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## **Rainbow 6 Siege Year 8 In Review**

### **Executive Summary**

This research study, conducted on Rainbow 6 Siege ranked games, was designed with the intent of illustrating which Operators had the most success overall in Year 8. With readily available data provided by Ubisoft's "Designer's Notes" on the R6 website, we were able to easily collect all Operator Win Deltas, Presence, and Ban Rates in Year 8, across Console and PC, and wrangle them into a Google Sheets database which was then adjusted to a .5 scale, as values provided by the charts were approximate. While the data adjusted at this scale is still reasonably accurate, we remind readers that all hypotheses, and subsequent analyses, are speculative due to the lack of absolute data provided by Ubisoft. In a perfect world, more accurate data, such as the data dumps found in Ubisoft's "Data Peek Series", would have been the perfect source for our research. However, since their release was discontinued we were limited to solely ranked games from Emerald players and above throughout Year 8.

During the process of collection, data was sorted into the following categorized Sheets: "Attackers PC", "Defenders PC", "Attackers Console", "Defenders Console", "Attackers PC Vs Console", and "Defenders PC Vs Console", so that we could easily draw summary data for each Operator. Averaging all Win Deltas and Presence (%) in Year 8 for each Operator, we produced "Average Win Delta" and "Average Presence" for each Operator, and from this we were able to produce our visualizations (found in [Data Analysis & Visualizations](#)) which gave us deeper insight into the relationship between Win Delta and Presence, as well as how Operators compared to one another.

Through analyzing our summary data and visualizations, our findings concluded that "Rook" (Defender) and "Thermite" (Attacker) had the highest Win Deltas (2.6 and 1.9, respectively) while "Clash" (Defender) and "Sens" (Attacker) had the lowest (-6.6 and -2.6, respectively) (see [RQ 1](#)). Additionally, we also found reason to believe that while higher Win Deltas had little effect on Presence, negative Win Delta had a greater impact on Presence, which was evident in Operators "Clash", "Tachanka", and "Sens" (see [RQ 2](#)). Lastly, reviewing only Operators released in Year 8 ("Brava", "Ram", "Fenrir", and "Tubarao"), we found that while all had negative Win Deltas, "Brava" and "Fenrir" had the least negative, giving us reason to believe that they were more effective Year 8 Operators than "Ram" and "Tubarao".

## Research Questions

Which operators from Y8 had the highest Win Delta overall? Which had the lowest?

- We are looking at all Operator Win Deltas from PC between Y7 S4.2 to Y8 S4.1, from the following columns: Y7 S4.2 Win Delta, Y8 S1 Win Delta, Y8 S1.2 Win Delta, Y8, S2.2 Win Delta, Y8 S2.3 Win Delta, Y8 S3.2 Win Delta, Y8 S3.4 Win Delta, Y8 S4.1 Win Delta.

Did Win Delta have an effect on Presence (pick rate)?

- We are looking at all Operator Win Deltas versus Presence from PC and Console, from the following columns: Y7 S4.2 Win Delta, Y7 S4.2 Presence, Y8 S1 Win Delta, Y8 S1 Presence, Y8 S1.2 Win Delta, Y8 S1.2 Presence, Y8, S2.2 Win Delta, Y8 S2.2 Presence, Y8 S2.3 Win Delta, Y8 S2.3 Presence, Y8 S3.2 Win Delta, Y8 S3.2 Presence, Y8 S3.4 Win Delta, Y8 S3 Presence, Y8 S4.1 Win Delta, Y8 S4.1 Presence.

Which new operators, in Year 8 release seasons 1-4, had the highest Win Delta?

- We are looking at all Operator Win Deltas across from PC and Console, from the following columns: Y8 S1 Win Delta, Y8 S1.2 Win Delta, Y8, S2.2 Win Delta, Y8 S2.3 Win Delta, Y8 S3.2 Win Delta, Y8 S3.4 Win Delta, Y8 S4.1 Win Delta.

