



Core Stability, Confidence, and Performance: Insights from National-Level Athletes

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Abstract

This study explores the relationship between core stability, confidence levels, and performance outcomes among national-level athletes. A sample of 100 athletes participated in the study, providing responses to Likert-scale questions assessing core stability, confidence, and performance outcomes. Quantitative analysis revealed a strong positive correlation ($r = 0.869367$) between core stability/confidence and performance outcomes. These findings underscore the importance of addressing both physical and psychological dimensions in athletic training programs. Integrating exercises targeting core strength and stability, along with interventions aimed at enhancing athletes' confidence levels, can significantly improve performance outcomes.

Keywords: *Core Stability, Confidence, Performance Outcomes, National-Level Athletes, Athletic Training, Psychological Interventions.*

Introduction

In the realm of athletic performance, the interplay between physical capabilities and psychological factors is increasingly recognized as pivotal. Among these factors, core stability stands out as a fundamental component contributing to athletic prowess across diverse disciplines. Concurrently, confidence emerges as a psychological cornerstone, influencing an athlete's ability to harness their skills effectively.

The concept of core stability encompasses the integration of muscles within the torso to provide a stable foundation for movement execution and posture maintenance. The importance of core stability transcends mere physical conditioning, extending to its profound impact on athletic performance. Optimal core stability facilitates the efficient transfer of force between the upper and lower extremities, thereby enhancing movement efficiency and reducing the risk of injury among athletes (Arı, A. 2023).

Furthermore, core stability plays a pivotal role in the maintenance of dynamic balance and coordination, essential prerequisites for executing complex athletic maneuvers (Henry, I. 2010).



Therefore, cultivating core stability through targeted training regimens emerges as a cornerstone in the pursuit of athletic excellence, especially among elite competitors operating at the national level.

Concurrently, confidence emerges as a psychological determinant that significantly influences an athlete's performance outcomes. Bandura elucidates the concept of self-efficacy, which pertains to an individual's belief in their ability to execute actions necessary to attain desired outcomes. High levels of self-efficacy have been associated with enhanced performance across various domains, including sports (Feltz, D. L. 2007).

For national-level athletes, the stakes are inherently elevated, as they navigate intense competition and rigorous training demands in their quest for excellence. Consequently, understanding the intricate interplay between core stability, confidence, and performance assumes paramount significance in optimizing training protocols and facilitating peak athletic performance.

Objectives

1. To investigate the correlation between core stability and confidence levels in national-level athletes.
2. To examine the impact of core stability and confidence on performance outcomes among national-level athletes.

Literature Review

(Aquilina, D. 2016) delves into the intricate relationship between elite athletes' educational development and sporting performance, emphasizing the challenges encountered in balancing academic pursuits with elite-level sports. It underscores the necessity for athletes to navigate a "dual career" trajectory, integrating academic and sporting dimensions simultaneously. Aquilina's work offers insights into the contemporary landscape of world sports, highlighting the limited opportunities for athletes to cultivate aspects of life beyond the sporting arena. Notably, the study proposes a rationale encompassing eight reasons identified by student-athletes to justify their pursuit of a dual career path, challenging conventional notions and suggesting that academic and sporting careers can be mutually complementary. However, the study lacks a granular examination of contextual factors influencing dual-career trajectories, particularly across diverse socio-cultural settings, and focuses primarily on elite student-athletes. Expanding the scope to include athletes at different competitive levels and diverse sporting disciplines could enrich understanding and representation.

(Thiel, A. et al. 2011) offer a comprehensive exploration of the complexities surrounding the health management of adolescent elite athletes. Employing a mixed-method approach, the study bridges quantitative and qualitative methodologies, providing insights into individual and organizational aspects of health in adolescent elite sports. Particularly focusing on adolescent athletes, the study



acknowledges the unique challenges arising from significant physical, psychological, and social transformations during this developmental stage. While the quantitative section offers valuable insights into young athletes' health behaviors, subjective health state, and social networks, the study lacks specific details on preliminary qualitative findings and potential implications for health promotion strategies in elite sports. Addressing these gaps would enhance the comprehensiveness and practical relevance of the research.

(Garban, C. et al. 2023) present a valuable exploration of the relationship between lifestyle, sports engagement, and the moderating effect of the nature of sports among student-athletes. Their study indicates that lifestyle significantly predicts sports engagement and that sport type does not moderate this relationship. With a large and diverse sample of student-athletes, including individual, dual, and team sports participants, the study enriches understanding across various athletic domains. However, while the study emphasizes the importance of exercise habits and nutrition, it overlooks potential nuanced differences within sport categories that could influence the relationship between lifestyle and sports engagement. Additionally, the study acknowledges the possibility of other moderating factors but does not explore them further. Future research could delve into these unexplored variables to provide a more comprehensive understanding of the complex interplay between lifestyle and sports engagement among student-athletes.

Research Methodology.

