

UDC 794.1

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WHY IS KAZAKHSTAN'S GENDER GAP AT THE TOP OF CHESS SO SMALL? A BIRTH-COHORT COMPARISON ON THE FIDE RATING LIST

Abstract. In most countries the best men in chess are rated far higher than the best women. Kazakhstan is an exception among its neighbours. In this study I used the official FIDE standard rating list for September 2026 and counted only active players, because an inactive rating shows an old level, not a current one. The difference between the average rating of the ten best men and the ten best women in Kazakhstan was 154 points, against 301 in Russia, 398 in Uzbekistan and 403 in Kyrgyzstan. This cannot be explained by participation, because the share of women among active players in Kazakhstan (17.7%) was not higher than in these countries. To test whether the small gap is a Soviet legacy, I split the players by year of birth. Among players born before 1985 the gap was 462 points, while among players born in 2000 or later it was 133 points, and among players born in 2005-2009 it was 142 points, against 315 in Russia, 334 in Uzbekistan and 392 in Kyrgyzstan for the same years of birth. Without the two strongest women the gap in Kazakhstan rose to 220 points, which is still smaller than in any of the three neighbours. The small gap is therefore held by the young generation, not by the Soviet one. The first world youth titles of Kazakhstani girls came in 2008-2011, when the players born in 2005-2009 were young children. This matches the role-model explanation in time, but the rating list cannot show that it was the cause.

Keywords: chess; gender gap; FIDE rating; birth cohort; role models; Kazakhstan

1. Introduction

I have played chess since childhood, and in Kazakhstan the strongest women players are well known even to people who do not follow the game. When I looked at the rating list, I noticed that the distance between our best men and our best women looked much smaller than in the countries around us. I wanted to understand whether this is true and where it comes from.

The most famous explanation of the gender gap at the top of chess is statistical. Bilalić and co-authors compared the 100 best men and the 100 best women in Germany and showed that 96 per cent of the difference would be expected simply because many more men than women play [1]. If this explanation is enough, a country with a smaller gap should also have a larger share of women among its players. Knapp questioned whether participation alone is sufficient [2]. Other studies look at the countries themselves. Vishkin found across 160 countries that women play chess more often in countries with less gender equality, and that this is driven by younger players [3]. Dilmaghani built a cross-country panel and found that a legacy of a command economy is the most significant predictor of a smaller gender gap in competitive chess [4]. Backus and co-authors used chess data to study gender, competition and performance [5].

Kazakhstan is a former Soviet republic, so the command-economy explanation would expect a small gap there. But if the small gap is a Soviet legacy, it should be clearest among

players who learned chess in the Soviet system and should fade among younger players. This can be checked directly, because the FIDE list gives the year of birth of every player. As far as I could find, no study has compared Kazakhstan with its neighbours by birth cohort.

In this study I asked three questions:

- Is the gap between the best men and the best women smaller in Kazakhstan than in its neighbours, and can the share of women explain it?
- Is the small gap held by older players, who learned chess in the Soviet period, or by younger ones?
- Does the timing of the first big international wins of Kazakhstani girls match the generation that holds the small gap?

2. Data and methods

The data come from the FIDE standard rating list for September 2026, which FIDE publishes as a free text file [6]. The file was downloaded on 28 September 2026 and contains 566,829 rated players. For each player it gives the federation, sex, rating, year of birth and a flag that marks inactive players.

I counted only active players. A player who stops playing keeps the old rating, so an inactive rating shows the level of the past and not the present. I know this from my own experience: after a long break from online chess my rating there fell from about 1300 to about 680, while a frozen rating would have stayed at 1300. In the FIDE file, an inactive player has the letter i in the flag column. Kazakhstan has 1,853 active men and 399 active women.

The main measure is the top-10 gap: the average rating of the ten best active men minus the average rating of the ten best active women of the same federation. I used the top ten rather than one best player so that one exceptional player does not decide the result, and I also report the top-5 and top-20 versions. I compared Kazakhstan with Russia, Uzbekistan and Kyrgyzstan, and added Georgia, which is known for its strong women players, and several other federations for context.