## Previous Work

### [Ubisoft R6 Website - Operation Velvet Shell: Data Peek Series](#)

- A discontinued project from Ubisoft's R6 team, the Data Peek series was intended to be a Seasonal data dump of game data by Operator Loadouts, Player Objective Summary (how did players pursue the objective), and a complete data dump file (all in .csv format). Mostly targeted at hobbyists and competitive players, the series was silently killed after it's first release and turned into what we now know as "Designer's Notes" posts, which provide simple summaries of Win Deltas, Presence/Pick Rates, and Ban Rates for Ranked games (Emerald rank and above). Although we would have preferred to have pulled our data from datasets of this sophistication, looking over this post provided us with a structure for how we were going to wrangle our data and led us to ultimately using Designer's Notes as our data source.

## Data Collection

Data collection was done by reviewing Ubisoft's bi-monthly "Designer's Notes" posts on the official R6 forum, which provided us with a swath of information regarding operator Win Deltas, Presence (pick rates), Ban Rates, and Balancing Patches. To collect data on the entirety of

Year 8, we pulled from the following Designer's Notes: [Y8S1](#), [Y8S1.2](#), [Y8S2](#), [Y8S2.3](#), [Y8S3](#), [Y8S3.3](#), [Y4](#), and [Y8S4.2](#), which gave us data from their respective previous seasons (meaning data included in the Y8S1 post was for Y7S4.2). Win Deltas and Presence were pulled from provided graphs in each post that weighed Operator Win Deltas (Y-axis) against Presence (X-axis), with further exploration possible by dividing each graph into 4 quadrants: "Underpicked / Too Strong", "Underpicked / Too Weak", "Overpicked / Too Strong", and "Overpicked / Too Weak". Since the graphs only provided with approximations of Win Deltas and Presence in each post, we were limited to gathering data on a .5 scale without having explicit raw data to pull from. However, this is still fairly accurate as the graphs are in similar scale as well. Research was also conducted to categorize each Operator by their Release Year and Release Season, which could provide us with deeper insights into which Years and their respective Seasons the Operators with the highest Win Deltas and/or Presence were released in.

