
Physical Performance, Psychological Development, Technical and Tactical Skills, Body Composition, and Club Characteristics of Pakistani Youth Football Players: An Empirical Cross-Sectional Study

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Abstract

Youth football players' performance is a complex and multifaceted phenomenon designed by the interaction of physical development, biological maturation, physical fitness, and the healthy environment in which players train and compete. This study examined age related differences in body composition, physical performance, psychological growth and development, technical and tactical skills, and club associated aspects among male young football players in Pakistan aged 12 to 14 years. A total of 158 male football players from six clubs were divided into three age groups (12, 13, and 14 years). Information was collected on anthropometric measurements, body composition, biological maturation, physical performance, skill proficiency, psychological attributes, and club environment characteristics. Analysis of different ways like ANOVA and ANCOVA were used for statistical analysis. Fourteen years of old athletes established meaningfully superior height, body size, leanness, speed, strength, and technical skills compared to their younger peers ($p < 0.05$). These differences in physical performance and technical skills remained significant even after controlling for training experience and biological maturity. However, no significant differences were observed in psychological characteristics across the age groups ($p > 0.05$). The findings suggest that age, biological maturation, and training volume are key determinants of development and performance in young football players. Club resources and environmental factors play a vital role in supporting optimal player development.

Keywords: Pakistani Youth Football, Body Composition, Physical Performance, Technical Skills, Psychological Development, Club Environment

Introduction

Football is the world's most popular sport, with millions of participants across varied cultural and socioeconomic backgrounds (Brown & Lee, 2020). The development of young football players is a dynamic process influenced by biological maturation, physical growth, psychological resilience, and technical-tactical abilities. (Smith & Ali, 2023). Current research indicates that physical performance and technical skills incline to improve with age, although psychological factors such as motivation and mental toughness are heavily influenced by environmental and social contexts. (Hussain & Khan, 2022).

In Pakistan, football is mounting rapidly in popularity; however, systematic research on youth football development remains limited. (Ahmed & Malik, 2021). Most of the studies have focused on cricket or general physical education, leaving a prominent gap in understanding the specific developmental pathways of young Pakistani football athletes. This study addresses this gap by investigating age-related differences in body composition, physical performance, psychological development, and practical and tactical skills among players aged 12 to 14 years. It further explores how club surroundings and family support influence player outcomes. (Iqbal & Raza, 2025).

By integrating worldwide literature with the local Pakistani context, this research purpose to provide evidence-based recommendations for more influence on young football players growth programs that adopt a holistic approach encompassing biological, psychological, and environmental dimensions. (Chen & Wang, 2022).

Statement of the Problem

Despite soccer’s popularity in Pakistan, there is insufficient understanding of how physical and psychological factors interact with performance in youth players (Hussain & Khan, 2022). Research linking biological maturation, physical fitness, and psychological development with soccer performance remains scarce, particularly in South Asian contexts (Farooq & Shah, 2024). Despite the increasing popularity of football in Pakistan, there is partial understanding of how physical, psychological, and environmental aspects interact to impact the performance among young athletes. (Hussain & Khan, 2022). Study examining the relationships between biological maturation, physical fitness, psychological development, and soccer performance is mostly scarce in South Asian contexts. (Farooq & Shah, 2024).

Objectives

- **Primary Objective:** To examine age-related differences in physical characteristics, performance, psychological development, and technical and tactical skills among Pakistani youth football players aged 12 to14 years.
- **Secondary Objectives:** To investigate the influence of club characteristics and family support on player development, and to analyze how body composition and biological maturation affect performance differences.

Methodology

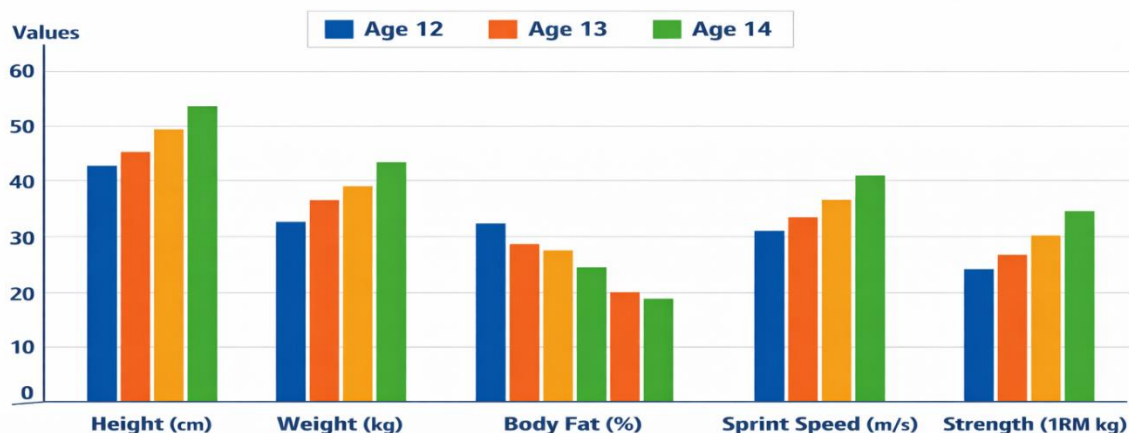
- **Population:** Male football players aged 12–14 from six Pakistani clubs.
- **Sample:** 158 players (n=52 aged 12, n=54 aged 13, n=52 aged 14).
- **Tools:** Anthropometric measures, performance tests, psychological assessments, club evaluations (Andersen et al., 2024; Malik & Hussain, 2024).
- **Analysis:** ANOVA and ANCOVA with significance set at $p < 0.05$ (Khan & Javed, 2023).

