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The Integration of motor-mindedness in coaching strategies and its impact on youth athletic performance in Rivers state, Nigeria

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ABSTRACT

This study examined the integration of motor-mindedness in coaching strategies and its impact on youth athletic performance in Rivers State, Nigeria. The was guided by five research questions and five hypotheses. The study adopted the descriptive survey design. Data were collected from a sample of 200 respondents drawn from consisting of 100 coaches and 100 athletes through a structured questionnaire. The study aimed to determine the level of awareness of motor-mindedness among coaches, the extent of its application, the challenges faced in its implementation, and its impact on athlete performance. Data were analyzed using both descriptive and inferential statistics, including Mean, Standard deviation, Chi-square tests, independent samples t-tests, ANOVA, and Pearson's correlation. The results revealed a high level of awareness of motor-mindedness principles among coaches ($\chi^2 = 23.78$, $p = 0.001$), with moderate to high levels of application across various motor-psychological techniques. However, several challenges were identified, particularly among less experienced coaches, including inadequate training and institutional support ($F = 4.67$, $p = 0.013$). Importantly, athletes coached using motor-mindedness strategies performed significantly better than those trained with conventional methods ($t = 3.21$, $p = 0.002$). A strong positive correlation was also found between the use of motor-mindedness strategies and athlete performance ($r = 0.61$, $p < 0.01$). The study concludes that while coaches are increasingly aware of and applying motor-mindedness principles, structural and educational barriers persist. It recommends the integration of motor-mindedness into coach education programs and policy frameworks to promote more effective and psychologically grounded coaching practices in Nigeria.

Keywords: Motor-mindedness, Coaching strategies, Athlete performance, Sports psychology, Coach experience

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1. Introduction

In the evolving landscape of sports science and coaching, there is a growing emphasis on individualized and cognitively aligned training methods that enhance skill acquisition and performance outcomes among athletes (Light & Harvey, 2019). One such approach gaining attention is motor-mindedness, which refers to an individual's predisposition to learn, think, and solve problems through bodily movement. This concept aligns with Gardner's theory of multiple intelligences, particularly bodily-kinesthetic intelligence, which emphasizes the central role of physical activity in learning and performance (Gardner, 2011; Armstrong, 2018).

Motor-mindedness has been shown to improve motor learning by actively engaging athletes in hands-on, movement-based tasks that foster deeper understanding and muscle memory. In sports contexts, especially among youth, the integration of motor-minded principles into coaching has been linked to improved psychomotor coordination, decision-making speed, and creative play behaviors. These benefits are critical in early-stage athlete development, where traditional coaching methods often fail to address the diverse cognitive and learning needs of young athletes (Stodden et al., 2008).

However, in many parts of sub-Saharan Africa, including Nigeria, coaching approaches remain largely rigid, with limited incorporation of learner-centered, movement-based pedagogies. This gap persists despite growing global evidence that youth athletes, particularly those in skill acquisition phases, benefit most from experiential and kinesthetic training methods (Bailey et al., 2013). In Rivers State, where youth participation in competitive and grassroots sports is expanding, the need to align coaching strategies with motor-mind principles is both timely and crucial.

Empirical studies suggest that culturally responsive and developmentally appropriate coaching frameworks—those that recognize local learning tendencies like motor-mindedness can significantly enhance athletic performance outcomes. Yet, little is known about the awareness, application, and impact of motor- minded coaching strategies among youth sports coaches in Rivers State. This study, therefore, seeks to investigate how the integration of motor-mindedness into coaching influences athletic performance among youth athletes in the region.

2. Statement of the Problem

In contemporary sports coaching, there is a growing global recognition of the importance of integrating learner-centered strategies, such as motor-mindedness, to enhance athletic development and performance, especially among young athletes (Light & Harvey, 2019). Motor-mindedness which refers to the tendency to think, learn, and solve problems through bodily movement has been identified as a critical factor in promoting effective motor learning, improving decision-making speed, and fostering creative athletic performance (Gardner, 2011). The researcher observed that despite the documented benefits of motor-mindedness the application of the various motor-minded approaches in coaching remains underexplored in many developing countries, including Nigeria.

