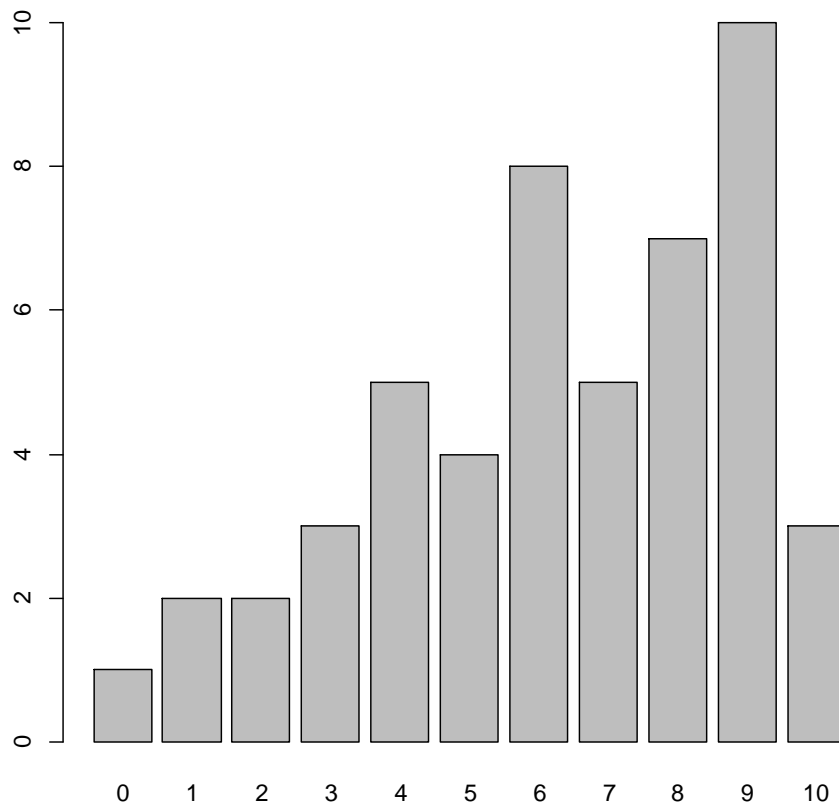


Solutions, R Companion
Chapter 1. Introduction to R

1. `_____cigarettes` `_____gunlaw.scale` `_____attend.pct`

2. `world$gini08`

3. A.



B. Students will run these commands:

```
freq(states$abortlaw)
```

```
printC(freq(states$abortlaw))
```

Number of Abortion Restrictions		
	Frequency	Percent
0	1.00	2.00
1	2.00	4.00
2	2.00	4.00
3	3.00	6.00
4	5.00	10.00
5	4.00	8.00
6	8.00	16.00
7	5.00	10.00
8	7.00	14.00
9	10.00	20.00
10	3.00	6.00
Total	50.00	100.00

4. 'lib()'

Chapter 2. Descriptive Statistics

1. A.

women09

Mean	17.76
Median	16.80

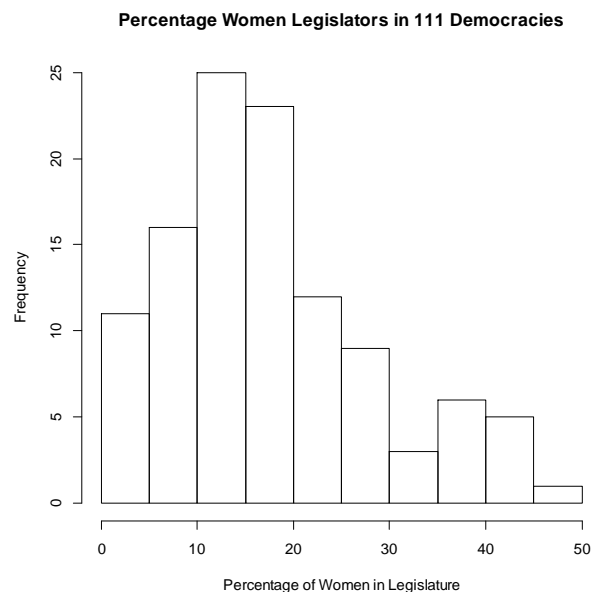
B. Positive skew. The mean, 17.76, is higher than the median, 16.8, suggesting that higher positive values are pulling the mean upward.

C. about 22 percent

D. Lowest percentages: Belize, Micronesia, Nauru, Palau, Solomon Islands

Highest percentages: Finland, Argentina, Iceland, South Africa, Sweden

E.



2. A. Scenario X: Tallest bar at value 6, bars tapering off in symmetrical pattern below and above

6. Scenario Y: Tallest bar at value 6, longer and skinnier tail above 6. Scenario Z: Tallest bar at value 6, longer and skinnier tail below 6.

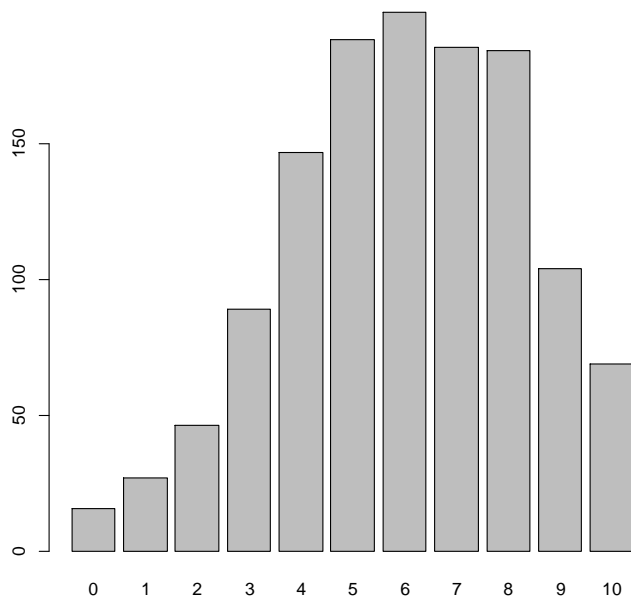
B.

science.quiz.f	Valid Percent	Cum Percent
0	1.25	1.25
1	2.16	3.41
2	3.69	7.09
3	7.09	14.19
4	11.71	25.90
5	15.01	40.91
6	15.81	56.72
7	14.80	71.52
8	14.70	86.22
9	8.29	94.51
10	5.49	100.00
Total	100.00	

C. Scenario Z. Scores of science.quiz.f are centered at 6 (the median) but taper off into a skinnier tail below 6, toward lower scores. This gives the distribution a negative skew.

