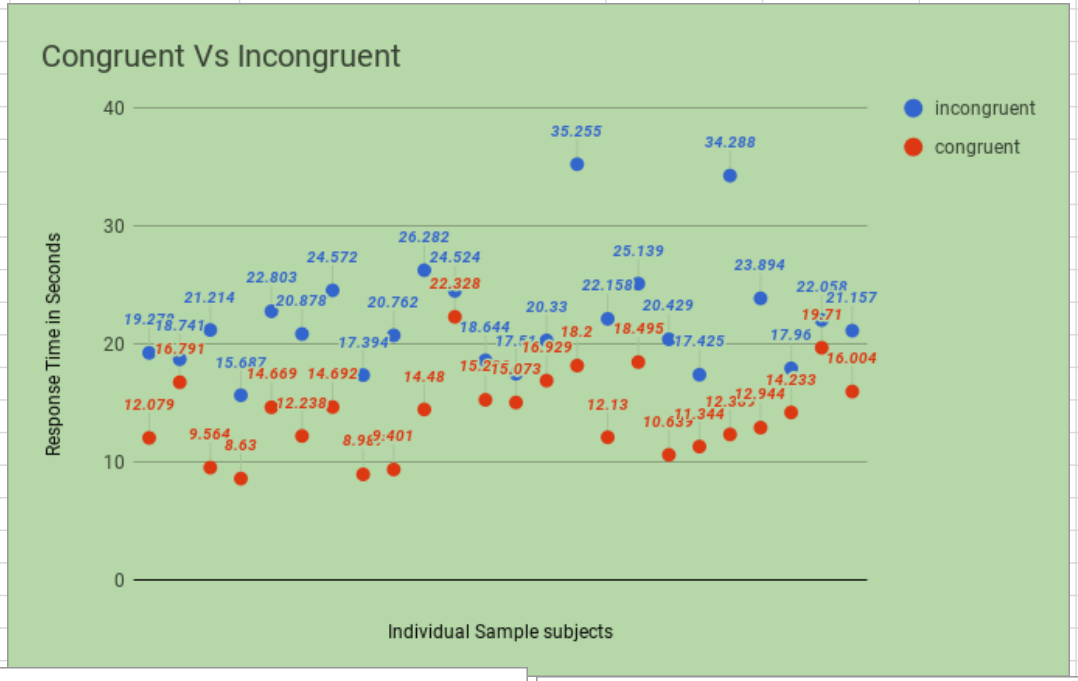
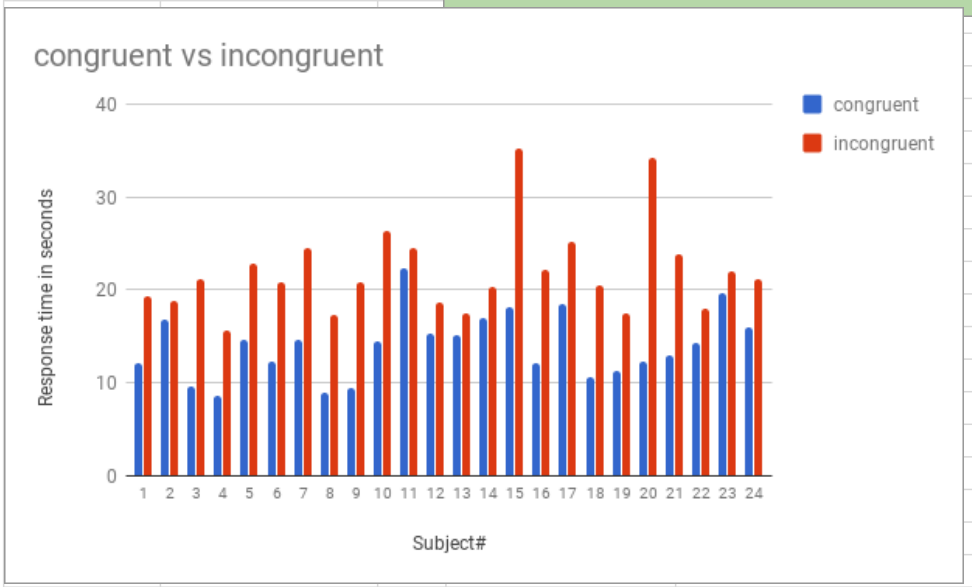
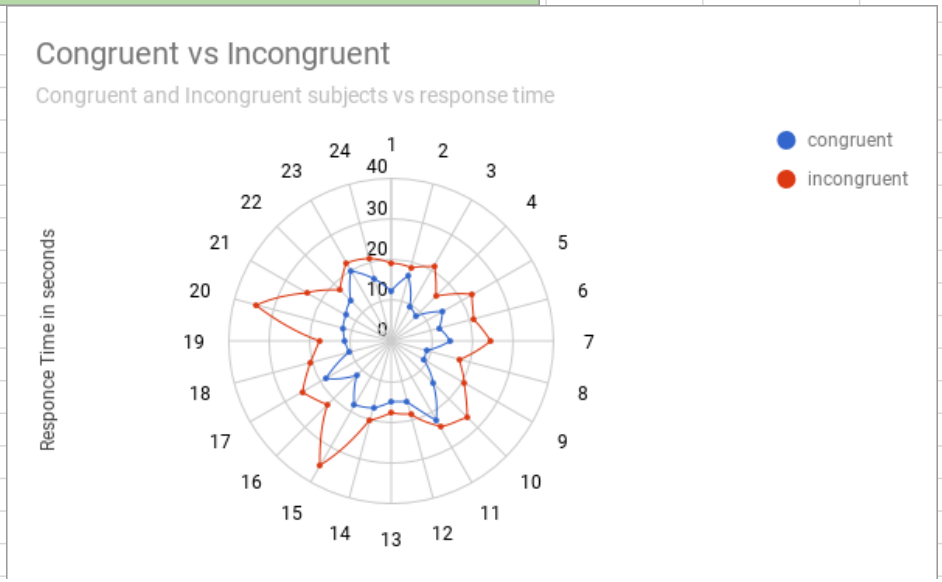
congruent	incongruent	Subjec	Congruent - Deviation From mean	Congruent - Squared Deviation From mean	Congruent - Variance	Congruent - Standard Error	Incongruent - Deviation From Mean	Incongruent - Squared Deviation From Mean	Incongruent - Variance	Incongruent - Standard Error
12.079	19.278	1	-1.972125	3.889277016	12.66902907	3.559357958	-2.737916667	7.496187674	23.01175704	4.797057122
16.791	18.741	2	2.739875	7.506915016			-3.274916667	10.72507917		
9.564	21.214	3	-4.487125	20.13429077			-0.8019166667	0.6430703403		
8.63	15.687	4	-5.421125	29.38859627			-6.328916667	40.05518617		
14.669	22.803	5	0.617875	0.3817695156			0.7870833333	0.6195001736		
12.238	20.878	6	-1.813125	3.287422266			-1.137916667	1.29485434		
14.692	24.572	7	0.640875	0.4107207656			2.556083333	6.533562007		
8.987	17.394	8	-5.064125	25.64536202			-4.621916667	21.36211367		
9.401	20.762	9	-4.650125	21.62366252			-1.253916667	1.572307007		
14.48	26.282	10	0.428875	0.1839337656			4.266083333	18.19946701		
22.328	24.524	11	8.276875	68.50665977			2.508083333	6.290482007		
15.298	18.644	12	1.246875	1.554697266			-3.371916667	11.36982201		
15.073	17.51	13	1.021875	1.044228516			-4.505916667	20.30328501		
16.929	20.33	14	2.877875	8.282164516			-1.685916667	2.842315007		
18.2	35.255	15	4.148875	17.21316377			13.23908333	175.2733275		
12.13	22.158	16	-1.921125	3.690721266			0.1420833333	0.02018767361		
18.495	25.139	17	4.443875	19.74802502			3.123083333	9.753649507		
10.639	20.429	18	-3.412125	11.64259702			-1.586916667	2.518304507		
11.344	17.425	19	-2.707125	7.328525766			-4.590916667	21.07651584		
12.369	34.288	20	-1.682125	2.829544516			12.27208333	150.6040293		
12.944	23.894	21	-1.107125	1.225725766			1.878083333	3.527197007		
14.233	17.96	22	0.181875	0.03307851562			-4.055916667	16.45046001		
19.71	22.058	23	5.658875	32.02286627			0.04208333333	0.001771006944		
16.004	21.157	24	1.952875	3.813720766			-0.8589166667	0.7377378403		
14.051125	22.01591667	**<- Mean values**								