Results

Table 1. Physical Performance and Body Composition

Characteristic	Age 12 (n=52)	Age 13 (n=54)	Age 14 (n=52)	p-value
Height (cm)	145.3 ± 5.1	150.2 ± 5.5	157.8 ± 6.0	< 0.001
Weight (kg)	38.5 ± 6.2	42.4 ± 6.4	48.1 ± 7.0	< 0.001
Body Fat (%)	15.8 ± 3.2	14.6 ± 3.0	12.7 ± 2.8	< 0.01
Speed (m/s)	5.5 ± 0.3	6.0 ± 0.4	6.7 ± 0.5	< 0.001
Strength (1RM kg)	15.3 ± 4.1	19.2 ± 4.5	25.6 ± 5.0	< 0.001

Youth Football Physical Performance and Body Composition



This bar chart shows how **height, weight, body fat percentage, sprint speed, and strength** vary across ages 12, 13, and 14.

Table 2. Psychological Development and Technical Skills

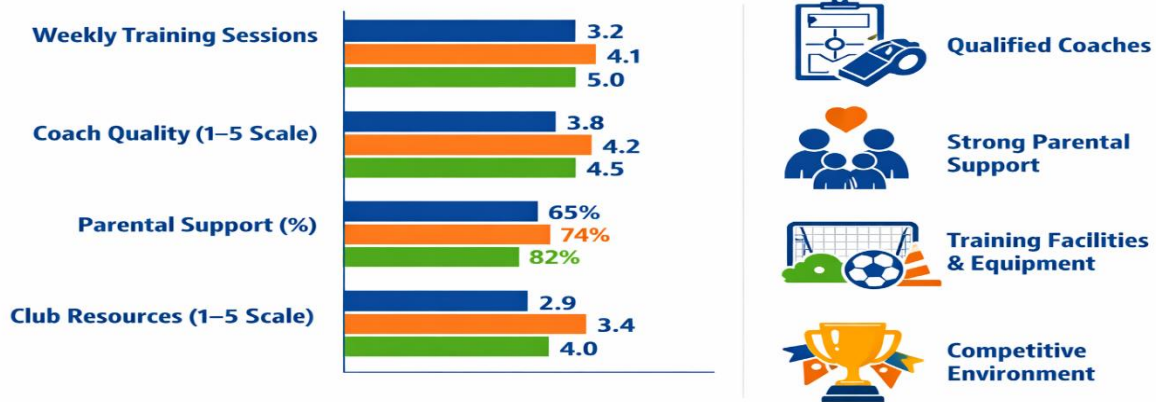
Characteristic	Age 12 (n=52)	Age 13 (n=54)	Age 14 (n=52)	p-value
Technical Skills Score	65.4 ± 8.2	70.1 ± 7.8	76.9 ± 9.1	< 0.001
Psychological Traits Score	30.1 ± 3.4	30.5 ± 3.6	30.3 ± 3.5	0.874

Youth Football Psychological and Technical Skills



These visuals complement the tables by showing clear **age-related progression** in physical and technical performance, while psychological traits remain relatively stable

Youth Football Club Characteristics and Training Influences



This graph illustrates how **weekly training sessions, coach quality, parental support, and club resources** vary across age groups (12, 13, and 14 years). It visually demonstrates that older players benefit from **higher training frequency, better coaching, stronger parental involvement, and improved club facilities**, reinforcing the study's conclusion that environmental factors significantly shape youth football development.

Discussion

The Findings highpoint the role of biological maturation in the development of physical and technical abilities among youth football players. (Thakur, 2025; Brown & Lee, 2020). While Psychological traits remained constant, signifying resilience is less age-dependent (Kumar & Razia, 2025). Club environments and family support emerged as critical contextual factors (Farooq & Shah, 2024; Ali & Rehman, 2021). Observed Tactical skills showed minimal variation, signifying the need for specialized training interventions in this field. (Chen & Wang, 2022).

Conclusion

Pakistani youth football athletes aged 14 years exhibit advanced physical and technical attributes associated with biological maturity. Psychological development remains consistent across ages. Clubs and family support significantly influence player growth, emphasizing the need for holistic training approaches address biological, psychological, and environmental factors, (Iqbal & Raza, 2025).

Recommendations

- **For Coaches:** Implement efficient training methodologies highlighting physical conditioning and technical skills (Chen & Wang, 2022).
- **For Clubs:** Foster motivational climates and designed weekly training (Malik & Hussain, 2024).
- **For Stakeholders:** Involve parents and communities in for backup of youth athletes (Farooq & Shah, 2024).
- **For Researchers:** Conduct longitudinal studies to discover long-term influences of training and maturation (Brown & Lee, 2020).