D. About 60 percent / About 40 percent

E.



3. A. a negative skew / a positive skew / lower than its median / higher than its median

B.

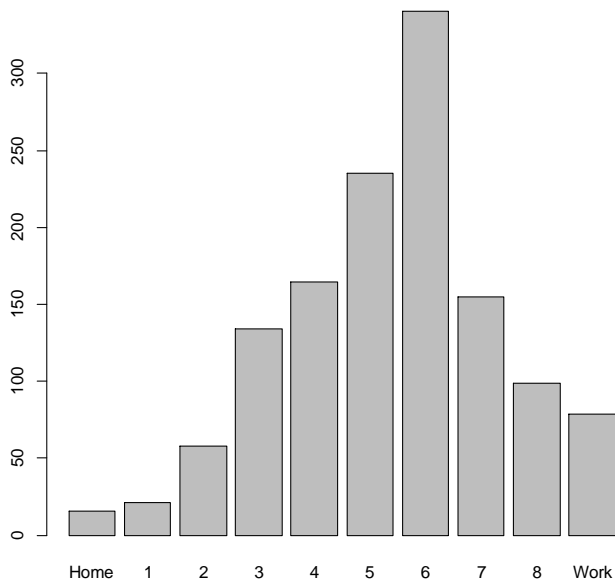
Female role: home, work

Mean	5.351
Median	6.00
Mode	6

C. Bar chart X

D. Pundit 1's. The distribution has a significant negative skew. The median is 6 and the mode is 6, but the mean is 5.351, suggesting that the mean is a poor representation of the center of the distribution. The skinnier left-hand tail is pulling the mean down, below the center of the distribution.

E.



4.

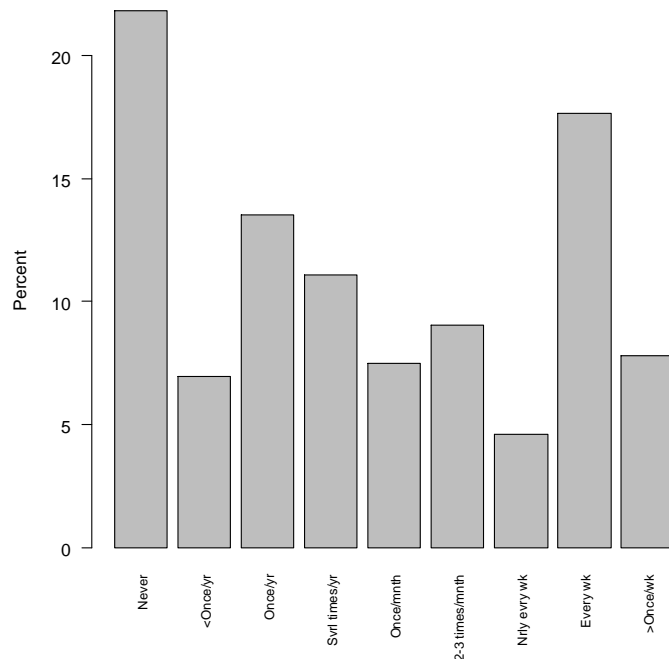
A. Sketch should show 9 equal-height bars (one for each value of attend) inside the shell.

B. Sketch should show 1 bar at any value of attend.

C. Mode = “Never” / Median = “Svrl times/yr”

D. high dispersion.

E.



F.

Attendance at Religious Services			
	Frequency	Valid Percent	Cumulative Percent
Never	439.35	21.83	21.83
< Once/yr	139.79	6.94	28.77
Once/yr	271.94	13.51	42.28
Svrl times/yr	223.33	11.09	53.37
Once/mnth	151.03	7.50	60.88
2-3 times/mnth	182.50	9.07	69.94
Nrly evry wk	92.55	4.60	74.54
Every wk	355.52	17.66	92.20
> Once/wk	157.03	7.80	100.00
NA's	9.96		
Total	2023.00	100.00	

Chapter 3. Transformations

1. A. 25.692 (liberals).

B. 38.593 (moderates).

C. 35.715 (conservatives)

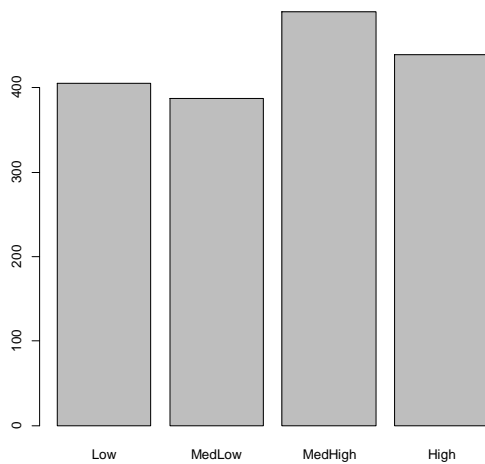
D. liberals: 1, 2, 3 ; moderates: 4 ; conservatives: 5, 6, 7

E. [1, 4) __25.69__ 4 __38.59__ [5, 8) _35.72__

F.

	Frequency	Percent	Valid Percent	Cum Percent
Liberal	498.96	24.66	25.69	25.69
Moderate	749.49	37.05	38.59	64.28
Conservative	693.61	34.29	35.72	100.00
NA's	80.94	4.00		
Total	2023.00	100.00	100.00	

2. A.



B.

	Frequency	Percent	Valid Percent	Cum Percent
Low	405.24	20.03	23.54	23.54
MedLow	387.52	19.16	22.51	46.04
MedHigh	489.59	24.20	28.44	74.48
High	439.38	21.72	25.52	100.00
NA's	301.26	14.89		
Total	2023.00	100.00	100.00	

3. A. 38.26 / B. a code of 1 / C. 38.26

4. A. Between a score of 3 and a score of 6.

B. A score of 5.

C.

Score on gss\$muslim.tol	Frequency	Valid Percent
3	581.85	44.33
4	221.79	16.90
5	175.19	13.35
6	333.80	25.43
		100.00

D.