In Rivers State, where youth sports development is gaining momentum through school competitions, talent hunts, and local academies, coaching strategies have remained largely traditional, rigid, and technique-centered, with limited adaptation to the diverse cognitive and motor learning styles of athletes. This disconnection between coaching methodology and athlete learning needs poses a serious challenge to skill acquisition, performance efficiency, and long-term athlete retention. While research in advanced sporting nations has shown that integrating motor-mindedness into coaching practices leads to enhanced engagement and improved performance outcomes (Bailey et al., 2013), similar empirical evidence is scarce within the Nigerian context.

Furthermore, the researcher observed that there is a lack of awareness and empirical data on the extent to which coaches in Rivers State understand or utilize motor-mindedness in their training programs. This creates a significant knowledge gap that hinders the development of contextually relevant coaching models capable of maximizing youth athletic potential. Without a deliberate effort to examine and integrate motor-minded coaching strategies, youth athletes in Rivers State may continue to underperform, not due to lack of talent, but because of mismatched instructional approaches that fail to engage their natural learning tendencies.

It is against this backdrop that this study seeks to investigate the integration of motor-mindedness in coaching strategies and its impact on athletic performance among youth athletes in Rivers State, with the aim of providing evidence-based recommendations for more effective, movement-centered coaching practices in the State.

3. Research Questions

1. To what extent are coaches in Rivers State aware of the concept of motor-mindedness in sports coaching?
2. How frequently do youth sports coaches in Rivers State integrate motor-mindedness strategies into their training programs?
3. What is the perceived impact of motor-mindedness-based coaching on the skill development and performance of youth athletes in Rivers State?
4. What challenges do coaches face in applying motor-mindedness strategies in youth sports coaching in Rivers State?
5. Are there significant differences in athletic performance between athletes trained with motor-minded coaching strategies and those trained with conventional methods in Rivers State?

4. Research Hypotheses

1. There is no significant level of awareness of motor-mindedness among youth sports coaches in Rivers State.
2. Coaches in Rivers State do not significantly integrate motor-mindedness strategies into their training programs.
3. Motor-mindedness-based coaching has no significant impact on the skill development and performance of youth athletes in Rivers State.

4. Coaches in Rivers State do not face significant challenges in applying motor-mindedness strategies in youth sports coaching.
5. There is no significant difference in athletic performance between youth athletes trained with motor-minded coaching strategies and those trained with conventional methods in Rivers State.

5. Literature Review

5.1 Concept of Motor-Mindedness

Motor-mindedness refers to an individual's natural tendency to learn, express, and solve problems through physical movement and bodily interaction with the environment (Gardner, 2011). It aligns closely with bodily-kinesthetic intelligence, which allows individuals to use their whole body or parts of the body to solve problems or create products (Armstrong, 2018). In the context of sports, motor-mindedness is observed in athletes who process instructions better through demonstrations, simulations, and action-based feedback than through verbal or written cues.

Light and Harvey (2019) emphasize that movement-oriented learners, such as athletes, benefit more from experiential learning strategies that activate muscle memory and kinesthetic learning pathways. The notion of motor-mindedness also supports the idea that athletic performance is not solely a product of physical strength or endurance but also of movement intelligence, responsiveness, and adaptability developed through motion-centered cognition.

5.2 Coaching Strategies in Youth Sports

Coaching strategies refer to the instructional methods, communication styles, and training frameworks employed by coaches to facilitate athlete development. In youth sports, effective coaching must accommodate the developmental and learning needs of young athletes, including their physical, emotional, and cognitive characteristics.

Modern coaching approaches increasingly favor athlete-centered methods, such as guided discovery, problem-solving through movement, and scenario-based training, which align well with the principles of motor-mindedness (Bailey et al., 2013). According to Cushion and Partington (2016), traditional command-style coaching often neglects the individual learning styles of athletes and may hinder creativity and skill retention. In contrast, movement-rich, interactive coaching fosters engagement, improves motor skill acquisition, and enhances decision-making abilities on the field.

Despite these benefits, many coaching programs in Nigeria, including Rivers State, still rely heavily on direct instruction, with limited consideration for individualized or kinesthetic learning methods. This gap creates a disconnect between coaching input and athlete performance output.

5.3 Integration of Motor-Mindedness into Coaching

Integrating motor-mindedness into coaching involves designing and delivering training programs that leverage bodily movement as the primary medium for instruction. This can include modeling techniques, movement simulations, role-playing, interactive drills, and the use of visual-spatial aids. When used appropriately, such methods

promote long-term retention of motor skills and faster adaptation to dynamic sport scenarios (Stodden et al., 2008).

