How Good are Wink's Defenses?

Intro

Defensive coordinator Wink Martindale is notorious for his high blitz rate. Theoretically, his defenses should consistently produce an inordinate amount of sacks. However, his defense in 2023 produced some of the *least* amount of sacks in the league. How is this possible? Is this an issue for Wink's defenses specifically, or do other teams with high blitz rates also fail to get sacks? This project will look into the analytics of the effects of blitzing on defenses to answer the previous questions and find other conclusions.

Background

The 2017 Ravens defense was a formidable unit led by Dean Pees. Pees would announce what would be his first retirement after that season and named Wink Martindale was his successor. Martindale inherited Pees' defenses and continued their success, as Baltimore's defenses were consistently good to elite until 2021.

In 2021, the Ravens' struggled due to injuries. The defense was a victim of these injuries and did not overcome their struggles, as they suffered a noticeable statistical dip. Wink was dismissed due to differences between he and Harbaugh, and he was hired by the Giants in 2022. While his defense that year wasn't outstanding, it still overperformed expectations like the rest of the team. He enjoyed success in New York that year, including a win against the Ravens, which featured a respectable defensive performance.

Unfortunately, the 2023 season for the Giants was, needless to say, been a tumultuous one. Amidst the turmoil fans frequently debated about why the team was so bad. The defense was a particularly contentious talking point due to their mercurial nature.

In week 7, they allowed just 7 points against a Commanders' offense that was averaging 22.2 pts/gm before that game. Two weeks later, New York allowed 30 points from a Raiders team led by a rookie QB. This was particularly embarrassing since the Raiders had not scored more than 21 points in *any* game before they played the Giants.

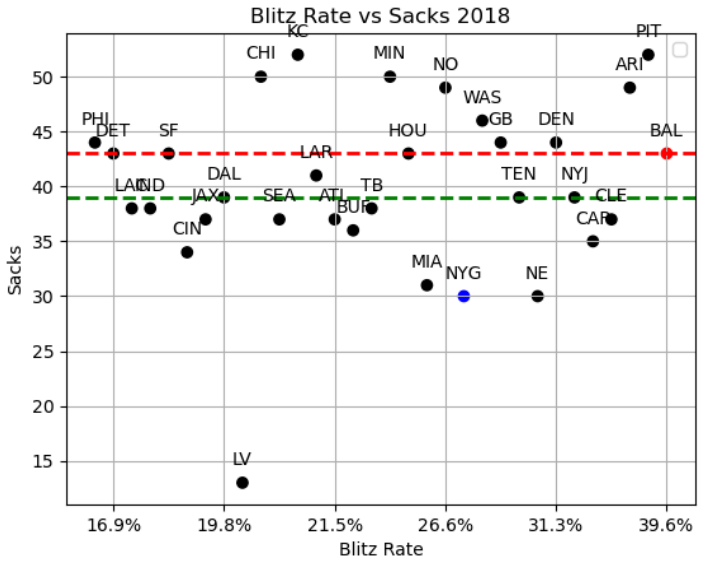
Some cited the inconsistency of Wink Martindale's defenses as a problem, while others argued Wink was actually an asset due to their strong performances in several games. The six games the Giants won this year were largely due to the defense compensating for the team's woeful offense, as the team was just 2-9 when allowing 20 or more points.

Wink ultimately left the team, reportedly due to irreconcilable differences between him and head coach Brian Daboll. I personally was upset hearing he left. I believed Wink's defenses could be consistently better by adding additional talent on defense and having an offense that could sustain drives. However, there was a considerable amount of fans that welcomed his departure as they believed his obstinate penchant for blitzing was costing the team games.

I was still curious about how effective his blitz-heavy defenses actually were. I created this project to analyze the effectiveness of blitz-heavy defenses. What can Giants expect from a coordinator who has a lower blitz rate? Is there even a correlation between blitz rate and defensive metrics? Was Wink's scheme actually holding back the team?

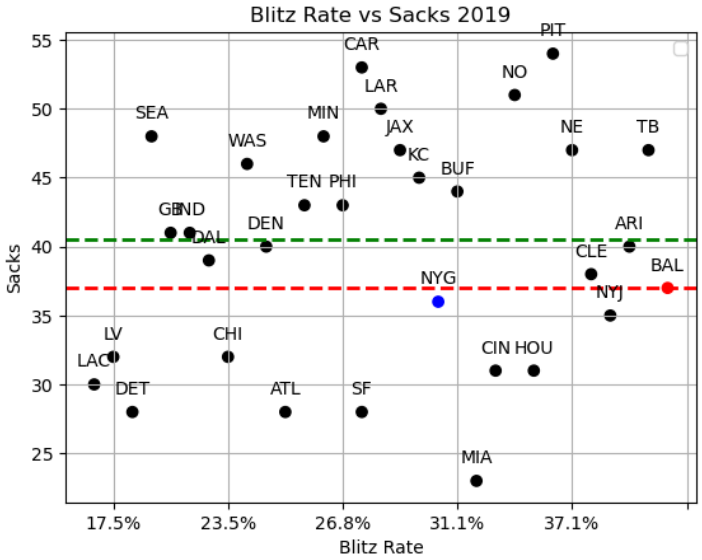
Sacks

As I alluded to in the background, a lot of frustration against Wink Martindale comes from the fact his defenses failed to produce sacks despite his frequent blitzes. In theory, if you blitz often you should get to the quarterback more often. Key phrase: *in theory*. First, let's look at this graph using data gathered from the 2018 NFL season:



