Champions' Performance in Clash Vs Solo Queue

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Introduction

Hello (hopefully) interested reader!

Through this report we will be discussing and analyzing data about different champions' performances in two distinct game environments. Additionally, we will focus on a sample space of higher skill but with a sufficient enough sample size to have statistically significant data. Thus, we have collected over 7000 games of players Ranked Solo/Duo queue matches at Diamond 2 skill and compared it with over 7000 Clash Matches from the same Diamond players. As we explore the data we will be trying to consider how champions exist in the different competitive realms and try to reach conclusions based on the data that has been collected. Starting off with pick rates and win rates, we will find that league of legends is never that simple of a game, cheers riot balance team! Following that, we will be taking a quick look into bans to verify that players are adapting by using the scouting period to enforce a strategic, and unique competitive environment. Then, we will go into seeing what appears to be the most successful champions by considering their success, accounting for difficulty and lastly clustering by classes to summarize findings and propose possible hypotheses.

Initial Data at a Glance

Popularity and Win Rate

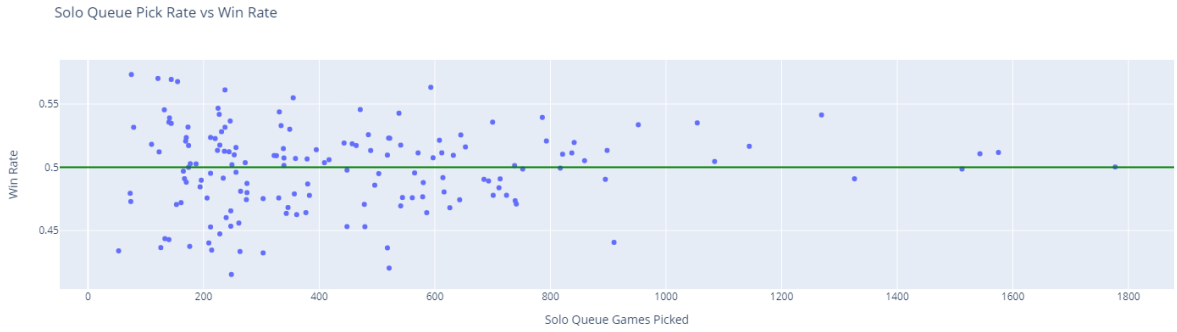

Figure 1: Solo Queue Pick Rate vs Win Rate

This graph displays the win rate of each champion compared to its pick rate. This data is important to verify since if a champion is picked a significant amount and is still statistically greater than the 50 percent win rate line, it can be said that the champion is in an unbalanced state, being consistently overperformant. Fortunately, we see that most champions with low pick rates have high variance but still reside within a range of 5% from the 50% win rate line whereas most of the champions with more games picked seem to approach the 50 percent line. Notably, there does appear to a few data points slightly farther than desired, e.g. (1300,0.54) is a champion that is likely too strong this patch. However, most of the data appears to

state that pick rate does not directly indicate the performance of a champion and that an increase in pick rate does not mean the champion is statistically more successful. Overall, it seems that the game is in a relatively balanced state.

