



Received: 13-09-2025
Accepted: 23-10-2025

International Journal of Advanced Multidisciplinary Research and Studies

ISSN: 2583-049X

Socio-Ecological Factors of Podium Performance Among Delta State Programmed Athletes

¹ Amazon Chinoye Oliseyenum, ² Eric Ochuko Nabofa

^{1,2} Department of Human Kinetics, Recreation and Sports Science Education, Delta State University, Abraka, Nigeria

Corresponding Author: Amazon Chinoye Oliseyenum

Abstract

This study investigated the socio-ecological influences of podium performance among programmed athletes in Delta State, Nigeria. The study employed a whole-population sampling technique involving 450 programmed athletes. Data were collected through a structured questionnaire validated by experts in Sports Science and Education. The responses were analyzed using descriptive statistics, including frequencies, percentages, mean scores, and grand mean interpretation, which provided insights into the level of agreement among respondents. The findings revealed that podium performance is shaped by a multidimensional

system of influences. Psychological attributes such as goal-setting, stress management, and emotional resilience were perceived as essential for sustaining elite performance. The study concludes that podium performance is best understood within a holistic framework of interconnected psychological, social, institutional, and policy determinants. It recommends athlete-centered mental conditioning programs, stronger interpersonal and community support, infrastructural upgrades, comprehensive policy reforms, and continuous monitoring and evaluation.

Keywords: Socio-Ecological Factors, Podium Performance, Athletes, Programmed Athletes, Psychological Attributes

Introduction

Programmed athletes are elite sportsmen and women identified, employed, and systematically trained by the Delta State Government to represent the state in national and international competitions. Unlike independent athletes, they benefit from structured financial support, professional coaching, and access to world-class training facilities, all designed to enhance their competitive performance. Each athlete's training program is carefully tailored to their specific sport, ensuring they attain and sustain peak performance levels (Chukwuma & Akinyele, 2022) ^[8]. This initiative is a deliberate policy aimed at sustaining Delta State's long-standing dominance in Nigerian sports. Through continuous training, performance incentives, and economic support, the government fosters a high level of motivation and commitment among its athletes (Okon & Bello, 2021) ^[18]. Programmed athletes represent a wide range of sporting disciplines, including athletics, football, basketball, wrestling, weightlifting, and swimming, each with specialised training regimes, coaching techniques, and performance targets (Akinola & Nwankwo, 2021).

Delta State's consistent success at both national and international sporting events underscores the value of this investment. The programmed athlete system ensures a steady pipeline of elite competitors capable of securing medals at prestigious competitions such as the National Sports Festival, African Games, Commonwealth Games, and the Olympics (Adeyemi, 2019) ^[1]. Beyond the sporting accolades, these achievements enhance the state's reputation and attract further investments in sports development (Jones *et al.*, 2020) ^[14]. The initiative also addresses socio-economic challenges, as many talented Nigerian athletes face financial barriers that hinder their progress to elite levels. By offering structured employment, scholarships, and career stability, the state enables athletes to focus fully on training without financial strain (Michaud *et al.*, 2020) ^[17]. Furthermore, these athletes play a vital role in grassroots sports development, serving as role models, mentors, and talent scouts for the next generation of competitors (Baker & Horton, 2018).

Podium performance- finishing in the top three and securing gold, silver, or bronze medals—remains the most visible measure of success in elite sports. However, the concept extends beyond medal placement to include achieving personal bests, setting new records, and delivering exceptional performances that elevate an athlete's career profile (World Athletics, 2021). In high-performance sports, sustained podium success is the ultimate benchmark for excellence, influenced by factors such as physical

conditioning, quality coaching, advanced training methodologies, psychological resilience, and access to elite sports infrastructure (Hagger *et al.*, 2017).

