The Effectiveness of a Football-Based Psychological Skills Training Program on Adolescents in the Indonesian–Malaysian Border Area: An Experimental Study in Entikong

By Soemardiawan

WORD COUNT	6386	TIME SUBMITTED	19-APR-2026 12:19PM
		PAPER ID	121214461

IJPESS
Indonesian Journal of Physical Education and Sport Science
p-ISSN 2775-765X | e-ISSN 2776-0200
Volume 6, No. 2, June 2026. Page. 222-235
http://journal.unucirebon.ac.id/index.php ijpess

The Effectiveness of a Football-Based Psychological Skills Training Program on Adolescents in the Indonesian–Malaysian Border Area: An Experimental Study in Entikong

Soemardiawan[1*], Uray Gustian[2]

[1]Department Of Sport Coaching Education, Universitas Pendidikan Mandalika, Indonesia

[2]Department Of Sport Coaching Education, Universitas Tanjungpura, Indonesia

*Corresponding Author: Soemardiawan, e-mail: umanksoemardiawan@undikma.ac.id

Received: 10 February 2026, Approved: 01 March 2026, Published: 30 June 2026

Abstract

Study purpose. This study examined the efficacy of a structured football-oriented psychological skills training program in improving psychological skills among students living in the Indonesian–Malaysian border region.

Material and methods. A posttest-only quasi-experimental controlled design was utilized, comprising an intervention group engaged in the structured program and a control group adhering to standard physical education activities. The evaluation of psychological skills was conducted with the Psychological Skills Inventory for Sports (PSIS-R5). The data were examined by a univariate between-groups analysis inside the General Linear Model framework.

Result. The findings indicated a statistically significant disparity in psychological skills between the intervention and control groups, $F(1, N-2) = 0.001$, $p < .05$. Participants in the structured football-based program had superior psychological skill ratings compared to those in the control group. The impact size was strong ($\eta^2p = .56$), signifying that group membership accounted for a significant share of variance in psychological skill results.

Conclusions. The findings offer empirical evidence that a structured football-based psychological skills training program can significantly improve psychological competences at educational institutions situated in physically disadvantaged border areas. The research enhances the existing literature on structured sport-based psychological therapies by showcasing statistically significant and practically meaningful effects in a marginalized setting.

Keywords: Psychological skills, Football-based intervention, Sport psychology in education, Border-area students, Quasi-experimental design

DOI: https://doi.org/10.52188/ijpess.v6i2.1964

Introduction

The development of Psychological Skills in young individuals had become a primary focus in both academic and sports fields. Psychological skills such as resilience, concentration, goal setting, and stress management were increasingly recognized as essential components of

holistic development and needed to be mastered by individuals, especially in competitive environments (Tassi et al., 2023; Van Den Berg et al., 2019). Meanwhile, these skills became a primary focus for many athletes in aligning mental aspects with their performance (Gandrapu & Rakesh, 2024). The importance of psychological skills was that they could improve reaction time and strategic thinking, enabling quick responses and effective decision-making under pressure (Edmizal et al., 2025). Additionally, for young athletes or students, it was very important to receive psychological skills training as it could enhance self-esteem and competence, contributing to their overall well-being, highlighting the importance of mental skills in sports performance and personal development (Merlin et al., 2024).

Psychological skills became important not only for sports performance but also significantly enhanced the cognitive and motor skills of athletes. This was supported by a study conducted by Norouzi et al. (2019), which found that the use of physical, environmental, tasking, timing, learning, emotion, and perspective (PETTLEP) significantly improved the passing performance of young football players. Similarly, Thelwell et al. (2006) showed that position-based psychological interventions improved players' specific performance. Furthermore, psychological readiness played a role in injury rehabilitation. A study by Naderi et al. (2024) revealed that anxiety and lack of self-confidence increased the risk of re-injury by up to 45%, emphasizing the need for psychological interventions in the rehabilitation process of athletes.

Besides performance benefits, psychological skills also played a role in emotion regulation and stress management, which were important aspects of young athlete development. A study by Van Den Berg et al. (2019) found that players with delayed physical growth had higher levels of resilience and stress coping strategies compared to their faster-maturing peers. Olmedilla et al. (2019) reported that cognitive-behavioral interventions could improve stress management and reduce performance anxiety in the context of competitive football. Domínguez González et al. (2024) found that a 13-week psychological intervention program significantly improved the confidence and concentration of young players. Additionally, deep breathing techniques had been proven to enhance mental toughness and psychological readiness before matches (Ismail et al., 2022).

Although there was much evidence supporting the benefits of psychological skills training, its implementation in youth development programs had been inconsistent. A study conducted by Berastegui-Martinez & Lopez-Ubis (2022) showed that the development of psychological skills required a systematic and deliberate approach. Furthermore, the integration of psychological skills in sports had been widely studyed, with findings highlighting its positive impact on athletes' mental readiness and performance consistency (Heidari et al., 2019). However, various challenges hindered its broad adoption, including a lack of trained professionals, limited institutional support, and resource constraints, especially in developing regions (Ismail et al., 2022). These challenges indicated a critical need for structured and easily accessible psychological skills programs that could be effectively integrated into youth development initiatives. Meanwhile, studies on the development of psychological skills among young students remained limited, particularly for those living in underserved or border areas with limited access to structured psychological training.

