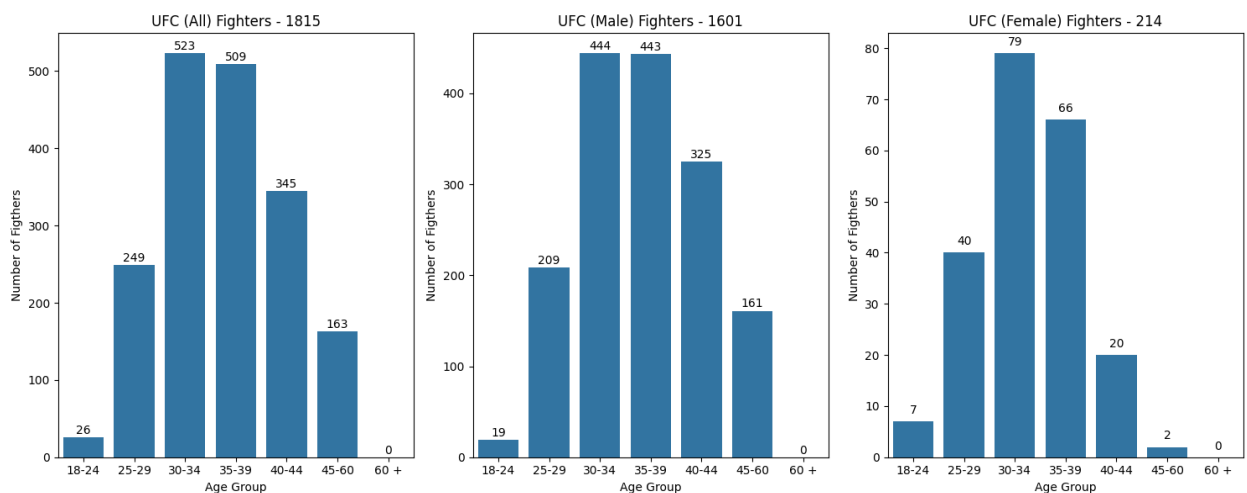


This is 'UFC Complete Dataset All Events 1996-2024' dataset from Kaggle ('<https://www.kaggle.com/datasets/alexandroszigiriadis/ufc-complete-dataset-all-events-1996-2024>')

We will see the number of fighters by gender, best win methods, who the best and worst fighters are and some correlations between fighters' win rate and their core performance metrics (striking, takedowns, etc.)

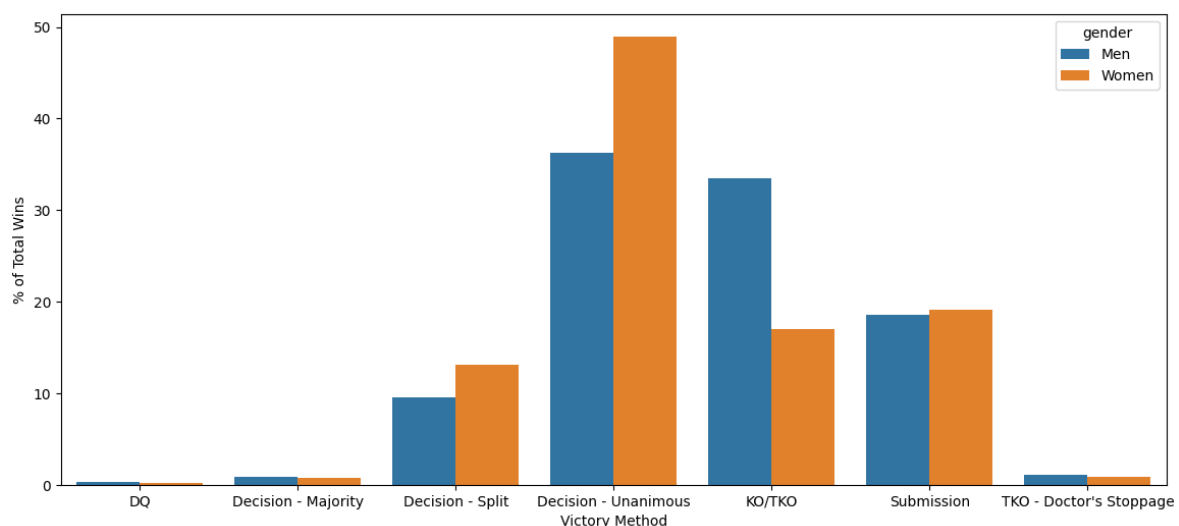
How many UFC fighters are there, grouped by age and gender?