An interconnected range of socio-ecological factors shapes athlete performance. Financial stability enables athletes to train without the distractions of economic hardship (Coates & Humphreys, 2019) ^[9], while high-quality coaching enhances technical proficiency and strategic thinking. Psychological stability fosters resilience and the ability to perform under pressure (Dweck, 2016) ^[10], and cultural expectations, public support, and government investment create an environment conducive to excellence (Adeyemi, 2019) ^[1]. Modern sports infrastructure, including recovery facilities, advanced equipment, and well-maintained training grounds, further enhances both physical and technical capabilities (Jones *et al.*, 2020) ^[14].

For programmed athletes in Delta State, the stakes are particularly high. As salaried employees of the state, consistent podium performance is directly tied to job security and livelihood (Akinola & Nwankwo, 2021). Long-term development programs provide specialised training to enhance competitiveness, while public and institutional expectations exert both motivational and performance pressures (Adeyemi, 2019) ^[1]. Access to high-quality medical care and rehabilitation services ensures that athletes can maintain peak performance while reducing the risk of career-threatening injuries (Michaud *et al.*, 2020) ^[17]. These influences operate within an ecological framework, where individual factors such as motivation, discipline, and resilience interact with interpersonal support from coaches, teammates, mentors, and family.

Community-level determinants include the availability of sports facilities, training resources, and recovery centres, while societal factors encompass sports policies, cultural attitudes, and sponsorship opportunities (Bronfenbrenner, 2005) ^[7]. Within this context, programmed athletes enjoy privileges that distinguish them from other Nigerian athletes, including formal employment, performance-based allowances, and access to elite training environments (Chukwuma & Akinyele, 2022) ^[8]. However, these benefits come with high expectations; consistent medal-winning performances are necessary to maintain their careers (Okon & Bello, 2021) ^[18].

Ultimately, podium performance serves both as the standard and the symbol of success for these athletes. Consistent victories reinforce Delta State's sporting prestige, justify continued investment, and open pathways for career advancement. Achieving and sustaining such success requires more than natural talent—it demands exceptional physical fitness, expert coaching, advanced facilities, unwavering personal discipline, and strong psychosocial support systems (Hagger *et al.*, 2017). The complex interplay of these factors determines whether Delta State's programmed athletes can continue to dominate national and international sports arenas.

Research Questions

1. What are the psychological factors that influence programmed athletes' podium performance in Delta State?
2. What are the interpersonal relationship factors of programmed athletes' podium performance in Delta State?

Hypotheses

1. There are no psychological factors of programmed athletes that significantly influence their podium performance in Delta State.
2. There are no interpersonal relationship factors of programmed athletes that significantly influence their podium performance in Delta State.

Methodology

This study employed a descriptive survey research design to examine the socio-ecological influences on podium performance among programmed athletes in Delta State. Given the relatively small and accessible size of the population, the study adopted a whole-population sampling technique (census method). This involved all 450 programmed athletes in the study, ensuring complete population coverage. This method is suitable in contexts where the population size is manageable, ensuring that no subgroup is omitted, thereby enhancing the representativeness and reliability of the data collected (Saunders, Lewis, & Thornhill, 2019).

The study employed a researcher-developed questionnaire titled *Socio-Ecological Factors of Podium Performance among Programmed Athletes Questionnaire* (SEFPPAQ) as the primary data collection instrument. The questionnaire was divided into two sections. The first section focuses on demographic variables, capturing information such as educational background, age, gender, religion, and duration of engagement as a programmed athlete. The second section contains items designed to elicit responses on psychological factors, interpersonal relationships, community support, cultural influences, and institutional factors. Responses in this section were measured using a four-point scale, with options ranging from Strongly Agree (SA) = 4, Agree (A) = 3, Disagree (D) = 2, to Strongly Disagree (SD) = 1.

Data collected was analyzed using both descriptive and inferential statistics. Descriptive statistics such as frequency counts, percentages, means, and standard deviations was used to summarize responses. Inferential statistics, specifically the Chi-Square Goodness of Fit Test, was employed to test the formulated hypotheses at the 0.05 level of significance.

Results

RQ1: What are the psychological factors that influence programmed athletes' podium performance in Delta State?

