Theodorakis et al. (2000) observed 20–30% improvement in football shooting and passing, and Viscosi et al. (2024) reported $d_z = 0.65$ in elite youth passing performance. The larger effect here likely reflects participants' low baseline performance, novelty effect, limited prior exposure to cognitive strategies, and the ecological validity of the field-based drill (16,5 m distance, mini-target nets). Infrastructural constraints in rural Ağrı may have further enhanced responsiveness.

Self-assessment data revealed significant post-intervention improvements in LD shot confidence ($t(15) = -10.12$, $p < .001$), frequency of targeting lower corners ($t(15) = -10.55$, $p < .001$), and perceived shot effectiveness ($t(15) = -11.48$, $p < .001$), supporting Hypothesis 2. These results align with Bandura's (1997) self-efficacy theory and Hatzigeorgiadis et al. (2011), which suggest motivational self-talk enhances belief in one's ability by 15–25%.

Qualitative findings reinforced these quantitative results, grouped under three themes: motivational impact, performance enhancement, and strategy habituation. Participants described self-talk as improving concentration, boosting confidence, and reducing errors. Example quotes include "When I say 'focus,' my mind clears, and I control my shots better.", "Repeating the word 'low' helps me keep the ball close to the ground-it calms me."

The combination of instructional ("low") and motivational ("focus") cues supports the synergistic interaction proposed by Theodorakis et al. (2000), with instructional cues refining technical precision and motivational cues enhancing emotional regulation. The habituation theme aligns with Latinjak et al. (2023), emphasizing automatization through repeated use; notably, 80% of participants intended to continue self-talk. These results, consistent with Fritsch et al. (2024) on goal-directed self-talk reducing anxiety by 22%, strongly support Hypothesis 2.

No significant gender differences were observed in LD shooting performance ($t(14) = 0.22$, $p = .83$), supporting Hypothesis 3. This aligns with Zourbanos et al. (2009) and Reinebo et al. (2024), who reported similar motivational benefits across genders. Qualitative reports further confirmed broad perceived utility, with participants of both genders describing self-talk as practical and effective for focus and confidence. The verbal cues ("low" and "focus") are consistent with the matching hypothesis (Theodorakis et al., 2000; Landin & Hebert, 1999),

promoting task-relevant precision in football shooting. Recent studies also highlight interactions with embodied cues (Horcajo et al., 2024) and environmental stressors (Oldfield et al., 2024), suggesting avenues for future research beyond the controlled drill.

The large observed effect size (Hedges' $g_{av} = 2.98$) exceeded the a priori estimate of 0.80. This may reflect low baseline performance, novelty/learning effects, narrow scoring range (0–2) risking ceiling/floor effects, and the small sample size ($N = 16$), which may inflate effect size estimates and limit the statistical power to detect smaller effects. These factors highlight that while the results are promising, caution is needed in interpreting the magnitude and generalizability of the findings.

Practical Recommendations

Coaches may integrate verbal cues such as “low” and “focus” into training sessions as accessible cognitive interventions, guided by structured cue selection and realistic field simulations (Van Raalte et al., 2016). Embedding self-talk into coach education may enhance athletes' technical, tactical, and psychological readiness. Future studies should examine long-term, cross-cultural effects and objective performance measures (e.g., video analysis) in professional and amateur contexts.

Limitations and Future Directions

Limitations include the small sample size ($N = 16$), which limits statistical power and may inflate effect size estimates, no control group, absence of video-based coding, narrow scoring scale, and no match simulation. Future research should incorporate larger, more diverse samples, randomized control designs, longitudinal follow-ups, finer-grained scoring, ANCOVA for pre-test control, sensitivity analyses, and simulated match conditions. Integrating postural/embodied elements and stress manipulations could evaluate compounded effects. Another methodological consideration concerns the limited scoring range (0–2) used to assess LD shot accuracy. Such a narrow scale increases the risk of both ceiling and floor effects, as participants' scores may cluster near the extreme values, thereby reducing the sensitivity and discriminative power of the measure. The small sample size combined with the restricted scoring range likely contributed to inflated effect sizes, emphasizing the need for cautious interpretation and limiting generalizability. Future studies should therefore employ broader or more fine-grained scoring systems (e.g., 0–4 or 0–5) to capture subtler variations in shooting performance and minimize range restriction bias.

CONCLUSION

In conclusion, the self-talk intervention significantly improved LD shooting accuracy, self-confidence, and attentional focus among amateur football players, with benefits consistent across genders and supported by subjective participant perceptions. As a low-cost, easy-to-implement cognitive-behavioral tool, self-talk holds strong potential for enhancing technical performance and psychological resilience in skill-intensive, resource-limited sports environments such as regional amateur football.

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