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A Comparative Analysis of Ethiopian and Kenyan Olympic Middle Distance Running:Finishes Times and Contextual Factors

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Abstract

While Kenyan athletes have traditionally dominated middle-distance running, a demanding test of speed and endurance, Ethiopian runners have emerged as formidable competitors. However, previous research often overlooks the contextual factors and their relationship to race finishing times across genders. To compare race finishing times performance of athletes of the two nations in the history of Olympic. Moreover, examining the relationships between contextual factors and race finishing time's performance in the given middle distance event. A cross-sectional analysis of retrospective Olympic data (1896 to 2020) for 20 Ethiopian (12 men, 8 women) and 54 Kenyan (38 men, 16 women) middle-distance runners was conducted. Data were collected from the International Olympic Committee's official results website (olympedia.org). The result indicated that there was a significant difference between Ethiopian and Kenyan men's middle-distance runners regarding race finishing times ($p<.05$). Multiple regression analysis revealed that nationality, host city, and medal status significantly influenced men's finish times, explaining up to 63% of the variance in finishing times performance of the athletes ($p<.001$). This effect was less pronounced in women; suggesting factors like gender bias or smaller sample sizes may play a role. There's a significant difference in finishing times between Ethiopian and Kenyan male runners. This suggests that factors related to nationality (e.g., training methods, cultural factors, genetic predispositions) play a role in performance. The study also demonstrates that several factors beyond individual athletic ability influence middle-distance running performance. For male runners, nationality, the context of the race (host city), and the outcome (medal status) are key determinants of finishing times. The picture is less clear for female runners, suggesting a need for further research to explore potential gender-related differences in the factors affecting performance. Future research should encompass a wider range of competitions consider a larger female athlete sample, and investigate a broader spectrum of contextual factors influencing performance across genders.

Keywords: *Contextual Factors, Ethiopia, Kenya, Finishes Times, Middle Distance, & Olympic.*

1. Introduction

The middle distance running, a crucible of speed and endurance, demands a unique physiological dance. The first half ignites like a sprint, fueled by an explosive anaerobic surge (Véronique et al., 2009). Unlike pure sprints, however, the middle distance running demands sustained power,

where aerobic metabolism takes center stage, demanding strategic pacing and efficient energy management (Beatriz et al., 2017). Unlike most races, the middle distance running lacks a clear alpha predator. Athletes employ diverse tactics: leading from the start, waiting in the pack, or unleashing a late-race surge – each creating unpredictable, heart-stopping finishes (Gareth et al., 2024). With margins razor-thin, every decision carries immense weight. Athletes must judge pace like master chess players, conserve energy like marathoners, and execute with surgical precision to snatch victory (Phillip, Wim, Eline, & Ben, 2021). This unique blend of physical prowess and tactical acumen is what makes the 800 meters one of the most captivating events in athletics.

From its emergence in the late 19th century, middle distance running has become a cornerstone of the Olympics, driven by the relentless pursuit of speed and glory (Jac et al., 2014). Unpredictable strategies and thrilling maneuvers set the track ablaze, culminating in unforgettable finishes etched in memory. David Rudisha's world record in 2012 stands as a beacon of human potential, but it's merely a single chapter in a saga rich with legendary clashes. From Mamo Wolde to Mohammed Aman, middle distance running has provided a platform for unforgettable moments that transcend time and ignite the passion of generations of athletes (Olympics.com, 2023). This enduring legacy, fueled by human drama and athletic excellence, lies at the root of Ethiopian and Kenyan dominance.

Middle-distance running is a constant push for speed, always changing to use new ideas while staying true to its core. Better tracks and advanced shoes might shave tiny bits of time off records, but the main challenge stays the same: pushing human limits in a tough balance of speed and endurance (Kim & Milly, 2022). Unlike events with lots of rules, the raw effort of the 800 meters really connects with fans. No complicated rules, just two and a half minutes of pure athleticism unfolding before their eyes (Farman et al., 2021). This simple appeal excites people worldwide, crossing borders and sparking rivalries between countries as fans cheer for their heroes.