	Frequency	Percent	Valid Percent	Cum Percent
Low	581.85	28.76	44.33	44.33
Mid	396.97	19.62	30.24	74.57
High	333.80	16.50	25.43	100.00
NA's	710.37	35.11		
Total	2023.00	100.00	100.00	

Chapter 4. Making Comparisons

1. A. a higher mean than do Republicans on jobs.spending.

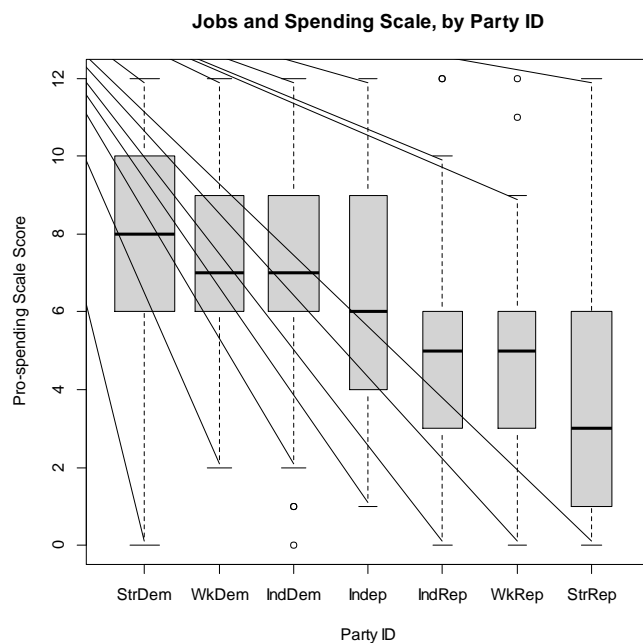
B.

Party identification	Mean	N
StrDem	8.26	167
WkDem	7.00	120
IndDem	6.74	157
Indep	6.65	90
IndRep	4.74	123
WkRep	4.02	121
StrRep	3.51	125
Total	5.96	903

C. Yes. The mean values of the dependent variable decline across the values of the independent variable, from 8.26 among Strong Democrats to 3.51 among Strong Republicans.

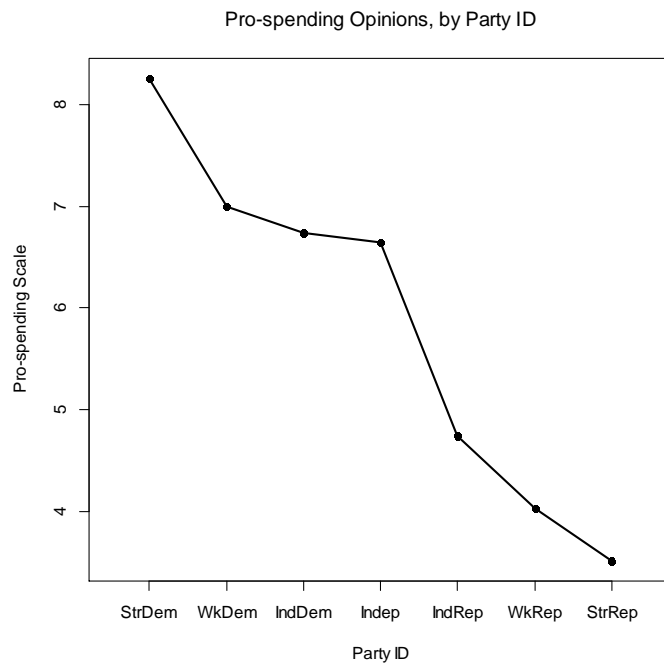
D. No. Then mean for Independents, 6.65, is much closer to the mean for Independent-Democrats, 6.74, than to the mean for the closest Republican group, Independent Republicans (4.74).

E.



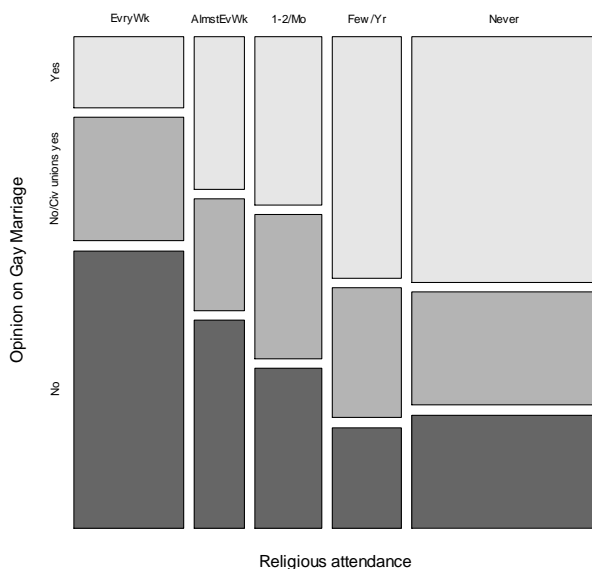
F. No. Because the widths of the boxes are drawn in proportion to the sizes of the groups, we can see that the number of Strong Republicans is smaller than the number of Strong Democrats. This is shown in the mean comparison table, too: 167 Strong Democrats, compared with 125 Strong Republicans. The claim about cohesiveness is incorrect, as well. The interquartile range for Strong Democrats is from 1 to 6, a range of 5. The interquartile range for Strong Republicans ranges from 6 to 10, a range of 4.

G.



2. A.

Gay Marriage Opinions, by Religious Attendance

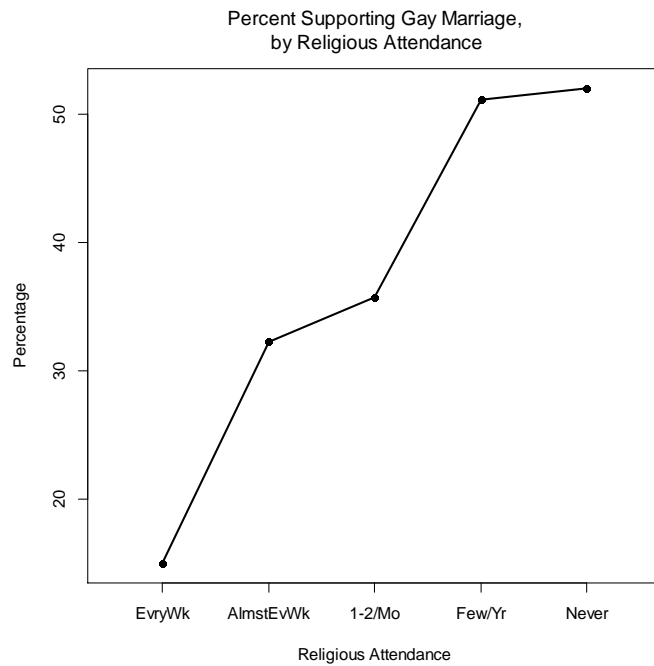


B.