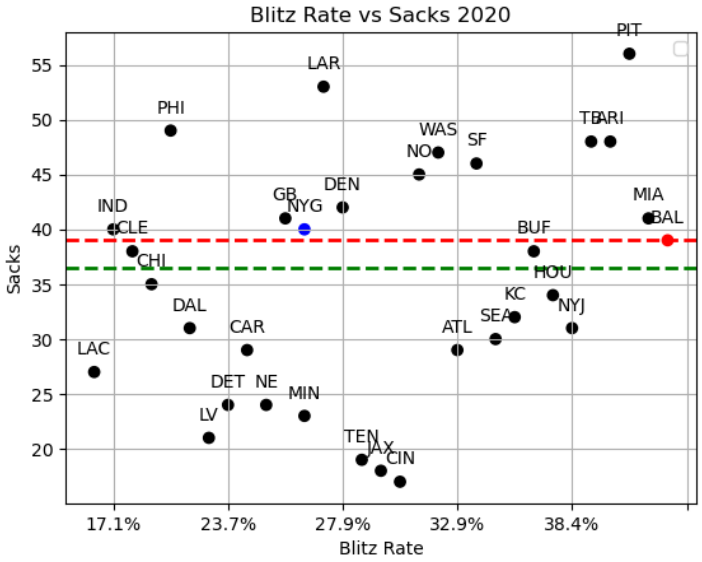
So what does anything on the graph mean? As you can see, each team is represented by a dot. The green dashed line indicates the median number of sacks produced that season, with the red line being the amount of sacks Wink's team produced that season. You may also notice a blue dot representing the Giants. We'll get back to that later.

As you can tell, Wink's defenses blitzed *often*. Baltimore led the league that year and produced a respectable number of sacks. However, you can also see that Arizona and Pittsburgh had a similar blitz rate, yet they produced a few more sacks than Martindale. Some teams rarely blitzed and produced a similar number of sacks, such as Detroit and San Francisco. Still, Wink's defenses undoubtedly performed well in terms of getting sacks in 2018.

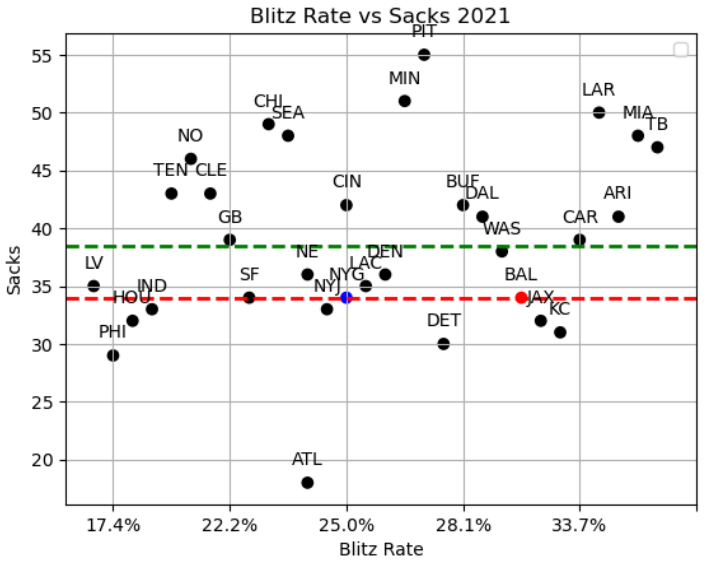


In 2019, Wink led the league in blitz rate again, however he was *below average* in terms of getting sacks. Arizona also maintained a similar blitz rate, and they also suffered a noticeable dip in sack production. However, Pittsburgh led the league in sacks despite also having a high blitz percentage.

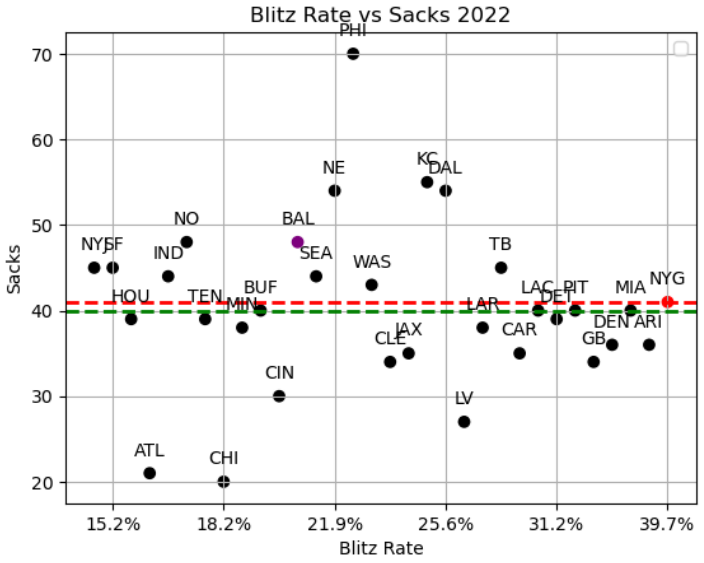
Conversely, some teams improved their sack production despite having similar blitz percentages. The Giants, for instance, had a few more sacks while only increasing their blitz rate marginally. New England increased their blitz rate significantly but went from having 30 sacks in 2018 to nearly 50 in 2019.



