**Analysis of NFL Success**

The question to answer is, what are important statistics of football that are correlated with wins? To answer this question, a 3-step approach is taken.

1. Understand the correlation between vital parts of the game that coaching staff can mostly control and the number of wins.
2. Identify teams that have been winning in recent years.
3. Identify how winning teams perform on the factors identified in step one.

**1) Correlations with Number of Wins**

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Fig 1: Correlation between key aspects of the game and wins.

**2) Identifying Winning Teams**

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Fig 2: The win loss percentage of the top teams in the last three years.

**3) How Winning Teams are Performing**

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Fig 3: Bar plots of correlated indicators on wins by team.

**Advice From Analysis**

With the figure above, it is possible to analyze successful teams and how they perform on key aspects of the game. In figure three, there is a relatively uniform distribution across all variables of interest apart from turnovers per game. Approximating an average from each bar plot, a successful team averages 6 yards per offensive play, 1 turnover a game, 7 net yards per pass attempt, 0.65% pass completion rate, and 25 rush attempts per game. These are basic statistics that the team should strive for when trying to become more successful in terms of winning, essentially these numbers are a foundational blueprint of how to build an effective offense. Specific variables to work towards is dependent on which aspects of the game the team’s play calling and performance falls short. If the team has a low pass completion rate, it could be beneficial to go for passing plays that have a higher completion rate. To maximize the team’s play design, it could be beneficial to go for high percentage passing plays for 6 to 7 yards. If the team is a pass heavy team, it would be beneficial to attempt more rushes to diversify the team’s offense. It is helpful to reduce turnovers per game. Turnovers are inevitable in the game of football, but having good talent at positions that handle the ball is key to preventing turnovers. Further improvements can be made on the analysis if data is available for the talent level of the team. Having this data will allow us to identify how correlated talent level is on the relationship with winning games. Identifying this correlation can help give the organization an idea on the number of resources that should be allocated to acquiring talented players at the NFL level.