Comparing Popularity of Champions in Both Environments

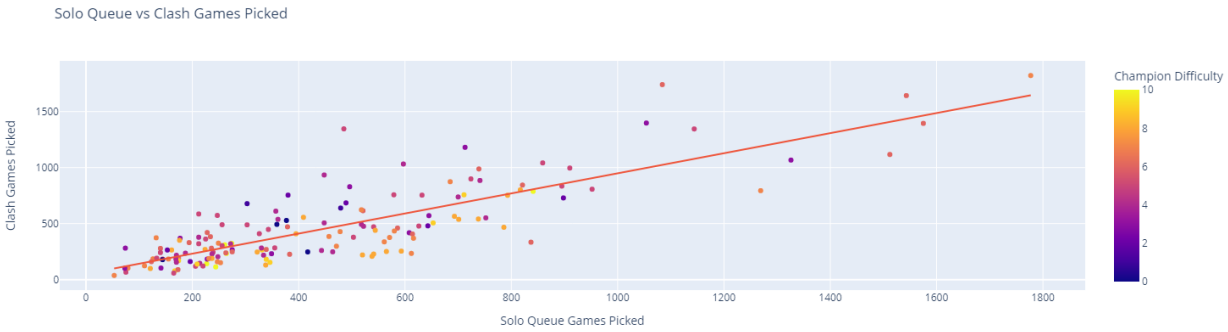

Figure 2: Solo Queue vs Clash Games Picked

Splashing color in with the variable of champion difficulty, we are able to see how the difficulty of a champion affects its popularity and pick rate. From a glance, we see that most of the most popular champions do appear to be more difficult from the orange tinge at the end of the grpah, however the rest of the data seems randomly distributed. It is difficult to come to a clear conclusion from this graph but it is possible to hypothesize that more difficult champs are popular in both environments from the risk reward factors and player experience. Since the trend is linear, we see that a popular champion in Solo Queue has a similar likelihood of being selected in Clash, which inherently feels correct as players would likely select champions they are most practiced on in Solo Queue when playing in Clash.

Win Rate of Champions in Clash vs Solo Queue

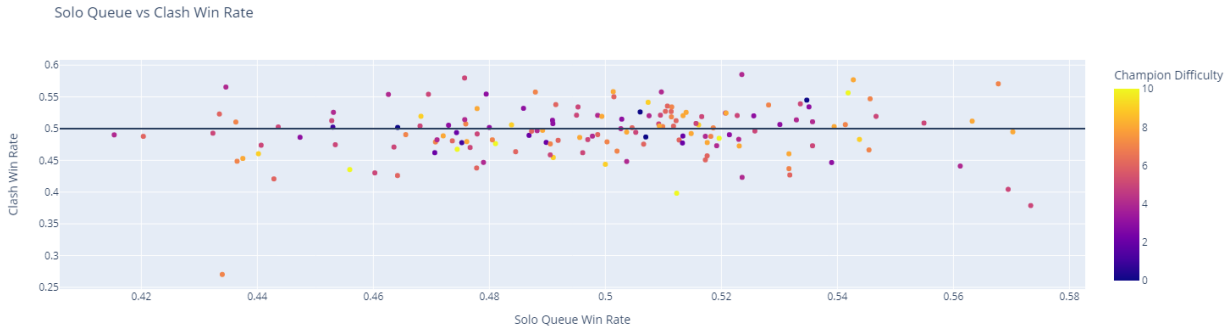

Figure 3: Solo Queue vs Clash Win Rate

This was an extremely crucial graph to verify. Notably, if it was found that the win rate of Solo Queue and Clash had perfect correlation then it would be said that the environments are the exact same and a champions performance in either queue was the same. Clearly, that is not the case! Happily, our collection of champions have a random distribution and scatter along the graph randomly so we are able to continue diving into more data!

Discussing Bans in Clash Vs Solo Queue (Scouting is Real!)

Here, we would like to briefly explore and verify that people are making use of the scouting period to personalize bans and play Clash as Clash.