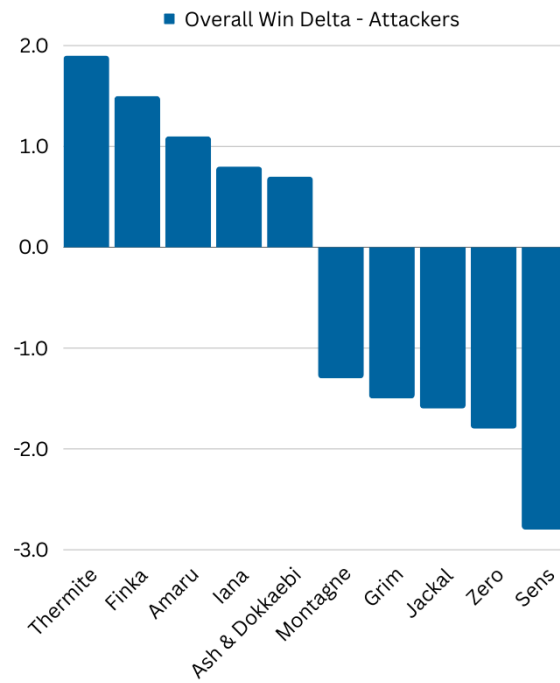
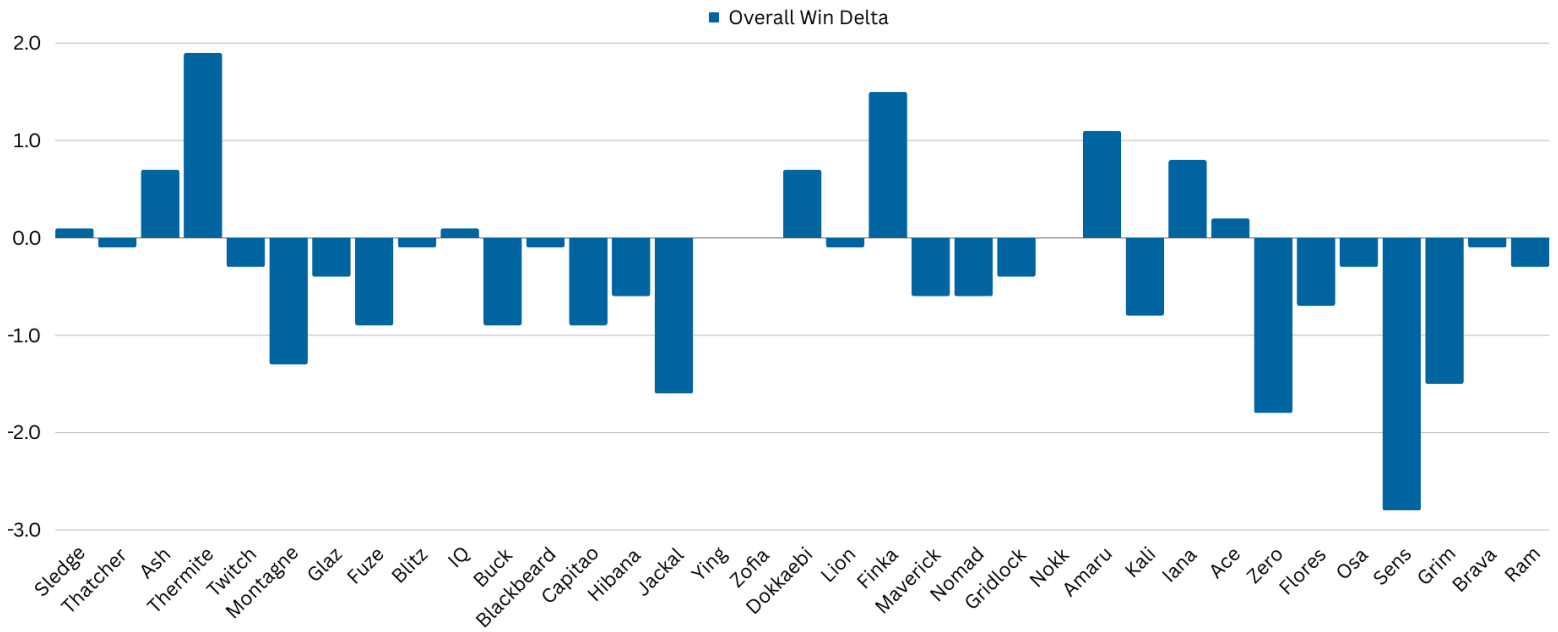
### **Data Wrangling**

During collection, data was put into a Google Sheets workbook where rows were made for each Operator and data spanned across columns for each data point (with separate columns for Win Deltas and Presence for each Designer's Notes update). We then separated the data into the following sheets: "Attackers PC", "Attackers Console", "Defenders PC", and "Defenders Console", which helped organize the data into a readable format from which we could conduct further analysis and evaluation later. This process was actually fairly easy and simple to conduct, which led to an even easier evaluation of the data and ultimately made creating visualizations and exploration a smooth process later on.

