



SCIENTIFIC CHARACTERIZATION OF THE DYNAMICS OF SPORTS RESULTS ACHIEVED BY UZBEKISTANI HURDLERS AT THE OLYMPIC GAMES AND ASIAN GAMES

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Abstract

This article provides a scientific and statistical characterization of the dynamics of sports results achieved by track and field hurdlers representing the Republic of Uzbekistan at the Olympic Games and Asian Games between 2010 and 2026. The study categorizes athletes into distinct groups: those specializing in 100m, 110m, and 400m hurdles, as well as combined-event athletes (heptathletes and decathletes) who competed in the hurdle segments of their respective disciplines. Based on statistical data, an analysis was conducted—broken down by year—covering the athletes' participation in international competitions, the stages reached, their performance results, final rankings, and personal bests.

The analysis indicates that the period from 2010 to 2016 was a relatively active phase for specialized hurdlers from Uzbekistan in international competitions. During this period, Natalya Asanova and Artyom Dyatlov represented Uzbekistan in the 400-meter hurdles, while Valentina Kibalnikova competed in the 100-meter hurdles. Notable personal bests recorded during this time include Natalya Asanova's 56.13 seconds in the 400-meter hurdles, Artyom Dyatlov's 49.78 seconds, and Valentina Kibalnikova's 13.00 seconds. Furthermore, the absence of hurdlers representing Uzbekistan in major international competitions between 2018 and 2026 highlights the need to develop a reserve pool of athletes and improve the system for training high-level competitors in this discipline.



Keywords: Hurdling, athletics, 100-meter hurdles, 110-meter hurdles, 400-meter hurdles, Olympics, Asian Games, athletic performance, performance dynamics, specialized physical preparation, technical preparation, athlete reserve pool.

**O‘ZBEKISTONLIK G‘OVLAR OSHA YUGURUVCHILARNING
OLIMPIADA VA OSIYO O‘YINLARIDAGI SPORT NATIJALARI
DINAMIKASINING ILMIY TAVSIFI**

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Jismoniy madaniyat va sport kafedrası dotsenti

Annotatsiya

Ushbu maqolada 2010–2026-yillar davomida O‘zbekiston Respublikasi nomidan Olimpiada va Osiyo o‘yinlarida ishtirok etgan g‘ovlar osha yuguruvchi yengil atletikachilarning sport natijalari dinamikasi ilmiy-statistik jihatdan tavsiflangan. Tadqiqotda 100, 110 va 400 metr g‘ovlar osha yugurish bo‘yicha ixtisoslashgan sportchilar hamda geptatlon va dekatlon dasturlarida g‘ovlar bosqichida qatnashgan ko‘pkurashchilar alohida guruhlariga ajratilgan. Statistik materiallar asosida sportchilarning xalqaro musobaqalardagi ishtiroki, bosqichlari, ko‘rsatgan natijalari, egallagan o‘rinlari va shaxsiy rekordlari yillar kesimida tahlil qilindi.

Tahlil natijalari 2010–2016-yillar O‘zbekistonlik ixtisoslashgan g‘ovchilar uchun xalqaro musobaqalarda nisbatan faol davr bo‘lganligini ko‘rsatdi. Mazkur davrda 400 metr g‘ovlar osha yugurishda Natalya Asanova va Artyom Dyatlov, 100 metr g‘ovlar osha yugurishda esa Valentina Kibalnikova O‘zbekiston sharafigini himoya qilgan. Natalya Asovaning 400 metr g‘ovlar osha yugurishdagi 56,13 soniyalik, Artyom Dyatlovning 49,78 soniyalik va Valentina Kibalnikovaning 13,00 soniyalik shaxsiy rekordlari ushbu davrning asosiy yuqori ko‘rsatkichlari sifatida qayd etilgan. Shu bilan birga, 2018–2026-yillarda yirik xalqaro musobaqalarda O‘zbekiston nomidan ixtisoslashgan g‘ovchilar ishtirokining qayd etilmaganligi ushbu yo‘nalishda sportchilar zaxirasini shakllantirish va yuqori malakali sportchilar tayyorlash tizimini takomillashtirish zarurligini ko‘rsatadi.



Kalit so‘zlar: g‘ovlar osha yugurish, yengil atletika, 100 metr g‘ovlar, 110 metr g‘ovlar, 400 metr g‘ovlar, Olimpiada, Osiyo o‘yinlari, sport natijasi, natijalar dinamikasi, maxsus jismoniy tayyorgarlik, texnik tayyorgarlik, sportchilar zaxirasi.