The majority of UFC fighters fall within the 30-39 age range, with 30-34 being the largest group for both of the genders. Male fighters are more evenly spread into older age categories, while female fighters drop off sharply after 40. Few fighters are below 25 or over 45, and none at 60 or above. These charts suggest that UFC fighters' careers typically peak in the early to mid-30s.



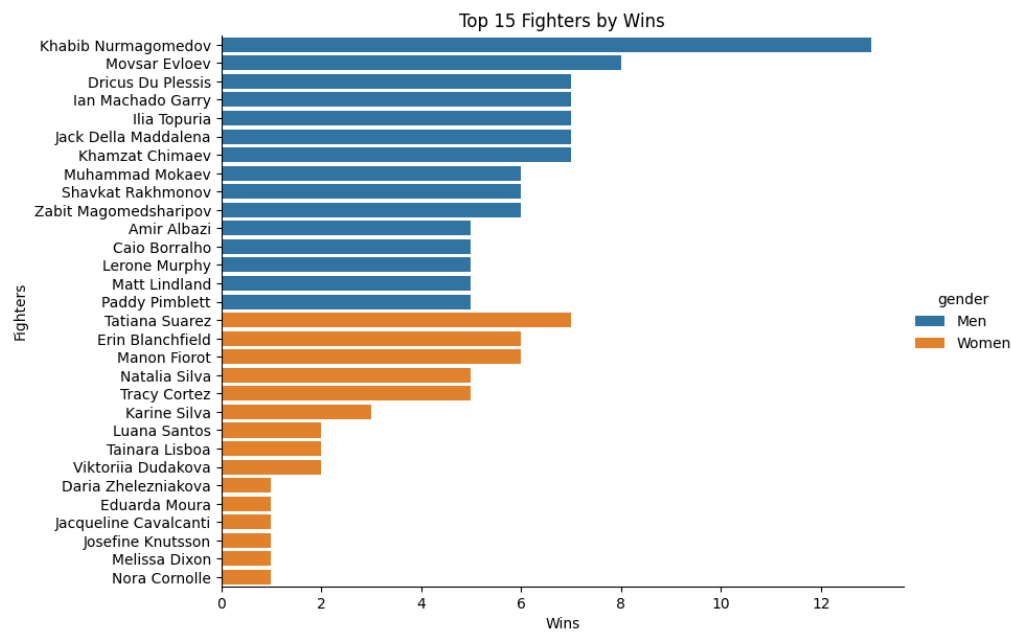
What win methods are popular? For men and women separately

The most frequent win method for both genders is (Decision - Unanimous). Men finish more fights via (KO/TKO) than women, possibly due to differences in striking power and technique. Submission seems to be fairly even across both genders. The (Decision - Split) method is more common in women (13%) in comparison to men (9,5%). Other win methods do not seem to be meaningful in win outcomes.