Ban Distribution in Solo Queue

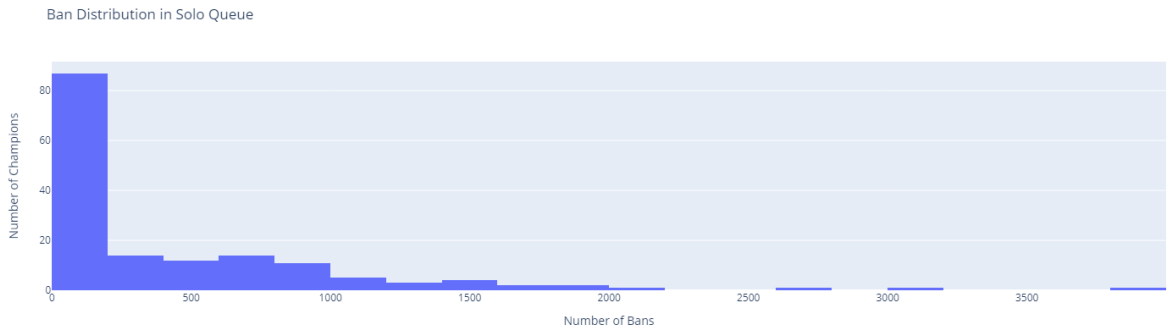

Figure 4: Ban Distribution in Solo Queue

We can very strongly see that the data is very concentrated at the 0-500 range. This makes sense as there are many champion that tend to not be meta and escape being banned, alternatively there are a select few champions that will attract more bans from either being too strong in the current meta or just because they are E X T R E M E L Y frustrating to play against (I will ban Fizz because Fizz). If you are wondering what the champion with just under 4000 bans, it is Yuumi. Now, we wish to continue by comparing it to the Clash ban distribution, are people using the scouting period and specializing their pick strategy?

Ban Distribution in Clash

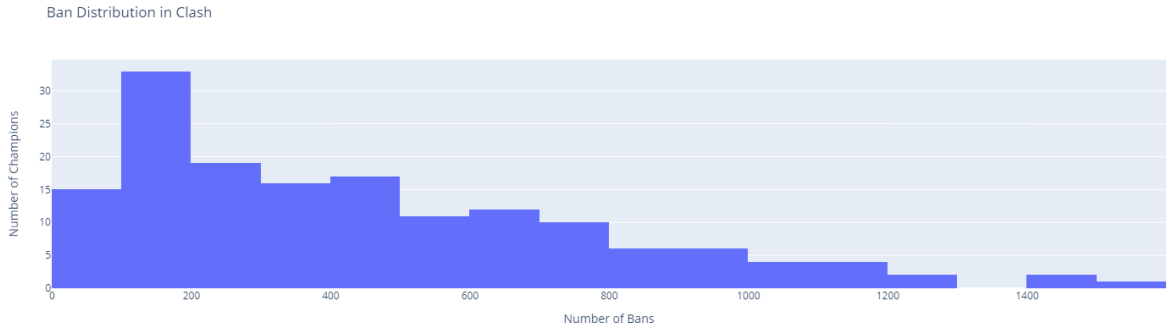

Figure 5: Ban Distribution in Clash

And in fact, yes they are! With this fun and jumpy block of bans, we can see that the largest block is no longer the lowest ban bucket, and that in fact, only 15 champions see less than 200 bans in Clash. With this distribution, we see that players are using the scouting period to find bans that attempt to hinder the opponents as much as possible by banning not what is neccesarily stronger in Solo Queue but a wider variety of individuals' comfort picks. Thanks Summoners (or whatever Riot calls us now) for playing hard and banning smart!

Predictions! Clash Winners or Overrated?

Now, with the help of a few talented volunteers, we have a list of predictions for what champions they believed to be the most successful in Clash! All participants were at above a diamond level and were given a survey anonymously to select a few champions per role (Top, Jungle, Mid, ADC/Marksman, Support) on what they believed to be the highest win rates in Clash for this patch.