Introduction

Hurdling is a complex track and field discipline that demands a high level of speed, explosive strength, coordination, specialized endurance, and technical proficiency. Achieving top-tier athletic performance in this event depends not only on an athlete’s maximum running speed but also on their ability to navigate the distance between hurdles with an optimal rhythm, execute the approach to each hurdle, clear it, and land—all while minimizing time loss.

In the process of training elite hurdlers, analyzing international results from previous years holds significant scientific and practical value. This is because tracking changes in athletic performance over time provides insight into the effectiveness of athlete preparation, the intensity of international competition, and the state of the athlete talent pool during a given period.

In this context, a systematic study of the participation of hurdlers from Uzbekistan in the Olympic Games and the Asian Games between 2010 and 2026 is essential for identifying promising directions for the future development of this sport.

Research Objective

The objective of this research is to provide a scientific characterization of the athletic performance of hurdlers representing Uzbekistan at the Olympic and Asian Games between 2010 and 2026, to determine the dynamics of their participation in international competitions, and to formulate scientific and practical conclusions aimed at improving the system for training high-level hurdlers based on these results.

Research Materials and Methods

The study utilizes statistical data concerning hurdlers who represented Uzbekistan at the Olympic and Asian Games during the period from 2010 to 2026.



In the statistical data, the athletes are divided into two main groups:

- athletes specializing in 100m, 110m, and 400m hurdles;
- combined-event athletes (multi-eventers) who competed in the hurdles segment as part of the heptathlon or decathlon.

This classification allows for a separate assessment of the functional characteristics of hurdling—both as a specialized discipline and as a component of combined events.

The study employed methods including the grouping of statistical data, comparative analysis, dynamic analysis, descriptive statistical analysis, and scientific generalization.

Research Results and Their Scientific Description

Description of the Results of Specialized Hurdlers

Between 2010 and 2016, three athletes—Natalya Asanova, Artyom Dyatlov, and Valentina Kibalnikova—represented Uzbekistan at the Olympic Games and the Asian Games as specialized hurdlers. These athletes competed in the 100m and 400m hurdles events. Natalya Asanova's Results in the 400m Hurdles

An analysis of Natalya Asanova's performance in international competitions indicates that she was one of Uzbekistan's primary athletes specializing in the 400m hurdles during this period.

At the 2010 Asian Games in Guangzhou, she finished 6th in the 400m hurdles final with a time of 57.25 seconds. This result demonstrates that she was competing at an international level and had reached the stage of participating in finals. Her personal best, meanwhile, stands at 56.13 seconds—1.12 seconds faster than her 2010 performance.

At the 2012 London Olympics, Asanova recorded a time of 58.05 seconds in the 400m hurdles heats. This was 1.92 seconds off her personal best, suggesting that she was unable to fully demonstrate her peak individual potential under Olympic conditions.

At the 2014 Asian Games in Incheon, she finished 8th in the final with a time of 60.42 seconds. This result was 3.17 seconds slower than the 57.25-second performance at the 2010 Asian Games. Furthermore, the 2014 result fell 4.29 seconds short of her personal best.



At the 2016 Rio de Janeiro Olympics, Asanova recorded a time of 1 minute 02.37 seconds in the qualifying round—a performance significantly below her personal best.

Thus, the trend in Natalya Asanova's results shows a progression from 57.25 seconds in 2010 to 58.05 seconds in 2012, 60.42 seconds in 2014, and 62.37 seconds in 2016. These figures indicate a consistent downward trend in her athletic performance during international competitions.

Such dynamics indicate the need for a separate study of factors related to an athlete's individual state of preparedness, the maintenance of their competitive form, their age, and the impact of long-term training loads.

Scientific analysis of Artyom Dyatlov's results

Artyom Dyatlov represented Uzbekistan in the men's 400-meter hurdles at the 2012 London Olympics. In the qualifying round, he recorded a time of 51.55 seconds, while his personal best stands at 49.78 seconds.

The difference between his Olympic result of 51.55 seconds and his personal best of 49.78 seconds is 1.77 seconds. In percentage terms, this represents a deviation of approximately 3.6% from his personal best.

This figure suggests that the athlete was unable to fully approach his peak individual performance within the context of an international competition. At the same time, his personal best of 49.78 seconds serves as a significant indicator that the potential exists to achieve high-level athletic results in men's hurdle events for Uzbekistan. **Scientific Analysis of Valentina Kibalnikova's Results**

Valentina Kibalnikova's performances in the women's 100-meter hurdles are of particular scientific interest.