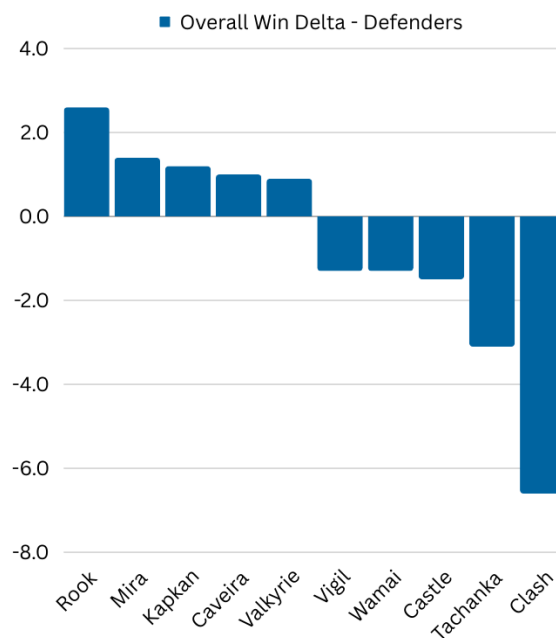
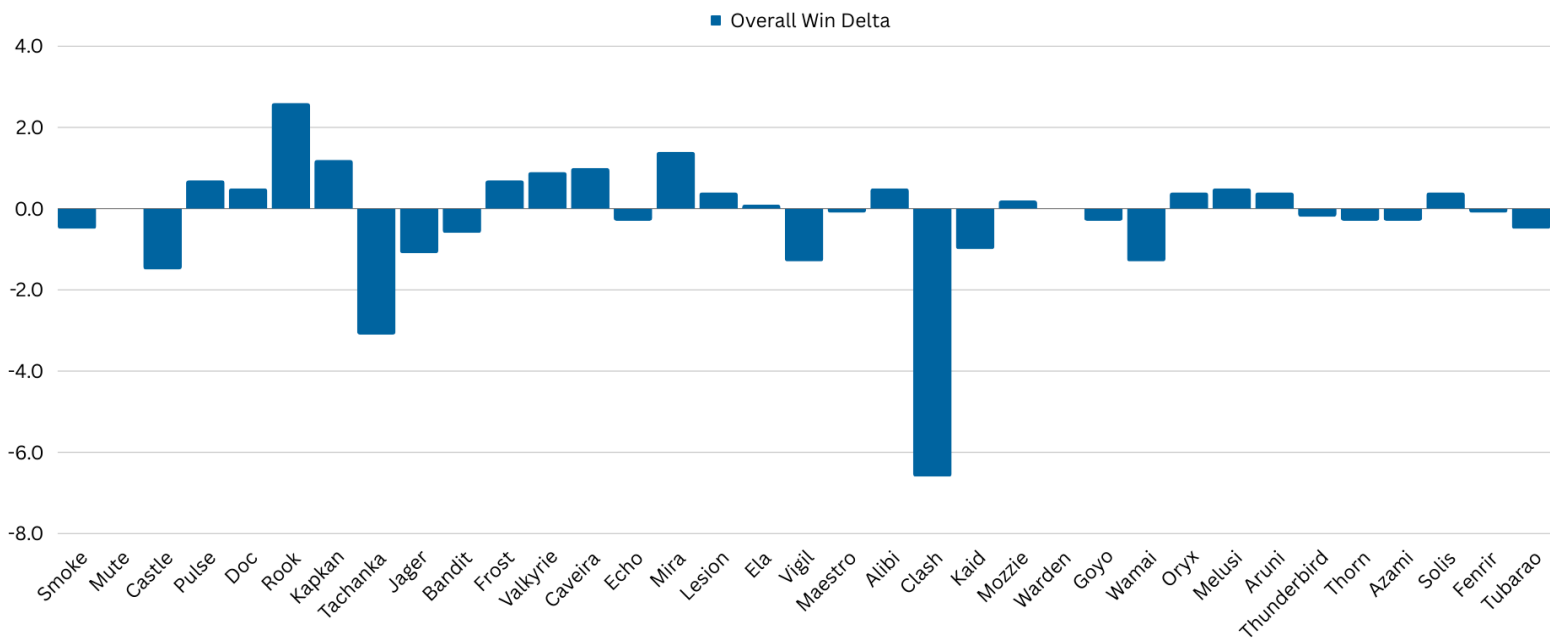
## Data Analysis &amp; Visualizations

