ASSIGNMENT 1:
Histogram, Descriptive Statistics, & Scatter Plots

Histogram for Time of Shift
Beginning of shift -1, middle of shift – 2, end of shift - 3

Summary measures for selected variable: Time of shift

Mean	2.002	Minimum	1.o
Median	2.000	Maximum	3.0
		Range	2.0
		Sum	1185
Variance	0.533	Skewness	-0.003
Standard deviation	0.7301	Kurtosis	-1.120

Count of Observations 592

The mean (average) for time of shift that all command errors in the given sampling occurred is 2.002. Where 1 is the beginning of the shift, 2 is the middle of the shift, and 3 is the end of the shift. The maximum is 3, end of shift and the minimum was 1, beginning of shift. The assigned values, one, two and three total to the sum of 1185. The negative kurtosis value indicates that the distribution of the variable has than a normal distribution. The skewness value is very close to zero which indicates it has a symmetrical distribution.

More Errors occurred in the middle of the shift than in the beginning or end of the shift.

Scatter Plot: Time of Shift (beginning - 1, middle – 2, end – 3) vs Date Cmd error was submitted.
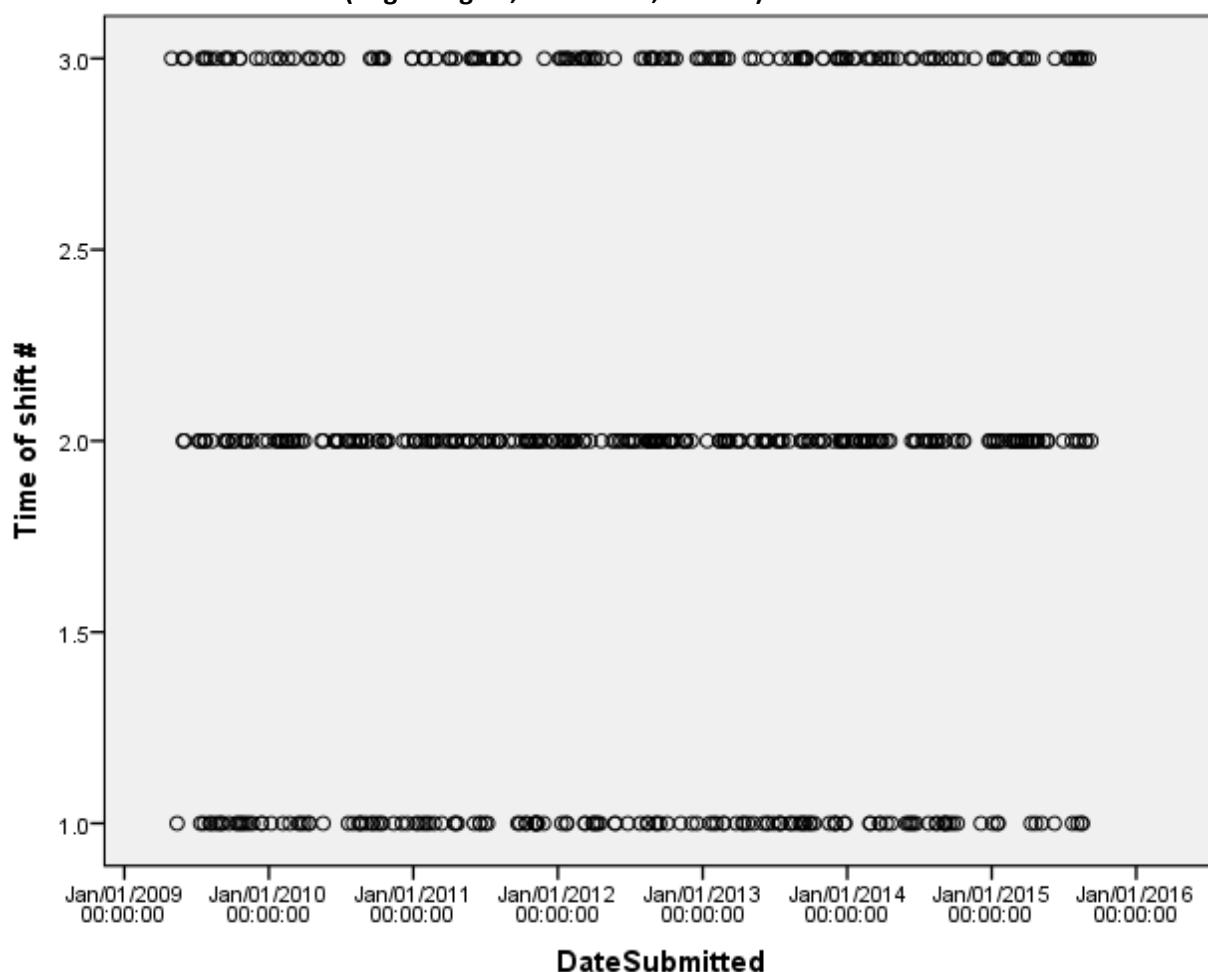