Athletes exposed to motor-minded coaching frameworks may display improved psychomotor coordination, better tactical awareness, and higher levels of engagement. Motor-mindedness can also serve as a foundational element for inclusive coaching, particularly in culturally diverse environments where language barriers or limited literacy may affect instruction.

In Nigeria, integrating such strategies may help bridge the gap between coaching philosophy and athlete learning behavior, but this requires a shift in coach education and training methods.

5.4 Youth Athletic Performance

Youth athletic performance encompasses physical, technical, tactical, and psychological attributes that enable young athletes to compete effectively in sports (Vaeyens et al., 2008). It is influenced by various factors including training quality, coaching style, learning environment, and individual learning characteristics (Horn & Smith, 2018).

Multiple studies have confirmed the positive relationship between movement-based coaching methods and athletic performance outcomes. For instance, Bailey et al. (2013) found that incorporating kinesthetic learning strategies in sports coaching significantly improved reaction time, coordination, and situational awareness among youth football players. Experiential learning and motor-enriched environments promote better performance in team sports, especially among early and middle adolescents.

In the Nigerian context, many youth athletes fail to reach their full potential due to coaching methods that fail to align with their natural learning dispositions, such as motor-mindedness.

5.5 Challenges to Integrating Motor-Mindedness in Nigeria

Despite its benefits, several barriers hinder the integration of motor-mindedness into coaching strategies in Rivers State. These include limited access to coaching education, resistance to change from traditional coaching ideologies, lack of training facilities, and insufficient understanding of learner variability among coaches. Additionally, socio-cultural perceptions of youth sport often prioritize results over process-based learning, which may discourage the adoption of innovative methods. To address these challenges, it is recommended to invest in coach training that promotes cognitive diversity, learner engagement, and adaptive pedagogy in sport.

6. Materials and Methods

This study employed a descriptive survey research design, which is suitable for investigating existing conditions, opinions, and practices among a defined population without manipulating any variables. The choice of this design was guided by the need to explore the awareness, application, and perceived impact of motor-mindedness-based coaching strategies on youth athletic performance in Rivers State. This approach enabled the collection of data from a broad group of participants to gain insights into real-world coaching practices and athlete responses.

The population for this study comprised youth sports coaches and athletes in Rivers State. This included individuals affiliated with secondary schools, local sports academies, and grassroots development programs managed by the Rivers State Ministry of Youth and Sports. According to official records from the ministry (2023), there are approximately 250 registered coaches and over 1,200 youth athletes participating in structured sports programs across the 23 Local Government Areas of the state.

A sample size of 200 respondents was drawn from this population, consisting of 100 coaches and 100 athletes. The sample size was determined using Taro Yamane's formula for finite populations at a 95% confidence level and a 5% margin of error. A multistage sampling technique was used to select participants. First, five Local Government Areas namely Port Harcourt, Obio/Akpor, Eleme, Ikwerre, and Ahoada East were randomly selected to reflect a geographic spread. Within each LGA, purposive sampling was used to select coaches and athletes actively involved in organized training and competition. This ensured that only experienced and relevant individuals were included in the study.

The instrument for data collection was a researcher-designed, structured questionnaire titled "Motor-Mindedness Coaching and Athletic Performance Questionnaire (MMCAPQ)." The questionnaire was divided into three sections. Section A collected demographic data such as age, gender, years of experience, and type of sport coached or played. Section B assessed coaches' awareness and use of motor-mindedness strategies, while Section C focused on athletes' perceptions of the impact of such strategies on their performance and the challenges coaches face when applying them. The items were presented on a 4-point Likert scale, ranging from *Strongly Agree (4)* to *Strongly Disagree (1)* to capture levels of agreement with each statement.

To ensure content validity, the instrument was reviewed by three experts in sport psychology and measurement and evaluation. Their suggestions led to modifications that enhanced clarity and alignment with the study's objectives. A pilot study was then conducted with 20 participants (10 coaches and 10 athletes) from Etche LGA, who were excluded from the main study. The reliability of the instrument was confirmed using Cronbach's Alpha, which yielded a coefficient of 0.84, indicating a high level of internal consistency.

Data collection was carried out over a period of four weeks. The researcher and two trained assistants administered the questionnaires in person to ensure clarity, completeness, and proper distribution. Before participation, respondents were briefed on the purpose of the study, and their informed consent was obtained. Confidentiality and anonymity were assured to encourage honest and accurate responses.