## Research Question 1:

Attackers:



Defenders:



Upon analyzing the data and creating bar chart visualizations (made in Jupyter Notebook) of all Average Win Deltas for PC Operators (Attacker and Defender), the charts clearly display that “**Thermite**” had the highest average Win Delta (value of **1.9**) and “**Sens**” had the lowest average Win Delta (value of **-2.6**) of all Attacker Operators in Year 8. Meanwhile, “**Rook**” had the highest average Win Delta of all (value of **2.6**) and “**Clash**” had the lowest average Win

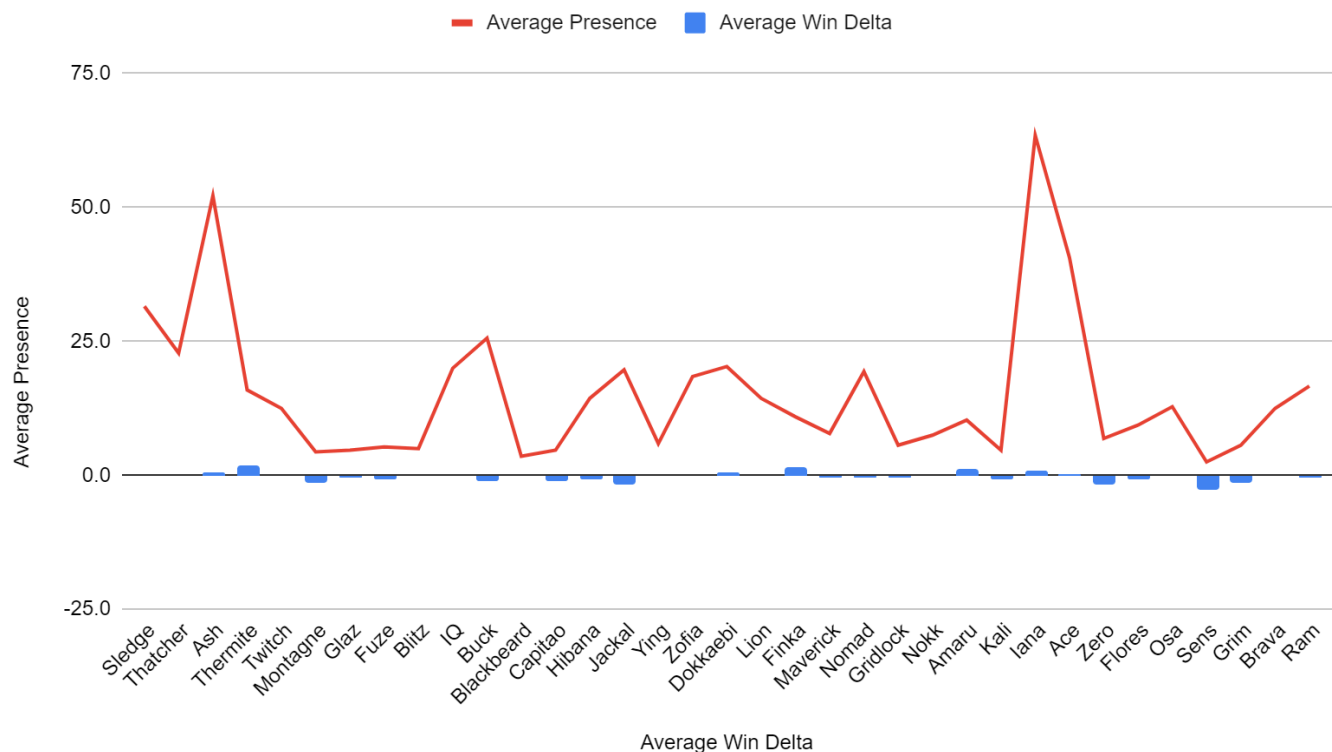
Deltas (value of -6.6) of all Defender Operators in Year 8. Interestingly enough, Rook and Thermite are both operators from Rainbow 6's base year, which could mean that perhaps their high averages in Year 8 are the effect of Ranked players being highly familiar with these operators due to years of playing with them. This could also justify why newer operators seem to have lower reported win deltas overall, with players being less familiar with them. However, without further data about Ranked players' familiarity with these operators (perhaps a look into their playtime by Operator), we have no real justification for drawing a conclusion. Furthermore, there are more Defenders with positive Win Deltas (16 in total) than Attackers with positive Win Deltas (9 in total), perhaps also hinting at a difference in difficulty between Attacker and Defender Operators. However, this would require further exploration and is purely speculative, of course.