Based on these issues, a study was needed to introduce innovative approaches by implementing psychological skills interventions, including football-based interventions. Football was one of the popular sports and an integral part of society that significantly impacted social, cultural, and political dynamics (Fuller & Junaedi, 2018). As a dynamic and high-pressure sport, football demanded players to develop psychological competencies, including concentration, self-confidence, stress management, and resilience, to effectively face competitive challenges (Mujika et al., 2018). The structured nature of football training, combined with its inherent social and competitive elements, provided an ideal environment for

developing psychological resilience, teamwork, and coping strategies (Jooste et al., 2014; Grobbelaar et al., 2011). The integration of psychological skills training in football programs had been proven to enhance not only athletic performance but also personal growth, especially among adolescents (Gucciardi et al., 2009). Similarly, interventions such as deep breathing techniques and mindfulness training had been found to improve mental toughness and self-efficacy, which were crucial for success in both athletic and academic fields (Oguntuase & Sun, 2022). Furthermore, resilience-building programs had been shown to improve individuals' psychological adaptability and overall team cohesion, reinforcing the need for structured psychological skills training in football (Dixon & Jones, 2020).

Heidari et al. (2019) stated that study oriented towards more specific practice approaches was needed to improve performance and maintain physical and mental health. Furthermore, Heidari et al. (2019) recommended that psychological skills training be integrated into athletes' periodized training programs to contribute significantly to competitive performance. Domínguez-González et al. (2024) allowed targeted interventions to enhance athletes' psychological skills in competitive scenarios. Gomes et al. (2022) also recommended implementing football-based psychological skills interventions through competition contexts to explore the causal relationships between competitive stressors, cognitive appraisal, and emotional experiences. While prior research demonstrates the efficacy of psychological skills training in controlled sport environments, the transferability of these findings to structurally disadvantaged and border-region youth remains empirically untested. Border communities are characterized by cross-cultural exposure, economic vulnerability, and limited institutional resources, conditions that may alter the mechanisms through which psychological skills are developed. Despite this contextual complexity, no experimental evidence currently exists regarding football-based psychological skills interventions in marginalized border settings. This gap limits the field's understanding of how structured sport-based psychological programs function beyond elite or urban contexts.

This study experimentally examined the effectiveness of a structured football-based psychological skills training program among adolescents living in the Indonesian–Malaysian border area. The study was conducted on students in the Entikong area, the Indonesia-Malaysia border, which had limited access to structured psychological training in sports. This study became important because border communities were vulnerable to cultural, social, and political influences due to their location on the international border (Martono et al., 2022). This highlighted the need to strengthen psychological skills, especially among the youth, to prevent degradation. By integrating psychological skills training into a structured football program, it was hoped to enhance psychological well-being, athletic performance, and sustained participation in sports for young athletes in resource-limited areas.

Materials and methods

Study participant

Participants in this study involved a total of 60 high school students in Entikong, Indonesia. The participants consisted of two groups, with each treatment and control group comprising 30 students. This study used random sampling techniques that allowed for the representation of the population being studied (Mackiewicz, 2018). The participants ranged in age from 15 to 16 years and were all male. This study did not involve female participants as there were no females playing football, especially among students, in the Entikong area. Ethical approval and informed consent were obtained from the school authorities, the participants' parents or legal guardians, and the involved physical education teachers prior to data collection. Participation in the study was voluntary, and all participant identities were kept strictly confidential throughout the data collection, analysis, and reporting processes.

Study organization

The study was conducted using an experimental method with the aim of testing the effects of using football game-based interventions on improving students' psychological skills. This method involved manipulating independent variables, providing treatment, and controlling other variables, in accordance with the basic assumptions of experimental study. This research is classified as quasi-experimental, employing a posttest control group approach. The control group did not receive the treatment or intervention under investigation, whereas the experimental group did receive the intervention being examined. The control group was utilized to compare the alterations or effects of the administered treatment. Consequently, this design facilitated the assessment of the treatment's success by comparing outcomes between the control group and the experimental group.

Procedure

The study was conducted by integrating training and competition settings to ensure that the psychological skills developed could be directly applied in actual match conditions. Overall, the study was carried out over seventeen weeks, divided into three stages Table 1. In the preparation stage, which lasted for the first two weeks, participants were given an in-depth understanding of psychological skills concepts, including emotion regulation, stress management, focus enhancement, and self-confidence.

The intervention stage lasted for the next sixteen weeks (weeks 3-16), where participants underwent a combination of psychological skills training. Various techniques were applied in the training sessions, including diaphragmatic breathing exercises and progressive relaxation techniques to manage anxiety, mindfulness and visualization exercises to improve concentration, as well as self-talk and positive affirmation techniques to strengthen self-confidence. Additionally, goal-setting strategies were applied with measurable targets to enhance participants' intrinsic motivation.

Besides training sessions, participants were also placed in competitive settings to test the application of psychological skills in real conditions. Before each match, they were required to use breathing techniques and self-talk to calm themselves and improve focus. The competition, which took place over six weeks, was divided into three stages with gradually increasing difficulty levels. Stage 1 (weeks 11-12) involved competitions focusing on the application of emotion regulation and stress management techniques in light match situations. Stage 2 (weeks 13-14) involved high-pressure match simulations, such as trailing scores or penalty shootouts, to develop mental readiness. Stage 3 (weeks 15-16) involved regular competitions with tournament formats to assess psychological skills in the context of actual matches.

During the matches, they were monitored in the application of emotion regulation and stress management strategies. After the competition (week 17), group reflection and discussion sessions were held to measure and evaluate the effectiveness of the psychological skills they had used, followed by feedback from coaches to improve understanding and application of these skills in subsequent matches. Meanwhile, the control group carried out regular training activities and had their psychological skills measured alongside the treatment group.