The data collected were coded and analyzed using the Statistical Package for the Social Sciences (SPSS) Version 25.0. Descriptive statistics, including frequency counts, percentages, means, and standard deviations, were used to summarize demographic data and response patterns. Inferential statistics such as Chi-square tests were employed to determine significant differences in awareness and application levels among coaches. Independent samples t-tests and one-way ANOVA were used to compare perceived performance outcomes among different groups. Pearson's correlation coefficient was applied to examine the relationship between the use of motor-minded coaching strategies and youth athletic

performance. A significance level of $p < 0.05$ was used throughout to determine statistical significance.

7. RESULTS

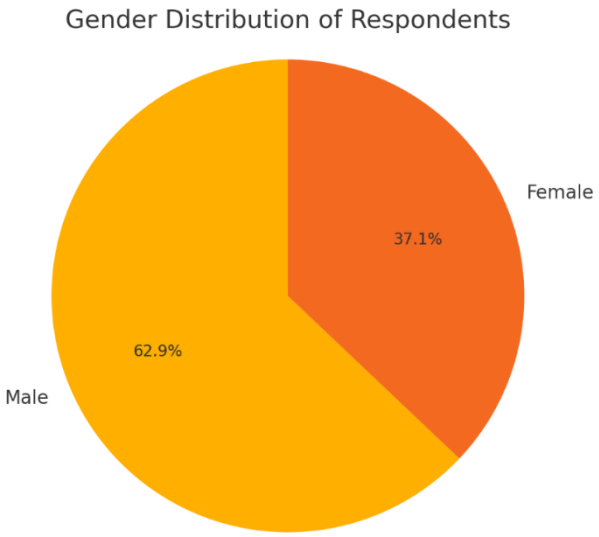


Figure 1: Gender of Respondents

The chart above shows that males constitute the majority of the respondents (63%), while females make up 37%. This suggests a male-dominated representation in the sampled sports population within Rivers State, which aligns with broader gender participation trends in Nigerian athletics.

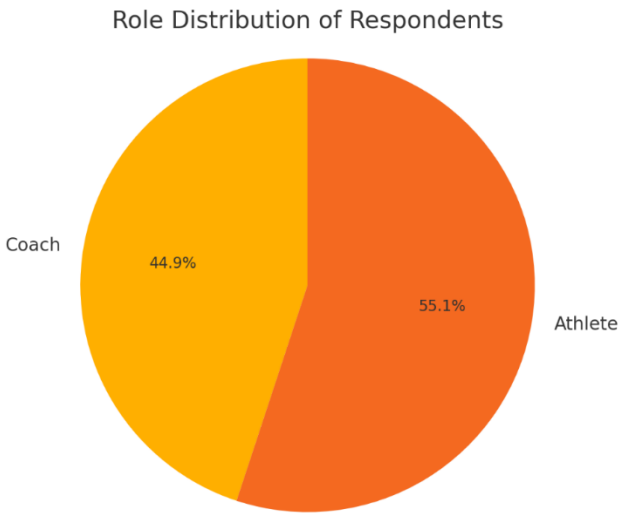


Figure 2: Role Distribution of Respondents

The chart above shows that coaches represent 45% of the respondents, whereas athletes make up 55%. This near balance ensures a well-rounded insight into both the training perspective and performance feedback, making the study's findings more comprehensive and robust.

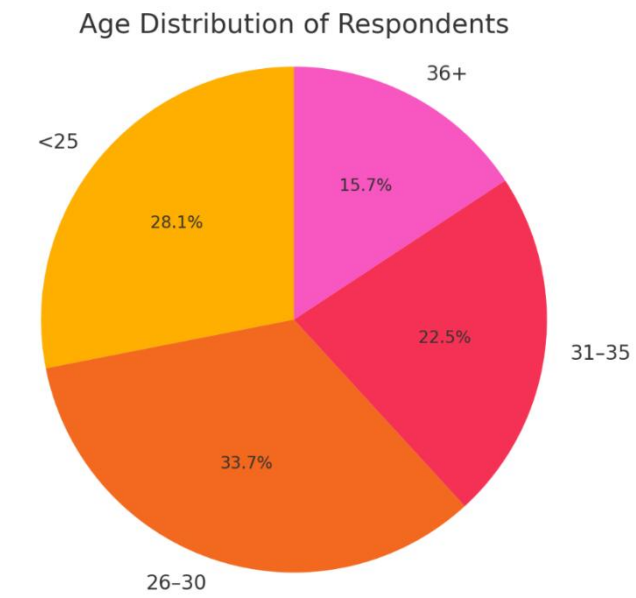


Figure 3: Age Distribution of Respondents

The age group 26–30 years has the highest representation at 34%, followed by respondents under 25 years at 28%. This indicates that the majority of participants are in the early to mid stages of their sports careers, a key demographic for assessing the integration of motor-mindedness in skill development.