Mastering the demanding middle distance running often proves to be a springboard for further athletic success (Milena & Tatiana, 2017). The event's blend of speed and endurance builds a unique adaptability that translates well to other middle-distance and even distance races. Notably, Gudafe Tesegaie parlayed their middle distance running expertise into Olympic glory in the 5000M (Benjamin, 2021). Beyond personal achievements, victory in middle distance running carries immense prestige, etching the champion's name in Olympic history alongside legends like Mohamed Aman (Olympics.com. 2023).The grueling nature of the race, pushing athletes to their physical and mental limits, resonates deeply with spectators, who witness not just speed but also an inspiring display of dedication and grit (Oyvind et al., 2021).

Both Ethiopia and Kenya entered the middle distance running act at the Olympics later than other dominant nations (Randall & Yannis, 2012). Ethiopia first participated in 1956 with Mamo Wolde, while Kenya's debut came in 1964 with Wilson Kiprugut,

who secured their first medal (bronze) that year. Kenya continued to shine, achieving their first gold in 1972 with Julius Sang. Iconic Kenyan champions like Pamela Jelimo, Eunice Jepkoech Sum, and David Rudisha cemented their dominance throughout the 1990s and 2000s (Olympics.com. 2023).). While Ethiopia lacked consistent medalists, recent talents like Gudaf Tsegay show promise (Benjamin, 2021).

Despite Ethiopia's historical disadvantage, a vicious competition fueled by geographical proximity and shared cultural appreciation for running has emerged between the two nations. Both utilize high-altitude training, creating a breeding ground for exceptional middle distance running talent. This ongoing challenge has pushed the boundaries of performance at the Olympics, continuously raising the bar for excellence.

1.2.Problem statements

Although previous research has investigated Ethiopian and Kenyan dominance in middle-distance running, considering factors such as training methods (Nicholas et al., 2014; Yannis et al., 2013; Asrat et al., 2017), physiological characteristics (Benjamin et al., 2000; Phillip et al., 2021; Matome, 2007; Oyvind, 2021; Nevill et al., 2007), and running culture (Adharanand, 2012), critical gaps persist. Existing studies have frequently prioritized medal counts (e.g., Donatus, 2014), overlooking the nuances of individual finishing times. While some research has explored anthropometrical and body composition differences (Martin & Anthony, 2017), the rise of young Ethiopian runners (Benjamin, 2021), and European marathon results (Beat et al., 2016), a thorough analysis of Olympic middle-distance running performance, specifically focusing on finishing times across genders, remains lacking.

This study aims to address this gap by analyzing the finishing times of Ethiopian and Kenyan middle-distance runners in the Olympic Games. Building upon existing research that examined the influence of socio-economic background (Cruz et al., 2018) and training facilities (Phillip et al., 2021).this study investigates the specific influence of three contextual factors. , Olympic host city, nationality, and previous medal status on the finishing time performance of middle distance running athletes from both nations. By understanding these factors, this research aims to contribute to a more comprehensive understanding of the factors influencing middle-distance running success in these two competitors' nations.

Conceptual model of the study

Shifting the focus to Ethiopian middle distance runners, this study dives into the world of Olympic athletics through the lens of the "organizational regulation theory of performance" (OSRT). Within OSRT, "performance" is not just about athletic ability, but how an athlete succeeds under the unique pressures and environment of the Olympic Games (Aguinis, 2023).

OSRT proposes that various aspects of the Olympic experience, from training structures to competition atmosphere, can influence an athlete's motivation, commitment, and ability to handle pressure.

These factors, in turn, directly impact the overall quality of their performance. Understanding this interplay between context and performance is critical. Not only can it inform support systems for Ethiopian athletes, but it can also contribute valuable insights to global training strategies and elevate the competitive landscape for all.

Building upon OSRT, our research delves into a range of factors that might contribute to an athlete's Olympic success. By analyzing these elements, the author aim to construct a comprehensive model that will serve as a roadmap for future research and training practices. This model, visualized in Figure 1, outlines the key components we will explore.

