## Are the St George Illawarra Dragons or the Canterbury- Bankstown Bulldogs more likely to win a premiership?

The following statistical information is based on the competition points both the Dragons and the Bulldogs have achieved over the last 5 years of the NRL Telstra Premiership.

Competition Points Over the Last 5 NRL Seasons

	Dragons	Bulldogs
2017	28	24
2018	32	18
2019	18	22
2020	14	6
2021	16	6

Back-to-back Stem & Leaf Plot

Dragons		Bulldogs
	0	6 6
8 6 4	1	8
8	2	2 4
2	3	
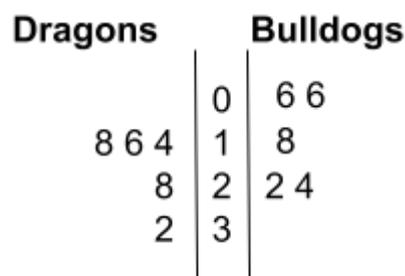
1 | 8 represents   **18 competition points**

Dragons	Bulldogs
Mean: 21.6	**Mean:** 15.2
Median: 18	**Median:** 22
Mode: -	**Mode:** 6
Range: 18	**Range:** 18

In terms of overall points scored at the end of each season over the last 5 years, Dragons have scored better than the Bulldogs hence, it could be inferred that Dragons are more likely to make it to the finals and win a premiership than the Bulldogs are. This is made evident in the back-to-back stem and leaf plot where the data is skewed (in favour of the Dragons' competition points) and in the

measure of central tendency & spread, in which the Dragons have a higher mean or average of competition points than the Bulldogs do.

Below is some statistical information on both teams' points scored and points conceded, which will reveal which team has the better attack and which team has the better defence or if one team is better at both.

	Dragons		Bulldogs	
	Points scored	**Points Conceded**	**Points scored**	**Points Conceded**
2017	533	450	360	455
2018	519	472	428	474
2019	427	575	326	477
2020	378	452	282	504
2021	490	664	340	710

Points Scored- Dragons & Bulldogs
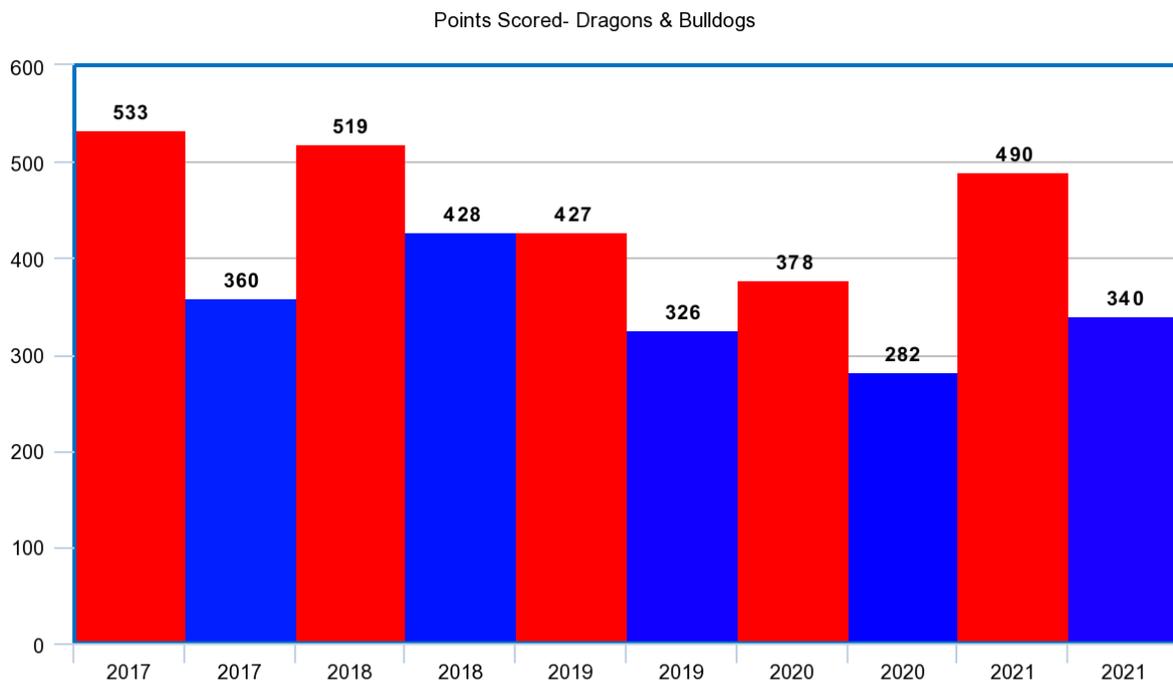
Red = Dragons
Blue = Bulldogs