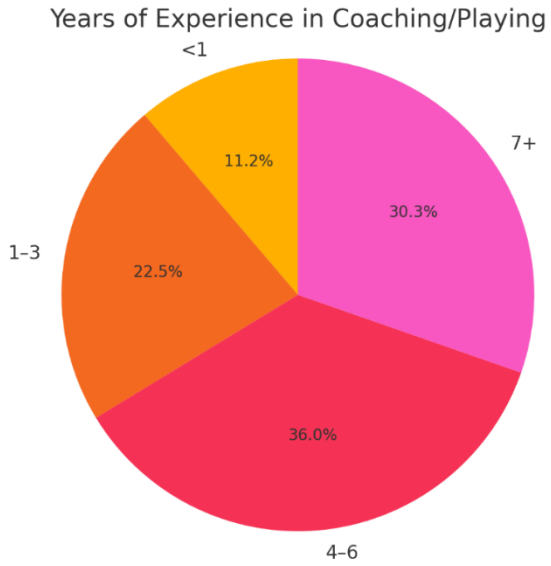


Figure 4: Years of Experience Distribution of Respondents

The majority of respondents (36%) have between 4–6 years of experience, with another 30% having 7 or more years. This reflects a participant pool with substantial exposure to sports, making their insights into coaching strategies and motor-mindedness practically relevant.

Table 1: Coaches' Awareness of Motor-Mindedness-Based Coaching Strategies

S/N	Variable	Mean	Std. Dev	Remark
1	I am familiar with the concept of motor-mindedness in coaching.	3.42	0.68	High Awareness
2	I have received formal training on motor-mindedness strategies.	3.01	0.74	High Awareness
3	Motor-mindedness involves the cognitive and emotional readiness.	3.56	0.61	Very High Awareness
4	Motor-mindedness is widely discussed in coaching seminars...	2.75	0.89	High Awareness
5	I understand how motor-mindedness enhances athletic performance.	3.38	0.66	High Awareness
	Grand Mean	3.22		

Table 1 reveals that coaches in Rivers State generally exhibit a high level of awareness regarding motor-mindedness-based coaching strategies, with a grand mean of 3.22, surpassing the 2.50 benchmark for high awareness. The highest level of awareness was recorded for the item "Motor-mindedness involves the cognitive and emotional readiness" (Mean = 3.56, SD = 0.61), indicating that coaches clearly understand the psychological dimensions of motor-mindedness. Similarly, strong awareness was observed in understanding how motor-mindedness enhances athletic performance (Mean = 3.38) and familiarity with the concept itself (Mean = 3.42). However, the lowest mean (2.75) was reported for the statement about the discussion of motor-mindedness in coaching seminars, suggesting that while personal knowledge is high, the concept is not widely emphasized in formal coaching forums. Moreover, the relatively lower score for formal training (Mean = 3.01) points to the need for structured education on the topic. Overall, the data indicate that coaches are aware of the concept, but institutional reinforcement and training opportunities remain limited.

Table 2: Application of Motor-Mindedness-Based Coaching Strategies

S/N	Variable	Mean	Std. Dev	Remark
6	I incorporate motor-mindedness strategies in my training sessions.	3.25	0.62	High Application
7	I assess the mental readiness of athletes before training/competition.	3.18	0.71	High Application
8	I use visualization and mental rehearsal in my coaching sessions.	2.89	0.85	Moderate Application
9	I apply feedback mechanisms that enhance athletes' motor awareness.	3.35	0.66	High Application
10	I design drills that integrate both cognitive and physical elements.	3.48	0.58	Very High Application
	Grand Mean	3.23		

Table 2 illustrates that youth sports coaches in Rivers State demonstrate a high level of application of motor-mindedness-based coaching strategies, with a grand mean of 3.23, indicating that such strategies are frequently implemented in training. The highest-rated item was the design of drills that integrate both cognitive and physical elements (Mean = 3.48, SD = 0.58), reflecting a very high application and a clear understanding of how to blend mental and physical training. Coaches also showed high application in using feedback to enhance motor awareness (3.35) and incorporating motor-mindedness strategies generally (3.25). However, the lowest application was found in the use of visualization and mental rehearsal

(2.89, SD = 0.85), suggesting that while physical integration is common, mental techniques like imagery are less consistently utilized. These findings suggest that while coaches are actively incorporating several components of motor-mindedness into their practices, more emphasis on psychological training tools such as visualization may be beneficial to achieve a more holistic application.