The study aims to investigate the correlation between core stability and confidence levels, as well as their impact on performance outcomes among 100 national-level athletes across diverse sports disciplines. These athletes were actively competing at the national level. A structured questionnaire was developed to assess core stability, confidence levels, and performance outcomes among national-level athletes. The questionnaire included two sections: one focusing on core stability and confidence, and the other on performance outcomes.



Data Analysis

Table 1. Frequency Distribution of Survey Responses

	Question	Likert Scale: 1	Likert Scale: 2	Likert Scale: 3	Likert Scale: 4	Likert Scale: 5
Core Stability and Confidence:	I feel confident in my ability to maintain core stability during training and competition.	12	15	20	28	25
	I believe that improving my core stability positively impacts my overall athletic performance.	10	8	18	30	34
	I actively engage in exercises targeting core strength and stability.	14	17	22	24	23
Performance Outcomes	I have seen improvements in my athletic performance as I have worked on my core stability and confidence.	9	14	19	28	30
	I have achieved my athletic goals more effectively since focusing on my core stability and confidence.	8	11	23	31	27
	Overall, I am satisfied with my athletic performance considering my level of core stability and confidence.	10	15	17	26	32

Correlational Analysis

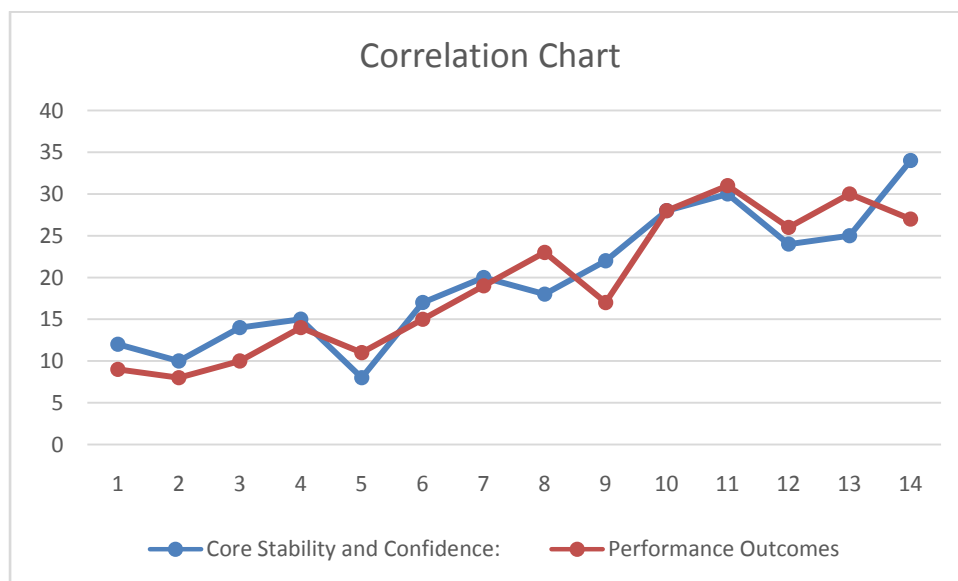


Figure 1. Correlation between Core Stability and Confidence and Performance Outcomes



Table 2. Correlation between Core Stability and Confidence and Performance Outcomes

	Core Stability and Confidence:	Performance Outcomes
Core Stability and Confidence:	1	
Performance Outcomes	0.869367	1

The correlation coefficient between "Core Stability and Confidence" and "Performance Outcomes" is 0.869367, indicating a strong positive correlation between the two variables.

Interpretation:

- A correlation coefficient of 0.869367 suggests a strong positive relationship between core stability/confidence and performance outcomes among the subjects in your study.
- This means that as core stability and confidence levels increase, performance outcomes also tend to increase, and vice versa.
- Athletes who report higher levels of core stability and confidence are likely to experience better performance outcomes in their respective sports.

This significant correlation underscores the pivotal role of core stability and confidence in shaping athletic performance. Athletes who exhibit higher levels of core stability and confidence are more likely to achieve better outcomes in their respective sports endeavors. Such individuals may possess the physical strength and mental fortitude necessary to excel under the rigors of training and competition. In practical terms, these results carry implications for athletic training programs and coaching methodologies. They suggest that integrating exercises aimed at enhancing core strength and stability into training regimens could yield tangible benefits for athletes. Additionally, interventions focused on bolstering athletes' confidence levels may contribute to improved performance outcomes on the field, track, or court.

Conclusion

The study provides compelling evidence of a strong positive correlation between core stability, confidence levels, and performance outcomes among national-level athletes. The findings emphasize the integral role of both physical and psychological factors in shaping athletic performance. Athletes who exhibit higher levels of core stability and confidence are more likely to achieve better outcomes in their respective sports endeavors. These results have practical implications for sports professionals, including coaches, trainers, and sports psychologists, who can leverage this knowledge to design more comprehensive and effective training protocols. By addressing core stability and confidence within training regimens, practitioners can empower athletes to unlock their full potential and thrive in competitive environments. Moving forward, a holistic approach to athlete development that



recognizes the interconnected nature of core stability, confidence, and performance outcomes will be essential for fostering success in the realm of sports.

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