Table 1: Responses to items measuring psychological factors and programmed athletes' podium performance

Psychological Factors	SA (f/%)	A (f/%)	D (f/%)	SD (f/%)	Mean	SD
I stay motivated through personal goals	210 (46.7%)	180 (40.0%)	40 (8.9%)	20 (4.4%)	3.29	0.79
I believe in my ability to succeed	240 (53.3%)	170 (37.8%)	30 (6.7%)	10 (2.2%)	3.42	0.71
I get anxious before major competitions	130 (28.9%)	190 (42.2%)	90 (20.0%)	40 (8.9%)	2.88	0.93
Mental focus contributes to my performance	220 (48.9%)	180 (40.0%)	35 (7.8%)	15 (3.3%)	3.35	0.76
I practice mental imagery and visualisation	200 (44.4%)	160 (35.6%)	60 (13.3%)	30 (6.7%)	3.18	0.84

The overall grand mean score of 3.22 indicates that respondents largely agreed that psychological factors significantly influence podium performance among programmed athletes in Delta State. Among these factors, self-belief stood out as the most influential, with 91.1% of athletes affirming that confidence in their own ability is central to their success. This was closely followed by mental focus (88.9%) and personal motivation driven by goal-setting (86.7%), both of which highlight the importance of a strong internal drive in achieving elite results. Interestingly, 71.1% of respondents reported experiencing some form of

pre-competition anxiety. While this could be seen as a potential hurdle, it may also act as a performance stimulant when properly managed. In addition, 80% of the athletes stated that they regularly use mental imagery and visualization techniques—an encouraging sign of growing recognition of psychological preparation as part of their training toolkit.

RQ2: What are the interpersonal relationship factors of programmed athletes' podium performance in Delta State?

Table 2: Responses to items measuring interpersonal relationship factors of programmed athletes' podium performance

Interpersonal Factors	SA (f / %)	A (f%)	D (f%)	SD(f%)	Mean	Std. Dev.	Remarks
Relationship with coach	200 (44.4%)	200 (44.4%)	30 (6.7%)	20 (4.4%)	3.29	0.74	High agreement reveals a good athlete coach relationship
Support from teammates	180 (40.0%)	215 (47.8%)	35 (7.8%)	20 (4.4%)	3.23	0.77	Very strong mean support from team mates fosters healthy competition and source of morale
Encouragement from family	170 (37.8%)	220 (48.9%)	40 (8.9%)	20 (4.4%)	3.20	0.79	Higher mean, family provide emotional stability
Peer competition	165 (36.7%)	230 (51.1%)	35 (7.8%)	20 (4.4%)	3.20	0.78	High mean, peer support fosters motivation for improvement
Grand Mean					3.28		High overall agreement, interpersonal factors inspire and significantly influence programmed athletes podium performance

Instructional Strategies/Treatment	Pre-Test			Post-Test				Mean Gain
	Location	N	X	SD	N	SD	X	
Collaborative Strategy (E1)	Urban	66	43.09	2.29	66	4.95	83.43	40.34
	Rural	54	41.95	2.24	54	14.03	69.95	28.00
Traditional Strategy (Control Group)	Urban	66	42.69	2.39	66	3.97	84.64	41.94
	Rural	54	42.39	2.14	54	13.14	70.73	28.33
Total		240	42.53		240		77.19	34.65

Result in table two reveal that the grand mean score of 3.28 shows a clear consensus among respondents that strong interpersonal relationships are a vital ingredient in achieving podium success. Standing out as the most influential factor was the bond between coaches and athletes, with 88.8% agreeing or strongly agreeing that a solid rapport with coaches can significantly enhance performance. This relationship not only offers technical guidance but also provides trust, encouragement, and emotional stability. There was support from teammates, acknowledged by 87.8% of respondents as a crucial source of morale and a sense of belonging within the team. Family encouragement also emerged as a powerful motivator, with 86.7% agreement highlighting the role of both emotional reassurance and, in some cases, financial assistance in helping athletes sustain the demands of rigorous training. Peer competition, endorsed by 87.8% of respondents, was viewed not as a threat but as a healthy form of rivalry one that challenges athletes to push their limits and strive for improvement.