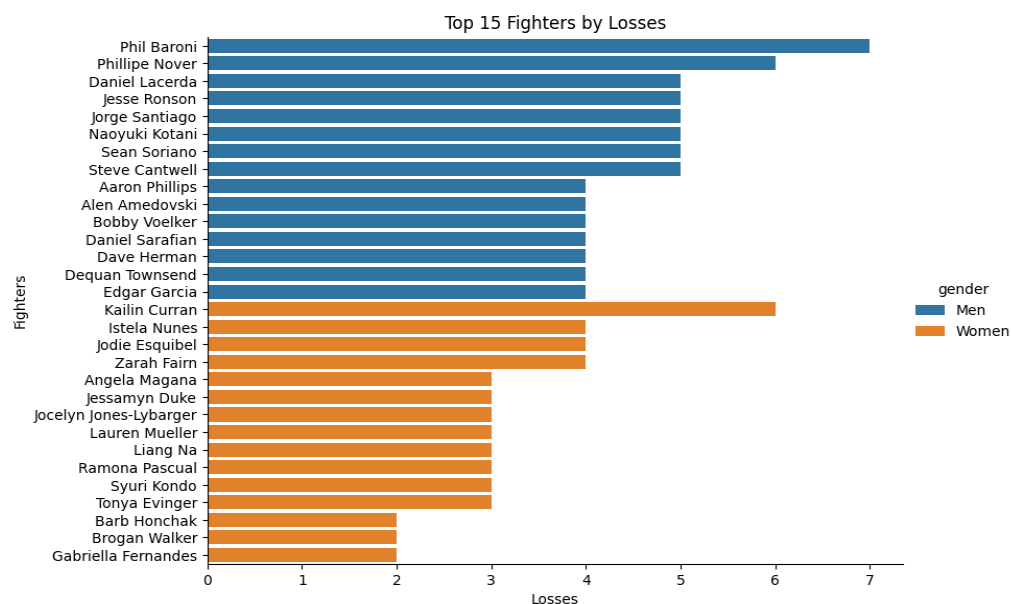


Who are the Top Fighters by Wins and Losses?

These are the Top-15 UFC fighters with 0 losses, separated by gender. Khabib Nurmagomedov stands out with the most wins by a large margin. Among the male fighters, names like Movsar Evloev, Dricus Du Plessis, Ian Machado Garry and Ilia Topuria also show strong records, most of them with 6-7 wins. On the women's side, Tatiana Suarez, Erin Blanchfield and Manon Fiorot lead with 6 or more wins each. After that, there is a noticeable drop with female fighters totaling 1-5 wins.

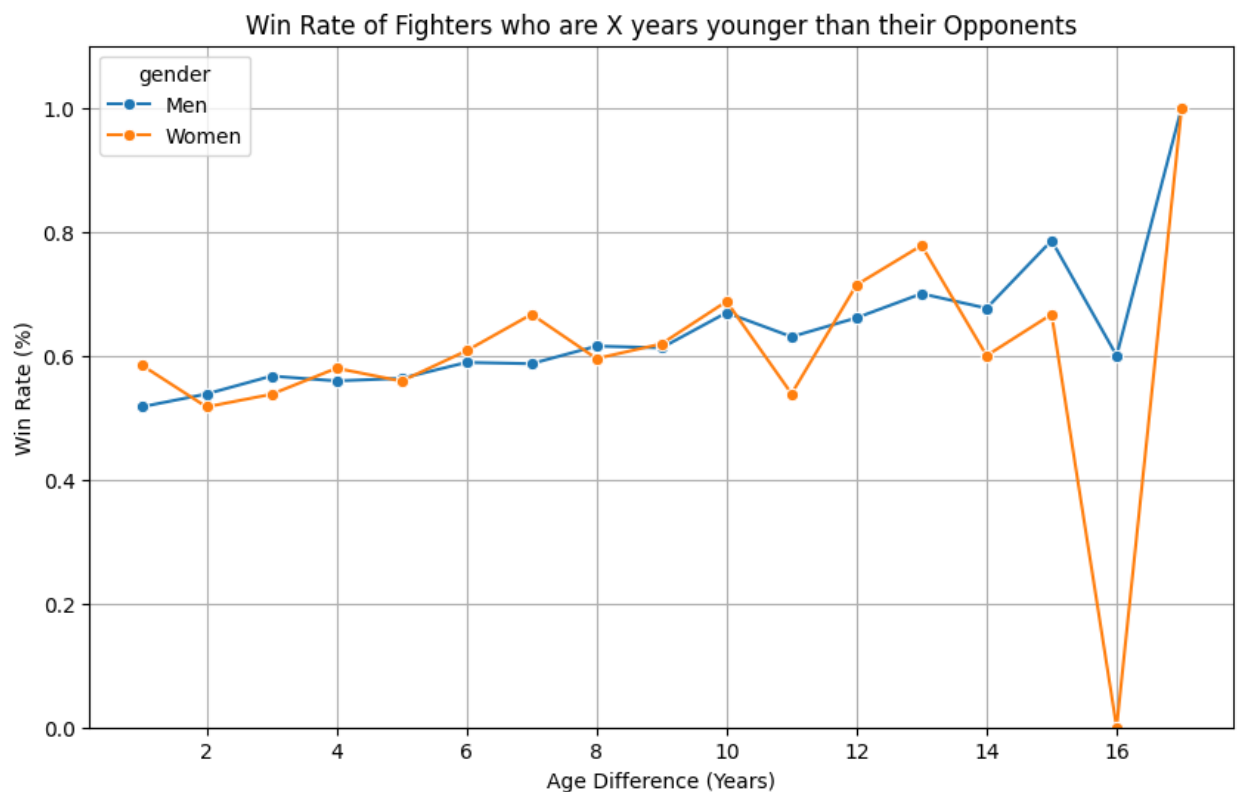


These are the worst Top-15 UFC fighters with 0 wins, separated by gender. Phil Baroni leads the group with 7 losses. Other male fighters, from Phillipe Nover up to Steve Cantwell, lead with 5-6 losses. On the women's side, Kailin Curran has lost 6 times, noticeably more than her peers, most of whom have 3 or fewer losses.