2020 starts to show the inconsistencies of Wink's defenses, as went from being well below league average to being slightly above league average in sacks. One thing was consistent: he led the league in blitz rate again. Once again, teams with similarly high blitz rates acquired a high amount of sacks again, see Pittsburgh, Tampa Bay, and even Arizona had a resurgence. You can also see that the Giants actually produced *more* sacks than Wink (albeit marginally) while blitzing significantly less.

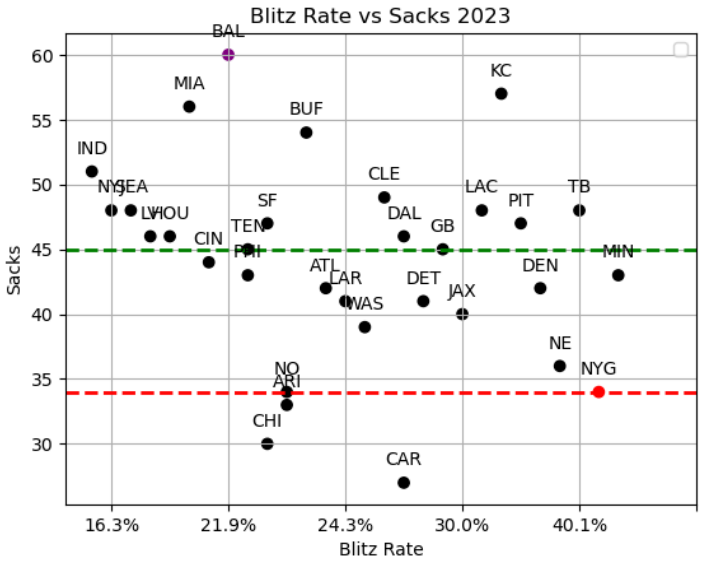


2021 Wink actually eased up his blitzing and was “merely” in the top 10 for that rate. This anomaly might be attributed to him attempting to account for the Raven’s injured secondary. Regardless, he was well below league average in sacks, producing the same amount as the team he would go to next year. Also, take a look at how successful Tampa Bay and Pittsburgh were in getting sacks.



As you can see, I’ve shifted the red dot and dotted line to NYG. You might notice Baltimore’s dot is now purple. You probably noticed Baltimore’s blitz rate plummeted dramatically, but they were still well above league average in sacks. You’ve also probably seen that New York’s blitz rate increased massively, yet they only managed to gain a few more sacks

than last year. Still, the Giants went from being well below league average in sacks to marginally above league average. Pittsburgh also finally plummeted in sacks, so this does prove that other blitz-heavy teams can suffer from inconsistency. Right?



2023 Wink's defenses went back to being below average in sacks again. However, unlike in previous years where he would only be less than 5 sacks below average, this year he was over 10 sacks below average. Additionally, Baltimore thrived in producing sacks, generating more sacks that year than any year in Wink's system. Baltimore also blitzed well below average for the second consecutive year. Obviously a sample size of two years isn't enough to prove consistency, but in those two years Mike MacDonald (Wink's replacement in Baltimore) managed to create two consecutive seasons of being above average in sacks, unlike Wink.

Year	2018	2019	2020	2021	2022	2023
Correlation	0.181	0.168	0.291	0.271	-0.051	-0.187

The table above is the correlation between sacks produced and blitz rate. The correlation has always been pretty weak, but it seems to be trending towards negative since 2022, meaning the more teams blitz in general the *less* sacks they produce. Have the leagues' offenses adapted to punish high blitz rates? Perhaps.

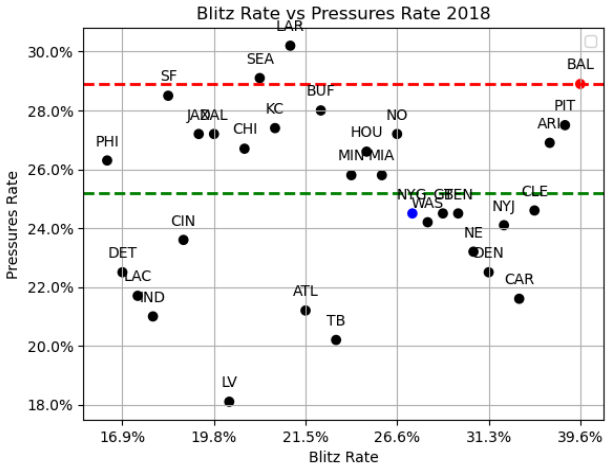
Why do Wink's defenses seem to be successful every other year? Is it possible that in 2018 his defenses were exotic, offenses adjusted after having a year of film to study, and would then reduce his effectiveness in 2019? Would Wink then adapt to the adjustments, making him above average again in 2020, just for offenses to re-adjust in 2021? Is there this vicious cycle of