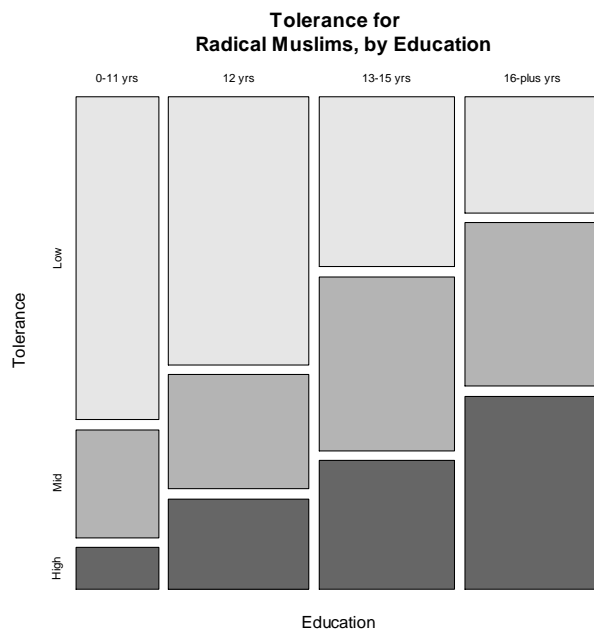
		Frequency of Religious Attendance					
Support Gay Marriage?		EvryWk	AlmstEvWk	1-2/Mo	Few/Yr	Never	Total
Yes	N	76	75	110	164	445	870
	%	15.0	32.3	35.7	51.2	52.0	
No/Civ unions yes	N	133	55	94	88	205	575
	%	26.2	23.7	30.5	27.5	24.0	
No	N	298	102	104	68	205	777
	%	58.8	44.0	33.8	21.2	24.0	
Total	N	507	232	308	320	855	2,222

C. Yes. The percentages of respondents supporting gay marriage increases from 15.0 percent among those you attend every week to 52.0 percent among those who never attend. Students may note the similarity of the percentages for those attending almost every week (32.3 percent) and those attending once or twice a month (35.7 percent). Also, the two least observant groups are quite similar (51.2 percent and 52.0 percent).

D.



3. A.

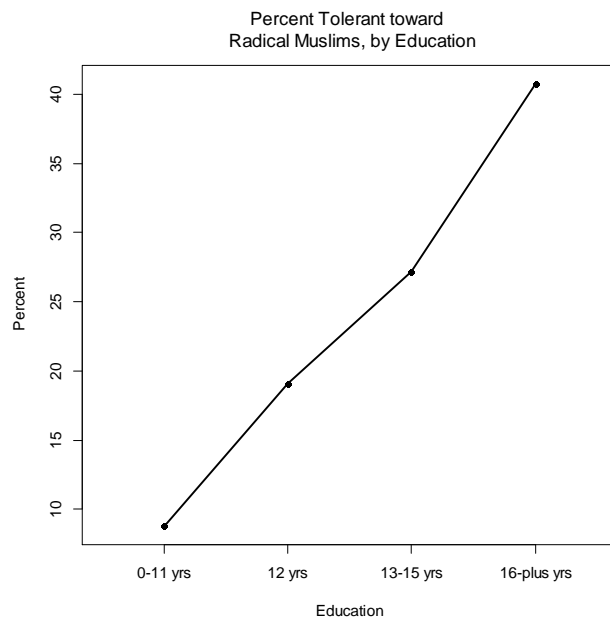


B.

Tolerance toward Radical Muslims, by Education						
Tolerance	Level of Education				Total	
	0-11 yrs	12 yrs	13-15 yrs	16-plus yrs		
Low	N	149	211	130	88	578

	%	68.3	56.7	36.0	24.6	
Mid	N	50	90	133	124	397
	%	22.9	24.2	36.8	34.6	
High	N	19	71	98	146	334
	%	8.7	19.1	27.1	40.8	
Total	N	218	372	361	358	1309

C.



D. All of the evidence supports the hypothesis that individuals with higher levels of education have higher levels of tolerance toward radical Muslim clergy than do individuals with lower levels of education. Each time education goes up by one ordinal category—from 0-11 years to 12 years, from 12 years to 13-15 years, from 13-15 years to 16-plus years—the percentage having “High” tolerance increases: 8.7 percent, 19.1 percent, 27.1 percent, and 40.8 percent. Each increase is about 10 percentage points.

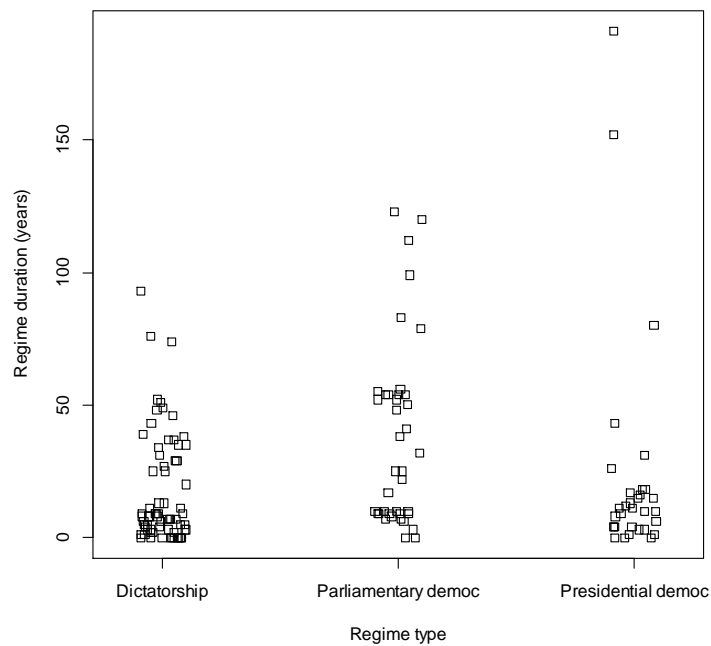
4. A. All boxes should be checked.

