

Class 6 Homework

1. An HR Director wants to know if there is a difference between Dept 1 and Dept 2 in their employee performance evaluation ratings. The performance evaluation scores for the two departments are below. Perform a t -Test on the data to answer the Director's question.
 - a. What is the Null Hypothesis (H_0)?
 - b. What is the Research Question or Alternative Hypothesis (H_a)?
 - c. Perform the t -Test and show the results (two sample assume equal variance).
 - d. Is there a significant difference in the two departments' performance evaluation ratings? Explain.
 - e. Do you reject or fail to reject the H_0 ?

Dept 1	Dept 2
3.15	3.2
3.1	3.25
2.95	3.1
3.2	3.6
3.4	2.9
3.12	2.8
3.6	3.1
2.5	3.5
2.8	3.4
2.75	2.8
2.1	2.7
3	3.7
3.2	3.2
3.5	3.5
3.8	3.2
3.2	2.8
3.4	2.15
3.2	2.9
2.6	3.16
2.8	3.14

ESSAY CHOICES

2. Another organization wants to perform a similar analysis on Department A's and Department B's performance evaluation scores.
 - a. What is the Null Hypothesis (H_0)?
 - b. What is the Research Question or Alternative Hypothesis (H_a)?
 - c. Perform the t -Test and show the results (two sample assume equal variance).
 - d. Is there a significant difference in the two departments' performance evaluation ratings? Explain.
 - e. Do you reject or fail to reject the H_0 ?

Dept A	Dept B
3.1	3.1
3.6	3.1
3.2	3.2

3.5	3.4
3.1	3.2
2.9	3.3
3.5	3.1
3.6	2.9
3.7	3.1
3.5	3.6
2.9	3.2
3.2	3.3
3.6	3.4
3.5	3.3
3.4	3.1
2.9	2.8
3.4	2.9
3.3	3.1
3.5	3.2
3.4	3.1

3. Review the correlation table in the correlation article provided in Week 6 Notes on page 8 of 16. A screen shot of the table is also included below.
- What is the null hypothesis for determining the correlation of Self-efficacy and Extraversion?
 - Describe the correlation of Self-efficacy with Extraversion in statistical terms and in terms which explain the statistical terms.
 - Do you reject or fail to reject the Ho?
 - What is the null hypothesis determining the correlation of Self-efficacy and Neuroticism?
 - Describe the correlation of Self-efficacy with Neuroticism in statistical terms and in terms which explain the statistical terms.
 - Do you reject or fail to reject the Ho?

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Table 2 Correlations between personality traits, self-efficacy, positive affect, negative affect, and life satisfaction

	1	2	3	4	5	6	7	8
1 Extraversion	1							
2 Openness	-.07	1						
3 Agreeableness	.31**	-.02	1					
4 Conscientiousness	-.32**	.13*	.28*	1				
5 Neuroticism	-.58**	-.01	-.41**	-.37**	1			
6 Self-efficacy	.43**	.24**	.17**	.46**	-.39**	1		
7 Positive affect	.44**	.08	.19**	.20**	-.31**	.29**	1	
8 Negative affect	-.35**	0	-.24**	-.28**	.45**	-.20**	-.18**	1
9 Life satisfaction	.30**	-.02	.24**	.23**	-.35**	.25**	.32**	-.22**

* $p < .05$, two-tailed. ** $p < .01$, two-tailed

4. Use the following data to perform a regression analysis.
- What is the null hypothesis?
 - What is the alternative Hypothesis?
 - What is the R^2
 - What is the regression equation?
 - Is it significant? How can you tell?
 - What is the forecast for month 13?

Month	Sales
1	132
2	131
3	134
4	140
5	141
6	142
7	144
8	143
9	146
10	145
11	148
12	148

ESSAY CHOICES