To test the Soviet-legacy idea I split the players by year of birth: before 1985, 1985-1999, and 2000 or later, and then split the young group further into 2000-2004, 2005-2009 and 2010 or later. The gap is calculated only when a group has at least ten active men and ten active women. To check that the result does not depend on the two strongest Kazakhstani women, I repeated the calculation without them. The years of the first big international titles of three leading Kazakhstani players were taken from public sources [7, 8, 9]. All calculations were done in Python.

3. Results

3.1 Kazakhstan and its neighbours

The gap between the ten best men and the ten best women in Kazakhstan was 154 points (Table 1). It was about half of the gap in Russia (301) and less than half of the gaps in Uzbekistan (398) and Kyrgyzstan (403). Of the countries in the table, only Georgia had a similar gap (147). The result does not depend on the size of the group: with the top five the gap in Kazakhstan was 106 points against 283 in Russia, 384 in Uzbekistan and 396 in Kyrgyzstan, and with the top twenty it was 242 against 318, 414 and 425.

Table 1. Active players and the top-10 gap by federation, FIDE standard list, September 2026

Federation	Active women	Women, %	Top-10 men	Top-10 women	Gap
Kazakhstan	399	17.7	2514	2360	154
Russia	1,412	20.4	2641	2340	301
Uzbekistan	207	20.8	2628	2230	398
Kyrgyzstan	78	18.5	2342	1939	403
Georgia	132	25.2	2516	2368	147
Azerbaijan	208	17.7	2627	2297	331
Ukraine	231	15.6	2624	2391	233
Germany	1,131	8.0	2629	2327	302

Ratings are averages of the ten best active players of each sex, rounded. The gap is calculated before rounding.

The share of women does not explain this. Among active players, women made up 17.7% in Kazakhstan, 20.4% in Russia, 20.8% in Uzbekistan and 18.5% in Kyrgyzstan. If the participation explanation [1] were enough, Kazakhstan, with no more women than its neighbours, should have a gap at least as large as theirs. Instead it has the smallest one.

3.2 Which generation holds the small gap

Table 2 shows the gap by year of birth. Among Kazakhstani players born before 1985 the gap was 462 points, much larger than for the whole list. Among players born in 1985-1999 there were only 8 active women, so the top-10 gap could not be calculated. Among players born in 2000 or later the gap was 133 points, against 345 in Russia, 411 in Uzbekistan and 346 in Kyrgyzstan.

Table 2. Top-10 gap between active men and women by year of birth (rating points)

Born	Kazakhstan	Russia	Uzbekistan	Kyrgyzstan	Georgia
Before 1985	462	360	n/a	n/a	204
1985-1999	n/a	298	n/a	n/a	196
2000 or later	133	345	411	346	284
2000-2004	n/a	330	567	n/a	n/a
2005-2009	142	315	334	392	333
2010 or later	289	345	320	337	208

n/a: fewer than ten active men or ten active women in the group.

The finer split shows where the small gap sits. Among Kazakhstani players born in 2000-2004 there were only 9 active women, so the gap could not be calculated. Among players born in 2005-2009 it was 142 points, while players of the same years of birth had a gap of 315 in Russia, 334 in Uzbekistan and 392 in Kyrgyzstan. Among players born in 2010 or later the gap in Kazakhstan was 289 points, close to the neighbours, but these players are still children and teenagers whose ratings are rising, so it is too early to compare them.

Six of the ten strongest active Kazakhstani women were born in 2004-2007, including Bibisara Assaubayeva (born 2004, 2536) and Alua Nurman (born 2007, 2455). When I removed these two players, the top-10 gap for Kazakhstan rose from 154 to 220 points. This is still smaller than in Russia (301), Uzbekistan (398) and Kyrgyzstan (403), so the result is not produced by two exceptional players alone.

