

Background: Magnus Carleson is often considered the most dominant modern chess player of our time. He gained the title of Grandmaster at the age of 13 and was the third youngest player to ever do so. He currently holds the 1st rank in the FIDE ranking, and has held that position for a long time. He also has the longest win streak in the history of professional chess at a staggering 125 games. But he is not invincible, we wanted to see what openings he used to see where he was the weakest as well as how he fares against certain quality of players. We would use 2 kinds of survival analysis, Cox Survival and Kaplan-Meier survival.

Methods: First as a baseline we looked at the openings of high ranking players online and found 3 very common openings. This being the English 4 Knights opening, Catalan opening, and the Sicilian. These are considered very well thought out and researched openings so naturally they would be the most popular openings of good players. We then continued with a Monte Carlo simulation to see the likelihood of winning and it showed us more of the things we expected. We then we did Kaplan-Meier survival to see the dominance of Magnus Carleson when in "danger". We looked at the survival of if Magnus has his queen or is in check. We could see that even a 100 moves there is only a 50/50 chance that Magnus would be in check. That shows his dominance. We then did a cox survival curve looking at openings and his survival rate against certain levels of players. We see the players that do the best against Magnus are very strong players as well as 2400-2500 elo players. Which is surprising because Magnus should be beating those kinds of players easily. It might simply be something hard to calculate but it could be that Magnus plays down to competition sometimes. Then we get to the most interesting part which showed Magnus's weaknesses when it comes to chess openings, specifically the Queens Indian. It is consistently his worst opening and thus lower ranked opponents continue to exploit it.

Conclusions: From here we can conclude that despite Magnus being the best of the best he is still mortal and continues to have some bad “habits” when it comes to chess. If we were to advise him it would be to not play the Queen’s Indian opening as it is his worst opening and probably the thing that causes him the most amount of grief. We would also want to look into his tendency to do worse against some lower ranked opponents in that 2400-2500 range and see what could be the cause of that.