Predictions for Highest Win Rate Champions

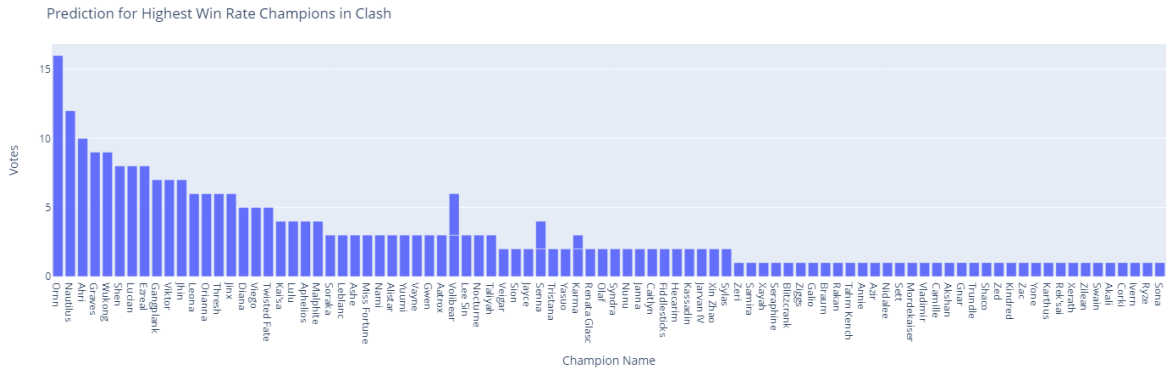

Figure 6: Prediction for Highest Win Rate Champions in Clash

Most of these champions were considered to be strong (high pick rate and in rate in Solo Queue) such as Lucian, Wukong, Ahri, Viktor, and other champions were selected likely because of ease of execution and contribution to team e.g. Ornn, Nautilus, Lulu and lastly some were picked because of the emphasis on a team environment e.g. Twisted Fate, Shen.

Results for Highest Win Rate Champions in Clash

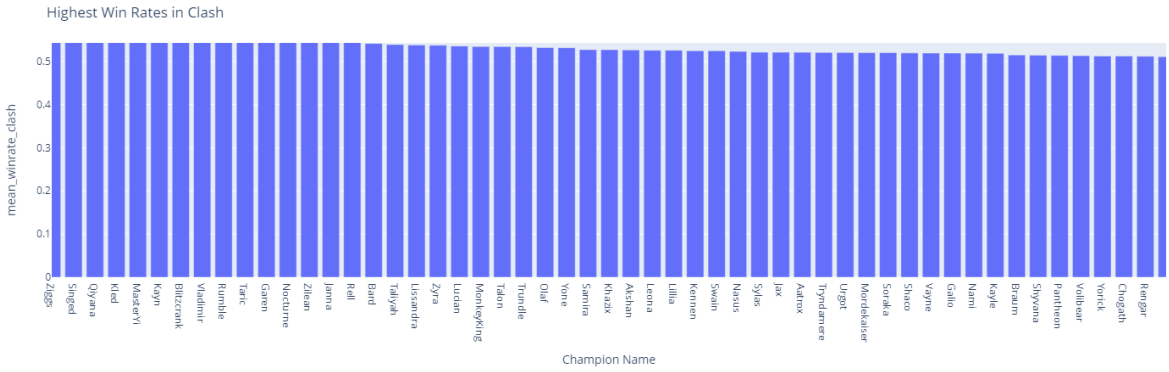

Figure 7: Highest Win Rates in Clash

Unfortunately, the guesses did not line up and the highest win rate champions do not seem to fit what our guesses told us. However, this result is extremely important as it eludes to the importance of champion performance and player individual comfort and skill. The most successful champions in Solo Queue are not the same in Clash. Maybe playing your comfort will yield greater success than what the flavor of the month champions are. Success is not easily predicted, play your best out there!