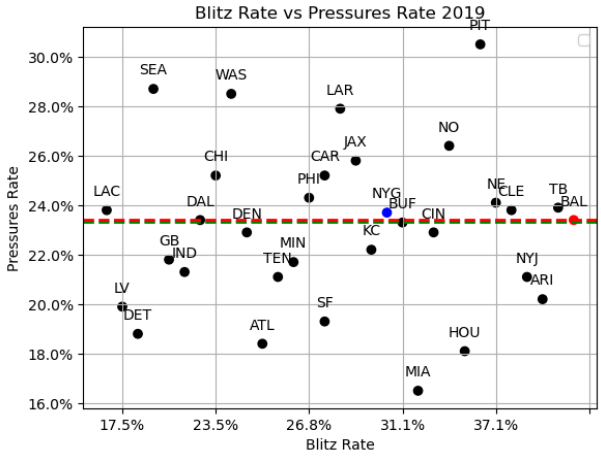
constant re-adjustment? Why do some other teams, such as Pittsburgh, have greater consistency? Why did the Ravens defense have greater consistency and production *after* Wink left Baltimore? Coincidental or was his scheming a detriment to his players' production? It should be worth noting until 2023, no player had a double-digit sack season under Wink.

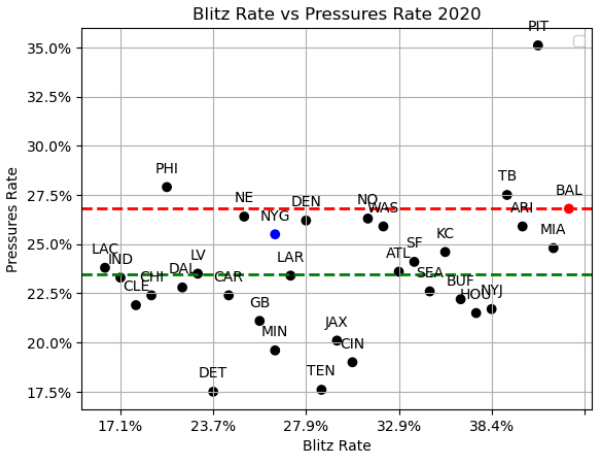
New York Jets head coach Robert Saleh has stated that sacks are not the ultimate stat for measuring a defense's effectiveness. One can argue that the purpose of high blitzing isn't to produce sacks, but to produce pressures. Wink has stated "pressure does break pipes". So, does Wink's defenses consistently pressure the quarterback?

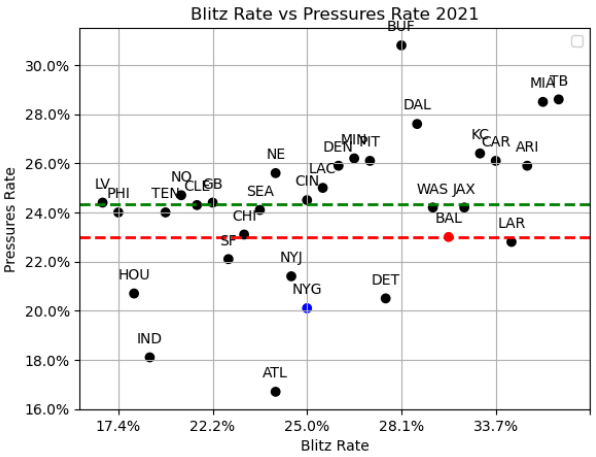
Pressures

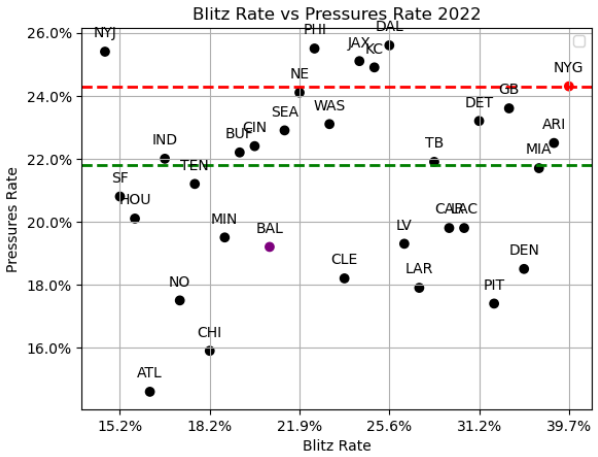
Instead of analyzing each graph individually, I'm going to show all six graphs simultaneously and analyze them afterwards. If you predicted inconsistent results, then you've predicted correctly.

