

Redo of Homework 6 Answers

Part 1—California results

Cal1. How would you very succinctly describe the relationship of the variable RawImm4 with its weakest demographic (age, education and income) predictor?

Education \leftrightarrow RawImm4: $r = .034$; $p < .184$.

Cal2. What percent of the variation in RawImm4 is due to this variable?

.116% about 1/10th of a percent

Cal3. What percent of the variation in the measure RawImm4 is explained by variation in liberal5?

22.5%

Cal4. How much more of the variation in RawImm4 is explained by Democrat5 than is explained by Dem3?

12.5%

Cal5. What is the correlation between age and political interest?

.175

Cal6. What is the correlation between age and income?

.114

Cal7. What percent of the variation in interest is explained by income?

5.5%

Cal8. Write out the equation for the regression of RawImm4 on liberal5?

RawImm4 = 1.504 + 2.432(liberal5)

Cal9. How significant is the slope in this equation?

< .001

Cal10. How well does this equation fit the data?

Explains 22.4% of the variation since $R^2 = .224$

Part 2—Texas results

Tex1. How would you succinctly describe the relationship of each of the dependent variables ImmIncl and ImmExcl with their weakest demographic (age, education and income) predictor?

educR \leftarrow -.075 \rightarrow ImmIncl; p < .021;
incomeR \leftarrow .008 \rightarrow ImmExcl; p < .805.

Tex2. What percent of the variation in each of the measures ImmIncl and ImmExcl is explained by variation in liberal5?

ImmIncl $.482^2 = 23.23\%$; ImmExcl $-.586^2 = 34.34\%$.

Tex3. What is the correlation between age and political interest?

r = .167

Tex4. What is the correlation between age and income?

r = -.038 (note p =.226)

Tex5. With reference to the following output write out the equation for the regression of ImmIncl on liberal5.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.462 ^a	.213	.212	.72958

a. Predictors: (Constant), liberal5

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.200	.045		26.539	.000
	liberal5	1.326	.083	.462	16.027	.000

a. Dependent Variable: ImmIncl

ImmIncl = 1.200 + 1.326 (liberal5)

Tex6. With reference to the following output write out the equation for the regression of ImmExcl on liberal5.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.586 ^a	.344	.343	.66891

a. Predictors: (Constant), liberal5

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.005	.039		76.971	.000
	liberal5	-1.716	.075	-.586	-22.982	.000

a. Dependent Variable: ImmExcl

$$\text{ImmExcl} = 3.005 - 1.716 (\text{liberal5})$$

Tex7. Referring to the output presented as part of Tex5 & Tex6, how significant is the slope in each equation?

Both are significant at less than .001 or $p < .001$; $p < .001$.

Tex8. How well does each equation fit the data?

Adj $R^2 = .212$ for ImmIncl; Adj $R^2 = .343$ for ImmExcl.

Tex9. How much more or less effective is liberal5 in explaining Inclusive attitudes toward immigration in Texas than it is in California?

Adj $R^2 = .224$ for RawImm4 (California);

Adj $R^2 = .212$ for ImmIncl (Texas)

.012 or 1.2%

Tex10. Why might one reasonably say that age is more effective in building personal capital in California than it is in Texas?

Income increases slightly with age in Cal but not in Texas because:

- The California correlation is positive, in Texas it is negative. This suggests that as Californian age their income increases, but as Texans age their income decreases.**
- While the California relationship is significant $p < .001$, the Texas relationship is not, $p = .266$, i.e., not significantly different from zero.**
- The explained variance is greater in California. Cal Age $\leftarrow .114 \rightarrow$ Income or $.114^2 = 1.29\%$. Tex Age $\leftarrow -.038 \rightarrow$ Income or $.038^2 = .14\%$.**