B.

Mean Regime Length (years) and Statistics			
Regime type	Mean	N	Std. Dev.
Dictatorship	17.40	70.00	20.70
Parliamentary democ	37.46	39.00	34.60

Presidential democ	23.00	32.00	42.20
Total	24.22	141.00	31.67

C.



D. The strip chart shows two presidential democracies with unusually long durations, which exerts an upward pull on the mean value. The mean comparison table suggests this (standard deviation, 42.2), but the strip chart displays it visually. Student might also comment on the considerable overlap of dictatorships and parliamentary democracies. Among parliamentary democracies, there are two distinct clusters, one a very short durations and another at around 50 years.

Chapter 5 Making Controlled Comparisons

1.

A. A higher percentage of democracies among countries having lower heterogeneity.

B. Percentage of democracies: Low, 75.4%; Medium, 60.9%; High, 44.3%.

C. As ethnic heterogeneity increases, the percentage of democracies decreases.

D. Low GDP: Low, 50.0%; Medium, 40.9%; High, 43.2%.

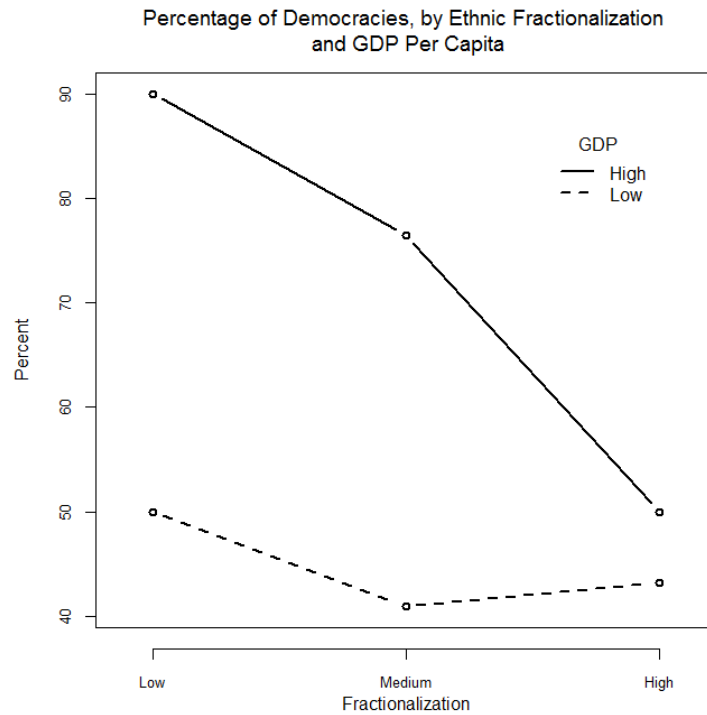
High GDP: Low, 90.0%; Medium, 76.5%; High, 50.0%.

E. Low GDP: 6.8 (or about 7) percentage points higher

High GDP: 40 percentage points higher

F. Interaction. In an interaction relationship, the effect of the independent variable on the dependent variable depends on the value of the control variable. The effect of ethnic heterogeneity on democracy is much weaker for low GDP countries than for high GDP countries. For low GDP countries, the percentage of democracies drops by less than 10 points across the values of the independent variable. But for high GDP countries, the percentage drops much more—40 percentage points.

G.



2. A. Two parallel lines, both sloping upward from left (Non-PR) to right (PR). The solid line (longer history of women's suffrage) should be above the dashed line (shorter history of women's suffrage).
- B. Two parallel lines, both flat (no slope) from left to right. The solid line (longer history of women's suffrage) should be above the dashed line (shorter history of women's suffrage).
- C. One line, the solid line, sloping upward from left to right. The other line, the dashed line, drawn flat (no slope) from left to right.
- D.

Women's suffrage	PR system?	Mean
1944 or before	No	16.51
	Yes	24.22
After 1944	No	13.48
	Yes	19.83

E. `obj1=ddply(world,.(womyear2,pr.sys), summarise, pct.women = wtd.mean(women09))`

F.

`interaction.plot(obj1$pr.sys, obj1$womyear2, obj1$pct.women,`

`ylab="Percent",`

`xlab="PR System?",`

`main="Percentage of Women in Parliament, by PR System \n and Timing of Suffrage",`

`xtick = T,`

`lwd=2,type="b",`

`pch=21,`

`cex.axis=.8,`

`font.main=1,`

`legend=F)`

`legend("topleft",`

`c("1944 or Before", "After 1944"),`

`lty=c(2,1),`

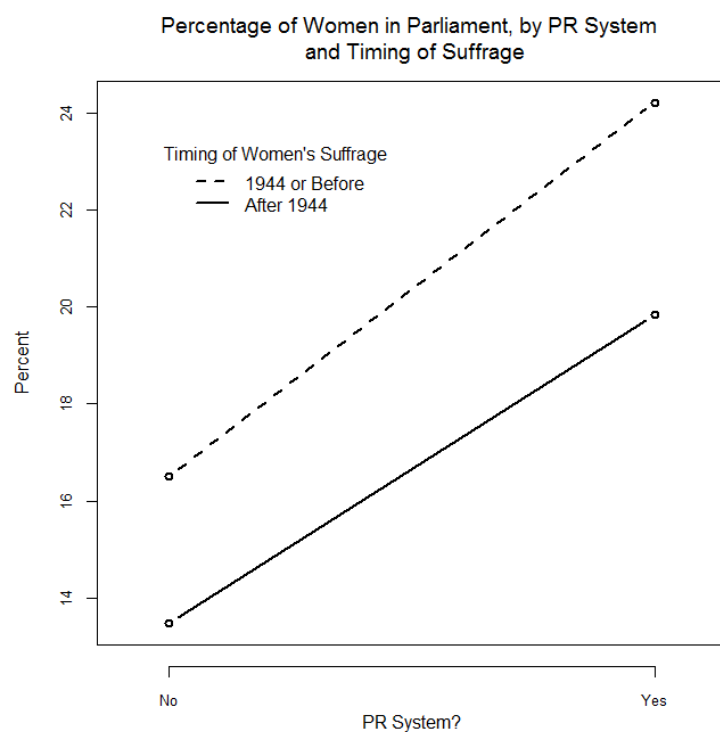
`lwd=2,`

title="Timing of Women's Suffrage",

inset=0.1,

bty="n")

G.