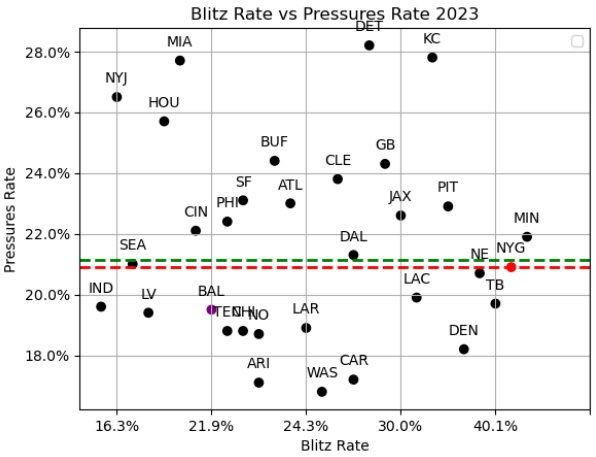












At first glance, you can see that like his sack numbers, Wink's pressure rates are also maddeningly inconsistent. In even numbered years, he will be well above league average, while in odd numbered years he will be middling to below average. I guess alternating success *could* be considered consistency. However, I'd prefer it if my defense was consistently above average.

It appears Wink can't consistently promise to deliver on his philosophy of constantly producing pressures. It should also be worth nothing that there are many other teams that have high pressure rates despite their low blitz rates. How do those teams manage to pressure the quarterback frequently while not needing to blitz often? Is their personnel and scheming designed so even non-blitz plays can still produce pressures? Do they have elite pass rushers, is their secondary so good they can create pressures on man coverages, or is it a bit of both?

It should be worth noting that the Giants defense between 2022 and 2023 did not suffer from major losses. In fact, you could argue the unit got *better* in 2023 due to the addition of linebacker Bobby Okereke, a full healthy season from safety Xavier McKinney, and the rise of linebacker Micah McFadden.

They also *should* have benefited from the development of players such as edge Kayvon Thibodeaux and cornerback Adoree' Jackson, but both regressed this year. How much of their regression is due to Wink is debatable, but ultimately it is his job as a coach to develop his players. Thibodeaux struggled to win pass rushes, although some attribute this to be at least partly due to Wink's tendency to make him play coverage to disguise his blitz packages.

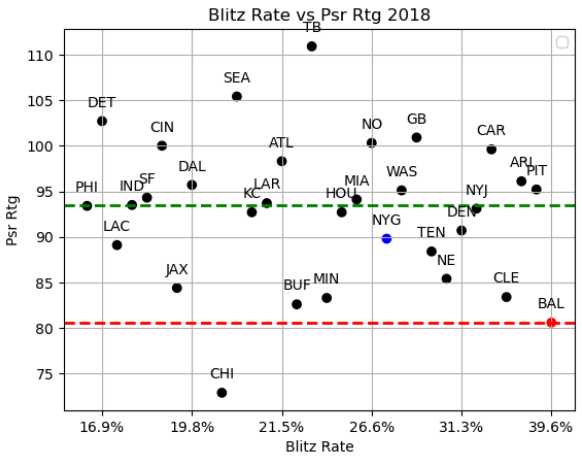
Now, to give credit to Wink, Baltimore's pressure rates did drop dramatically. In both 2022 and 2023, despite being well above average in sacks, the Ravens were below league average in producing pressures. Is this due to Baltimore's strong secondary forcing longer plays, which therefore helps their pass rush produce sacks?

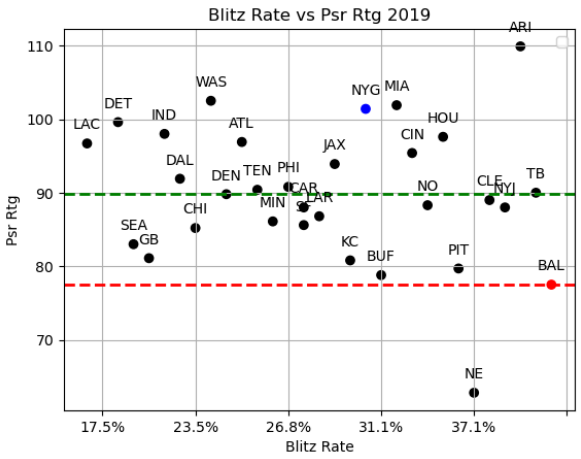
Year	2018	2019	2020	2021	2022	2023
Correlation	0.104	0.065	0.331	0.456	0.148	-0.028

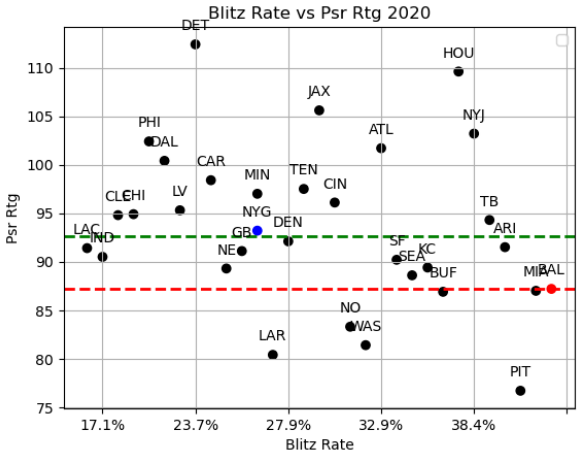
This table is the correlation of pressure rate and blitz rate. Once again, the correlation is not very high, meaning constant blitzes does not equate to constant pressure for any team. However, Wink's teams in particular seem to struggle to constantly produce pressure despite heavy blitzing, whereas several other teams (TB, PIT, MIA) seem to be able to consistently do so. For some teams, heavy blitzing does produce the intended result of constant pressure. For some teams, heavy blitzing does not manage to yield such results. For Wink, it depends if you can divide the year's number by 2.