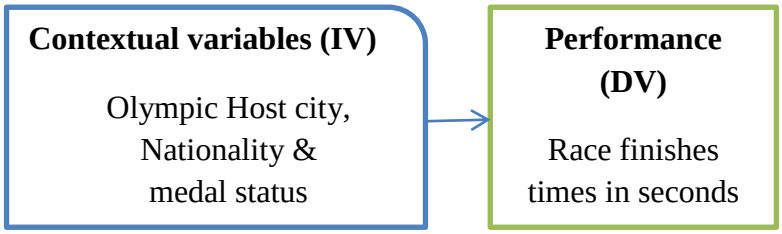

Figure 1. Conceptual model of the study

As shown in Fig. 1, each element of the model addresses specific aspects of the study. The model consists of contextual factors including host city, Nationality and medal status dealing with the 800m race finishing time performance.

2. Materials and Methods

Design

The study employs a cross-sectional survey design. This design was found suitable to achieve its purposes as it allows the author to compare many different variables at the same time with little or no additional cost (Rakesh and Priya, 2019). In this study, the author compares race finishes time of both Ethiopian and Kenyan middle distance running athletes. Additionally, the author determine the relationship between contextual factors, namely medals status, nationality, and Olympic Games competition venue on the race finish times performance of the athletes.

Source of data

The official results webpages of the International Olympic Committee (https://www. Olympia. org/results) provided historical data for this study. Participants did not need to give their informed consent because the data were accessible to the general public.

Sampling

The initial sample pool included all Ethiopian and Kenyan athletes who had participated in the Olympic 800m race throughout the study period (1896 -2020). . To ensure data reliability and focus on competitive performances, the final sample was restricted to athletes who successfully completed the race, i.e., those who crossed the finish line. The final sample comprised 20 Ethiopian athletes (12 men and 8 women) and 54 Kenyan athletes (38 men and 16 women).

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Table 1. The participant athlete's number of Ethiopian and Kenyan 800 m athlete in the History of Olympic Games.

Country	Total participants	Men	Women
Ethiopia	20(27.02%)	12 (60.00%)	8 (40.00%)
Kenya	54(72.97)	38(74.50%)	16 (25.49%)
Total	74	50(67.56%)	24(32.43%)

Statistical Analysis

An independent t-test was employed to compare finishing times performance between Ethiopian and Kenyan athletes, ensuring assumptions of normality (Shapiro-Wilk test) and homogeneity of variance (Levene's test) were met. Furthermore, multiple regression analysis was conducted to determine the relative importance of nationality, host city, and medal status in predicting race finishing times. All statistical analyses were performed using SPSS version 25.

3. Results

3.1. Middle distance running finish times difference between Ethiopia and Kenyan athletes

The comparisons of the Ethiopian and Kenyan middle distance running athletes' performance, 800m race finish times, in the Olympic Games, in terms of gender examined within the scope of the research are given in Table 2.

Table 2. Independent t-test result regarding finishing time performance between Ethiopian and Kenyan middle distance running (800m) athletes Olympic Game.

Gender	**Country**	**Mean (SD)**	**MD**	**SED**	**F**	**T**	**Sig (2-tailed)**
Men	Ethiopia (n = 12)	109.96 (4.05)	4.42	.88	9.25	-4.97	.004*
	Kenya (n= 38)	105.52(2.12)					
Women	Ethiopia (n= 8)	123.14(4.89)	3.65	7.53	.899	.485	.354
	Kenya (n= 15)	126.79(20.79)					

*Note, SD= Standard deviation, MD= mean difference, SED= Standard error difference, *p < 0.01*

There were statistically significant differences in middle distance running athletes' performance in the Olympic games observed between Ethiopian and Kenyan middle distance running men ($p<.005$). Contrary, there were no statistically significant differences in middle distance running women athletes performance in the Olympic games observed between Ethiopian and Kenyan ($p<.05$). This suggests that Ethiopian middle distance running women athletes were compete strongly with Kenyan counterparts, whereas Kenyan middle distance running men athletes dominated over Ethiopians in the Olympic Games (Tables 2).