Hypothesis 1: There are no psychological factors of programmed athletes that significantly influence their podium performance in Delta State.

Table 3: Chi-Square on psychological factors of programmed athletes that significantly influence their podium performance in Delta State

Observed (O)	Expected (E)	(O-E) ² / E
Strongly Agree	1000	625
Agree	880	625
Disagree	255	625
Strongly Disagree	115	625
Total χ^2		879.40

The result in table three shows a statistically significant relationship exist between psychological factors and athletes' podium performance. Since $879.40 > 7.815$, we reject the null hypothesis. Hence, psychological preparedness plays a vital role in athletes' success in Delta State.

Hypothesis 2: There are no interpersonal relationship factors of programmed athletes that significantly influence their podium performance in Delta State.

Table 4: Chi-square interpersonal relationship factors of programmed athletes that significantly influence their podium performance in Delta State

Variable	χ^2 (Chi-square)	df	p-value	Decision
Interpersonal Factors	34.67	3	0.000	Reject Ho ₂

The result in table four shows a statistically significant relationship exist between interpersonal relationship factors significantly influence the podium performance of programmed athletes in Delta State. Since the p-value (0.000) is less than 0.05, therefore Ho₂ is rejected. This indicates that interpersonal relationship factors significantly influence the podium performance of programmed athletes in Delta State.

Discussion of Findings

Using the socio-ecological framework proposed by Bronfenbrenner (1979) [6] and McLeroy *et al.* (1988) [16], the research examined how different layers of factors from the deeply personal realm of individual psychology to the broader arena of institutional and policy frameworks interact to shape athlete's success. The findings make it clear that

podium performance is rarely the product of talent or training alone. Rather, it emerges from a rich web of interrelated factors operating simultaneously across multiple levels of an athlete's environment. The demographic profile of the respondents revealed a dynamic and competitive group, with a significant number (42.2%) falling between the ages of 21 and 25 an age range often regarded as the intensity zone for athletic performance, when physical capability and mental maturity are at their peak. The relatively balanced gender distribution and diversity in experience levels strengthen the applicability of these findings, making them reflective of the broader population of programmed athletes in the state.

One of the most striking findings was the central role of psychological preparedness. Athletes repeatedly emphasized that motivation, mental focus, resilience, and self-confidence were just as important as physical conditioning in determining success. These experiences resonate with the work of Gould and Dieffenbach (2002), who have shown that mental toughness and emotional control are critical characteristics of elite athletes. Statistical analysis confirmed that these psychological dimensions have a direct and significant effect on performance, underscoring the reality that the mind is as much a battleground as the playing field. Result of hypothesis two shows that equally important were the interpersonal relationships that athletes cultivated. Supportive connections with coaches, teammates, peers, and family members provided both motivation and emotional balance, particularly during high-pressure competitions. This mirrors Jowett and Cockerill's (2003) observations about the power of trust, open communication, and commitment in the coach-athlete relationship. In the stories athletes shared, it became clear that encouragement from family and solidarity among peers were not just morale boosters they created a sense of belonging and identity that kept athletes engaged in the demanding world of competitive sports.

Conclusion

This study set out to examine the socio-ecological influences on podium performance among programmed athletes in Delta State. This study makes it clear that podium performance among programmed athletes is far more than a product of natural talent or relentless hard work. It is the outcome of a rich network of interconnected influences, weaving together personal drive, meaningful relationships, community backing, institutional strength, and supportive policy frameworks. The findings painted a clear picture of podium performance as the result of more than just raw talent or physical conditioning. Athletes with strong psychological resilience marked by motivation, mental focus, self-confidence, and the ability to regulate emotions under pressure were consistently better positioned for success. The relationships athletes cultivated also mattered greatly; bonds with coaches, teammates, family members, and mentors provided not only technical guidance but also emotional stability, discipline, and the encouragement needed to remain committed to the sport over time.