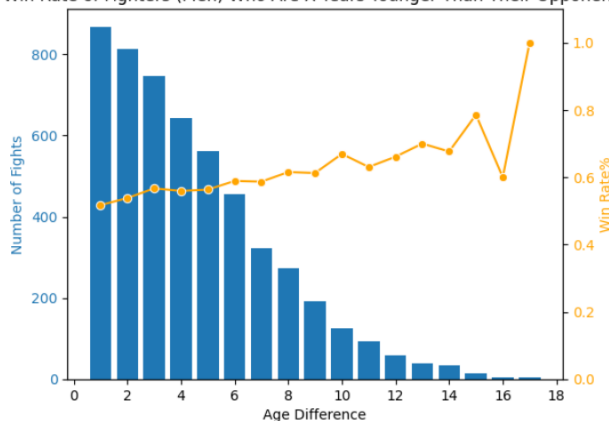


Do younger fighters win more fights?

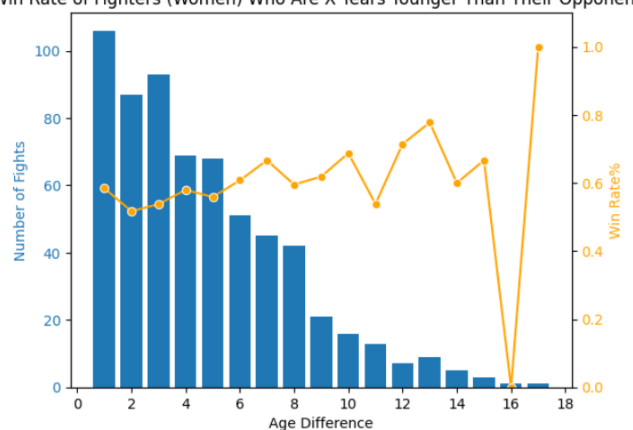
There does seem to be a correlation between a fighter's age and his/her win rate, but it's better to check the fight volumes that happened at each age difference category.



Win Rate of Fighters (Men) Who Are X Years Younger Than Their Opponents



Win Rate of Fighters (Women) Who Are X Years Younger Than Their Opponents



In general, for both men and women, younger fighters tend to have higher win rates as the age gap with their opponents increases. The trend is more consistent for men. For women, the pattern is a bit more scattered. However, in both cases, the number of fights drops sharply as the age difference grows, meaning that win rates should be taken with caution due to low fight volumes.

Finding the correlations

There is a positive correlation between the age difference and the win rate. For men the correlation is 0.9162, for women is 0.6418.

There is a strong negative correlation between fight count and win rate, indicating that younger fighters tend to win more often in rare matchups with large age gaps. For men: -0.887. For women: -0.6537.

Analyzing winning chances of fighters based on performance metrics

On average, fighters who win matches do have a huge difference in control time (sec), reach distance (cm), knockdowns and submission attempts. Among all, control time stands out the most, with winners averaging over 100 seconds. Other metrics like height, takedown and striking accuracy also favor winners but to a lesser extent. Reversals are less influential in fight outcomes. Here is the winners' and losers' average metrics per fight.

	Losses_avg	Victories_avg	diff
ctrl_sec	82.277498	183.315211	101.037712
reach	182.682436	183.210871	0.528435
kd	0.064582	0.383407	0.318825
sub_att	0.232401	0.501100	0.268699
height	178.143642	178.399079	0.255437
td_acc	0.180517	0.343569	0.163052
sig_str_acc	0.399745	0.505247	0.105501
rev	0.124293	0.142206	0.017913

What metrics are the most impactful in predicting wins?

Overall, the patterns are similar across genders. While knockdowns and significant strike accuracy are the strongest predictors for men, submission attempts, control time and takedown accuracy display stronger correlations for women. Physical attributes like height and reach have lower correlation with winning. This could be explained, in part, by weight classes, as fighters in the same weight class tend to have similar height and reach.

