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Assignment 1

- *The following assignment has been completed on SAS University Edition **

1

Time as a function of the year:

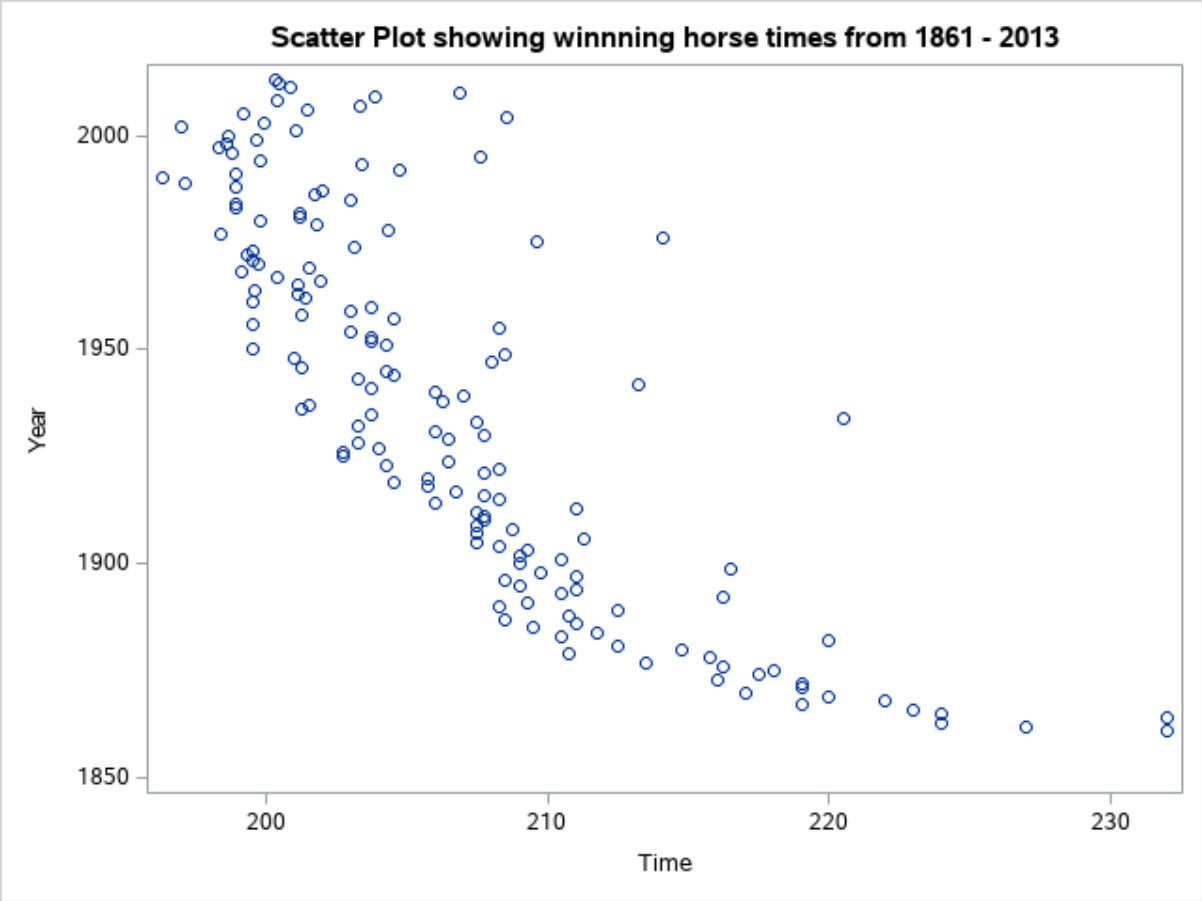

Figure 1; A scatter plot showing the relationship between winning horse times and year. Where Time is in seconds

From this scatter plot we can see that as we go further back in time, the time it took for the winning horse at the Melbourne Cup to win was longer than more recent winnings. This is a non-linear relationship where as one variable increases, the other decreases which is shown by the negative correlation and by the skewness.
We can make inferences on this data by suggesting that due to the competitive nature of the sport and as more advanced training regimes have been organized, the winning horses have become more efficient in running the set distance.

```
FILENAME REFFILE '/folders/myfolders/melb.csv';

PROC IMPORT DATAFILE=REFFILE
```

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```
        DBMS=CSV
        OUT=WORK.IMPORT;
        GETNAMES=YES;
RUN;

PROC CONTENTS DATA=WORK.IMPORT; RUN;