Highest Pick Rates in Clash

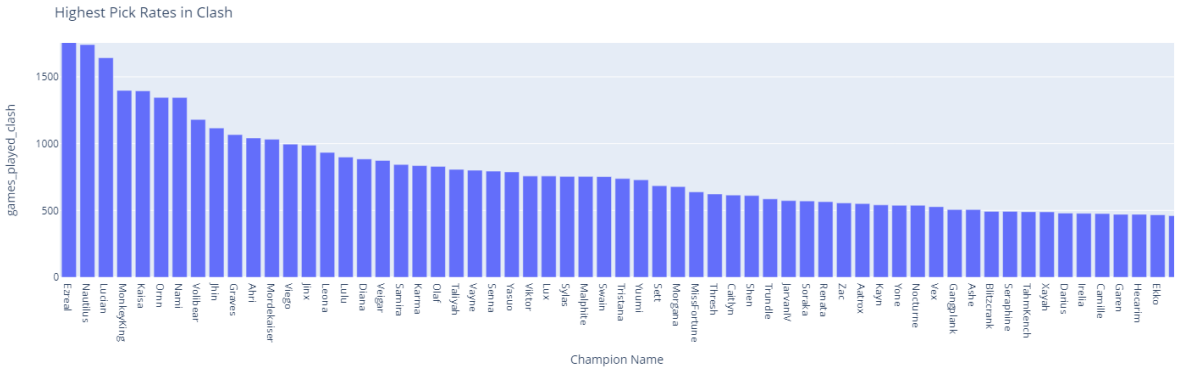

Figure 8: Highest Pick Rates in Clash

However, interestingly enough, the predictions for highest win rates align closely with most picked champions! This could mean people are often picking champions that they expect to be the most successful but this tends to not always be the case. Moving forward, let's keep investigating other variables of data to find what COULD lead to more wins!

What Wins in Clash?

Here we continue our analysis by looking into possible factors that affect our win rates in Clash by looking at the larger picture and then adding champion difficulty to form possible hypotheses.

Comparing Win Rates in Solo Queue vs Clash

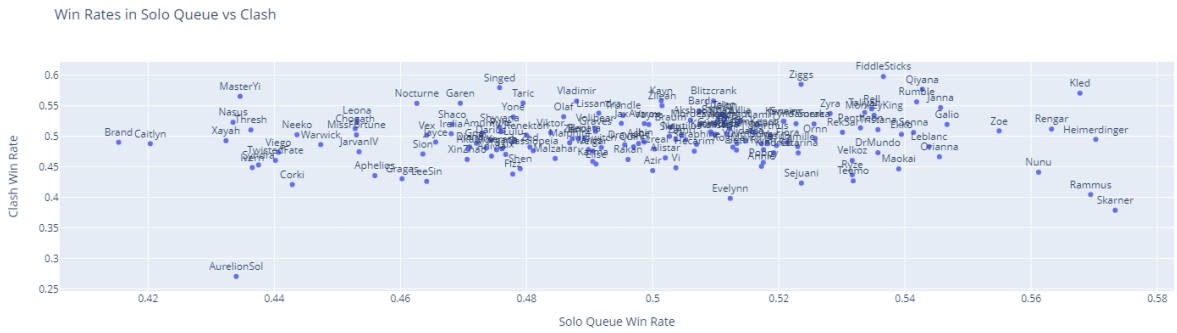

Figure 9: Win Rates in Solo Queue vs Clash

Additionally, after viewing this graph we can see that champions do not follow a particular pattern and success in one realm is not clearly correlated to the other. Except for Aurelion Sol, I am sorry pal you did not have a hot patch this time around in any game :(.

Champion Difficulty and Win Rate

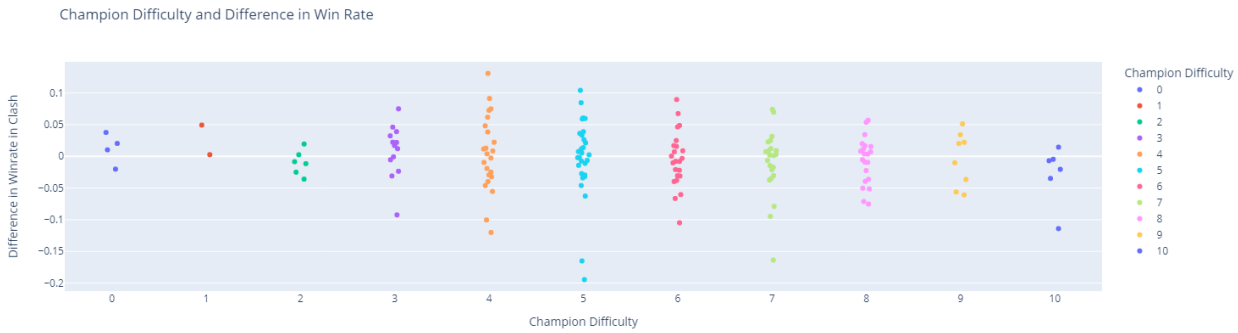

Figure 10: Champion Difficulty and Difference in Winrate

Taking another glance we are interested in just exactly how much of an impact champion difficulty has on win rate. However, from this graph we can see that the win rate across all difficulties have largely the same distribution with some data points in the extremes likely due to low sample size. From this, we choose to integrate this dimension into our previous graph to see how difficulty may affect pick rate and win rate.

