

SOC 3811/5811:  
BASIC SOCIAL STATISTICS

Interpreting Multiple Regression Tables

**Table 1. Regressions of Y on X<sub>1</sub>, X<sub>2</sub>, and X<sub>3</sub>**

	Model 1		Model 2		Model 3	
	b	s.e.	b	s.e.	b	s.e.
X <sub>1</sub>	1.41	(0.44)				
X <sub>2</sub>		---				
X <sub>3</sub>		---				
R <sup>2</sup>		0.21				

Note: n=1,000.

**Table 1. Regressions of Y on  $X_1$ ,  $X_2$ , and  $X_3$**

	Model 1			Model 2			Model 3		
	b	s.e.	t	b	s.e.	t	b	s.e.	t
$X_1$	1.41	(0.44)	<b>3.20</b>						
$X_2$		---							
$X_3$		---							
$R^2$		0.21							

Note: n=1,000.

**Table 1. Regressions of Y on  $X_1$ ,  $X_2$ , and  $X_3$**

	Model 1				Model 2				Model 3			
	b	s.e.	t	p	b	s.e.	t	p	b	s.e.	t	p
$X_1$	1.41	(0.44)	3.20	<b>0.00</b>								
$X_2$		---										
$X_3$		---										
$R^2$		0.21										

Note: n=1,000.

**Table 1. Regressions of Y on  $X_1$ ,  $X_2$ , and  $X_3$**

	Model 1				Model 2				Model 3			
	b	s.e.	t	p	b	s.e.	t	p	b	s.e.	t	p
$X_1$	<b>1.41</b>	(0.44)	3.20	0.00	<b>1.34</b>	(0.47)	2.85	0.00				
$X_2$		---			-0.35	(0.17)	-2.06	0.04				
$X_3$		---					---					
$R^2$		0.21				0.25						

Note: n=1,000.

**Table 1. Regressions of Y on  $X_1$ ,  $X_2$ , and  $X_3$** 

	Model 1				Model 2				Model 3			
	b	s.e.	t	p	b	s.e.	t	p	b	s.e.	t	p
$X_1$	1.41	(0.44)	3.20	0.00	<b>1.34</b>	(0.47)	2.85	0.00	<b>1.20</b>	(0.45)	2.67	0.01
$X_2$		---			<b>-0.35</b>	(0.17)	-2.06	<b>0.04</b>	<b>-0.21</b>	(0.14)	-1.50	<b>0.13</b>
$X_3$		---				---			0.05	(0.03)	1.92	0.05
$R^2$		0.21				0.25				0.30		

Note: n=1,000.

**Table 1. Regressions of Y on  $X_1$ ,  $X_2$ , and  $X_3$** 

	Model 1				Model 2				Model 3			
	b	s.e.	t	p	b	s.e.	t	p	b	s.e.	t	p
$X_1$	1.41	(0.44)	3.20	0.00	1.34	(0.47)	2.85	0.00	1.20	(0.45)	2.67	0.01
$X_2$		---			-0.35	(0.17)	-2.06	0.04	-0.21	(0.14)	-1.50	0.13
$X_3$		---				---			0.05	(0.03)	1.92	0.05
$R^2$		0.21				0.25				0.30		

Note: n=1,000. \* =  $p < 0.10$  ; \*\* =  $p < 0.05$  ; \*\*\* =  $p < 0.01$  (two-tailed tests)

**Table 1. Regressions of Y on  $X_1$ ,  $X_2$ , and  $X_3$** 

	Model 1				Model 2				Model 3			
	b	s.e.	t		b	s.e.	t		b	s.e.	t	
$X_1$	1.41	(0.44)	3.20	***	1.34	(0.47)	2.85	***	1.20	(0.45)	2.67	**
$X_2$		---			-0.35	(0.17)	-2.06	**	-0.21	(0.14)	-1.50	
$X_3$		---				---			0.05	(0.03)	1.92	*
$R^2$		0.21				0.25				0.30		

Note: n=1,000. \* =  $p < 0.10$  ; \*\* =  $p < 0.05$  ; \*\*\* =  $p < 0.01$  (two-tailed tests)