H. Additive. For 1944 or before, the mean percentage of women is 7.71 points higher for PR than for non-PR systems. For after 1944, the mean percentage is 6.35 points higher for PR than for non-PR. Because the women09-pr.sys relationships have the same tendency and very similar strength at both values of womyear2, the relationships approximate an additive pattern.

I. The line chart in A.

5.

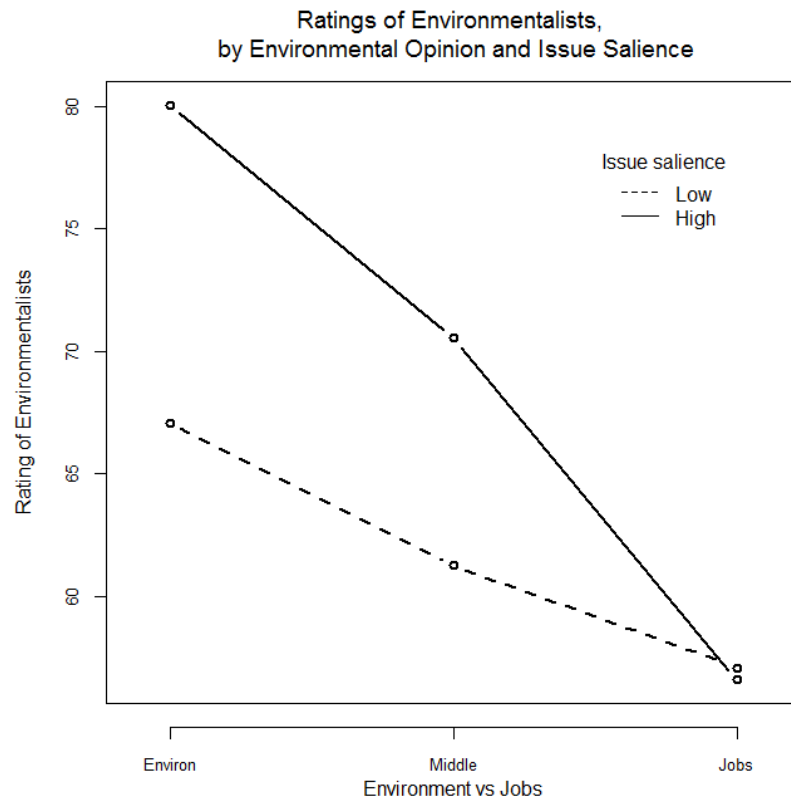
A.

How imp envir/jobs issue? (enviro.jobs.imp2)	Protect environment or jobs? (enviro.jobs.r3)	Mean
Not very	Environ	67.08
	Middle	61.26
	Jobs	57.08
Very/extrmly	Environ	80.06
	Middle	70.54
	Jobs	56.60

B. Yes, the analysis supports claim x. At both values of issue salience, respondents who favor the environment over jobs give environmentalists higher ratings than do respondents who favor jobs over the environment. For low-salience respondents, the effect is 10.00 points (67.08, compared with 57.08); for high-salience respondents, the effect is 23.46 points (80.06, compared with 56.60).

C. Yes, the analysis supports claim y. The direction or tendency is the same for low- and high-salience people, but the relationship is stronger for high-salience respondents: 23.46 points, versus 10.00 points for low-salience respondents.

D.



E. Interaction. At both high- and low- issue salience, pro-environment respondents give environmentalists higher ratings than do pro-jobs respondents. However, the relationship is much stronger for high-salience people than for low-salience people. Because the relationship is stronger at one value of the control than the other value of the control, interaction best characterizes this set of relationships.

4. A.

A.

Race of respondent	Percent saying:	Race of interviewer		
		White	Black	Race-of-interviewer effect
				$ White \% - Black $

White:	“close” to whites	65.7%	62.7%	3.0
Black:	“close” to blacks	73.5%	77.8%	4.3
White:	“close” to blacks	37.6%	54.1%	16.5
Black:	“close” to whites	54.2%	37.5%	16.7

B. Hypothesis 1 is supported. For whites, the race-of-interviewer effect is 3.0. and for blacks it is 4.3. Respondents who are questioned by an interviewer of a different race will be no more likely to express positive feelings toward members of their own race than will those who are questioned by an interviewer of the same race.

C. Hypothesis 2 is supported. A larger percentage of whites say they are close to blacks when interviewed by a black (54.1 percent) than when interviewed by a white (37.6 percent), a 16.5 percentage-point difference. The same phenomenon occurs for black respondents: 54.2 percent say they are close to whites when interviewed by a white, compared with 37.5 percent who say they are close to whites when interviewed by a black, a 16.7-point difference.

D. Proposition 1 is supported. The percentage-point differences that are used to evaluate hypothesis 1 (3.0 and 4.3) are similar, as are the percentage point differences used to evaluate hypothesis 2 (16.5 and 16.7). White and blacks show very similar susceptibilities to race-of-interviewer effects.

Chapter 6 Making Inferences about Sample Means

1. A. 6.95

B. 6.79 / 7.11

C. 6.81 / 7.09

D. Social work majors probably are more egalitarian than most adults. The social work majors' mean, 7.12, lies above the upper confidence boundary of 7.11, telling us that there is a probability of less than .05 that the majors' mean of 7.12 was drawn from the same population. Also, the P-value of the difference, .039, is less than .05.

Business majors probably are not less egalitarian than most adults. The business majors' mean, 6.85, lies within the 95 percent confidence interval of the mean, telling us that there is a probability of greater than .05 that the majors' mean of 6.85 was drawn from the same population. Also, the P-value of the difference, .243, is greater than .05.