Another source for insight came from comparing the win deltas of each operator to the ban rates in Ranked. Because Thermite and Finka have the highest win deltas, we had expected their success to perhaps reflect in their ban rates because the strongest characters are often banned for strategic advantages. However, we see that the highest attacker ban rates on PC come from Dokkaebi (Ban Rate: 53% | Win Delta: 1.0 ), Jackal (Ban Rate: 46% | Win Delta: -2.0), and Thatcher (Ban Rate: 46% | Win Delta: -0.5), which all have varying win deltas in Season 8. Due to the variability of our results, we are unable to extract too much information from the ban rate.

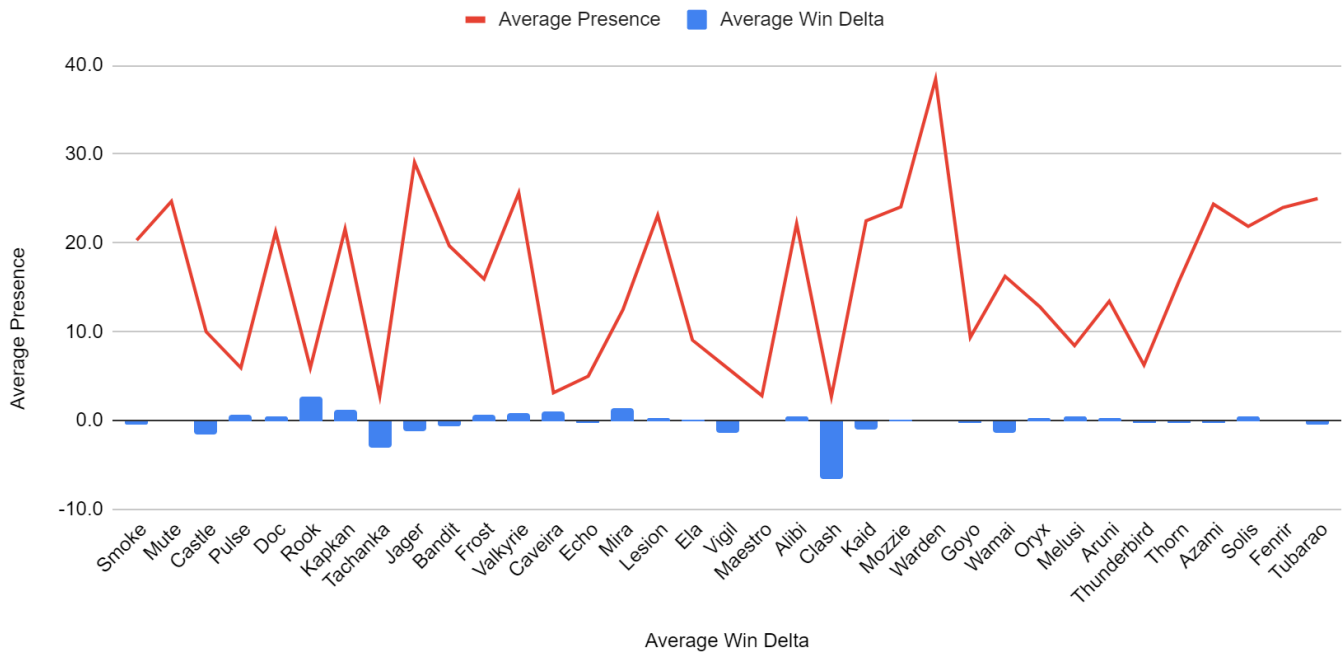
## Research Question 2:

☰ RQ2 Graphs (Individual - Made in Jupyter Notebook)

### Average Win Delta Vs. Average Presence (Attackers PC)

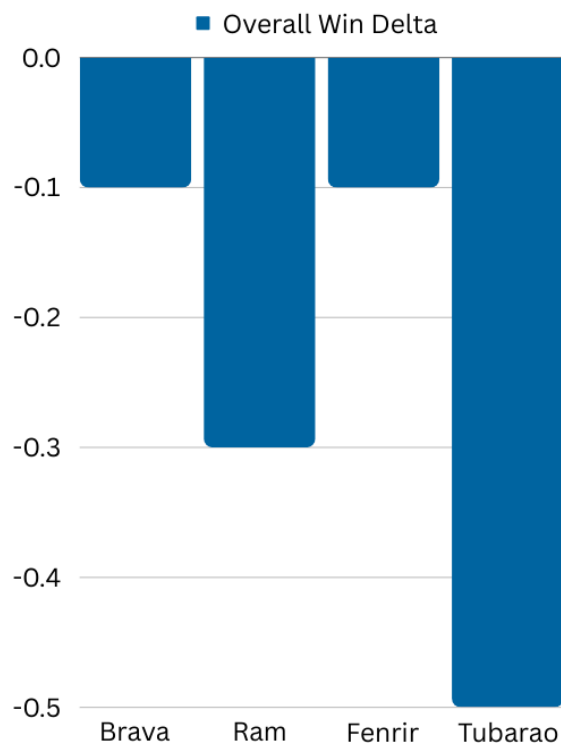


### Average Win Delta Vs. Average Presence (Defenders PC)

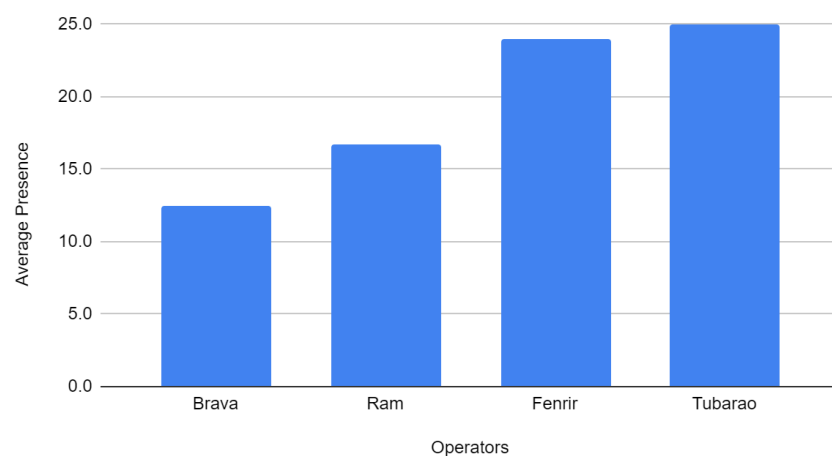


As we can see from the above comparative graphs (made in Google Sheets), which display average Presence in correlation to average Win Delta, higher Win Deltas seemed to have little effect on Presence, as is evident with “**Rook**”, who had a relatively low Presence even with a higher Win Delta than others. In fact, positive Win Deltas didn’t seem to have as nearly as much effect on Presence as negative Win Deltas did, evident in Operators like “**Clash**”, “**Tachanka**”, and “**Sens**” who all had extremely low Win Deltas and positive correlation with Presence.