At the 2014 Asian Games in Incheon, the athlete finished in 5th place in the final, clocking a time of 13.47 seconds. This result was 0.47 seconds slower than her personal best of 13.00 seconds.

At the 2016 Rio de Janeiro Olympics, Kibalnikova recorded a time of 13.29 seconds during the qualifying round. While this was 0.18 seconds faster than her 2014 performance, it remained 0.29 seconds off her personal best.

Thus, a positive trend is observed in Kibalnikova's results across two major competitions: an improvement of 0.18 seconds, from 13.47 seconds to 13.29 seconds.



The athlete's personal best of 13.00 seconds was recorded in 2016 and is listed in the statistical data as the national record of Uzbekistan.

This figure can be utilized in scientific research as a benchmark for high-level performance in women's hurdling in Uzbekistan.

General trends in the results of specialized hurdlers (2010–2016)

According to the provided data table, at the 2010 Asian Games in Guangzhou, Natalya Asanova—representing Uzbekistan as a specialist hurdler—finished in 6th place in the 400-meter event with a time of 57.25 seconds.

At the 2012 London Olympics, Artyom Dyatlov recorded a time of 51.55 seconds in the 400-meter hurdles. During the same Olympics, Natalya Asanova also competed in the 400-meter hurdles, finishing with a time of 58.05 seconds. At the 2014 Asian Games in Incheon, two hurdlers represented Uzbekistan: Valentina Kibalnikova finished 5th in the 100m hurdles with a time of 13.47 seconds, while Natalya Asanova placed 8th in the 400m hurdles with a time of 60.42 seconds.

At the 2016 Rio de Janeiro Olympics, Valentina Kibalnikova recorded a time of 13.29 seconds in the 100m hurdles, and Natalya Asanova finished the 400m hurdles in 1:02.37.

This sequence shows that between 2010 and 2016, Uzbekistan's hurdlers participated consistently in both the Olympic Games and the Asian Games. However, while Natalya Asanova's performance in the 400m hurdles declined over this period, Valentina Kibalnikova's performance in the 100m hurdles improved between 2014 and 2016.

Consequently, there is no single, uniform trend for these hurdlers; results vary depending on the individual athlete's preparation and their specific event distance. Scientific characterization of the hurdle segment among combined-events athletes

The second part of the statistical data presents the results of athletes who, while not specializing exclusively in hurdling, completed the hurdle segment as part of heptathlon or decathlon competitions.

At the 2010 Asian Games in Guangzhou, Rifat Artikov recorded a time of 14.72 seconds in the 110-meter hurdles—part of the decathlon—earning 884 points. Meanwhile, Yuliya Tarasova clocked 14.02 seconds in the 100-meter hurdles, which was part of the heptathlon, securing 976 points.



At the 2012 London Olympics, Rifat Artikov finished the 110-meter hurdles in 14.74 seconds. Compared to his 2010 performance, this result was 0.02 seconds slower. This difference is quite minor and should be evaluated in the context of the athletes' performances across all other events in their respective combined-event competitions.

At the 2014 Asian Games in Incheon, Yuliya Tarasova recorded a time of 14.41 seconds in the 100-meter hurdles, while Yekaterina Voronina clocked 15.19 seconds. In the 110-meter hurdles, Leonid Andreyev finished in 14.95 seconds, and Marat Haydarov recorded a time of 14.73 seconds.

These results demonstrate that there are significant individual variations in hurdling technique and speed among athletes who compete in combined events. Since the hurdles event is only one component of the combined-events competition (multi-event discipline), it is scientifically inaccurate to directly compare these results with the performances of specialized hurdlers.

Dynamics of Yekaterina Voronina's results in combined-events competitions
Yekaterina Voronina's results in the hurdles segment of her combined-events competitions span a relatively long period.

At the 2014 Asian Games in Incheon, she recorded a time of 15.19 seconds in the 100-meter hurdles. At the 2016 Rio Olympics, no result was recorded for this segment, and the statistical data is marked as "DNF" (Did Not Finish).

At the 2018 Asian Games in Jakarta, Voronina clocked 14.72 seconds—an improvement of 0.47 seconds over her 2014 time of 15.19 seconds.

At the Tokyo Olympics, she finished in 14.19 seconds, marking a further improvement of 0.53 seconds compared to her 2018 performance.

At the Asian Games in Hangzhou, Yekaterina Voronina recorded a time of 14.48 seconds in the 100-meter hurdles, earning 912 points. Thus, Voronina's results from 2014 to 2022 show an overall positive trend: an improvement of 0.71 seconds, moving from 15.19 seconds to 14.48 seconds.