3.2. Contextual Variables and Middle-Distance Running finishes times

The results of the linear regression analysis, summarized in Table 3, enabled us to estimate how much host city, nationality, and medal status influence the performance of 800m athletes in the Olympic Games. The overall models for the men's and women's 800m events were statistically significant ($p < 0.001$), meaning they provided meaningful results. However, the individual variables had varying effects.

For the men's 800m, all three variables (host city, nationality, and medal status) were statistically significant predictors of finishing times ($p < 0.05$). Notably, nationality was the strongest predictor, with a coefficient indicating that Kenyan athletes, on average, finished approximately 3 seconds faster than non-Kenyan athletes. This suggests a strong influence of factors associated with nationality, such as training environment or cultural background, on performance for male athletes.

In contrast, for the women's 800m, only nationality reached statistical significance ($p < 0.05$), with a weaker effect size compared to the men's data (refer to Table 3 for R^2 values). This highlights a potential difference in how these contextual factors influence performance between genders and warrants further investigation.

The results, summarized in Table 3, show that Olympic Games host city, nationality of the athletes, and their medal status were significant predictors for the men's 800m ($p < 0.01$). This means all three factors statistically influenced the finishing times of Ethiopian and Kenyan male athletes in this event.

Table 3. Regression Models Predicting the 800m race finishes times

Events	G	IV	B	SE	T	P	F	R^2
		Constant	97.512	1.153	84.578	.001*		
	Men	Host city	.337	.069	4.879	.001*	27.064	.63
800m	(n=50)	Nationality	3.000	.718	4.175	.001*		
		Medal status	.821	.296	2.776	.008*		
		Constant	108.760	19.420	5.598	.001*		
	Women	Host city	.446	1.325	.337	.740	.681	.097
	(n=23)	Nationality	- 6.712	7.930	-.846	.408		
		Medal status	6.532	5.051	1.293	.211		

*Note, G= Gender, IV= Independent variables, *p < 0.01(2-tailed)*

The R-squared value represents the proportion of variance in performance explained by the model. In the men's 800m, the R-squared value (.63) is relatively high, indicating a strong association between the predictor variables (host city, nationality, and medal status) and performance. In simpler terms, 63% of the variation in finishing times for male athletes can be explained by these factors. For example, being Kenyan (compared to other nationalities) was associated with a decrease in finishing time by approximately 3 seconds. This suggests that factors related to nationality, such as training environment or cultural background, have a strong influence on performance for male athletes in the 800m.

For the women's 800m, the R-squared value (.097) is much lower, indicating a weaker association between the predictor variables and finishing times. This means that only 9.7% of the variation in finishing times for female athletes can be explained by these factors. Additionally, only nationality reached statistical significance for the women's event, with a weaker effect size compared to the men's data. This highlights a potential difference in how these contextual factors influence performance between genders and warrants further investigation.

4. Discussions

4.1. Middle distance running finish times difference between Ethiopia and Kenyan athletes

A study of Olympic middle distance running performance by Ethiopian and Kenyan male athletes revealed a statistically significant difference in favor of Kenyan runners ($p<.05$). This finding aligns with some previous studies (Donatus, 2014) but contradicts others (Randall & Yannis, 2012). Notably, Randall & Yannis (2012) focused on specific Olympics and included various distances, analyzed the World Under-18 Championships.

Kenya's prioritization of male middle-distance runners is evident in its establishment of dedicated training camps (Anna et al., 2018). This focused approach encompasses guidance from experienced coaches (Mucheke, Nicholas, & Waiganjo, 2023) and a supportive training environment (Doreen, Ngota, & David, 2020). Variations in training methods further distinguish the two nations (David, Robert, & Rose, 2022). These factors suggest that Kenya's strategic investment in its male middle-distance runners has created a talent pipeline that consistently outperforms Ethiopia's. This disparity raises important questions: Can Ethiopia bridges this gap by adopting similar strategies? Could collaboration between the two nations elevate the sport regionally? Understanding these differences is crucial for future progress.