**Table 1. Regressions of Y on  $X_1$ ,  $X_2$ , and  $X_3$** 

	Model 1		Model 2		Model 3	
	b	s.e.	b	s.e.	b	s.e.
$X_1$	1.41	(0.44) ***	1.34	(0.47) ***	1.20	(0.45) **
$X_2$		---	-0.35	(0.17) **	-0.21	(0.14)
$X_3$		---		---	0.05	(0.03) *
$R^2$		0.21		0.25		0.30

Note: n=1,000. \* =  $p < 0.10$  ; \*\* =  $p < 0.05$  ; \*\*\* =  $p < 0.01$  (two-tailed tests)

**Table 1. Regressions of Y on  $X_1$ ,  $X_2$ , and  $X_3$** 

	Model 1	Model 2	Model 3
	b	b	b
$X_1$	1.41 ***	1.34 ***	1.20 **
$X_2$	---	-0.35 **	-0.21
$X_3$	---	---	0.05 *
$R^2$	0.21	0.25	0.30

Note: n=1,000. \* =  $p < 0.10$  ; \*\* =  $p < 0.05$  ; \*\*\* =  $p < 0.01$  (two-tailed tests)

# How to Read Regression Results In Research Articles

1. Read the abstract; skim the front end of the paper (up until the “data” or “methods” part)
2. Read the “Data” or “Methods” section carefully
  - a. Where do the data come from? How were cases sampled? How many of them are there? What were response rates?
  - b. How are key concepts and variables measured?
  - c. Study “Table 1” (table of descriptive statistics)
3. Study the OLS regression table
  - a. Interpret the results
  - b. Read the text describing the results

*THE EFFECT OF MIDDLE  
SCHOOL EXTRACURRICULAR  
ACTIVITIES ON ADOLESCENTS'  
POPULARITY AND PEER STATUS*

DONNA EDER

Indiana University

DAVID A. KINNEY

Urban Education Project

**TABLE 2**  
**Estimates of the Effects of Extracurricular Activities on**  
**Popularity in Seventh Grade (Model 1), and**  
**When Controlling for Sixth-Grade Popularity (Model 2)**

<i>Variable</i>	<i>Small Schools</i>		<i>Large School</i>	
	<i>Model 1</i>	<i>Model 2</i>	<i>Model 1</i>	<i>Model 2</i>
	Males			
Father's education	-.026	-.024	.133*	.102
Mother's education	-.021	-.039	.102	.095
Honor roll	.159	-.046	.146*	.102
Football	.118	.102	.249***	.182**
Basketball	.413***	.021	.277***	.164**
Wrestling	.093	.048	.056	.053
Track	.195*	.122	—	—
Choral	.195	.088	.035	.018
Band	.017	.022	-.174	-.089
Popularity: sixth grade	—	.674***	—	.407***
Adjusted $R^2$	.292	.516	.251	.391
Number of cases	96	96	103	103
	Females			
Father's education	-.022	-.055	.042	-.013
Mother's education	-.069	.033	-.104*	-.079
Honor roll	-.010	-.058	.046	-.010
Cheerleading	.412***	.094	.700***	.390***
Volleyball	.067	-.008	.126*	.093*
Basketball	.418***	.176**	.152**	.094*
Track	.008	.015	—	—
Gymnastics	—	—	.091*	.068
Choral	.152	.003	-.081	-.111*
Band	.121	.010	-.117*	-.144**
Popularity: sixth grade	—	.794***	—	.470***
Adjusted $R^2$	.450	.848	.522	.698
Number of cases	75	75	108	108

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

# **Aggressive Policing and the Mental Health of Young Urban Men**

| Amanda Geller, PhD, Jeffrey Fagan, PhD, Tom Tyler, PhD, and Bruce G. Link, PhD

**TABLE 2—Estimated Predictors of Anxiety Symptoms (BSI Subscale) Ordinary Least Squares Parameter Estimates and SEs: Survey of Associations Between Police Contact and Mental Health, New York City, September 2012–March 2013**