Points Conceded- Dragons & Bulldogs
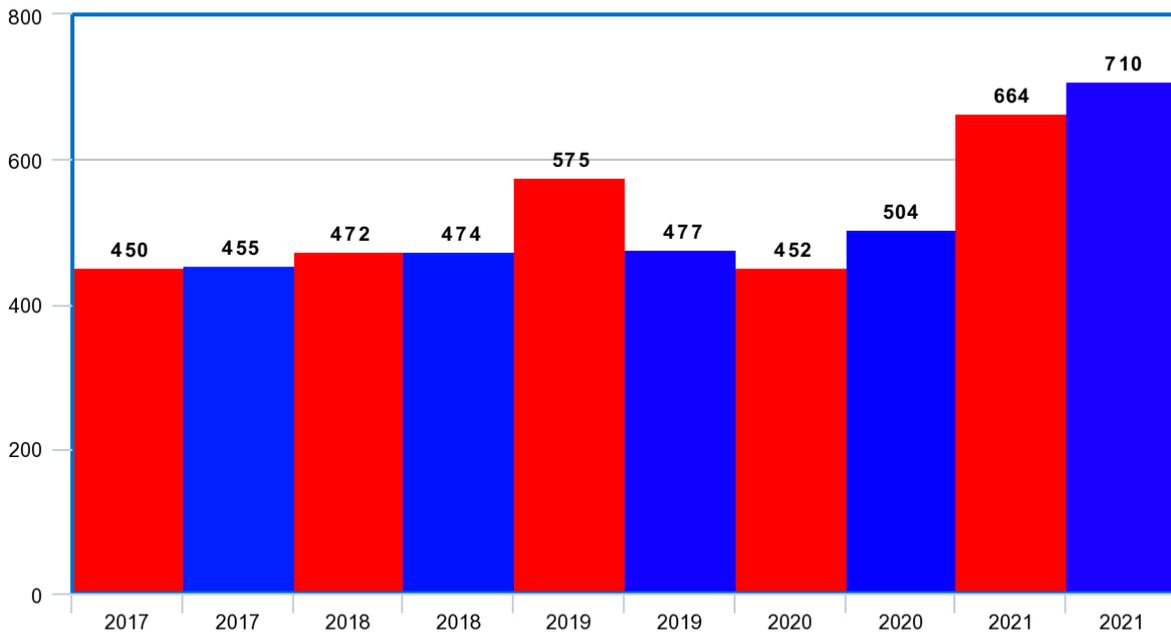

Red = Dragons
Blue = Bulldogs

Based on the results in the histograms, it is clear that the Dragons have the better attack and the better defence when compared to the Bulldogs. In 2019, Bulldogs had less points conceded than the Dragons did however, this is clearly an outlier in the results. Due to this, the conclusion can be drawn that the Dragons are more likely to win a premiership than the Bulldogs are.

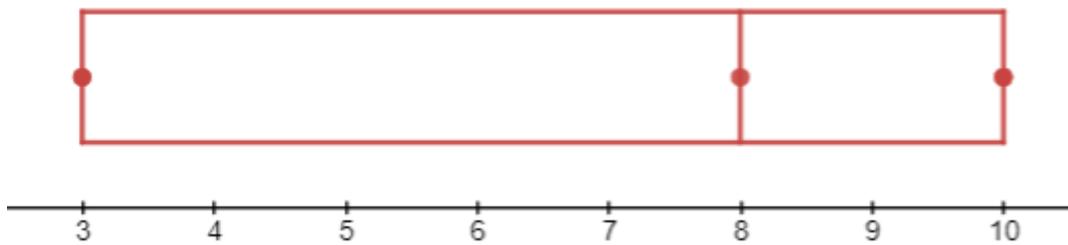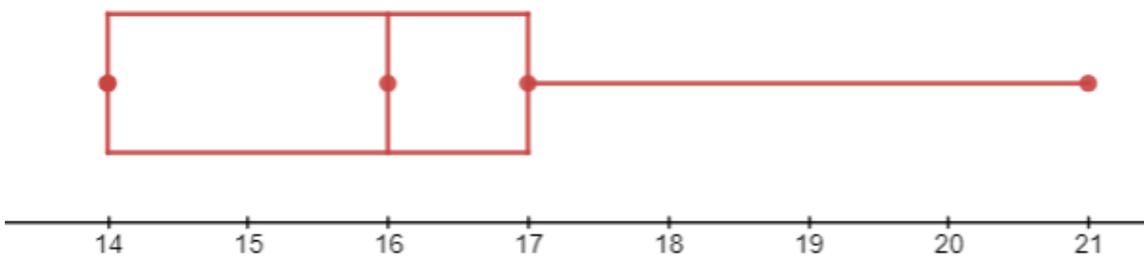|	Dragons		Bulldogs	
	Wins	Losses	Wins	Losses
2017	12	12	10	14
2018	15	9	8	16
2019	8	16	10	14
2020	7	13	3	17
2021	8	16	3	21