E. .097 / .243 or 24.3 percent

2. A.

Statistics for int.info.scale	
Mean for younger group (<30 years old)	11.58
Mean for older group (≥ 30 years old)	12.49
Mean difference	-.905
Lower 95 percent confidence boundary of mean difference	-1.475
Upper 95 percent confidence boundary of mean difference	-0.335
Does confidence interval contain 0? (Yes or No)	No
t-statistic	-3.108
P-value	.002

B. 0.

C. the older age group scores significantly higher on the level of interest scale than does the younger age group.

D. reject the null hypothesis.

3. A.

Number of children

attend3 Religious attendance: 3 cats	Mean	N
1 Low	1.57	851
2 Med	2.00	557
3 High	2.41	604
Total	1.94	2012

B. Yes. The mean number of children for low attenders is 1.57, which rises to 2.00 for medium attenders and 2.41

for high attenders. As attendance goes up, so does the mean number of children.

C. Low attendance mean: 1.57/ High attendance mean: 2.41 / Mean difference: -.842

95 percent confidence interval of the mean difference: Between -1.02 and -.668.

D. Yes, the statistical evidence supports the hypothesis.

E. The confidence interval of the mean difference does not contain 0. Also the P-value of the difference is equal to 0.

4.

	Conventional wisdom 1	Conventional wisdom 2
Mean difference	-.228	.222
Lower 95 percent confidence boundary of mean difference	-.579	.028
Upper 95 percent confidence boundary of mean difference	.123	.416
Does confidence interval contain 0? (Yes or No)	Yes	No
t-statistic	-1.272	2.236
P-value	.204	.026
Does statistical evidence support conventional wisdom? (Yes or No)	No	Yes

Chapter 7 Chi-square and Measures of Association

1.

A. decrease / increase.

B. lower / higher

C. negative / positive

D.

Dependent variable:	More Rep	Even	More Dem	Chi-square	P-value	Somers' d
abortionlaw3 % more restrictive	41.2%	33.3%	25.5%	16.654	.002	-.439
gunlaw_rank3_rev % more restrictive	10.0%	27.8%	62.2%	32.091	.000	.686

E. Compared to how well we can predict gunlaw.rank3.rev without knowing cook.index3, we can improve our prediction by 68.6 percent by knowing cook.index3.

F. Under the assumption that the null hypothesis is correct, we would obtain a chi-square of 16.654 two times out of 1,000 (or .002 of the time) by chance. Therefore, you should reject the null hypothesis.

G. Correct. Pedantic pontificator hypothesized that as states become more Democratic, abortion restrictions would decrease and gun restrictions would increase. The tabular percentages and the chi-square statistics support these ideas. Also, the Somers' d statistics have the hypothesized signs (negative for the abortion variable and positive for the gun law variable) and substantial magnitudes.

2. A.

In a comparison of individuals, women will be more likely than men to think that abortion should be allowed.

In a comparison of individuals, women and men will not differ in the opinions about female roles outside the home.

B.

Dependent variable	Male	Female	chi-square	P-value	Cramer's V
Percent "yes" (abany)	42.4%	40.2%	.641	.423	.022
Percent "Work" (femrole2)	41.8%	60.9%	47.460	.000	.191

C.

pedantic pontificator's hypothesis about the femrole2-sex relationship is not supported by the analysis.

under the assumption that the null hypothesis is correct, the abany-sex relationship could have occurred by chance more frequently than 5 times out of 100.

a higher percentage of females than males think that women belong in the workplace.

D. The P-value of the chi-square statistic in the femrole2-sex cross-tabulation tells you that, under the assumption that the null hypothesis is correct we would obtain a chi-square test statistic of 47.460 zero times out of a thousand by chance.

3.
A.

	Religious tolerance (relig_tol3)					
	Low	Mid	High	chi- squa re	P- val ue	Somers' d
Low-education respondents: Percent "High" tolerance toward Muslim clergy	12.0%	19.3%	17.2%	4.755	.313	.074
High-education respondents: Percent "High" tolerance toward Muslim clergy	19.5%	32.6%	42.0%	13.350	.010	.173

- B. No. As religious tolerance increases, the data do not show a systematic increase in the percentage of respondents with high tolerance toward Muslim clergy. According to the chi-square statistic and P-value, the relationship is not statistically significant.
- C. Yes. As respondents become more religiously tolerant, tolerance of Muslim clergy increases from 19.5 percent, to 32.6 percent, to 42.0 percent. The relationship is statistically significant.
- D. Yes. For the less educated, Somers' d is equal to .074, much weaker than the Somers's d for high-education respondents, .173.

4. A. Gender equality hypothesis blank: higher

Protest activity hypothesis blanks: higher, higher, lower *or* lower, lower, higher.

Religiosity hypothesis: In a comparison of countries, those with higher levels of postmaterialism will have lower levels of religiosity than will those having lower levels of postmaterialism.

Or: In a comparison of countries, those with lower levels of postmaterialism will have higher levels of religiosity than will those having higher levels of postmaterialism.

B. The religiosity hypothesis.

C.

	Level of postmaterialism					
	Low	Moderate	High	Chi-square	P-value	Somers' d
Dependent variables:						

Percentage high gender equality	10.0%	21.1%	75.0%	20.032	.000	.556
Percentage high protest activity	14.3%	22.7%	61.9%	19.062	.001	.418
Percentage high religiosity	19.0%	45.5%	9.5%	8.542	.074	-.108

D. The gender equality hypothesis is supported.

The protest activity hypothesis is supported.

If the null hypothesis is correct, the postmaterialism-protest activity relationship would occur, by chance, less frequently than 5 times out of 100.

Chapter 8 Correlation and Linear Regression

1. A.

		Percent U.S. House delegation Democratic	Percent state legislators Democratic	Percent workers who are union members
Percent U.S. House delegation Democratic	Pearson Correlation	1	.510	.184
Percent state legislators Democratic	Pearson Correlation	.510	1	?
Percent workers who are union members	Pearson Correlation	.184	.517	1

B. increases.

C. decreases.

D. No. The correlation between union07 and dem_hr09 (.184) is weaker than the correlation between union07 and demstate09 (.517). This suggests that unions may be more important in state legislative elections than in elections for the U. S. House.