3.3 The timing of the first big wins

The first world titles of Kazakhstani girls came within a few years of each other. Zhansaya Abdumalik won the World Youth Championship in the girls under-8 section in 2008, at the age of eight [7]. Dinara Saduakassova won the World Youth Championship in the girls under-14 section in 2010 [8]. Bibisara Assaubayeva won the girls under-8 section of the World Youth Championship in 2011 in Caldas Novas, Brazil [9]. In those years the players born in 2005-2009 were between about one and six years old, which is the age at which parents usually choose a sport or a club for a child.

4. Discussion

The main result is that Kazakhstan's small gender gap at the top of chess is not an old Soviet feature that is fading. It is the opposite: among the oldest players the gap is large, and the small gap is held by women born after 2000, mainly in 2005-2009. This does not contradict the command-economy explanation [4], which is about countries, but it shows that in Kazakhstan the effect does not come from the Soviet generation itself. The participation explanation [1] also does not fit, because Kazakhstan does not have more women players than its neighbours.

My own explanation, as a chess player, is the role-model effect. The world youth titles of Abdumalik, Saduakassova and Assaubayeva in 2008-2011 were widely reported, and I think they changed what Kazakhstani families saw as possible for a girl in chess. In my view, this led to more private academies, individual training with strong coaches and early trips to international youth tournaments for girls. The timing in Section 3.3 is consistent with this idea: the generation with the smallest gap was born just before these wins and started chess just after them. Vishkin's finding that the cross-country pattern in women's participation is driven by younger players [3] also points to generational change rather than an old legacy.

However, the rating list shows only that these events happened at the same time. It cannot show that the wins caused girls to start playing or to train harder. Other changes in the same years, such as the support of the national federation for young women players or the growth of online chess, could also explain the result, and this data cannot separate them. I also believe that Soviet chess schools taught mainly aggressive play and that this was harder for women at that time, but the rating list has no information about playing style, so this remains only my opinion.

5. Limitations

First, the study uses one rating list, for one month, so it shows the situation in September 2026 and not how it developed over time. Second, the youngest players are still improving, so the gap for players born in 2010 or later may change a lot in the next years. Third, for several groups there are fewer than ten active women, so the gap could not be calculated, and in small groups one player can change the result noticeably. Fourth, the top-10 average is a simple measure and does not take into account how many games players have played. Fifth, the role-model explanation is tested only by timing and cannot be proven with this data.

6. Conclusion

In September 2026 the gap between the ten best active men and the ten best active women in Kazakhstan was 154 rating points, about half of the gap in Russia and less than half of the gaps in Uzbekistan and Kyrgyzstan, even though Kazakhstan has no larger share of women players. The small gap is held by the generation born after 2000, especially in 2005-2009, and not by the Soviet generation, among whom the gap is large. The first world titles of Kazakhstani girls in 2008-2011 came when this generation was in early childhood, which agrees with the role-model explanation in time. A comparison of rating lists from several years, and of the age at which players first appear on the list, would allow this idea to be tested more directly.

Author contribution and use of AI

The author chose the topic from his own experience as a chess player, decided to count only active players, proposed the role-model explanation and the view on Soviet chess schools, and collected the years and sources of the first titles of the three players. The author's mentor wrote the Python code, carried out the calculations, and helped write and edit the English text. Generative AI tools were used to help with editing. Every number in the paper was calculated from the FIDE rating list by the analysis code and checked by the author's mentor.

Data availability

The FIDE standard rating list is publicly available from FIDE. The Python code that produces every number and table in this paper is available from the author on request.

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SU-PT ЖӘНЕ NI-PT ҚОРЫТПАЛАРЫНЫҢ ФИЗИКАЛЫҚ ҚАСИЕТТЕРІНЕ РЕТТЕЛУ

ҮДЕРІСІНІҢ ЖӘНЕ ҚҰРЫЛЫМДЫҚ ӨЗГЕРІСІНІҢ ӘСЕРІН РЕТТЕУ 425