Table 1. Course Schedule

Phase	Scope	Stage	Weeks To -
introduction	comprehension of psychology skills	psychology skills form introduction	1-2
intervention		diaphragmatic breathing exercises and relaxation	3-4

Phase	Scope	Stage	Weeks To -
	training combinations setting	mindfulness and visualization exercises	5-6
		self-talk technique exercises and positive affirmations	7-8
		goal-setting strategy exercises	9-10
	competition setting	application of emotion regulation and stress management techniques	11-12
		high-pressure match simulations	13-14
		tournament	15-16
reflection	assessment dan evaluation	posttest	17

Instrument

In this study, the measurement of psychological skills used the Psychological Skills Inventory for Sports (PSIS-R5). The PSIS-R5 was an instrument designed to measure various mental attributes distributed into six subscales, namely anxiety, concentration, self-confidence, team emphasis, and mental preparation to achieve optimal athletic performance (Wheaton et al., 2017). Furthermore, the PSIS-R5 was a questionnaire consisting of 45 items covering six psychological aspects to measure psychometric characteristics. Data were collected using a 5-point Likert scale questionnaire, so subjects only needed to choose one of the five alternative answers. The PSIS-R5 instrument had undergone construct validity and reliability testing with a sample of athletes in Indonesia. CoConstruct validity was assessed using the Kaiser Meyer-Olkin Measure of Sampling Adequacy (KMO-MSA) with a value of 0.829 (good). Subsequently, reliability was assessed using Cronbach's alpha scoring 0.898 and deemed reliable for use (Dimyati et al., 2023). Therefore, the PSIS-R5 was considered a suitable instrument for use in this study.

Statistical analysis

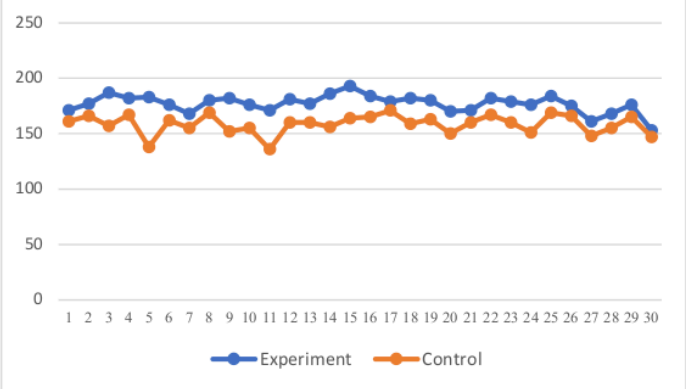
In accordance with the study objectives, the study aimed to examine the effects of the psychological skills training program by conducting football game competitions. Data analysis was carried out in several stages including: First, data coding was performed by assigning scores based on a predetermined scale, with 1 for strongly disagree and 5 for strongly agree. Then, scores for each item were summed to obtain a total score. Descriptive analysis of the total scores was conducted using SPSS. Following this, the study utilized a singular dependent variable (posttest psychological skills score) and one categorical independent variable (group: intervention vs control), necessitating a univariate analysis approach. Statistical assumptions were assessed prior to inferential testing. The normality of score distribution in each group was evaluated using the Kolmogorov-Smirnova test and the examination of Q–Q plots. Levene's test was employed to assess the homogeneity of variance. The data satisfied the necessary assumptions for parametric analysis.

A univariate between-groups analysis was conducted to ascertain if participation in the structured football-based psychological skills training program led to significant differences in psychological skill results. Statistical significance was established at $\alpha = .05$. Alongside significance tests, effect estimates were presented to measure the extent of the intervention effect. Partial eta squared (η^2p) was computed to assess the variance in psychological skills attributable to group membership. Cohen's d was calculated to provide a normalized mean difference across groups for improved interpretability. Effect sizes were assessed according to

standard benchmarks (η^2p: .01 small, .06 medium, .14 large; d: .20 small, .50 medium, .80 big). Reporting both statistical significance and practical magnitude guarantees a thorough assessment of the intervention's efficacy.

Results

The results of the study showed that the psychological skills scores of the experimental group were higher compared to the control group. This result was depicted in Graph 1, which showed that the students in the experimental group had higher overall scores compared to the control group. The graphical comparison reveals a distinct disparity in mean scores across the groups, with the experimental group exhibiting significantly higher posttest scores compared to the control group. This visual trend corresponds with the inferential analysis, which indicated a statistically significant group effect. Furthermore, the descriptive statistical analysis in Table 2 indicated that the experimental group had a higher average psychological skills score (M = 177.00, SD = 8.03) compared to the control group (M = 158.47, SD = 8.67). This indicated that participants who received the intervention showed better development in psychological skills compared to those who did not receive the intervention. Additionally, the 95% confidence interval (CI) for the experimental group ranged from 174.00 to 180.00, while for the control group it ranged from 155.23 to 161.70. The lack of overlap between these confidence intervals indicated a statistically significant difference between the two groups, thus supporting the effectiveness of the intervention implemented. Further analysis of the minimum and maximum values showed that the experimental group had a wider score range (153 to 193) compared to the control group (136 to 171), but overall their scores remained higher.



Graphic 1. Recap of Psychological Skills

Table 2. Description of Psychological Skills Data

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
					Lower Bound	Upper Bound		
Experiment	30	177.00	8.03	1.47	174.00	180.00	153.00	193.00
Control	30	158.47	8.67	1.58	155.23	161.70	136.00	171.00
Total	60	167.73	12.49	1.61	164.51	170.96	136.00	193.00

The boxplot analysis Figure 1 offers further insight into score distribution and variability. The experimental group demonstrated a superior median score relative to the control

group, signifying that the central tendency of psychological skills was persistently enhanced post-intervention. Furthermore, the interquartile range (IQR) of the experimental group was notably narrow, indicating that enhancements were not confined to a minor segment of participants but were uniformly distributed throughout the majority of students. Conversely, the control group exhibited a lower median and a wider distribution of scores, indicating increased variability and diminished homogeneity in psychological skill levels. The limited overlap between the interquartile ranges of the two groups indicates a significant distinction in score distributions. This pattern reinforces the pragmatic interpretation of the statistical results.