This indicates that, for multi-event athletes (combined-event athletes), there is potential to enhance performance at this stage through the long-term refinement of their hurdling technique.



Overview of the participation of specialized hurdlers (2018–2026)

Statistical data indicate that no specialized hurdlers represented Uzbekistan at the 2018 Asian Games in Jakarta, the 2024 Paris Olympics, or the 2026 Asian Games in Nagoya.

This finding can be considered one of the most significant scientific results of this article. While specialized hurdlers from Uzbekistan participated in the Olympics and Asian Games between 2010 and 2016, there has been no continuity in representation at the highest level of international competition in this discipline during the subsequent period.

Rather than interpreting this situation simply as a decline in athletic performance, it is more appropriate to view it as an issue concerning the development of a reserve pool of specialized hurdlers and the continuity of the transition process toward elite-level performance.

Consequently, a key objective for the future is to establish a seamless system for identifying young hurdlers, guiding their specialization, and facilitating their progression to the stage of achieving high-level results.

Scientific Overview of Key Personal Records

Statistical data highlight three notable personal records achieved by hurdlers from Uzbekistan.

Valentina Kibalnikova's time of 13.00 seconds in the 100-meter hurdles—recorded in 2016—is listed in the statistical data as the national record for Uzbekistan.

Natalya Asanova's personal record of 56.13 seconds in the 400-meter hurdles was set in 2012.

Artyom Dyatlov's personal record of 49.78 seconds in the 400-meter hurdles also dates back to 2012. These three indicators serve as an important historical benchmark for evaluating the level of performance among men and women in hurdle events in Uzbekistan.

Discussion

The data obtained indicate that international-level results in hurdle events in Uzbekistan have, at certain times, been directly linked to the activities of individual athletes.



Between 2010 and 2016, specialized athletes from Uzbekistan participated in the Olympic Games and the Asian Games. However, the absence of specialized hurdlers in the period following 2018 underscores the urgent need to address the development of an athlete reserve.

Furthermore, the results of combined-event athletes indicate that there is still room for improvement in their hurdling technique. For instance, Yekaterina Voronina's progression from a time of 15.19 seconds in 2014 to 14.48 seconds in 2022 demonstrates that there is potential to further refine the hurdling component within the training of combined-event athletes.

However, the performance of a specialized hurdler cannot be evaluated using the same criteria as that of a combined-event athlete. While the primary objective of a specialized hurdler's training is to maximize performance in hurdling, for a combined-event athlete, the hurdles represent only one component of a multi-event program.

Consequently, in future research, it would be appropriate to analyze the results of these two groups of athletes using separate statistical models.

Conclusion

Based on a scientific analysis of the performances of Uzbek hurdlers at the Olympic Games and the Asian Games between 2010 and 2026, the following conclusions have been reached:

1. The period from 2010 to 2016 was one of the most active phases on the international stage for specialized hurdlers from Uzbekistan. During this period, Natalya Asanova, Artyom Dyatlov, and Valentina Kibalnikova participated in the Olympic Games and the Asian Games.
2. Natalya Asanova's results in the 400-meter hurdles showed a downward trend between 2010 and 2016. Her time of 57.25 seconds in 2010 shifted to 58.05 seconds in 2012, 60.42 seconds in 2014, and 1:02.37 in 2016.
3. Valentina Kibalnikova's results showed a positive trend between 2014 and 2016; her performance in the 100-meter hurdles improved from 13.47 seconds to 13.29 seconds.



4. Artyom Dyatlov's personal best of 49.78 seconds stands as a significant historical benchmark for high-level performance in the men's 400-meter hurdles in Uzbekistan.

5. There is also potential for development in the hurdles segment for combined-event athletes (multi-eventers). In particular, Yekaterina Voronina's improvement from 15.19 seconds to 14.48 seconds between 2014 and 2022 demonstrates a positive trend. 6. Between 2018 and 2026, there was no representation of specialized hurdlers at the Olympic Games or the Asian Games. This situation highlights the need to strengthen the system for developing a reserve of athletes in hurdle events and for advancing high-performance athletes to the international level.

7. In the training of hurdlers, it is advisable to develop fundamental physical conditioning, specialized speed-strength training, hurdle technique, running rhythm, and biomechanical monitoring within a unified, integrated system.

8. Future scientific research should separately analyze the performance results of specialized hurdlers and combined-events athletes (decathletes/heptathletes). Furthermore, it is necessary to examine the age, anthropometric, functional, physical, and technical characteristics of these athletes in relation to their international performance results.

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