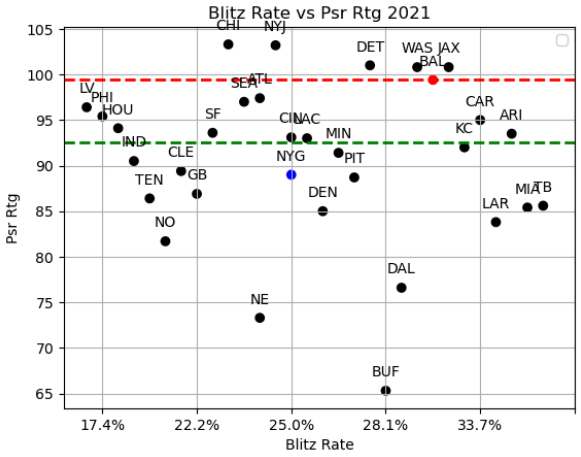
Pressures and sacks are the ultimate arbiter of a defenses' performance against a quarterback. There is another stat I compared blitz rate with, and that stat is passer rating.

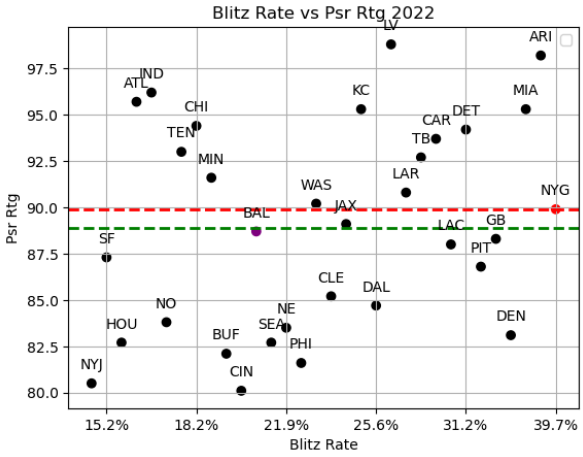
Passer Rating (Psr Rtg)

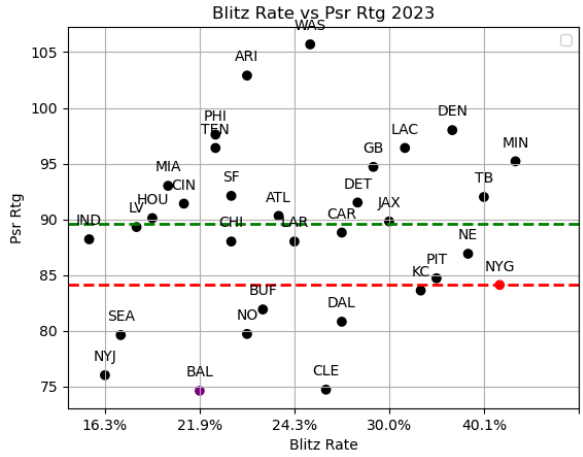












Passer rating is a numerical grade of a quarterback's performance. The average passer rating of a QB has steadily increased over the past few years as rules make it easier for them (and more difficult for defenses). Passer rating is calculated by a combination of yards per

attempt, interceptions, touchdowns, completion percentage, etc. Essentially, it summarizes a quarterback's statline and efficiency. Once again, passer rating needs to be viewed in the context of the team, and it shouldn't be used as the only factor when evaluating quarterbacks. With that said, it's useful to summarize how good a defense (particularly their secondary) is based on what passer rating they allow.

In this graph, the lower you are from the median, the better your defense is. As you can see, the average passer rating a defense allows is around 90. You can also see that Wink's defenses typically allow a below average passer rating (i.e. their passing defense is good). There are a couple of outliers, such as in 2021 when the Ravens were riddled with injuries and in 2022 when the Giants were rebuilding.

In 2018 he allowed a passer rating in the low 80s, the best in the league other than the Bears. In 2019 his defense, which was basically average in terms of sacking and pressure the quarterback, actually improved their passer rating to be below 80. Zach Wilson's passer rating in 2023 was in the high 70s, meaning when your quarterback played against the Ravens, they regressed into Zach Wilson. However, in 2020, the rating allowed was in the high 80s, and while that was still below league average it is noticeably worse compared to 2018 and 2019.

In 2023, his defenses rebounded and the Giants' passer rating allowed was quite low. Still, they left a lot to be desired, as they had several weeks of allowing quarterbacks such as Dak Prescott, Derek Carr, and Joshua Dobbs to have amazing games. What's particularly damning is that Baltimore's 2023 passing defense allowed a lower rating (mid 70s) than any season Wink had. To be fair, Baltimore was roughly average in 2022, but the point is that Baltimore managed to produce a better defense in 2023 in terms of passer rating *and* sacks than any season with Wink.

