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EDG500

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Lab 14 Step by Step

T-Test

Group Statistics

Experimental and Control Groups		N	Mean	Std. Deviation	Std. Error Mean
Attitude Toward Drinking and Driving	Experimental Group	7	10.5714	1.61835	0.61168
	Control Group	5	13.8000	2.28035	1.01980

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Attitude Toward Drinking and Driving	Equal variances assumed	0.071	0.795	-2.886	10	0.016	-3.22857	1.11889	-5.72162	-0.73553
	Equal variances not assumed			-2.715	6.808	0.031	-3.22857	1.18918	-6.05666	-0.40048

Figure 14.11 SPSS Statistics output for independent-samples *t* test.

Lab 14 Exercise:

T-Test

Group Statistics

Experimental and Control Groups		N	Mean	Std. Deviation	Std. Error Mean
Calculus Final Exam Scores	Experimental Group	5	30.6000	4.87852	2.18174
	Control Group	5	30.8000	3.56371	1.59374

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Calculus Final Exam Scores	Equal variances assumed	0.675	0.435	-0.074	8	0.943	-0.20000	2.70185	-6.43048	6.03048
	Equal variances not assumed			-0.074	7.323	0.943	-0.20000	2.70185	-6.53222	6.13222

Figure 14.12 SPSS Statistics output for independent-samples *t* test.

- What is the mean for the experimental group? 30.60
- What is the mean for the control group? 30.80
- What is the value of *t*? -.074
- What is the associated probability? .943
- Is the difference between the experimental group's mean and the control group's mean statistically significant at the .05 level?
No, it is insignificant.

f. Write a statement of the results of the significance test.

The mean for Group 1 ($m = 30.60$, $sd = 4.88$) is slightly lower than the mean for Group 2 ($m = 30.80$, $sd = 3.56$) on final exam scores in Calculus. The difference between the two means is not statistically significant at the .05 level ($t = -.074$, $df = 8$).