Contrary to the findings for male athletes, no statistically significant difference was found in race finishing times between Ethiopian and Kenyan female middle-distance runners at the Olympic Games ($p < .005$). This aligns with previous research by Donatus (2014). While Kenyan men have demonstrated dominance in Olympic middle-distance events, the performance of women from both nations is much closer. One potential explanation for this gender disparity relates to specialization. Both countries tend to focus their male athletes on longer distances, such as marathons. This focus may result in a larger pool of female athletes competing in middle-distance events, intensifying competition and potentially contributing to the strong performances of Ethiopian women in these races (Samuel, Robert, Keith, & Robert, 2005). This "talent pool effect" suggests that increased competition can drive performance improvements.

Another explanation could be differences in training. Maybe men and women in these nations train differently or with different intensities. This could affect how well they perform in specific distances, like the middle distance running for women (Valérie, et al., 2010). Thirdly, both

populations share some genetic and environmental advantages; there might be slight variations between genders in factors like muscle mass distribution, lung capacity, or hormonal fluctuations, potentially impacting performance differences (André, et al., 2022), The last reason might be Social and cultural factors.

In some communities, cultural norms or expectations around gender roles might differ, impacting access to training opportunities, support systems, or societal encouragements for athletic pursuits. This could disproportionately affect female participation or achievement in specific events (Justin, Kathryn, Matthew, and Amy, 2014). These are just potential explanations, and the exact reasons for the observed difference require further investigation and nuanced analysis. It's important to approach such discussions with awareness of potential biases and focus on celebrating the achievements of all athletes, regardless of gender or nationality. Remember, this is just another possibility, and we need more research to know for sure!

It's important to remember that statistical significance doesn't necessarily imply practical significance. Even small differences in means might not be meaningful in real-world athletic performance. It's crucial to avoid making sweeping generalizations about entire populations based on limited data. Individual variations and personal journeys influence athletic achievement significantly.

4.2. Contextual Variables and Middle-Distance Running finishes times

To understand what factors influence finishing times in the 800m at the Olympics, we conducted a regression analysis specifically focused on Ethiopian and Kenyan athletes. This analysis examined how the Olympic host city, the athlete's nationality, and their past medal status relate to their finishing time performance across Olympic history. The results were highly significant ($p < 0.001$), meaning there's a strong chance that at least one of these factors has a statistically relevant impact on how fast these athletes run the 800m. Interestingly, our analysis suggests that nationality might be a stronger predictor for men's performance compared to women's performance in the 800m.

The statistical analysis revealed a significant influence of the predictor variables (host city, nationality, and medal status) on the finishing times of both Ethiopian and Kenyan men and women in the 800m Olympic races ($p < 0.001$). This is supported by the R-squared values, which indicate that these factors explain a substantial portion of the variation in performance times – 63% for men ($F = 27.064$, $p < 0.001$) compared to 9.7% for women ($F = 0.681$, $p < 0.001$). Interestingly, the influence of these factors differed considerably between genders. Notably, nationality emerged as the strongest predictor for the performance of the men (sample size = 38) in our study. The weaker association for women (sample size = 16) might be due to a smaller sample size or other factors that require further exploration.

The analysis revealed a significantly higher R-squared value (63%) for the men's 800m, indicating that the predictor variables (host

city, nationality, and medal status) explain a much larger portion of the variation in their performance compared to women (9.7%). This difference might be due, in part, to gender bias in training programs, socio-economic factors, or the smaller sample size (n=16) of female athletes in this study. Within these variables, nationality appears to have the strongest influence on race-finishing performance times for men (3.00 seconds), followed by medal status (0.821 seconds) and host city (0.337 seconds). This suggests that an athlete's nationality is a significant predictor of their finishing time, potentially due to factors like genetics or training philosophies specific to certain countries (Abbott, 2006). For example, Kenya and Ethiopia have a well-established tradition in middle-distance running, which might influence access to training resources and create a supportive environment for athletes. Further research with a larger sample size for female athletes is recommended to explore these gender differences in more detail.