It does lend the question: how important is pressure for passing defenses? Does a higher pressure rate equate to a lower passer rating allowed?

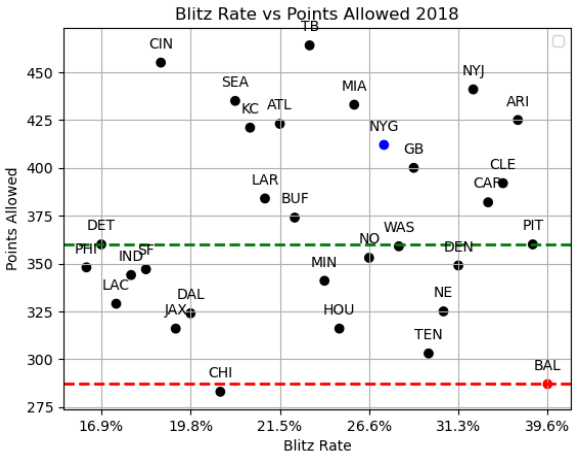
Year	2018	2019	2020	2021	2022	2023
Correlation	-0.280	-0.343	-0.598	-0.546	-0.226	-0.279

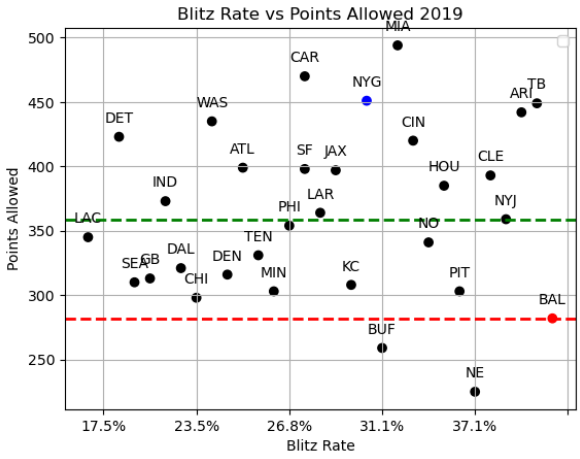
This table is *not* the correlation between passer rating and blitz rate. Rather, it is the correlation between passer rating and *pressure* rate. The correlation is stronger than the correlation between blitz rate and most other metrics. However, it's not that much stronger, as none of them are high enough to be considered significant. It seems like 2020 and 2021, where

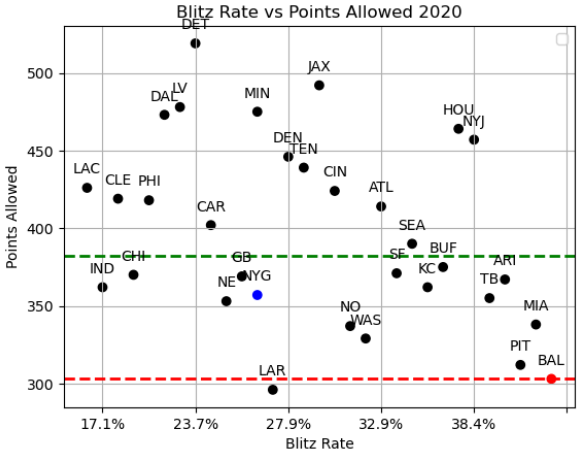
the correlations are at their highest, are more of an exception than the standard. Does pressure break pipes or is it just one of several ways to produce a strong passing defense?

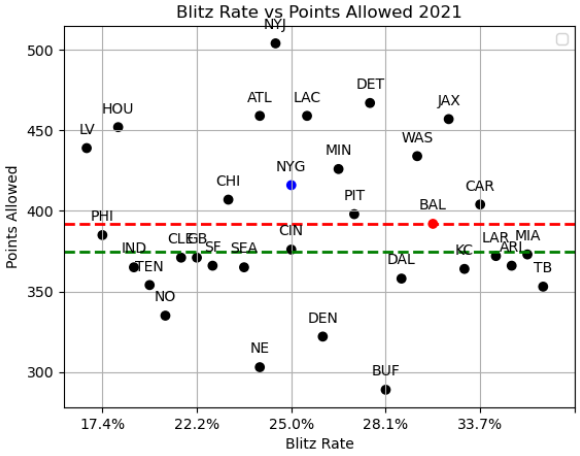
Points Allowed

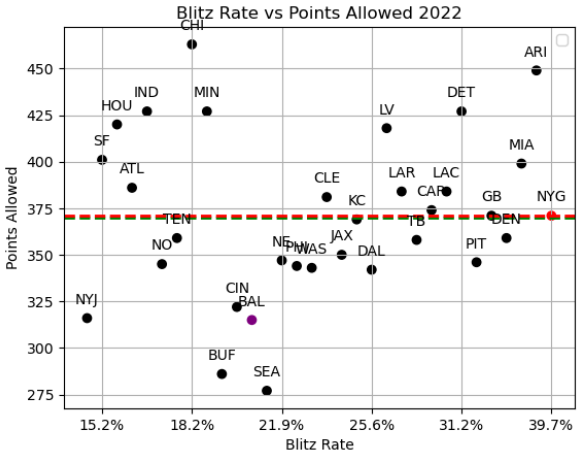
Ultimately, the most important metric for any defense is how many points they allow. It's the most general metric and requires the most amount of context to explain, but it is the metric that ultimately adjudicates the quality of a defense. It encompasses everything we've discussed (and a lot more), and it doesn't matter if Wink's defenses fail to produce a prodigious number of sacks, pressures, etc. What matters if Wink's defenses can consistently allow as few points as possible. Does the high blitz rate contribute to the success of defenses?