Variable	Model 1, b (SE)	Model 2, b (SE)	Model 3, b (SE)
Stops			
Total lifetime	0.05** (0.02)	0.04* (0.01)	0.02 (0.01)
Any past year, yes or no		-0.96 (0.59)	0.15 (1.44)
Intrusion		0.43*** (0.14)	0.55 (0.28)
Procedural justice			
Global			-0.12* (0.05)
Critical stop			-0.01 (0.04)
Global × intrusion			-0.01 (0.02)
Critical × intrusion			-0.01 (0.01)
Selection parameter, IPT	-0.41 (0.78)	-0.34 (0.77)	-0.16 (0.77)
Race/ethnicity			
Black	-2.05** (0.76)	-2.11** (0.76)	-2.36** (0.75)
Hispanic	-1.81** (0.64)	-1.84** (0.64)	-1.80** (0.62)
Other or unknown	-0.55 (0.79)	-0.64 (0.79)	-0.76 (0.77)
Education			
< high school	0.88 (0.77)	0.77 (0.76)	0.65 (0.74)
Some college or technical school	0.16 (0.48)	0.18 (0.64)	0.08 (0.48)
College graduate	-0.89 (0.58)	-0.78 (0.76)	-0.91 (0.58)
Self-reported criminal activity	1.58*** (0.47)	1.44** (0.46)	1.37** (0.45)
Public housing	0.80 (0.77)	0.58 (0.76)	0.48 (0.76)
Neighborhood FE included, yes or no	Yes	Yes	Yes
Number of observations per imputation	1229	1229	1229

*Note.* BSI = Brief Symptom Inventory; FE = fixed effects; IPT = inverse probability of treatment. Analyses are derived from multiply imputed data ( $m = 50$  imputations).

\* $P \leq .05$ ; \*\* $P \leq .01$ ; \*\*\* $P \leq .001$ .



Skin Tone Stratification

# **Skin Tone Stratification among Black Americans, 2001–2003**

Ellis P. Monk Jr., *University of Chicago*

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**Table 2. Results of OLS Regression, Household Income**

	Household income All
Age	0.006** (0.00181)
Female	-0.205*** (0.0412)
Mother's education	0.0107† (0.00625)
Years of education	0.129*** (0.00811)
Employed	0.495*** (0.0420)
Married	0.511*** (0.0385)
Region (south)	-0.058 (0.0576)
Rural	-0.005 (0.0472)
Skin color scale	0.029* (0.0145)
Constant	7.648*** (0.173)
<i>N</i>	2,547
<i>r</i> <sup>2</sup>	0.33

**Note:** Household income is log(household income). Standard errors in parentheses. All analyses are weighted in order to account for the survey's complex design (e.g., clustering and stratification).

\*\*\*  $p < .001$  \*\*  $p < .01$  \*  $p < .05$  †  $p < .10$  (two-tailed tests)