The examination of outliers further substantiates the robustness of the intervention effect. No significant outliers were detected in the experimental group that could artificially elevate the mean difference. The distribution pattern implies that the observed group difference represents a systematic shift rather than being influenced by individual high-performing instances.'Overall, the results of this study showed that the intervention had a positive impact on the development of psychological skills, as evidenced by higher average scores, denser data distribution, and fewer participants with low scores in the experimental group. Meanwhile, the control group that did not receive the intervention showed lower performance and higher variability. These findings highlighted the effectiveness of the intervention in improving psychological skills.

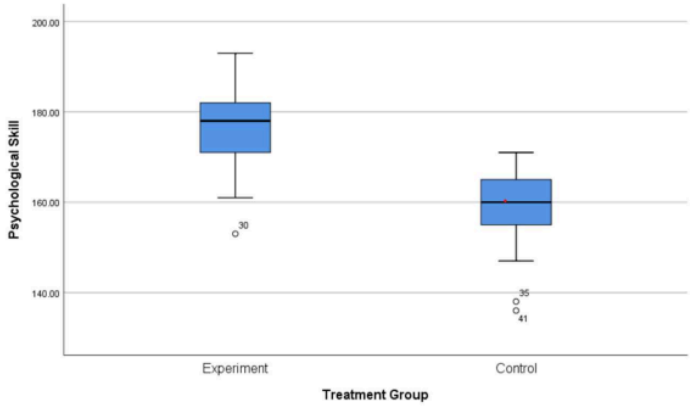


Figure 1. Boxplot of Psychological Skills Achievement

Next, a difference was conducted, however, the prerequisite tests were normality and homogeneity tests. The results of the normality test conducted with Kolmogorov-Smirnov. The test result showed that the psychological skills data in the experimental group had a significance value of 0.8 and the control group of 0.16 Table 3. Both groups of data have a significance value greater than 0.05 which indicates that the data is normal. Furthermore, the homogeneity test was conducted, and the results showed a significance value based on the mean of 0.54 which is greater than 0.05 Table 4. Therefore, the variance of the data is homogeneous.

Table 3. Normality Test Analysis Result

	Treatment Group	Kolmogorov-Smirnov[a]		
		Statistic	df	Sig.
PsychologicalSkill	Experiment	.150	30	.08
	Control	.137	30	.16

Table 4. Homogenity Test Analysis Result

Test of Homogeneity of Variance					
		Levene Statistic	df1	df2	Sig.
Psychological Skill	Based on Mean	.379	1	58	.54

Based on the analysis results of the test between-subjecst effects Table 5, The analysis revealed a statistically significant difference in psychological skills scores between the experimental and control groups. The obtained F value was 73.72 with 1 and 58 degrees of freedom, and the probability value was less than .001. This result indicates that the difference observed between the two groups was highly unlikely to have occurred by chance alone. Furthermore, the proportion of variance explained by the intervention was substantial. The analysis showed that 56% of the total variance in psychological skills scores could be attributed to group membership (intervention versus control). This suggests that the training program exerted a strong influence on the development of psychological skills among participants.

Beyond statistical significance, the magnitude of the intervention effect was examined to determine its practical importance. The effect size analysis indicated a very large impact of the intervention. Specifically, the calculated partial eta squared value of .56 suggests that more than half of the variability in psychological skills outcomes was associated with participation in the football-based psychological skills training program. To further quantify the magnitude of the difference between groups, Cohen's d was computed. The effect size estimate exceeded 2.00, which is considered extremely large according to conventional benchmarks. This indicates that the average participant in the experimental group scored more than two standard deviations higher than the average participant in the control group.

Table 5. ANOVA Test Results for Psychological Skills

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	5152.267[a]	1	5152.267	73.722	.001	.560
Intercept	1688068.267	1	1688068.267	24154.130	.001	.998
TreatmentGroup	5152.267	1	5152.267	73.722	.001	.560
Error	4053.467	58	69.887			
Total	1697274.000	60				
Corrected Total	9205.733	59				

a. R Squared = .560 (Adjusted R Squared = .552)

Discussion

The present study examined the effectiveness of a structured football-based psychological skills training program in enhancing adolescents' psychological skills in the Indonesian–Malaysian border area. The findings demonstrated statistically significant differences between the experimental and control groups. Importantly, beyond statistical significance, the intervention produced a large practical effect (η^2p = .56; Cohen's d > 2.00), indicating that the program accounted for more than half of the variance in posttest psychological skill scores. This magnitude suggests a substantial developmental impact rather than a marginal statistical improvement. In accordance with Domínguez González et al. (2024), psychological approaches demonstrate optimal efficacy when integrated into performance-related contexts. Participants in the current program engaged in respiratory management,

attentional control, and cognitive restructuring during football drills and competitive simulations.

This contextualized application likely reinforced the connection between competitive stressors and adaptive coping mechanisms. Instead of simply comprehending psychological methods theoretically, participants consistently practiced them under performance pressures, promoting internalization. Crane et al. (2019) underscored that psychological resilience is created through confronting challenges alongside systematic coping rehearsal. The progressive design of the 16-week program likely served as a graded exposure to competitive stress, enabling participants to amass mastery experiences. This procedure may elucidate the notable enhancements in self-confidence and anxiety regulation. Consequently, the intervention's efficacy seems to originate not from football involvement itself, but from the intentional and methodical incorporation of psychological procedures inside sport-specific practice environments.