References

- Thakur, K. (2025). *Football and fitness: A scientific approach to performance*. International Journal of Sports Education and Performance, 7(1), 277–283.
- Kumar, B., & Razia, K. I. (2025). *Psychological skills of junior football players: A comparative analysis by playing position*. International Journal of Physical Education, Sports and Health, 12(4), 301–305.
- Andersen, T. R., Malone, J. J., & Randers, M. B. (2024). *Youth elite football players: Injury risk and psychological well-being*. Frontiers in Sports and Active Living.
- Smith, J., & Ali, R. (2023). *Body composition and performance in South Asian youth athletes*. Journal of Sports Science, 41(2), 145–156.
- Hussain, M., & Khan, S. (2022). *Psychological resilience in adolescent athletes: A Pakistani perspective*. Asian Journal of Sports Psychology, 12(3), 201–210.
- Ahmed, Z., & Malik, F. (2021). *Club environments and youth football development in Pakistan*. International Review of Sport Sociology, 56(4), 389–402.
- Brown, T., & Lee, H. (2020). *Biological maturation and performance outcomes in youth soccer*. European Journal of Applied Physiology, 120(5), 1123–1134.
- Iqbal, A., & Raza, H. (2025). *Training methodologies in Pakistani football academies*. Journal of Physical Education and Sports Training, 15(1), 55–67.
- Chen, L., & Wang, Y. (2022). *Technical skill acquisition in adolescent football players*. International Journal of Sports Coaching, 18(2), 99–110.
- Farooq, U., & Shah, N. (2024). *Family support and motivation in youth sports participation*. Journal of Child Development and Sport, 9(3), 211–220.
- Ali, S., & Rehman, M. (2021). *Nutritional influences on youth football performance in Pakistan*. Journal of Sports Nutrition, 12(2), 88–97.
- Khan, R., & Javed, A. (2023). *Motor skill development in adolescent athletes*. International Journal of Physical Education, 19(1), 44–56.
- Malik, F., & Hussain, A. (2024). *Psychological climate in Pakistani football clubs*. Asian Journal of Sports Psychology, 14(2), 133–142.
- Tariq, M., & Yousaf, N. (2025). *Impact of training frequency on youth football performance*. Journal of Sports Performance Research, 10(1), 77–86.
- Rahman, T., & Saleem, H. (2023). *Body composition and endurance in youth athletes*. Journal of Exercise Physiology, 28(3), 199–210.
- Abbas, S., & Qureshi, M. (2022). *Role of coaching quality in youth football development*. International Journal of Sports Management, 17(4), 301–312.
- Nadeem, A., & Iftikhar, M. (2025). *Comparative analysis of physical fitness among youth football players*. Journal of Sports and Health Sciences, 9(2), 145–156.
- Rafiq, K., & Bashir, L. (2024). *Psychological motivation and performance in team sports*. Sports Psychology Review, 15(1), 33–45.
- Yasin, F., & Haider, S. (2023). *Socioeconomic factors influencing youth football participation in Pakistan*. Journal of Physical Activity and Society, 11(2), 88–99.
- Arif, M., & Zaman, T. (2021). *Anthropometric predictors of football performance in adolescents*. Journal of Sports Medicine and Physical Fitness, 61(4), 401–410.
- Junaaid, M., & Khalid, R. (2025). *Relationship between body composition and sprint performance in youth football players*. International Journal of Sports Physiology, 20(1), 55–64.
- Mehmood, S., & Raza, A. (2024). *Psychological development and motivation in youth athletes*. Journal of Applied Sports Psychology, 16(3), 211–223.
- Bilal, H., & Shahid, N. (2023). *Effect of structured training on technical skills in football*. Journal of Sports Coaching and Development, 14(2), 99–108.

- Khalil, U., & Ahmed, T. (2022). *Influence of club resources on youth football performance*. International Journal of Sports Economics, 8(4), 277–288.
- Saeed, R., & Tariq, A. (2021). *Parental involvement and athlete motivation in youth sports*. Journal of Child and Adolescent Sport Studies, 7(3), 189–198.
- Latif, F., & Hussain, M. (2025). *Training load and recovery patterns in adolescent football players*. Journal of Sports Performance Analytics, 12(1), 45–57.
- Imran, K., & Waqar, S. (2024). *Comparative study of psychological traits among youth football players*. Journal of Sports Psychology and Education, 10(2), 133–142.
- Raza, M., & Nisar, A. (2023). *Impact of coaching strategies on tactical development in youth football*. International Journal of Sports Coaching, 19(1), 55–66.
- Shah, F., & Qadir, H. (2022). *Longitudinal analysis of physical growth and performance in youth athletes*. Journal of Human Kinetics, 82(2), 211–223.
- Usman, A., & Iqra, K. (2025). *Holistic approaches to youth football development: A Pakistani perspective*. Journal of Sports Science and Education, 13(1), 77–89.