1. The independent variable is the condition (congruent or incongruent) because the time recorded depends on the condition.

2. An appropriate null hypothesis would be that participants will have shorter congruent times. The alternate hypothesis is that the incongruent condition will provide shorter times.. This can be tested using the provided data or by testing the hypothesis on myself by taking the test myself.

3. The average congruent time is 14.051 while the average incongruent time is 22.016. So, on average the congruent condition provided lower times than the incongruent condition. The standard deviation for congruent is 3.6 while for incongruent it is 5.8. This just means that on average, the times for congruent seem to be closer to the average time, than for incongruent. This could be because it is easy to read a color when it is colored in the same color. It is more difficult to read a color when it is colored in a different color. Still, some people may find it easy and others not so much. So, there is a greater disparity in incongruent vs congruent.
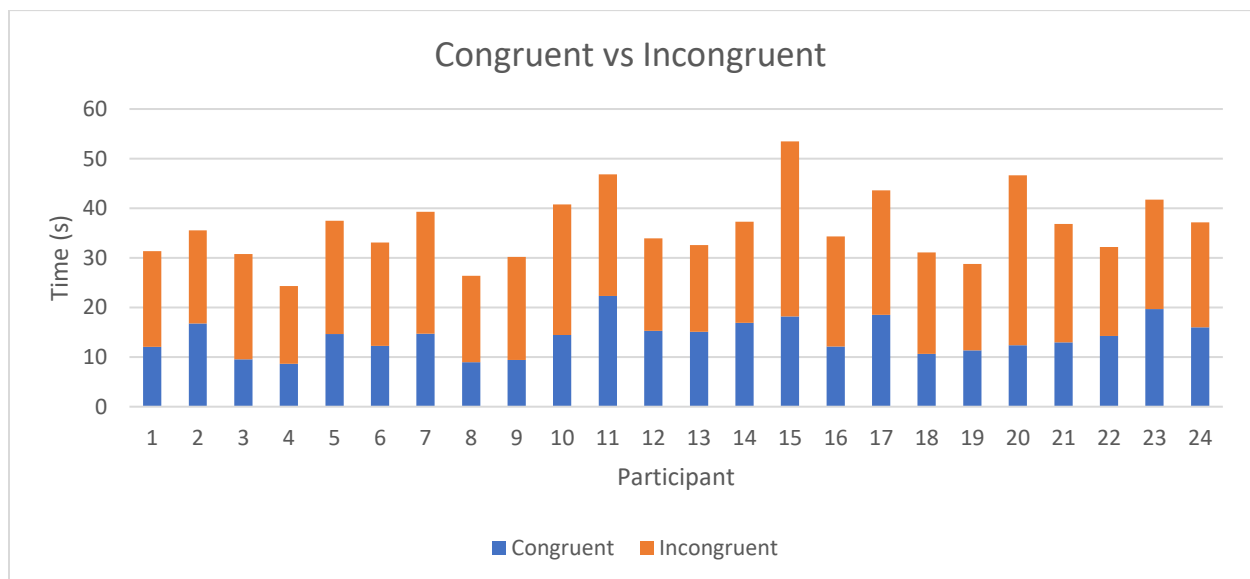
4. This graph displaying the time makes it much easier to notice that the incongruent times were noticeably greater than the congruent times. In many instances, the incongruent times were about 50% greater than congruent times.

5. The data shows that the incongruent times take longer to complete than the congruent times. We will use a T-test, with a confidence level of 95% and 23 degrees of freedom since we have 24 participants. We have a T-critical value of 1.714 for one-tail. So, when we calculate the difference it's 7.964 and a standard error of 1.194, with t- statistic 6.676 and the P-value is less than 0.0001, meaning the difference is extremely statistically significant. Therefore, we accept the null hypothesis and from all the data we can see that the mean time of each test and notice that the mean times are not equal. My null hypothesis was that the congruent times were smaller than the incongruent times, so we therefore accept the null hypothesis and reject the alternative hypothesis which said that the times would be the same.

			Congruent	Incongruent
27			Congruent	Incongruent
28				
29	Count		24	24
30				
31	Total Count	48		
32				
33	Average		14.052	22.016
34				
35	Standard Deviation		3.559357958	5.801527598
36				
37	Difference of Average	7.964		
38				
39	Standard Error	1.194		
40				
41	Confidence level	95%		
42				
43	T-Statistic	6.676		