The substantial impact size identified in this study surpasses the magnitude often documented in several psychological skills interventions (Tassi et al., 2024). Although previous research has shown significant enhancements, the current results indicate a notably robust effect of the intervention. A potential explanation pertains to surrounding circumstances. The study participants were sourced from a border region with restricted access to organized psychological development programs. Conversely, Olmedilla et al. (2019) have been performed in more organized competitive settings. When initial exposure to psychological skills training is limited, the implementation of a comprehensive and systematic program may yield far greater observable improvements.

The effectiveness of the intervention can be interpreted through established psychological training mechanisms. These results were consistent with a study conducted by Demeke & Beyene (2024), which showed that an 8-week psychological skills training program significantly increased motivation and reduced anxiety levels in U-17 football players. Additionally, a study by Domínguez González et al. (2024) revealed that a 13-week psychological intervention had a positive impact on competitive anxiety and self-confidence among U-15 football players. This confirmed that psychological interventions not only helped in facing competitive pressure but also improved young players' mental readiness. These findings were supported by a study conducted by Vella-Fondacaro & Romano-Smith (2023), which found improvements in mental toughness, cognitive anxiety, and problem-solving skills after mindfulness-based training. In line with Mraidi, (2024) study, there was a significant difference between the experimental and control groups, demonstrating the effectiveness of the intervention in enhancing psychological skills among young players. The training curriculum model implemented in this study also showed positive impacts on psychological resilience and basic football skills. This certainly implied that football program organizers, both at the academy and community levels, needed to adopt a holistic approach that integrated psychological skills into the training curriculum.

Furthermore, Tassi et al. (2024) revealed that integrated training tasks that combined psychological factors positively influenced the tactical behavior of elite football players. Besides their impact on individual psychological skills, sports-based programs also contributed to strengthening PYD. This was because participation in organized sports increased self-esteem, self-confidence, emotion regulation, prosocial behavior, bravery, and mood (Appelqvist-Schmidlechner et al., 2024: Whitley et al., 2016). The effectiveness of the intervention could be enhanced by involving coaches and parents in the training process. Coaches needed to be trained in psychological aspects so that they could effectively teach these skills to players, while parents could play a role in providing ongoing emotional support.

Moreover, this study supported the notion that sports-based programs had a broad impact on building social capital and enhancing social inclusion (Philip et al., 2023: Höglund

& Bruhn, 2024). Additionally, football-based development programs could reduce caste-based structural barriers, thereby creating greater opportunities for social inclusion (Philip et al., 2022). Thus, sports programs helped in the transfer of life skills such as leadership, teamwork, decision-making, and conflict resolution into everyday life. Overall, this study confirmed that football training programs could be effective instruments in developing the psychological and social skills of young players. With proper planning and implementation, these programs had the potential not only to improve athletes' readiness to compete but also to support broader social development through sports (Anderson-Butcher et al., 2013; Mussema et al., 2021; Marttinen et al., 2019; Wegner et al., 2022).

Although this study showed many benefits from the football training program intervention, its effectiveness greatly depended on the structure and delivery methods of the intervention. A study by Lange-Smith et al. (2024) highlighted that although PS interventions could improve athletes' performance, 97% of related study was rated very low in quality. Therefore, improvements in training methods, involvement of coaches and parents, and ongoing evaluation were needed to ensure the long-term benefits of these programs (Camiré & Trudel, 2010; Newman et al., 2020; Santos et al., 2024). The results of this study could serve as a basis for schools and football academies in designing more comprehensive youth athlete development programs. This approach not only enhanced football skills but also built athletes' character and mental resilience. Community-based sports programs could be a strategic tool for increasing social capital and social inclusion. By applying life skills principles in football programs, young athletes not only developed in the context of sports but also in their social lives, especially among students.

The results enhance sport psychology theory in multiple aspects. Initially, they emphasize self-regulation viewpoints indicating that psychological abilities are malleable processes rather than immutable qualities. The findings suggest that regular, contextually integrated practice may expedite the acquisition and consolidation of psychological coping strategies. Secondly, the research expands the literature on psychological skills training within a marginalized border-region environment. A significant portion of the current research has been on elite or academy athletes. Exhibiting significant impacts within an underprivileged demographic indicates that theoretical frameworks of psychological skill acquisition may possess wider ecological relevance. The findings highlight the conceptual differentiation between general sports engagement and structured psychological intervention. Although participation in football may yield incidental psychosocial advantages, the extent of the observed effect suggests that intentional psychological structuring is essential for significant skill enhancement.

Notwithstanding the encouraging results, various methodological constraints necessitate attention. The study utilized a posttest-only quasi-experimental design lacking baseline measurement, which restricts the verification of initial group equivalence and may exaggerate effect size estimates ($\eta^2p = .56$); subsequent research should implement randomized pretest–posttest controlled designs with covariance or repeated-measures analyses to enhance internal validity. The limited sample obtained from two schools in a singular Indonesian–Malaysian border area restricts statistical power and generalizability, highlighting the necessity for bigger, multi-site research that facilitate the exploration of contextual variables. The evaluation of psychological skills relied solely on self-report (PSIS-R5), potentially vulnerable to social desirability and response bias; future studies should adopt multimethod approaches, including behavioral indicators, coach assessments, or physiological metrics to validate findings. The lack of longitudinal follow-up precludes inferences on the sustainability of intervention effects, underscoring the necessity of prolonged monitoring to evaluate retention over time. Moreover, the proposed mediating processes were hypothesized but not empirically validated, and the fidelity of implementation was not systematically assessed, hence

constraining the accuracy in elucidating how and to what degree the intervention induced change. Subsequent research should use mediation analysis and formal fidelity evaluations to improve explanatory precision and causal inference.

