

SUPER

Females	n	60
	Mean	44.2
	SD	13.79042

F-Test Two-Sample for Variances

	Variable 1	Variable 2
Mean	52.91333333	44.23333333
Variance	233.1289718	190.1758192
Observations	60	60
df	59	59
F	1.225860221	
P(F<=f) one-tail	0.21824624	
F Critical one-tail	1.539956607	

p2 0.43649248

The means show that the Male gender have a higher income of 51.913 in comparison to Females with 44.233
The sample variances are $M=233.129$ and $F=190.179$. The observed F statistic is 1.26 with 59 degrees of freedom for both, giving a two-tailed p value of 0.436
The F test score is below 2.5 so a null hypothesis can be rejected thus validating males having a higher income than females
The variance of Variable 1 is greater than the variance of Variable 2
Since the F statistic (1.225860221) is less than the F critical value (1.539956607), we fail to reject the null hypothesis
The one-tail p-value 0.218 is greater than the significance level of 0.05 which means that we fail to reject the null hypothesis.

t-Test: Two-Sample Assuming Equal Variances

	Variable 1	Variable 2
Mean	52.91333333	44.23333333
Variance	233.1289718	190.1758192
Observations	60	60
Pooled Variance	211.6523955	
Hypothesized Mean Difference	0	
df	118	
t Stat	3.267900001	
P(T<=t) one-tail	0.000709735	
t Critical one-tail	1.657869522	
P(T<=t) two-tail	0.00141947	
t Critical two-tail	1.980272249	

Difference in means	8.68
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The mean of Variable 1 is greater than the mean of Variable 2.
The t statistic 3.268 is greater than the t critical value of 1.658, we reject the null hypothesis.
The one-tail p-value 0.0007 is less than the significance level of 0.05 which further supports rejecting the null hypothesis.
We can conclude that the mean of Variable 1 is significantly greater than the mean of Variable 2 at the 0.05 significance level. This means Variable 1 is more effective than Variable 2.