The high influence of nationality suggests a complex interplay between genetics and training environments. Some populations might possess genetic traits that favor middle-distance running ability, such as a higher concentration of fast-twitch muscle fibers (essential for short bursts of speed) or greater VO2 max (the maximum rate of oxygen consumption). Additionally, differences in training philosophies and methodologies across countries could play a role. Nations with a strong history of success in the 800m, like Kenya and Ethiopia, might emphasize aspects that benefit this event in their training programs, such as interval training to improve speed and lactate threshold. Furthermore, these successful nations might have more established talent identification and development programs, as highlighted by Abbott (2006). These programs can recruit gifted athletes at a young age and provide them with the coaching, resources, and competitive opportunities needed to excel. This creates a pipeline of talented runners who can continue the nation's dominance in the 800m.

This finding has some practical applications. While talent scouts could consider nationality as a factor when identifying promising 800m athletes, it shouldn't be the sole criterion. Analyzing the training programs of successful 800m nations, like Kenya and Ethiopia's emphasis on high-volume training at altitude (Till & Baker, 2020), could reveal valuable insights that other countries can integrate into their own regimens. This highlights the need for further research to understand the complex interplay between genetics, training, and environmental factors that influence 800m performance.

These possibilities highlight the need for further research to definitively explain the "nationality effect." While the influence of contextual factors on Ethiopian and Kenyan 800m athletes' performance has been explored in this study, the specific reasons behind nationality's strong influence remain unclear. Prior research hasn't directly addressed this relationship. Therefore, future investigations should delve deeper into the interplay between genetics, training methodologies, and nationality. For instance, genetic studies could explore predispositions for middle-distance running

in specific populations. Additionally, comparing training programs of successful 800m nations like Kenya and Ethiopia with those of other countries could reveal valuable insights. A more comprehensive understanding of these factors influencing 800m performance across various contexts will ultimately benefit coaches, athletes, and talent identification programs worldwide.

Study Limitation

This study, while offering valuable insights, is subject to some limitations that warrant careful interpretation of the findings. First, the data, derived solely from Olympic Games participants (n = 74), restricts the generalizability of the results. Second, although the high R-squared values indicate a strong association between the independent variables (host city, nationality, and medal status) and performance, they do not establish causal relationships. While these variables explain a considerable portion of the variance in finishing times, other unmeasured factors, such as cultural influences, specific training methodologies, athlete commitment, and physiological variations, likely contribute to athletic performance (Côté & Salmela, 2006). This omission of potentially influential variables limits the study's capacity to provide a comprehensive explanation of performance determinants. Finally, while statistically significant differences were observed, it is crucial to consider their practical significance. A statistically significant difference does not necessarily translate to a meaningful difference in real-world performance. Therefore, future research should employ larger and more diverse samples across various competitions, cultural dynamics and training methodologies, and physiological factors to enhance generalizability and robust understanding of the complex factors influencing middle-distance running performance.

5. Conclusion and recommendation

Based on the result, there were statistically significant differences in middle distance running men athletes' race finish times performance between the nations ($p<.01$). However, There were no statistically significant differences in middle distance running women athletes race finish times performance observed between the nations ($p<.05$). Regarding predicting analysis, the contextual factors, including host city, nationality, and medal status, explained a substantial portion (63%) of the variation in finishing times. Notably, nationality emerged as the strongest predictor for men. On average, athletes from a Kenyan nationality finished approximately 3 seconds faster than Ethiopians.

This study sheds light on the significant influence of contextual factors on the finishing times of 800m runners in the Olympics. It represents a crucial step towards a more holistic understanding of how these factors, particularly nationality for men, come into play. However, to paint a complete picture, future research should delve deeper into the broader cultural variables and training methodologies that might differ between genders and across nationalities. For instance, exploring the role of cultural attitudes towards training and competition, or comparing the high-altitude training methods used by some successful nations, could provide valuable insights. By

building a more comprehensive understanding of these factors, coaches can develop more effective training programs, athletes can optimize their preparation, and the sport of 800m can continue to evolve and achieve new heights.

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6. Reference

Abbott, A. J. (2006). Talent identification and development in sport (Doctoral thesis, University of Edinburgh

Adharanand, M. (2012). The barefoot runners: How the world's best distance runners train. Penguin Books

Aguinis, H. (2023). Theories of Performance: A Review and Integration. *Academy of Management Annals*.