### Research Question 3:



### Average Presence (Year 8 Operators)



Reviewing the above visualization of Y8 Operator Win Deltas (on the left, made in Jupyter Notebook), we can clearly see that while all Operators released in Year 8 had negative Win Deltas (perhaps caused by lack of player familiarity as speculated in [RQ 1 Analysis](#)), “**Brava**” and “**Fenrir**” had the least negative average Win Deltas out of all new Operators in Year 8. Bringing Presence into the equation (visualized on the right, made in Google Sheets), we can see that while both Operators had about the same average Win Delta, Fenrir (a Defender operator) had a higher Presence than Brava ( $24.0 > 12.5$ ). One key observation to note is that while “**Tubarao**” (Defender) had a lower Win Delta than all other new Operators, he also had the highest Presence, meaning that this data could also be misrepresented as it is unweighted in comparison to one another (i.e., “Tubarao” had a lower win delta because people played him more in general than the other operators). Additionally, another speculation is that “**Fenrir**” and “**Tubarao**” had a higher average Presence because they are both Defender Operators and perhaps newly released Defenders generally have a higher Presence in their release year. Further exploration could be done by comparing past Attacker and Defender Operators’ Presence during their release years and seeing if a trend exists between the two (confirmation of this speculation would appear as a generally lower Presence in Attacker than Defender Operators).

### Limitations

As previously noted in the “[Data Wrangling Process](#)” section, we faced limitations in the data collection stage as the “Designer’s Notes” posts we collected from failed to provide raw data, but rather, approximations which resulted in our use of a .5 scale. We ultimately decided that this scale was as close as possible to the data presented in the graphs and would be our safest bet in lack of more explicit data from official sources. Furthermore, the data we did gather was limited to Ranked Emerald, Diamond, and Champion games which severely limits the scope of this study, restricting the application of our findings only to players from these respective ranks (else we would be conducting extrapolation).

### Future Work

While we were able to conduct a comprehensive analysis of the Y8 data on PC players, we, unfortunately, didn’t have the time to conduct a similar analysis for Console data, which could have drawn interesting parallels on Operator stats between the two platforms. If we were to take this project further in the future, using Console data for our 3 Research Questions would be a priority so that we could then compare visualizations of Operator Win Deltas between Console and PC, allowing us to see if Win Delta’s effect on Presence had a greater correlation on Console than PC, and if Console Y8 Operators had a different distribution of Win Deltas than PC. Conducting this research would also require little effort from us as we already have the data



collected and wrangled into our DB, even stored with a separate Sheet of all the deltas between Console and PC Operators.

Furthermore, we could also begin to explore new questions that arose from our analysis, such as, from [RQ 1](#), why “**Rook**” and “**Thermite**” had the highest average Win Deltas even though they are from R6’s Base year. Speculating that this could be from long-time players’ familiarity with them, we could explore this hypothesis by getting playtime data and seeing which operators players play the most, on average. [RQ 2](#) also provided us with the insight that there are more Defenders with positive Win Deltas than Attackers, which we believe could also hint at a difference in difficulty between Attacker and Defender Operators. Further exploration would then require us to analyze the relationship between Operator average Win Delta and Difficulty (a stat hosted on the R6 website) and look into whether there was a relationship between Win Delta and Difficulty. [RQ 3](#) demonstrated that new Defenders “**Fenrir**” and “**Tubarao**” had a higher average Presence than the newly released Attackers, which perhaps hints at a possible trend of newly released Defenders having a higher Presence than Attackers in their release year. To explore this accurately, we would have to gather data on all non-base-year Operators in their release year and see whether this hypothesis of Defenders having higher Presence has occurred in the past.

### **Participation Rubric**

Beck Brewster Walters - 100%  
Ferenc Joseph Gozony III - 100%  
Frederic P. Maa - 100%  
Isaac Damien Corona - 100%  
Luke Almond McCaw - 100%