Conclusions

This study examined the effectiveness of a structured football-based psychological skills training program among adolescents in the Indonesian–Malaysian border area. The findings demonstrated statistically significant differences between the experimental and control groups, with a large practical effect ($\eta^2p = .56$), indicating that the intervention substantially improved participants' psychological skills as measured by the PSIS-R5. These results suggest that systematically integrating psychological techniques within football training can produce meaningful enhancements in self-regulation, confidence, and coping-related competencies. The conclusions of this study are confined to the psychological variables assessed and support the effectiveness of structured sport-based psychological skills training within this specific context.

Acknowledgment

The author expresses his deepest appreciation and gratitude to all researchers who contributed to the implementation of this research, including in the planning, data collection, and analysis stages. He also expresses his gratitude to all respondents/research samples who volunteered their time and provided the necessary data, enabling the successful completion of this research. Their support and participation were invaluable in the preparation and completion of this article.

Conflict of interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

References

Anderson-Butcher, D., Iachini, A., Riley, A., Wade-Mdivanian, R., Davis, J., & Amorose, A. J. (2013). Exploring the impact of a summer sport-based youth development program. *Evaluation and Program Planning*, *37*, 64–69. https://doi.org/https://doi.org/10.1016/j.evalprogplan.2013.01.002

Appelqvist-Schmidlechner, K., Haavanlammi, M., Autio, R., Kekkonen, M., & Fröjd, S. (2024). Changes in behavioural and emotional well-being of children participating in the Icehearts programme: A feasibility pilot study with 4-year follow-up. *Mental Health & Prevention*, *34*, 200348. https://doi.org/https://doi.org/10.1016/j.mhp.2024.200348

Berastegui-Martinez, J., & Lopez-Ubis, J. C. (2022). Effects of an intervention programme designed to improve emotional intelligence and foster the use of coping strategies among professional female football players. *Heliyon*, *8*(7). https://doi.org/10.1016/j.heliyon.2022.e09860

Camiré, M., & Trudel, P. (2010). High school athletes' perspectives on character development through sport participation. *Physical Education and Sport Pedagogy*, *15*(2), 193–207. https://doi.org/10.1080/17408980902877617

Demeke, A. F., & Beyene, E. T. (2024). Effects of Psychological Skill Training on Motivation and Anxiety Among Male U-17 Project Football Players . *International Journal of Psychological and Brain Sciences*, *9* (2), 21–29. https://doi.org/10.11648/j.ijpbs.20240902.12

Dimyati, Setiawati, F. A., Ed, I., & Ilham. (2023). Exploratory Factor Analysis of Psychological Skills Inventory for Sports in Indonesian National Athletes. *Journal of Human Movement and Sports Sciences*, *11*(4), 699–707. https://doi.org/10.13189/saj.2023.110402.

Dixon, J. G., & Jones, M. V. (2020). A challenge culture: Refections on Implementing a Psychological Skills Programme in Elite Youth Soccer. In *The Psychology of Soccer* (pp. 189–204). Taylor and Francis. https://doi.org/10.4324/9781003005568-16

Domínguez-González, J. A., Reigal, R. E., Morales-Sánchez, V., & Hernández-Mendo, A. (2024). Analysis of the Sports Psychological Profile, Competitive Anxiety, Self-Confidence and Flow State in Young Football Players. *SPORTS*, *12*(1). https://doi.org/10.3390/sports12010020

Domínguez González, J. A., Reigal Garrido, R. E., Morales Sánchez, V., Hernández Mendo, A., González, J. A. D., Garrido, R. E. R., Sánchez, V. M., & Mendo, A. H. (2024). Effects of a Psychological Intervention Program on Competitive Anxiety and Psychological Profile in Young Soccer Players. *Perceptual and Motor Skills*, *131*(4), 1233–1256. https://doi.org/10.1177/00315125241256410

Edmizal, E., Donie, D., Barlian, E., Welis, W., Hauw Sin, T., Umar, U., Padli, P., Ahmed, M., Haryanto, J., & Bhatnagar, P. (2025). Efecto del entrenamiento en habilidades psicológicas sobre el tiempo de reacción y el pensamiento estratégico en el bádminton de competición - una revisión sistemática. *Retos*, *62*(SE-Revisiones teóricas sistemáticas y/o metaanálisis), 439–453. https://doi.org/10.47197/retos.v62.110746

Fuller, A., & Junaedi, F. (2018). Ultras in Indonesia: conflict, diversification, activism. *Sport in Society*, *21*(6), 919–931. https://doi.org/10.1080/17430437.2017.1300392

Gomes, A. R., Simaes, C., Morais, C., & Cunha, R. (2022). Adaptation to stress in football athletes: The importance of cognitive appraisal. *Frontiers in Psychology*, *13*. https://doi.org/10.3389/fpsyg.2022.939840

Grobbelaar, H. W., Eloff, M., Maryke, E., & Eloff, M. (2011). Psychological skills of provincial netball players in different playing positions. *South African Journal for Research in Sport, Physical Education and Recreation*, *33*(2), 45–58. https://doi.org/10.4314/sajrs.v33i2.69689