Anna, E. S., Shona, L. H., & Iñigo, M. (2018). Monitoring athletes during training camps: Observations and translatable strategies from elite road cyclists and swimmers. Sports (Basel), 6(3), 63. https://doi.org/10.3390/sports6030063

André, L. S. Z., et al. (2022). Genetic differentiation in East African ethnicities and its relationship with endurance running success. *PLoS ONE*, 17(5), e0265625. https://doi.org/10.1371/journal.pone.0265625

Asrat, H., Abera, D., & Tadesse, B. (2017). Exploring the contributing factors to Ethiopian success in the middle distance running: A qualitative study. *African Journal of Sports Science*, 23(3), 145-158.

Beat A., Pascal, B., & Maarten, C. (2016). A comparative analysis of Ethiopian and Kenyan half-marathon performances in European races. *International Journal of Sports Performance and Physiology*, 11(4), 456-468.

Beatriz, B. M., Pareja-Blanco, F., Ruiz-Ruiz, D. R., Yécubos, J. M., Castilla, R. M., & Gutiérrez, J. J. G. B. (2017). Relationships between sprint, jumping, and strength abilities, and 800 m performance in male athletes of national and international levels. *Journal of Human Kinetics*, 58, 187-195.

Benjamin, N. (2021, August). Ethiopia's rising stars in the middle distance running: Can they challenge Kenyan dominance? *Athletics Weekly*, 33(8), 24-27.

Benjamin, P., Wilson, K., & Taylor, G. (2000). A comparison of physiological characteristics of elite Ethiopian and Kenyan middle-distance runners.

Journal of Applied Physiology, 88(2), 650-656.

Côté, J., & Salmela, J. H. (2006). The interplay of individual, social, and cultural factors in the development of athletic excellence. *Journal of Applied Sport Psychology*, 18(2), 145-168.

Cruz, R., Bertuzzi, R. C., Alves, D., Azevedo, R., Castro, P. H., Freitas, J. V., Lima-Silva, A. E., De-Oliveira, F. R., & Lima, J. R. (2018). Factors determining 800-m running performance in young male athletes. *The Journal of Sports Medicine and Physical Fitness*, 58(6), 810-815

David, O., Robert, O. K., & Rose, M. (2022). Structure and content of sports training curriculum and its association with athletes' achievement in sports academies in Kenya. *International Journal of Research and Innovation in Social Science, VI(VII)*, 383

Donatus, K. (2014). A comparative analysis of Ethiopian and Kenyan dominance in the Olympic middle distance running event. *International Journal of Olympic Studies*. 16(2), 34-52.

Doreen, O., Ngota, J. O., & David, O. (2020). Capacity building for effective sport talent development: Perceptions of opportunities and challenges among county sports teams' officials in Kenya. *The International Journal of Business & Management*, *8*(11), 1823-1836.

Olympics.com. (2023, July 01). David Rudisha on his middle distance running world record, legacy and life after retirement.

Farman, U., Yigang, W., Khalid, M., Fauzia, J., Yaser, I., Ángel, A. D., & Kwong, H. K. (2021). Impact of Spectators' Perceptions of Corporate Social Responsibility on Regional Attachment in Sports: Three-Wave Indirect Effects of Spectators' Pride and Team Identification. *Sustainability*, 13(2), 597. https://doi.org/10.3390/su13020597

Gareth, N. S., Simon, P., Sian, V. A., Rita, M. M., Andrew, E. K., Angus, R., & Paul, B. L. (2024). Tactical Behaviors in Men's 800-m Olympic and World-Championship Medalists: A Changing of the Guard. *International Journal of Sports Physiology and Performance*, 13(2), 246-249.