A scatter plot between Time of Shift and Date Command Error Submitted is shown in the graph above. As can be seen from the graph Time of Shift (beginning of shift - 1, middle of shift – 2, and end of shift – 3) did not significantly change over the five years of data. Furthermore, the Pearson correlation of 0.059 indicates a weak relationship between Time of Shift and the Date the Command error was submitted.

Correlations

		Date Submitted	Time of shift #
DateSubmitted	Pearson Correlation	1	.059
	Sig. (2-tailed)		.153
	N	592	592
Time of shift #	Pearson Correlation	.059	1
	Sig. (2-tailed)	.153	
	N	592	592

Bar Chart: Time of Shift (beginning - 1, middle – 2, end – 3) vs Flight Controller Loss of Mission Cognizance a Factor in command error – 1, was not a Factor -0.
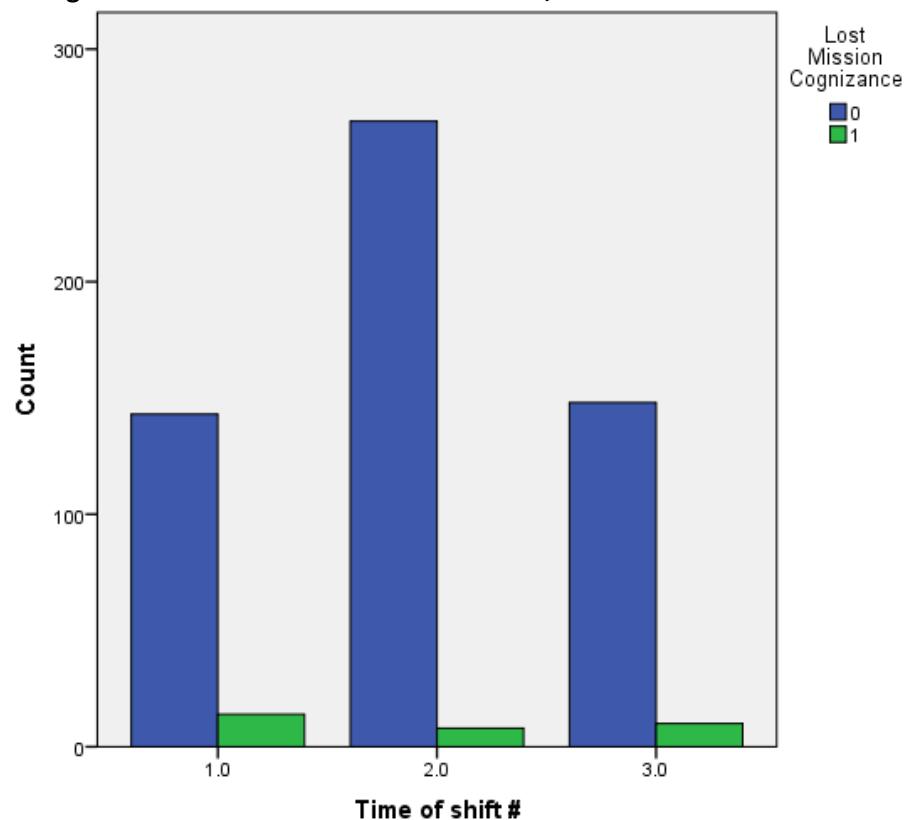
A bar chart of time of shift and if loss of mission cognizance actually shows fewer command errors were impacted due to the Flight Controller losing situational awareness during the middle of the shift. This bar chart shows higher counts during the beginning and end of the shift.

The Pearson correlation (-0.042) between time of shift and loss of mission cognizance is negative. This is seen as command errors increased in the middle of the shift, the number of errors impacted by the Flight Controllers loss of mission cognizance decreased. Additionally, the Pearson correlation (-0.042) is close to zero, indicating these two variables have a very low correlation.

Correlations

		Lost Mission Cognizance	Time of shift #
Lost Mission Cognizance	Pearson Correlation	1	-.042
	Sig. (2-tailed)		.313
	N	592	592
Time of shift #	Pearson Correlation	-.042	1
	Sig. (2-tailed)	.313	
	N	592	592