Data Visualization







Statistical Test

Difference in Congruent and Incongruent	Deviation from mean	Square	Variance	Standard Error	Point Estimate
7.199	-0.7657916667	0.5864	23.66654087	4.86482691	7.964791667
1.95	-6.014791667	36.177			
11.65	3.685208333	13.580		**t-statistics ->**	8.020706944
7.057	-0.9077916667	0.8240		**Degree of freedom(sample size - 1) ->**	23
8.134	0.1692083333	0.0286		**t-critical from t-table for alpha level 0.05 for two tailed t-test for 23 degree of freedom->**	-2.069 or +2.069
8.64	0.6752083333	0.4559			
9.88	1.915208333	3.6680		**Null Hypotheses ->**	The null hypotheses is that there is no change in the response time in recognizing the congruent words vs the response time in recognizing the incongruent words. i.e.,(μc = μi) or (μc - μi = 0).
8.407	0.4422083333	0.1955		**Alternative Hypotheses ->**	The alternative hypotheses is that there is a significant difference in the response time in recognizing the congruent words vs the response time in recognizing the incongruent words. That is the reponse time would have either increased or decreased significantly and is not by chance. i.e., (μc ≠ μi) or (μc - μi ≠ 0).
11.361	3.396208333	11.534			
11.802	3.837208333	14.724		Margin of Error ->	2.054576245
2.196	-5.768791667	33.278		**Critical Interval - Lower point->**	5.910215421
3.346	-4.618791667	21.333		**Critical Interval - Upper point->**	10.01936791
2.437	-5.527791667	30.556			
3.401	-4.563791667	20.828			
17.055	9.090208333	82.631			
10.028	2.063208333	4.2568			
6.644	-1.320791667	1.7444			
9.79	1.825208333	3.3313			
6.081	-1.883791667	3.5486		**Conclusion ->**	Since t-statistics is greater than positive t-critical value, we can conclude that the t-statistics falls in the critical region. Hence we can **reject the Null Hypotheses**.
21.919	13.95420833	194.71			We can conclude that Incongruent condition will require more response time than Congruent condition.
10.95	2.985208333	8.9114			
3.727	-4.237791667	17.958			
2.348	-5.616791667	31.548			
5.153	-2.811791667	7.9061			
7.964791667	**<- Mean of difference between Congruent and Incongruent**				

2.06865761 <- Calculating the T-Critical using TINV(0.05,23)