**Ski to Sea: Which sport leg is most important?**

The Ski to Sea race is a multi-sport relay race held annually in Whatcom County, Washington. The race consists of seven legs: cross-country skiing, downhill skiing or snowboarding, running, road biking, canoeing, mountain biking, and kayaking, with each leg representing a different outdoor sport.

1. Plot team ranking vs the better predictor. Is the graph appropriate to represent a linear relationship?
2. Which leg of the race shows the strongest positive correlation with the canoeing leg?

The road biking leg shows the strongest positive correlation with the canoeing leg, with a correlation coefficient of 0.428.

a. Plot completion time for the canoeing leg vs the leg with the strongest correlation. Is the graph appropriate to represent a linear relationship?

Yes

1. Look at the correlations between the legs of the race and the overall completion time.a. Between which leg and overall completion time is the correlation the strongest? Report the correlation.

The kayak leg shows the strongest correlation with the overall completion time, with a correlation coefficient of 0.464.

1. Also, between which two legs is the correlation the weakest? Report the correlation.

The correlation between the running leg and the cross-country skiing leg is the weakest, with a correlation coefficient of 0.034.

1. Write a brief interpretation of the correlation between each leg of the race and the overall completion time.

The kayak leg has the strongest positive correlation with the overall completion time, indicating that performance in the kayak leg has a significant impact on the overall completion time. The running leg has the weakest positive correlation with the overall completion time, suggesting that performance in the running leg has a lesser impact on the overall completion time.

1. Overall, which leg of the race appears to have the most impact on the team's overall completion time? Why do you think this?

The kayak leg appears to have the most impact on the team's overall completion time, as it has the strongest positive correlation with the overall completion time. This suggests that teams that perform well in the kayak leg tend to have better overall completion times.

1. In general, what is a better indicator of a team's success in the Ski to Sea race, their performance in the running legs or the biking legs? Why do you think this?

Performance in the biking legs (both road biking and cross country biking) appears to be a better indicator of a team's success in the Ski to Sea race, as these legs show stronger correlations with the overall completion time compared to the running legs. This suggests that teams that perform well in the biking legs tend to have better overall completion times.