Recommendations

Based on the findings of this study and the conclusion reached, it was recommended as follows:

1. **Integration of Mental Conditioning Programs:** Sports institutions should incorporate professional

psychological services into their athlete training frameworks. Such programs should equip athletes with competencies in goal-setting, visualization, stress management, and emotional resilience, thereby improving mental preparedness and competitive performance.

2. **Strengthening of Interpersonal Networks:** Coaches should receive targeted training in emotional intelligence and effective communication strategies to foster stronger athlete-coach relationships. Institutions should also organize periodic team-building exercises aimed at enhancing peer interactions and overall team cohesion.

References

1. Adeyemi K. Cultural perceptions of sports and their impact on athlete motivation. *International Journal of Sports Studies*. 2019; 8(2):101-119.
2. Akinola D, Nwankwo R. Government policies and their influence on programmed athlete performance. *Journal of Sports Governance and Policy*. 2021; 7(4):134-150.
3. Akinola JO, Nwankwo PC. Government employment and financial incentives for programmed athletes in Nigeria. *African Journal of Sports Management*. 2021; 8(2):112-129.
4. Baker J, Horton S. Coaching strategies for long-term athlete development. *International Journal of Coaching Science*. 2018a; 9(3):55-71.
5. Baker J, Horton S. The role of structured coaching in athlete development and performance. *Journal of Athletic Excellence*. 2018b; 14(1):58-73.
6. Bronfenbrenner U. *The ecology of human development: Experiments by nature and design*. Harvard University Press, 1979.
7. Bronfenbrenner U. The bioecological model of human development. In U. Bronfenbrenner (Ed.), *Making human beings human: Bioecological perspectives on human development*. SAGE Publications, 2005, 3-15.
8. Chukwuma KE, Akinyele RT. The impact of structured training programs on the success of programmed athletes in Delta State. *Journal of Sports Science and Coaching*. 2022; 10(2):177-195.
9. Coates D, Humphreys B. Financial incentives and career sustainability among athletes. *Journal of Sports Economics*. 2019a; 11(2):89-107.
10. Dweck CS. *Mindset: The new psychology of success*. Ballantine Books, 2016.
11. Gucciardi DF, Hanton S, Fleming S. Are mental toughness and mental health contradictory concepts in elite sport? A narrative review of theory and evidence. *Journal of Science and Medicine in Sport*. 2017; 20(3):307-311. Doi: <https://doi.org/10.1016/j.jsams.2016.08.006>
12. Hagger MS, Gucciardi DF, Chatzisarantis NL. The influence of psychological resilience on elite athlete performance. *Psychology of Sport and Exercise*. 2017; 32:1-8.
13. Hagger M, Chatzisarantis N, Barkoukis V. Intrinsic motivation and perseverance in athletic performance. *European Journal of Sports Psychology*. 2017; 10(4):63-78.
14. Jones M, Smith T, Brown L. The role of sports infrastructure and training resources in elite athlete performance. *International Journal of Sports Science*.

- 2020; 15(4):220-234.
15. Jowett S, Cockerill IM. Olympic medallists' perspective of the athlete-coach relationship. *Psychology of Sport and Exercise*. 2003; 4(4):313-331. Doi: [https://doi.org/10.1016/S1469-0292\(02\)00011-0](https://doi.org/10.1016/S1469-0292(02)00011-0)
 16. McLeroy KR, Bibeau D, Steckler A, Glanz K. An ecological perspective on health promotion programs. *Health Education Quarterly*. 1988; 15(4):351-377.
 17. Michaud J, Larson R, Green T. Injury management and medical support in elite sports. *Journal of Sports Medicine and Rehabilitation*. 2020; 17(3):45-58.
 18. Okon IE, Bello AA. Economic stability through sports: The financial impact of programmed athletes in Nigeria. *African Journal of Economic and Sports Studies*. 2021; 9(1):89-105.