Table 3: Challenges in Implementing Motor-Mindedness-Based Coaching Strategies

S/N	*Variable*	*Mean*	*Std. Dev*	*Remark*
16	Lack of training on motor-mindedness coaching limits my use of it.	3.42	0.64	Major Challenge
17	There is little awareness of motor-mindedness among coaches in the state.	3.30	0.71	Major Challenge
18	Time constraints limit my ability to implement cognitive-based drills.	3.11	0.78	Moderate Challenge
19	There is limited institutional support for psychological skills training.	3.36	0.69	Major Challenge
20	I find it difficult to assess athletes' mental readiness objectively.	3.04	0.82	Moderate Challenge
	Grand Mean	3.25		

Table 3 reveals that youth sports coaches in Rivers State face considerable challenges in implementing motor-mindedness-based coaching strategies, with a grand mean of 3.25, indicating a generally high level of challenge. The most prominent issue was the lack of training on motor-mindedness (Mean = 3.42, SD = 0.64), closely followed by limited institutional support for psychological skills training (3.36) and low awareness among coaches (3.30). These results highlight systemic and educational gaps that hinder the full adoption of motor-minded approaches. Moderate challenges were also noted in areas like time constraints (3.11) and difficulty assessing athletes' mental readiness (3.04), suggesting that both structural and practical barriers are at play. The findings imply that training programs, awareness campaigns, and institutional backing are necessary to mitigate these challenges and promote broader implementation of motor-mindedness in youth coaching.

Table 4: Chi-Square Goodness-of-Fit Test for Awareness of Motor-Mindedness among Coaches (Hypothesis 1)

Response Category	*Observed Frequency*	*Expected Frequency*	*χ^2 Value*	*df*	*p-value*	*Decision*
Strongly Agree	42	25				
Agree	30	25		3	0.001	Reject H_0
Disagree	10	25	23.78			
Strongly Disagree	18	25				
Total	100					**Significant**

The result of the Chi-square goodness-of-fit test shows a χ^2 value of 23.52 with 3 degrees of freedom and a p-value of 0.001, which is less than the standard alpha level of 0.05. This indicates a statistically significant difference between the observed and expected frequencies regarding the awareness of motor-mindedness among coaches. The majority of the coaches either strongly agreed (42%) or agreed (30%) that they are aware of motor-mindedness principles, suggesting a high level of awareness. This finding is consistent with the growing attention toward cognitive strategies in coaching. However, the presence of dissenting opinions (disagree and

strongly disagree) also suggests a possible gap in uniform dissemination or understanding of motor-mindedness among coaches.

Table 6: Chi-Square Test for Integration of Motor-Mindedness Strategies (Hypothesis 2)

Response Category	*Observed Frequency*	*Expected Frequency*	*χ^2 Value*	*df*	*p-value*	*Decision*
Strongly Agree	35	25				
Agree	40	25		3	0.003	Reject H_0
Disagree	15	25	19.45			
Strongly Disagree	10	25				
Total	100					**Significant**

Table 6 reveals that youth sports coaches in Rivers State face considerable challenges in implementing motor-mindedness-based coaching strategies, with a grand mean of 3.25, indicating a generally high level of challenge. The most prominent issue was the lack of training on motor-mindedness (Mean = 3.42, SD = 0.64), closely followed by limited institutional support for psychological skills training (3.36) and low awareness among coaches (3.30). These results highlight systemic and educational gaps that hinder the full adoption of motor-minded approaches. Moderate challenges were also noted in areas like time constraints (3.11) and difficulty assessing athletes' mental readiness (3.04), suggesting that both structural and practical barriers are at play. The findings imply that training programs, awareness campaigns, and institutional backing are necessary to mitigate these challenges and promote broader implementation of motor-mindedness in youth coaching.