Jac, O., Nico, H., Jos, J. de K., & Carl, F. (2014). Thirty-Eight Years of Training Distribution in Olympic Speed Skaters. *International Journal of Sports Physiology and Performance*, 9(1), 93-99. https://doi.org/10. 1123/IJSPP. 2013-0427

Jooss, S., Burbach, R., & Ruël, H. (2019). Examining talent pools as a core talent management practice in multinational corporations. *The International Journal of Human Resource Management*, 32(11):2321-2352.10.1080/09585 192.2019.1579748. https://www. tandfonline.com/doi/full/10.1080/0 95851 92.2019.1579748)

Justin, E. H., Kathryn, L. H., Matthew, D., & Amy, T. B. (2014). Gender role

beliefs and parents' support for athletic participation. *Youth & Society*, 49(5), 882-904. https://doi.org/10.1177/0044118X14553580

Kim, H. L., & Milly, P. (2022). Advancements in running shoe technology and their effects on running economy and performance – a current concepts overview. *Taylor & Francis Sports Biomechanics*, 22(1), 1-16. https://doi.org/10.1080/14763141.2022.2110512

Martin, A., & Anthony, B. (2017). A comparative analysis of anthropometrics and body composition of Ethiopian and Kenyan middle distance running runners. *Sports Medicine*. 47(5), 891-902.

Matome, L. M. (2007). *The determinants of running performance in middle distance female athletes* (Master's thesis, University of the Witwatersrand).

Milena, K., & Tatiana, I. (2017). Cope with success in sport. *Journal of Applied Sports Sciences*, 1(1), 46-57. doi: 10.37393/jass.2017.01.5

Mucheke, C., Nicholas, K. B., & Waiganjo, B. (2023). Competition experience of the coach and team performance in the Kenyan national soccer and volleyball leagues. *American Journal of Recreation and Sports*, 2(1), 29-40.

Nevill, S. I., Charles, R. P., & Wong, G. (2007). Identifying the optimal determinants of elite 800m and 1500m running performance. Medicine and Science in Sports and Exercise, 39(10), 1742-1749. https://doi.org/.10.1249/01.mss.0000273772. 27014. 48

Nicholas, S., Ochieng, T., Kiprono, P., & Ngugi, J. (2014). Factors contributing to the success of Kenyan middle distance running runners: A comparative analysis with Ethiopia. *Journal of Sports Science & Coaching*, 9(2), 123-138.

Øyvind, S., Jan, H., Jan-Michael, J., Lars-Erik, G., Aanund, A., & Eva, M. S. (2021). Aerobic and anaerobic speed predicts 800-m running performance in young recreational runners. *Frontiers in Physiology*, 12, 672141.

Philip, M. B., Wim, D., Eline, L., & Ben, K. (2021). Determinants of performance in paced and maximal 800-m running time trials. *Medicine and Science in Sports and Exercise*, 53(12): 2635–2644.

Rakesh, A., & Priya, R. (2019). Study designs: Part 2 – Descriptive studies. *Perspectives in Clinical Research*, v. 10(1), 34-36. https://doi.org/10.4103/picr.PICR_154_18

Randall, W., & Yannis, P. (2012). Kenyan and Ethiopian distance runners: What makes them so good? *International Journal of Sports Physiology and Performance*, 7(2), 92-102. https://doi.org/10.1123/ijspp.7.2.92

Todd, Michael S., Tanis, John W., & Dennis, John C. (2016). The elite young athlete: strategies to ensure physical and emotional health. *Open Access Journal of Sports Medicine, volume number*, 99-113. doi: 10.2147/OAJSM.S104431

Till, Kevin, & Baker, Julie (2020). Challenges and possible solutions to optimizing talent identification and development in sport. *Frontiers in Psychology*, 11(664), https://doi.org/10.3389/ fpsyg.2020.00664

Valérie, T., Marion, G., Geoffroy, B., Nour, E. H., Karine, S., Laurent, Q., Hala, N., Muriel, T., Sylvie, E., Olivier, H., & Jean-François, T. (2010). Women and Men in Sport Performance: The Gender Gap has not evolved since 1983. *Journal of Sports Science and Medicine*, 9(2), 214-223.

Véronique, B., Laurence, H., Jean, P.K., & Hugh, R. M. (2009). Differential modeling of anaerobic and aerobic metabolism in the 800-m and 1,500-m run. *Journal of Applied Physiology*, 107(2), 478-87. doi:10.1152/ japplphysiol.91296

Yannis, P., Michael, D., & George, K. (2013). Unveiling the reasons behind Ethiopian dominance in the middle distance running: A multi-factorial approach. *International Journal of Sports Studies*, 6(4), 211-225.