PROC SGPLOT DATA = WORK.IMPORT;
SCATTER X=TIME Y=YEAR;
TITLE 'Scatter Plot showing winnning horse times from 1861 - 2013';
RUN;

%web_open_table(WORK.IMPORT);
```

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2

A bar chart distinguishing the number of sexual partners for Males and Females:

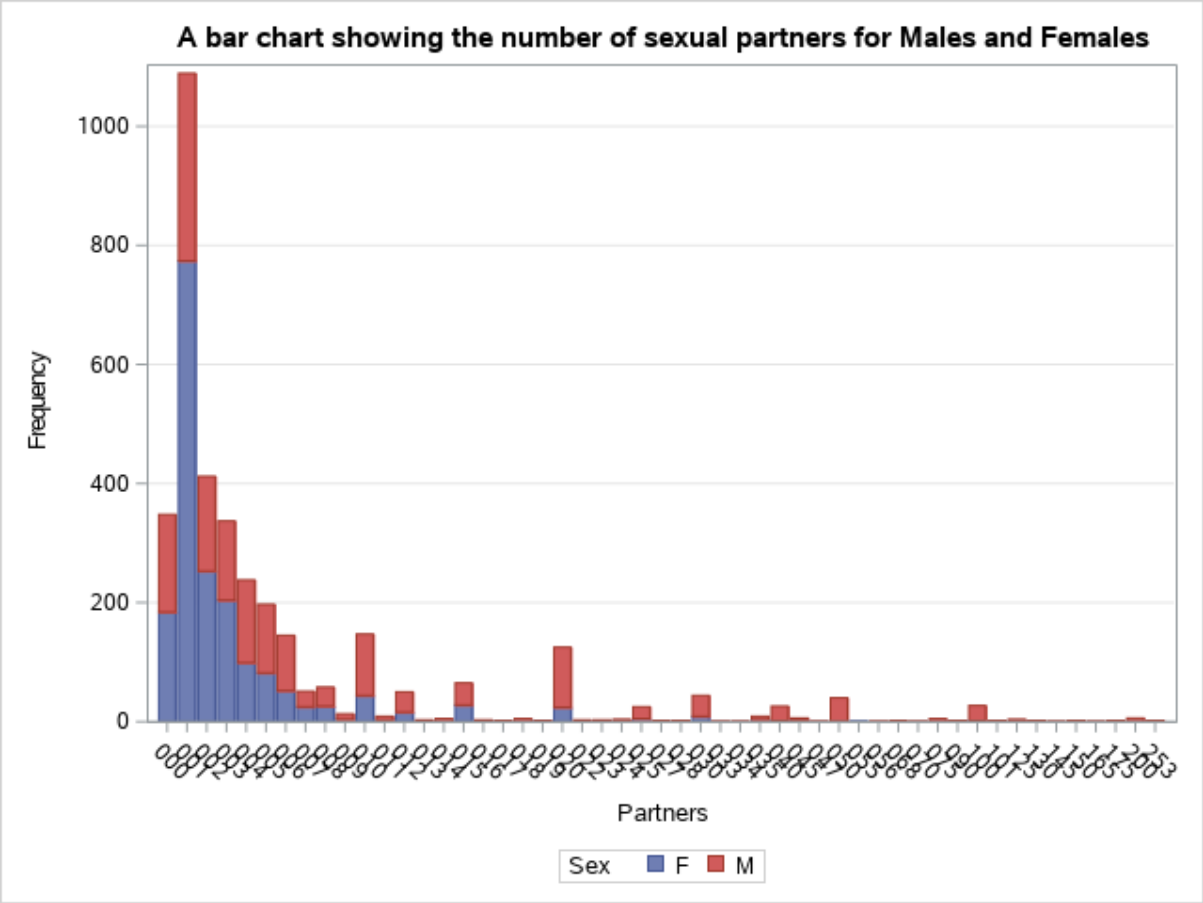

Figure 2: A bar chart showing quantity of sexual partners for male and females