Difference in Pick Rate vs Win Rate between Clash and Solo Queue

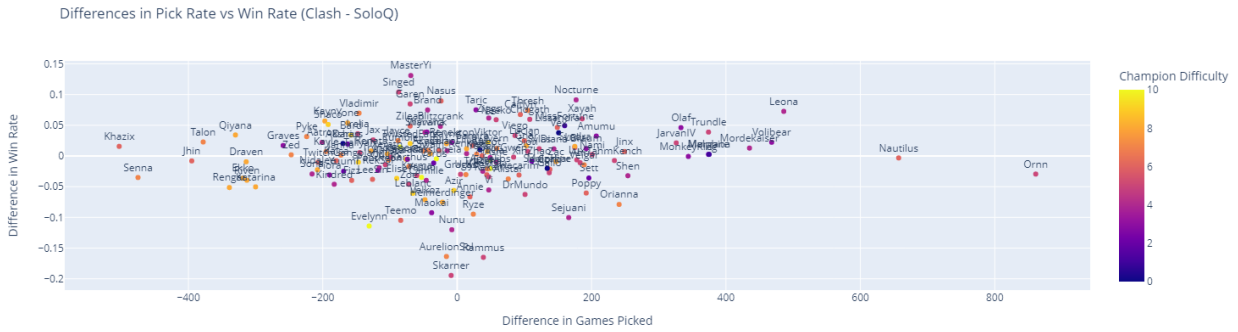

Figure 11: Difference in Pick Rate vs Win Rate (Clash - SoloQ)

Finally, with all things considered we have our graph of pick rates and win rates in Clash vs Solo Queue to understand more about the expected success in Clash and the realized performance. With so much displayed, there appears to be a few focused groups that stood out to be discussed so we are going to dive straight into that!

Assassins in Clash

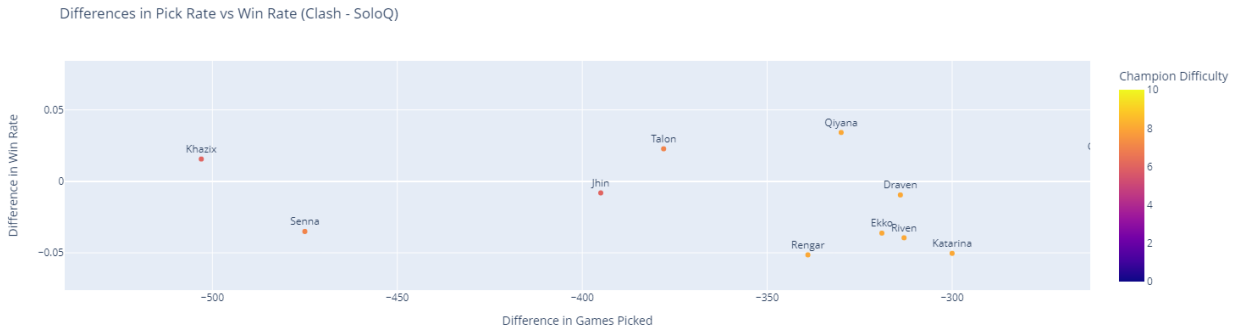

Figure 12: Difference in Pick Rate vs Win Rate (Clash - SoloQ) Assassin Cluster

Starting off here, this bunch here is the assassin cluster since they all share that class and similar playstyle of mobility and attack damage burst as well as higher difficulty as shown by the colors. We can clearly see that they do not appear to be well suited for the clash environment since they are notably picked to be played a lot less and have a noticeable decrease in win rate. This is likely a result of counterplay and organized team play, by picking assassins in solo queue, they often take advantage of chaos and miscommunication and lack of crowd control from team compositions. However, in Clash there is likely more communication and awareness to counterplay that causes them to have a more difficult time.