Gucciardi, D. F., Gordon, S., & Dimmock, J. A. (2009). Evaluation of a mental toughness training program for youth-aged Australian footballers: I. A quantitative analysis. *Journal of Applied Sport Psychology*, *21*(3), 307–323. https://doi.org/10.1080/10413200903026066

Heidari, J., Pelka, M., Beckmann, J., & Kellmann, M. (2019). A practitioner's perspective on psychological issues in football. *Science and Medicine in Football*, *3*(2), 169–175. https://doi.org/10.1080/24733938.2018.1526397

Höglund, F., & Bruhn, A. (2024). Sport-based interventions' – A tool for suburban social integration? *Nordic Social Work Research*, *14*(1), 32–44. https://doi.org/10.1080/2156857X.2022.2062430

Ismail, F. H., Abd Karim, Z., Rozali, N. A., & Ramalu, R. R. (2022). The effects of deep breathing on the mental toughness of athletes in Puchong Fuerza football club. *Pedagogy of Physical Culture and Sports*, *26*(4), 265–269. https://doi.org/10.15561/26649837.2022.0406

Jooste, J., Steyn, B. J. M., & Van Den Berg, L. (2014). Psychological skills, playing positions and performance of African youth soccer teams. *South African Journal for Research in Sport, Physical Education and Recreation*, *36*(1), 85–100. https://www.scopus.com/inward/record.uri?eid=2-s2.0-84898945075&partnerID=40&md5=7c16cc428f2f6b072bd9b09e31973669

Lange-Smith, S., Cabot, J., Coffee, P., Gunnell, K., & Tod, D. (2024). The efficacy of psychological skills training for enhancing performance in sport: a review of reviews. *International Journal of Sport and Exercise Psychology*, *22*(4), 1012–1029. https://doi.org/10.1080/1612197X.2023.2168725

Mackiewicz, J. (2018). A Mixed-Method Approach. In *Writing Center Talk over Time* (pp. 37–

60). https://doi.org/10.4324/9780429469237-3

Martono, M., Dewantara, J. A., Efriani, E., & Prasetiyo, W. H. (2022). The national identity on the border: Indonesian language awareness and attitudes through multi-ethnic community involvement. *Journal of Community Psychology*, *50*(1), 111–125. https://doi.org/10.1002/jcop.22505

Marttinen, R., Johnston, K., Phillips, S., Fredrick, R. N., & Meza, B. (2019). REACH Harlem: young urban boys' experiences in an after-school PA positive youth development program. *Physical Education and Sport Pedagogy*, *24*(4), 373–389. https://doi.org/10.1080/17408989.2019.1592147

Merlin, Q., Vacher, P., Martinent, G., & Nicolas, M. (2024). Youth Athletes' Self-Esteem: The Impact of Integrated Psychological Skills Training. *Pediatric Exercise Science*, *36*(4), 265–273. https://doi.org/10.1123/pes.2024-0005

Mraidi, M. jawad. (2024). A training curriculum for psychological endurance and the development of some special skills of football for juniors. *Journal of College of Physical Education*, *17*(2), 207–219. https://doi.org/10.33170/jocope.v17i2.207-219

Mujika, I., Halson, S., Burke, L. M., Balagué, G., & Farrow, D. (2018). An Integrated, Multifactorial Approach to Periodization for Optimal Performance in Individual and Team Sports. *International Journal of Sports Physiology and Performance*, *13*(5), 538–561. https://doi.org/10.1123/ijspp.2018-0093

Mussema, A., Tadesse, T., & Melkamu, Z. (2021). Program Quality and Developmental Outcomes Related to Youth Volleyball in Ethiopia: Assessing Relationships and Variations. *European Journal of Investigation In Health Psychology and Education*, *11*(4), 1388–1405. https://doi.org/10.3390/ejihpe11040100

Naderi, A., Rahimi, M., Zarghami, S. Y., Tranaeus, U., & Calmeiro, L. (2024). Psychosocial Factors Associated With Lower Extremity Reinjury Risk in Soccer Players: Contribution of Self-Confidence and Reinjury Anxiety. *Journal of Athletic Training*, *59*(10), 1035–1041. https://doi.org/10.4085/1062-6050-0434.23

Newman, T. J., Anderson-Butcher, D., & Amorose, A. J. (2020). Examining the influence of sport program staff and parent/caregiver support on youth outcomes. *Applied Developmental Science*, *24*(3), 263–278. https://doi.org/10.1080/10888691.2018.1467762

Norouzi, E., Norouzi Seyed Hossini, R., Afroozeh, M. S., Vaezmosavi, M., Gerber, M., Puehse, U., & Brand, S. (2019). Examining the effectiveness of a pettlep imagery intervention on the football skill performance of novice athletes. *Journal of Imagery Research in Sport and Physical Activity*, *14*(1), 30–36. https://doi.org/10.1515/jirspa-2018-0010

Oguntuase, S. B., & Sun, Y. (2022). Effects of mindfulness training and locus of control on self-efficacy of professional football players in Nigeria. *Journal of Physical Education and Sport*, *22*(5), 1112–1119. https://doi.org/10.7752/jpes.2022.05140

Olmedilla, A., Moreno-Fernández, I. M., Gómez-Espejo, V., Robles-Palazón, F. J., Verdú, I., & Ortega, E. (2019). Psychological Intervention Program to Control Stress in Youth Soccer Players. *Frontiers in Psychology*, *10*. https://doi.org/10.3389/fpsyg.2019.02260

Philip, B., Hoye, R., & Sherry, E. (2022). Sport-for-development and social inclusion in caste-ridden India: opportunities and challenges. *Soccer and Society*, *23*(8), 970–986. https://doi.org/10.1080/14660970.2021.1993199