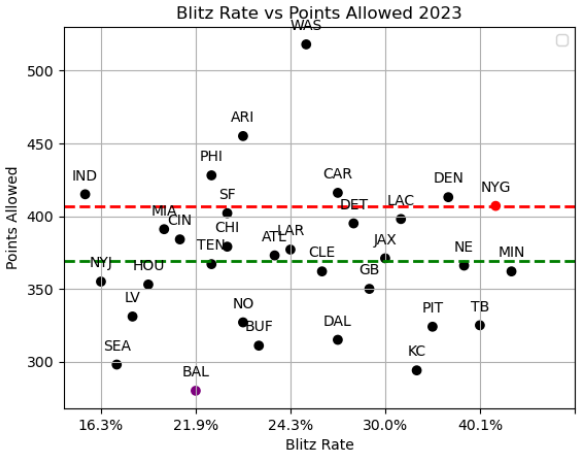












Year	2018	2019	2020	2021	2022	2023
Correlation	0.018	-0.018	-0.355	-0.136	0.129	-0.010

The graphs shows two things: Wink is usually good at creating good defenses, but blitz rate is not the reason why this is the case. The correlations also support this idea, as there's little to no association with blitzing and shutting down opposing offenses. The high blitz rate may *help* Wink create good defenses, but there are many other ways to create a defense that's just as good if not better.

Conclusion

Wink Martindale's defenses are generally good. However, many other coordinators have produced defenses that are just as good, or even better, while also maintaining consistency. I still think losing him was ultimately a big loss for the Giants, but I miss him significantly less.

It should also be worth noting that Wink's defenses requires many moving parts to work, as he needs his secondary to be elite in man coverages. It is true that any defense needs good players to be amazing, however, Wink's system in particular is prone to error, as if there is a man that quickly gets open during a blitz, then they can make a huge play.

Based on the data, Wink has two huge red flags as a coordinator. The first is that he cannot live up to his philosophy that blitzing will produce constant pressure, which will therefore produce bad decisions by opposing quarterbacks. The data has disproved both claims, as he will have some years where quarterbacks are miserable, while he'll have other years where quarterbacks don't face more or less pressure against Baltimore. The data also shows that some of his *best* years are the years where he has very little pressure, such as in 2019. If his fundamental beliefs cannot be trusted, then how much should Wink be trusted?

It is true these stats require a lot of context. However, even in a vacuum, having this level of inconsistency is not a good look. This brings me to my second red flag: how much of his defensive success is actually due to his philosophy or due to his personnel? He inherited an already elite defense, and while he hasn't made them worse, he didn't have to worry about covering as many deficiencies as other coordinators on worse teams would have to. He did elevate a subpar Giants defense in 2022, but overall the Giants defense wasn't significantly more or less successful in the years before Wink.

It is true in 2023 Giants played against better offenses, but even then the defense probably shouldn't have regressed as much as it did. It is also fair to point out that the Giants defense was forced to be on the field longer than 2022 due to the offenses' ineptitude. However, against divisional opponents the Giants didn't do much better between 2022 and

2023. In 2022, they allowed a season total of 51 points against Dallas. This year they allowed 49 offensive points in *one* game. Last year, the combined final scores of the two games played in Philadelphia was Giants 23, Eagles 60. This year the final score of the game played in Philadelphia was 25-33, meaning despite the Giants offense playing well that game the defense still played poorly, but to be fair the Giants defense did score a pick six that game.

So in essence: Wink Martindale's defenses are good, but they're also not anything special. There are many ways to produce a defense that's just as good, if not better, as evidenced by Baltimore's success in 2023. If you take a look at his old divisional rival, the Steelers, you can see that they also have a penchant for frequent blitzes, yet they are more successful and consistent than he is.

His high risk high reward scheming requires elite personnel, and while having an elite personnel benefits any defense, Wink particularly suffers if he has middling players. It can lead to unpredictability, as seen in his alternating years of statistical success. A microscopic example of his inconsistency can be seen this year, such as when the Giants contained an elite Bills offense only to subsequently get dismantled by a middling Raiders offense. After this project, I realized Wink's not as special of a coordinator as I thought he was. The defense's instability this year hasn't been an anomaly, they've *always* been inconsistent.

Considering the fact Daboll isn't even the first coach that contested Wink's philosophy, it seems that blitz-heavy defenses are not and *should not* be the meta. This is especially the case as the league adds more rules to protect quarterbacks. While Wink was certainly a good coordinator to have, his departure may be an overall positive for the Giants if they can find a coordinator who can create a more reliable and consistent defense.