Student Loan Debt and Time Use in College

# **Responsibility or Liability? Student Loan Debt and Time Use in College**

Natasha Yurk Quadlin and Daniel Rudel, *Indiana University*

**Table 2. Linear Regression of Hours Spent in Time Use Categories, N = 3,676**

	Academics	Work	Media	Athletics	Party	Student groups	Sleep
Student loan debt (binary)	1.23 (1.15)	1.22** (.38)	-.59 (1.08)	-.98* (.41)	.29 (.28)	-.84 (.65)	.32 (.50)
Student loan debt (cont.)	-.21 (.14)	-.05 (.05)	.41** (.14)	.01 (.05)	-.04 (.03)	-.08 (.08)	-.08 (.06)
Grants	-.04 (.05)	.00 (.02)	.04 (.05)	.02 (.02)	.03* (.01)	.09** (.03)	-.03 (.02)
Parent contributions	-.04 (.05)	-.06*** (.01)	.11 (.06)	.00 (.02)	.08*** (.02)	.04 (.02)	-.02 (.02)
Own contributions	.85** (.30)	2.16*** (.22)	-.28 (.44)	.11 (.12)	.05 (.12)	.45 (.28)	-.15 (.19)
Cost of attendance	.41* (.16)	.12** (.03)	-.43* (.16)	-.10* (.05)	-.19* (.07)	-.16** (.05)	.01 (.09)
Female	1.92* (.80)	.46* (.21)	-2.40** (.76)	-3.87*** (.42)	-.80** (.23)	-1.91** (.50)	-1.78*** (.30)
Asian	2.65** (.83)	.42 (.33)	1.36 (1.03)	-1.44** (.46)	-1.75*** (.22)	1.33** (.43)	.01 (.56)
Black	.85 (.79)	1.62*** (.36)	7.35*** (.93)	.25 (.55)	-1.22** (.33)	2.40*** (.59)	-2.15** (.68)
Hispanic	2.28* (.84)	1.17** (.33)	3.41** (1.06)	-.80 (.44)	.49 (.41)	.97 (.52)	.08 (.70)
Parents' income	-1.64** (.57)	-1.00*** (.17)	-1.02 (.56)	.22 (.20)	.32 (.17)	-.16 (.27)	.10 (.29)
Parent has degree	.80 (.81)	-.50 (.30)	-.22 (1.19)	.35 (.39)	.55* (.24)	-.05 (.50)	-.03 (.49)
Liberal arts	-4.02* (1.68)	-.55 (.47)	-.98 (1.96)	1.87 (1.04)	.52 (1.01)	-.32 (1.21)	.77 (1.17)
Private research	-4.01* (1.45)	-.57 (.28)	-.03 (1.73)	1.12* (.48)	1.19 (.91)	-.17 (.86)	.67 (.84)
Worked for pay	-1.84** (.54)	- (.00)	-.45 (.89)	-1.56*** (.38)	.28 (.30)	-.13 (.57)	-.70 (.35)
Natural science	4.70*** (1.08)	-.44 (.30)	-2.88 (1.39)	-.23 (.40)	-1.29** (.34)	-.42 (.39)	-1.23* (.53)

**Source:** National Longitudinal Study of Freshmen

**Note:** Unstandardized OLS coefficients. Standard errors are adjusted for clusters of students attending the same college. Omitted categories are no loans, men, white, neither parent has degree, public research, did not work for pay, major other than natural science or pre-med.

\*\*\* $p < 0.001$  \*\* $p < 0.01$  \* $p < 0.05$  (two-tailed tests)

**Can Online Courses Deliver  
In-class Results?  
A Comparison of Student  
Performance and Satisfaction in  
an Online versus a Face-to-face  
Introductory Sociology Course**

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Adam Driscoll<sup>1</sup>, Karl Jicha<sup>1</sup>, Andrea N. Hunt<sup>1</sup>,  
Lisa Tichavsky<sup>1</sup>, and Gretchen Thompson<sup>1</sup>

**Table 2.** Ordinary Least Squares (OLS) Regression Models Predicting Second Exam

Independent and Control Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Course type (online)	-2.944** (0.931)	-1.446 (0.848)	-1.105 (0.881)	-1.009 (0.875)	-1.549 (0.995)
Student GPA		3.741*** (0.391)	3.669*** (0.394)	3.547*** (0.393)	3.532*** (0.395)
Year in school (senior)		0.634 (0.834)	0.789 (0.840)	0.727 (0.835)	0.694 (0.845)
Online courses taken			-0.309 (0.222)	-0.369 (0.221)	-0.405 (0.223)
Like working with others				-0.635 (0.398)	-0.579 (0.400)
Instructor interaction				-0.794 (0.428)	-0.890* (0.433)
Gender (male)					-0.950 (0.839)
Credit hours taken					-0.104 (0.122)
Hours worked per week					0.227 (0.471)
Intercept	1.884*** (0.633)	63.788*** (1.984)	64.356*** (2.022)	69.870*** (2.768)	71.902*** (3.633)
Adjusted R <sup>2</sup>	.024	.216	.217	.232	.231

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ , using a two-tailed t-test. Unstandardized coefficients reported with standard errors in parentheses.