Dragons Wins
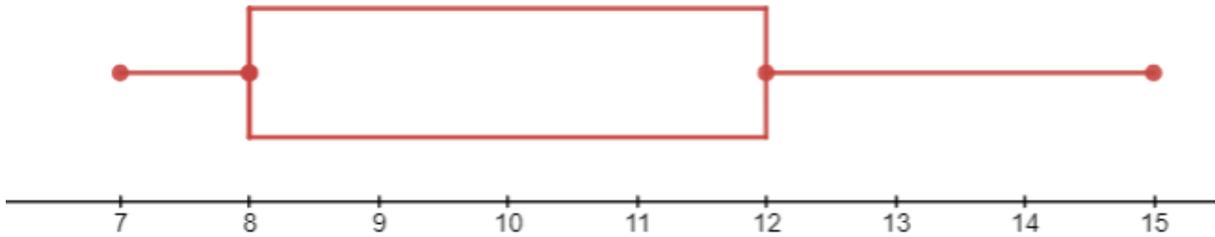
Dragons Losses
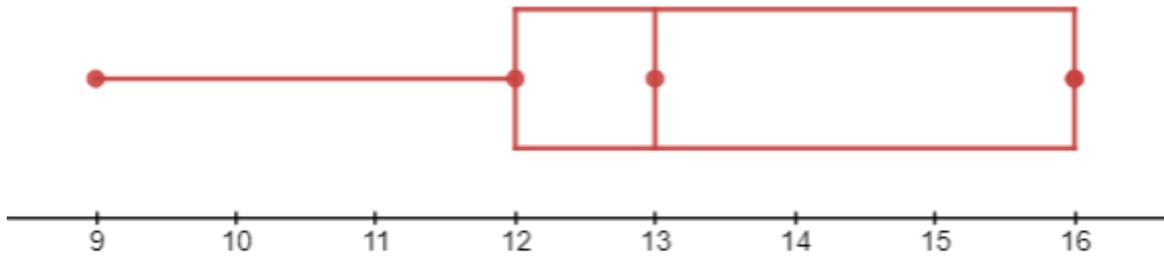
Bulldogs Wins

Bulldogs Losses

In terms of wins and losses, Dragons have more wins and less losses than the Bulldogs do over the last 5 seasons, which is accentuated within the box plots wherein the Dragons have a broader range in wins and a smaller range in losses when compared to the Bulldogs..

Collaboration

I have collaborated with several people to ensure that my probability investigation was as accurate as possible and so that I could get a second opinion on what I was doing. I have collaborated with people that are in my class and also people who are not in my class too. Hence, there has been a variety of collaboration that has assisted me in completing my investigation.

When collaborating with my dad, he actually gave me the idea to do this question and he also helped me with the collection of the data found within my report.

When discussing this investigation with my sister, she thought it would be a great idea to look at both teams' attack and defence which I included within my investigation as I thought it was worth researching and it has added to my research within my investigation.

My mother edited my document to ensure that all my information was correct and neatly presented. She also ensured that my grammatical structure and spelling was correct too.

When collaborating with Hannah, she noticed that if the team were to have a home game they would also increase their chances of a win. This inspired my ideas for future research as this is an interesting thought and definitely affects the chances of the teams I have researched winning, as proven in her report.

Additionally, when collaborating with Kayla, she noticed that the abilities and statistics of the most successful player in each team would affect their chances of winning. This also sparked a thought that I have included in my future research, as the most successful player in each team affects the chances of the team winning which was made evident within her report.

When collaborating with Sienna, she helped me with my histograms and guided me in completing them.

I collaborated with Brianna since she is also doing an NRL-based question. We discussed the teams we were investigating and helped each other with the ways

we found our information. Some of our methods are quite similar which is obvious when looking at our reports.

Future Research

If I was to conduct further research, I would investigate many things. I would investigate if where the teams play affects their result (if Dragons played at Jubilee, are they more likely to win). I would do this by seeing if the teams tend to win more/less when they are at home. I would also look at individual player performance and see if the abilities and statistics of the most successful player in each team would affect their chances of winning (for example; if a team's best attacker is injured, would they have a lesser chance of scoring tries/kicking goals and hence winning). I would have to determine who the 'most successful player' of each team is first and then research their contribution to each game. I would also look at the teams' roster development, to determine which team has purchased better players to increase their chances of winning games and eventually the premiership. I would also research the teams' coaches and their past success and experience to see how this affects the team's performances. Thus, there is so much more possible future research that can be conducted which I have explained.

Conclusion

Conclusively, based on the data collected within my investigation, the Dragons are more likely to win a premiership than the Bulldogs are. The data used was looking at both teams' performances over the last 5 seasons/years. I have compared the teams' competition points, their attack and defence, and their wins and losses. I have used many diagrams, tables and graphs, some of which include; a back-to-back stem & leaf plot, histograms, box plots and more. I have also collaborated with several people which has helped my investigative process. I have also discussed what future research would entail.