Ornn Duty

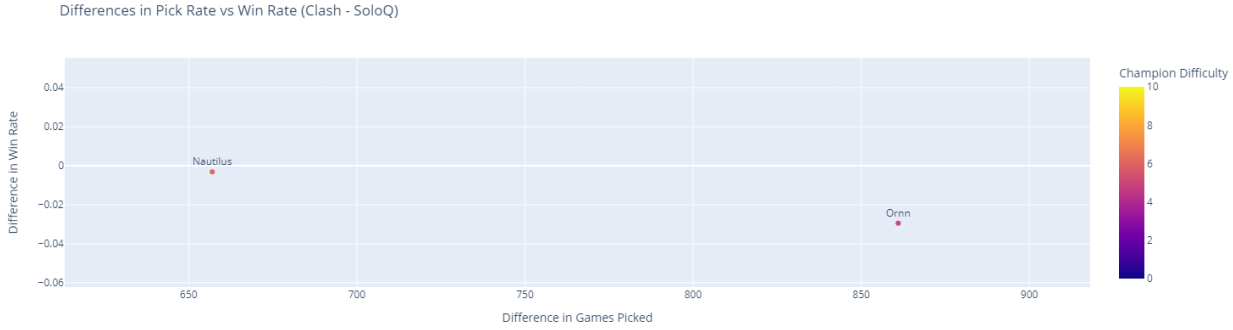

Figure 13: Ornn and Naut Duty

Sooo... you have a team but you just need a top laner to play tank, it HAS to be Ornn right? One of the most interesting data points in the above graph is the significantly increased play rate of Ornn accompanied by the statistically significant decrease in win rate. Ornn is suffering from a 3% drop in win rate compared to Solo Queue, while being selected an astounding over 800 more times. This data point paints a clear importance to being comfortable on your role and champion, there are no shortcuts to success in clash. We also see substantially more players opting into playing Nautilus because of his contribution to team play but do not see an increase or decrease in success compared to Solo Queue.

Winners in Clash!

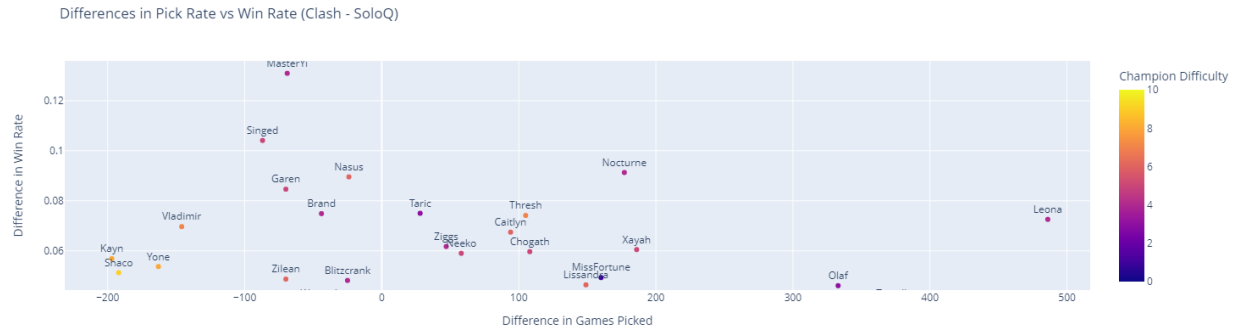

Figure 14: Winners in Clash!

This subsection of the graph illustrates the champions in Clash that saw a statistically significant increase in win rate when compared to Solo Queue. In general, we can see that more than half of these data points are on the lower end of the spectrum for difficulty! This could leave us a possible attempt to say that easier to execute champions may tend to be more effective in team environments. This would be interesting since eliminating a dimension of difficulty in champion mechanics could allow for more cooperation and team play. We see this in the success for champions such as Miss Fortune, Olaf, Leona, Blitzcrank, Brand, Caitlyn, Zilean, Singed, and Cho'Gath. However, there is a difficult to interpret data point with Master Yi, with only a slight drop in being selected we see an enormous improvement in win rate when played in Clash, a possible hypothesis would be the presence of smurfs since an experienced Master Yi player would likely have their champion banned and not selected. However, without the ban data per match this hypothesis would require further data and investigation.