Philip, B., Seal, E. L., & Philip, S. (2023). Human resource development for community development: lessons from a sport-for-development program in rural India. *Asia Pacific Journal of Human Resources*, *61*(2), 442–461. https://doi.org/10.1111/1744-7941.12357

Santos, F., Palheta, C. E., Lima, R., Maia, K., Lima, C., Milan, F., & Milistetd, M. (2024). The road towards infusing positive youth development in competitive youth sport programs: the case of futsal in minas tenis clube. *Sports Coaching Review*. https://doi.org/10.1080/21640629.2024.2412461

Tassi, J. M., Díaz-García, J., López-Gajardo, M. A. Á. A., Rubio-Morales, A., & García-Calvo, T. (2023). Effect of a Four-Week Soccer Training Program Using Stressful Constraints on Team Resilience and Precompetitive Anxiety. *International Journal of Environmental Research And Public Health*, *20*(2). https://doi.org/10.3390/ijerph20021620

Tassi, J. M., Nobari, H., García, J. D., Rubio, A., Gajardo, M. Á. L., Manzano, D., & García-Calvo, T. (2024). Exploring a holistic training program on tactical behavior and psychological components of elite soccer players throughout competition season: a pilot study. *BMC Sports Science, Medicine & Rehabilitation*, *16*(1), 27. https://doi.org/10.1186/s13102-024-00811-x

Thelwell, R. C., Greenlees, I. A., & Weston, N. J. V. (2006). Using psychological skills training to develop soccer performance. *Journal of Applied Sport Psychology*, *18*(3), 254–270. https://doi.org/10.1080/10413200600830323

Van Den Berg, L., Grobbelaar, H. W., Jooste, J., & Jacobs, S. (2019). Psychological factors may counterbalance physical disadvantage of late maturation among African junior soccer players. *South African Journal for Research in Sport, Physical Education and Recreation*, *41*(3), 117–127. https://www.scopus.com/inward/record.uri?eid=2-s2.0-85076985523&partnerID=40&md5=0f61b811c158cc521b73087e1d203f53

Vella-Fondacaro, D., & Romano-Smith, S. (2023). The Impact of a Psychological Skills Training and Mindfulness-Based Intervention on the Mental Toughness, Competitive Anxiety, and Coping Skills of Futsal Players—A Longitudinal Convergent Mixed-Methods Design. In *Sports* (Vol. 11, Issue 9). https://doi.org/10.3390/sports11090162

Wegner, C. E., Bopp, T., & Jones, G. J. (2022). Programmatic strategies for optimal interactions in a youth sport for development context. *Managing Sport and Leisure*, *27*(3), 207–223. https://doi.org/10.1080/23750472.2020.1776146

Wheaton, B., Roy, G., & Olive, R. (2017). Exploring Critical Alternatives for Youth Development through Lifestyle Sport: Surfing and Community Development in Aotearoa/New Zealand. *Sustainability*, *9*(12). https://doi.org/10.3390/su9122298

Whitley, M. A., Wright, E. M., & Gould, D. (2016). Coaches' perspectives on teaching life skills to underserved South African children and youth. *International Journal of Sports Science & Coaching*, *11*(3), 312–326. https://doi.org/10.1177/1747954116643646

Information about the authors:

Soemardiawan: umanksoemardiawan@undikma.ac.id, https://orcid.org/0000-0001-7372-5617, Department Of Sport Coaching Education, Universitas Pendidikan Mandalika, Indonesia

Uray Gustian: uray.gustian@fkip.untan.ac.id, https://orcid.org/0000-0001-5117-5861, Department of Sport Coaching Education, Universitas Tanjungpura, Indonesia

Cite this article as:

Soemardiawan. Gustian, Uray. (2026). The Effectiveness of a Football-Based Psychological Skills Training Program on Adolescents in the Indonesian–Malaysian Border Area: An Experimental Study in Entikong. *Indonesian Journal of Physical Education and Sport Science, 6 (*2), 222-235. https://doi.org/10.52188/ijpess.v6i2.1964

The Effectiveness of a Football-Based Psychological Skills Training Program on Adolescents in the Indonesian–Malaysian Border Area: An Experimental Study in Entikong

ORIGINALITY REPORT

9%
SIMILARITY INDEX

PRIMARY SOURCES

1	journal.unucirebon.ac.id Internet	148 words — 3%
2	dialnet.unirioja.es Internet	54 words — 1%
3	Soemardiawan Soemardiawan, Fitri Anggraini Hariyanto, Sekar Pudak Wangi, Intan Primayanti, Uray Gustian. "Effectiveness of soccer-based programs for community development: a systematic review and meta-analysis", Retos, 2025 Crossref	39 words — 1%
4	aassjournal.com Internet	34 words — 1%
5	Katrina Volgemute, Gundega Ulme, Viktorija Perepjolkina, Renars Licis et al. "Adaptation and psychometric properties of Psychological Skills Inventory for Sport (PSIS-R5) in Latvian athletes: Insights and implications for practice", PLOS One, 2025 Crossref	33 words — 1%
6	Daniel J. Denis. "SPSS Data Analysis for Univariate, Bivariate, and Multivariate Statistics", Wiley, 2018 Crossref	30 words — 1%

7	tmfv.com.ua Internet	29 words — 1%
8	ucalgary.scholaris.ca Internet	29 words — 1%
9	efs.ueb.ro Internet	27 words — 1%
10	globalresearchonline.net Internet	27 words — 1%

EXCLUDE QUOTES	ON	EXCLUDE SOURCES	< 1%
EXCLUDE BIBLIOGRAPHY	ON	EXCLUDE MATCHES	OFF