```
PROC SGPLOT DATA= WORK.IMPORT;
VBAR PARTNERS / GROUP= SEX;
YAXIS GRID;
TITLE 'A bar chart showing the number of sexual partners for Males
and Females';
RUN;
```

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As the bar chart shows, the striking difference is where the quantity of Males. have only answered with having 1 sexual partner, the quantity of Females who answered the same responses was almost double. In addition, there seems to be greater variation in the answers of Male participants. This is reflected by the greater sizes of the general distribution whereby there are a greater number of Males who answered to giving higher numbers of sexual partners than Females which is noticed by the sizes of bars within each subset of data, plus there is a count showing males have had the greatest number of partners. Therefore, the results for Females is positively skewed more towards having the lesser quantity of sexual partners. However, a similarity that is noticed is there is almost an identical proportion of Male and Female participants who have answered to giving no history of sexual partners, this is indicated by the bottom blue bar for each of the sexes on the secondary bar chart (figure 3).

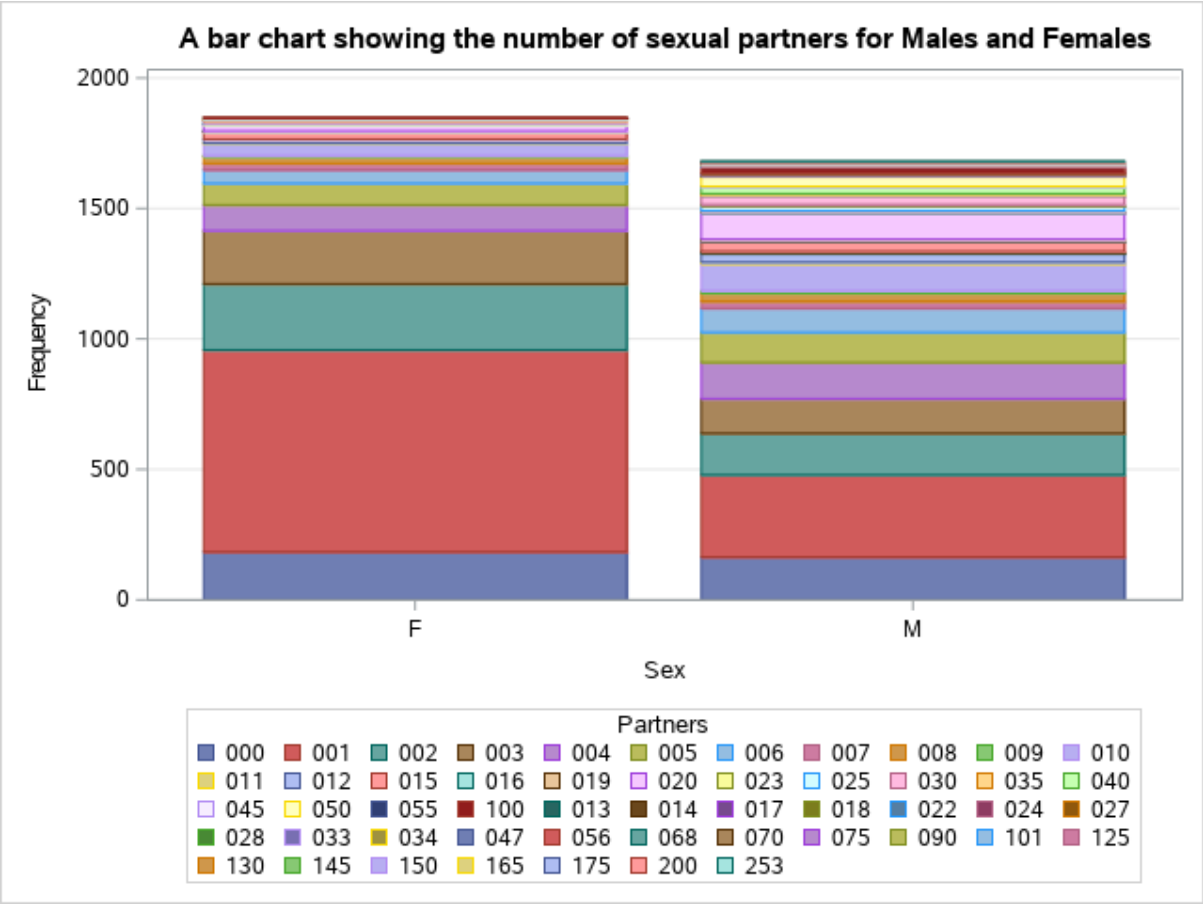

Figure 3: This bar chart visually shows the comparisons of sexual partners for each of the sexes. Where each section is highlighted for the quantity of people giving the specific highlighted answers.

```
FILENAME REFFILE '/folders/myfolders/sasuser.v94/SA.csv';

PROC IMPORT DATAFILE=REFFILE
```

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```
        DBMS=CSV
        OUT=WORK.IMPORT;
        GETNAMES=YES;
RUN;

PROC SGPLOT DATA= WORK.IMPORT;
VBAR SEX / GROUP= PARTNERS;
YAXIS GRID;
TITLE 'A bar chart showing the number of sexual partners for Males
and Females';
RUN;

%web_open_table(WORK.IMPORT);
```