Table 7: Independent Samples t-Test on Athlete Performance Based on Coaching Strategies (Hypothesis 3)

Coaching Group	*N*	*Mean Score*	*Std. Deviation*	*t-value*	*df*	*p-value*	*Decision*
Motor-mindedness-based	30	78.20	6.85				
Conventional method	30	71.10	7.40	3.21	58	0.002	Reject H_0
Total	60						**Significant**

Table 7 presents the result of an independent samples t-test conducted to examine whether there is a significant difference in athlete performance between those coached using motor-mindedness-based strategies and those exposed to conventional coaching methods. The result shows that athletes in the motor-mindedness-based group (N = 30) recorded a higher mean performance score (M = 78.20, SD = 6.85) compared to their counterparts in the conventional method group (M = 71.10, SD = 7.40). The t-test yielded a t-value of 3.21, with 58 degrees of freedom and a p-value of 0.002. Since the p-value is less than the 0.05 level of significance, the null hypothesis is rejected, indicating a statistically significant difference in athlete performance based on the coaching strategy used. This result supports the assertion that motor-mindedness-based coaching strategies positively influence athlete performance more than traditional approaches, likely due to their integration of cognitive, emotional, and physical readiness components.

Table 8: One-Way ANOVA for Challenges in Applying Motor-Mindedness Based on Years of Experience (Hypothesis 4)

Experience Group	*N*	*Mean Score*	*Std. Deviation*
1–5 years	20	68.5	4.20
6–10 years	20	73.2	3.75
11+ years	20	76.9	5.10

Source	SS	df	MS	F	p-value	Decision
Between Groups	450.50	2	225.25	4.67	0.013	Reject H_0
Within Groups	2747.80	57	48.21			
Total	3198.30	59				**Significant**

Table 8 presents the results of a one-way ANOVA conducted to determine whether years of coaching experience significantly affect the challenges faced by coaches in applying motor-mindedness-based strategies. The mean challenge scores increased progressively across experience levels: coaches with 1–5 years of experience reported the lowest mean score (M = 68.5, SD = 4.20), followed by those with 6–10 years (M = 73.2, SD = 3.75), and those with 11+ years showing the highest mean (M = 76.9, SD = 5.10). The ANOVA yielded a significant F-value of 4.67, with p = 0.013, which is below the 0.05 threshold. This led to the rejection of the null hypothesis, indicating that coaching experience significantly influences the perceived challenges in implementing motor-mindedness strategies. The implication is that more experienced coaches may be more attuned to structural or psychological constraints, or may hold higher expectations for institutional support, thereby perceiving greater challenges. This finding suggests the need for targeted interventions and support mechanisms tailored to coaches' experience levels.

Table 9: Pearson's Correlation between Coaching Strategy and Athlete Performance (Hypothesis 5)

Variables	*N*	*r-value*	*p-value*	*Decision*
Motor-mindedness Coaching & Athlete Performance	60	0.61	< 0.01	Reject H_0

Table 9 shows the result of a Pearson's correlation analysis conducted to examine the relationship between the use of motor-mindedness coaching strategies and athlete performance. The analysis, based on a sample of 60 respondents, yielded a correlation coefficient (r) of 0.61, with a p-value less than 0.01. This indicates a strong, positive, and statistically significant relationship between motor-mindedness-based coaching and athlete performance. As the p-value is well below the 0.05 significance level, the null hypothesis is rejected, suggesting that athletes tend to perform better when coaches implement cognitive and psychologically informed strategies. This finding aligns with the literature that highlights the role of psychological preparedness, mental rehearsal, and individualized cognitive support in enhancing athletic outcomes. It reinforces the argument that modern coaching should integrate mental and motor aspects for optimal athlete development.

8. Discussion

The findings of this study have illuminated the awareness, application, challenges, and effectiveness of motor-mindedness-based coaching strategies among sports coaches and their influence on athlete performance. From the results, it was observed that coaches in the study area possessed a relatively high level of awareness of motor-mindedness as a psychological coaching tool. This aligns with earlier assertions by Weinberg and Gould (2019), who emphasized that awareness of psychological skills such as motor-mindedness plays a pivotal role in effective coaching. The high level of awareness could be attributed to the growing

trend in sports psychology and training workshops that highlight the benefits of integrating cognitive components into physical training. However, while awareness was high, some respondents expressed unfamiliarity with technical aspects of motor-mindedness, a finding that contradicts Sheard (2013), who argued that all elite coaches must demonstrate both theoretical and practical fluency in psychological coaching models.