Not so Winners in Clash...

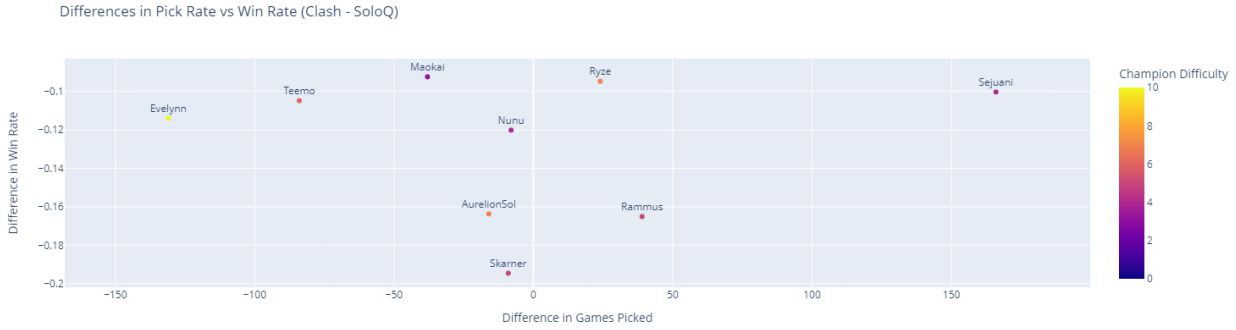

Figure 15: Not so Winners in Clash...

Lastly, here we see the champions that appeared to have a negative difference in win rate, meaning they were less successful in Clash than in Solo Queue. Notably, we see that there are many junglers included in the negative delta win rates. Specifically, we see that champions that rely on vision denial for predictable but effective ganks. Notice that for junglers such as Nunu, Rammus, Skarner, if there is vision or jungle tracking, it is much easier to avoid getting ganked since they heavily rely on starting a gank by travelling through fog of war and starting a fight. This is different from other junglers that are more capable of combat abilities and can react to ganks, e.g. Jarvan IV is able to start a gank and is capable of fighting to counter a

gank as well but the same case cannot be made for Nunu, Rammus, or Skarner. Additionally, for the case of Evelynn and Teemo it is likely the coordination of Control Wards or Vision Sweeper that deny a lot of the strength of their champions by removing Noxious Traps and detecting Evelynn through her stealth ability. In the case of Aurelion Sol, while not shown, the sample size is smaller as the champion was not inherently popular in either queue, but likely falls under similar traps of the mentioned junglers where he relies on having space to make a predictable gank.

Conclusion

Hello (hopefully not too bored) reader! You made it to the end of my report of the difference in performance of champions in Clash vs Solo Queue. I hope this was an interesting read both from a visual data perspective and as a gamer! Unfortunately, this data is likely quite outdated by the time you are reading this but I hope that the sentiments and intuiton remains timeless. Continue to play what you enjoy and realize the strengths in your players, win rates matter but your win rates matter more. Moving forward, this journey of exploring data lead to a significant amount of further extensions as the Riot Api produces an enormous amount of interesting variables in the match data. Things like CC score, Vision score, first dragon time, first herald time, first baron, how many of the first buffs blue side claimed, how many first crabs a team got, the list is near endless! Particularly, somethings that stood out were seeing if champion mastery played a significant factor in wins, how much of a factor would vision be when predicting which team won (would the winning team happen to ward more because of map control or would it be that warding lead to winning?), do objectives (dragon, herald, baron, count) lead to winning more in Clash than Solo Queue, etc... With the immense complexity of league there comes so much data and possible hypotheses, if this read was enjoyable I urge you to begin your own exploration as well!

Thank you again for reading!