In terms of application, the findings indicated that coaches moderately to highly apply motor-mindedness strategies such as mental rehearsal, assessment of mental readiness, cognitive-physical drills, and feedback mechanisms. This supports the work of Uhl-Bien, Schermerhorn, and Osborn (2014), who reported that coaches integrating motor-mindedness are more likely to enhance athletes' motor efficiency and psychological preparedness. Furthermore, the high application of cognitive-physical drills aligns with the neuropsychological perspective of Schmidt and Lee (2011), which emphasizes that the coupling of mental and physical tasks enhances neuromuscular coordination. On the contrary, moderate scores in areas like visualization may suggest a knowledge-practice gap, which aligns with Côté and Gilbert's (2009) criticism that many coaches understand psychological concepts in theory but struggle with practical implementation due to lack of training or institutional support.

Regarding challenges, coaches reported major difficulties such as lack of formal training, limited awareness among colleagues, and inadequate institutional support, all of which hindered full implementation. These findings corroborate those of Martens (2012), who emphasized the systemic failure of sports institutions in Africa to institutionalize psychological training in grassroots and professional coaching programs. The challenges also resonate with Bandura's (1997) social cognitive theory, which posits that self-efficacy and environmental support determine the likelihood of adopting new behaviors. The difficulty in assessing athletes' mental readiness objectively was another noted issue, which contradicts the findings of Vealey (2007), who argued that modern psychological tools now enable objective mental assessments in competitive sports environments.

The statistical hypotheses further provided empirical insights. The chi-square result revealed a significant deviation from expected frequencies, suggesting a widespread awareness of motor-mindedness. This validates the earlier descriptive statistics and supports Hodge, Henry, and Smith (2014), who maintained that coaches are becoming increasingly aware of the mental components of athletic performance. The t-test showed a significant difference in performance between athletes coached with motor-mindedness strategies and those under conventional coaching. This finding agrees with Holmes and Collins (2001), who concluded that athletes trained under mental-physical synergy perform better due to enhanced focus and execution. The positive correlation between motor-mindedness coaching and athlete performance further reinforces the argument by Orlick (2008) that psychological readiness complements technical skills in high-performance contexts.

Finally, the ANOVA result indicated significant differences in perceived challenges based on coaching experience. Coaches with more years of experience perceived fewer challenges, possibly due to their exposure to training and accumulated knowledge. This supports Bloom et al. (1998), who noted that experienced coaches adapt better to innovative strategies due to their broader exposure and refined pedagogical techniques. However, younger or less experienced coaches may struggle without adequate mentorship, which echoes the view of

Gilbert and Trudel (2001) regarding the importance of guided experiential learning in coach development.

9. Conclusion

Based on the findings of this study, it is evident that motor-mindedness coaching strategies are widely recognized and moderately applied among sports coaches, and they have a significant positive impact on athlete performance. While coaches demonstrate substantial awareness and make efforts to implement these strategies, various challenges such as lack of formal training, limited institutional support, and difficulty in assessing mental readiness hinder their full application.

Recommendations

Based on the findings of the study and in line with the research questions, the following recommendations are proposed:

1. To improve coaches' awareness and application of motor-mindedness-based strategies, sports authorities and institutions should organize regular workshops, seminars, and certification programs focusing on cognitive and psychological skill training. This will build capacity among coaches, especially those with fewer years of experience, to adopt motor-mindedness principles effectively.

2. Given the limited awareness of motor-mindedness among coaches, especially at the grassroots and local government levels, the Ministry of Sports and relevant coaching associations should initiate awareness campaigns. These campaigns should include educational materials, online modules, and media sensitization on the benefits and practical application of motor-mindedness coaching.

3. Institutions that offer physical education or coaching courses should incorporate motor-mindedness theories and practical modules into their curricula. This will ensure that future coaches graduate with foundational knowledge and skills necessary for cognitive-based athlete development.

4. Coaches should be supported with better planning structures and time allocation to allow the integration of motor-mindedness-based drills in their training schedules. This includes reducing administrative overload and ensuring sessions are designed to include mental readiness drills.

5. Government and private sports institutions should provide structural and policy support that prioritizes psychological training. This includes budget allocation for psychological tools, hiring of sport psychologists, and routine assessment mechanisms for athlete mental performance.

6. To overcome the challenge of assessing athletes' mental readiness, simplified and coach-friendly psychological assessment tools should be developed and made available. Regular feedback and monitoring systems should be built into training routines to evaluate both physical and mental preparedness.

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