2.

A. A. Sketch should show a positively sloping line. As the mass public becomes more conservative, the House delegations should be found to be more conservative.

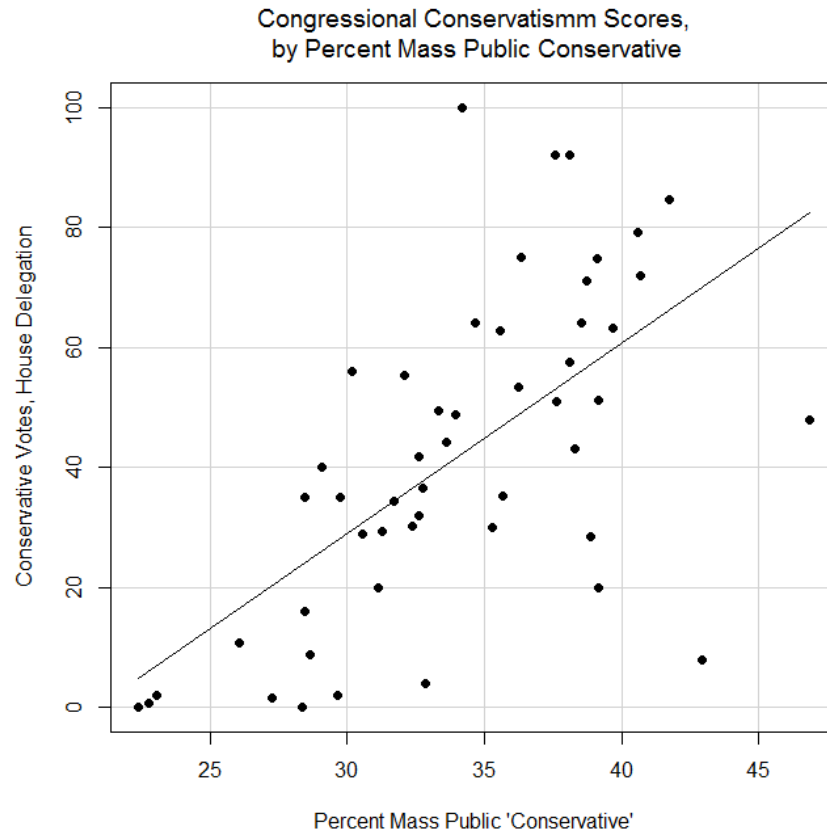
B. Sketch should show a horizontal line (no slope). As the mass public becomes more conservative, the House delegations do not become more conservative or more liberal.

C. about a 3-point increase in House conservatism scores.

D. a score of about 30.

E. .379 / 37.9 percent or about 38 percent

F.



G. Scholar 1 is more correct because the percent of conservatives in a state's mass public is a significant predictor of conservative voting by the state's U.S. House delegation.

3.

A. $49.496 + .758 * to_0408$.

B. $.116 / .031$

C. The conventional wisdom is incorrect because the percentage change in state voter turnout is not a significant predictor of the percent of a state's electorate that voted for Obama in 2008.

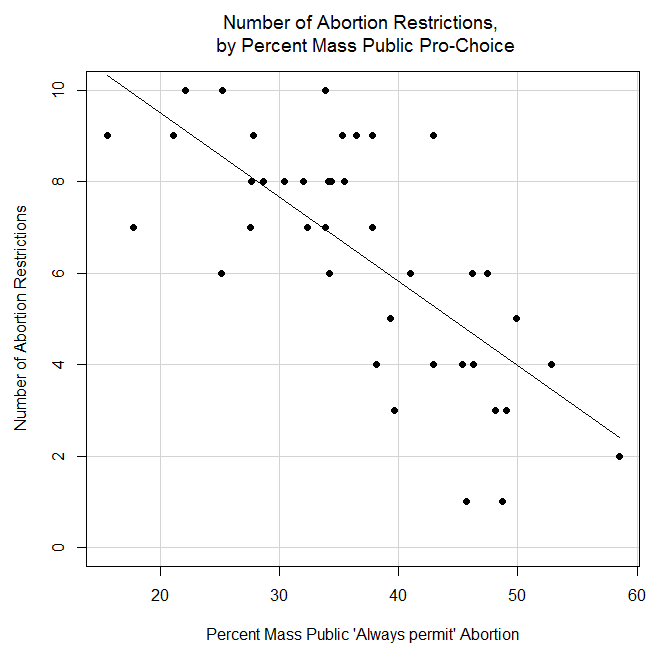
The regression coefficient is not statistically significant, and the magnitude of adjusted R-square is miniscule.

4.

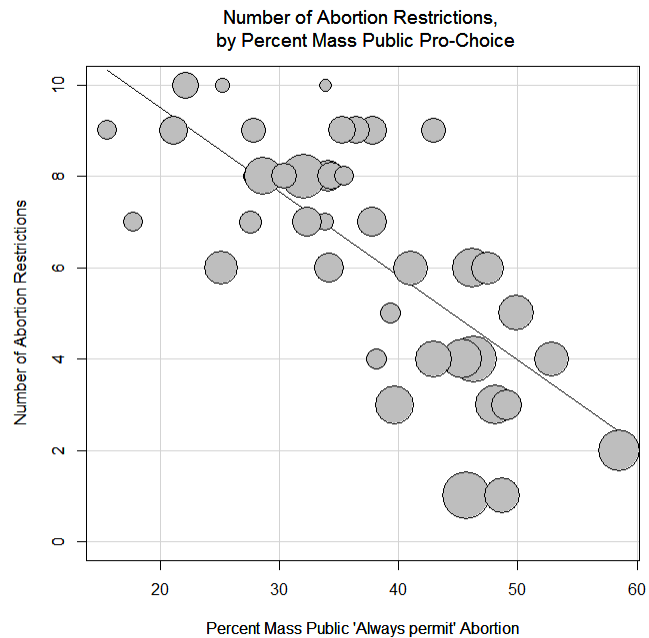
A. a negative sign on permit's regression coefficient.

B. $13.171 - .184 * \text{permit}$

C.



D.



E. Yes, womleg.2010 does appear to be related to the dependent variable: states with higher percentages of female legislators tend to fall at lower values of the dependent variable—fewer abortion restrictions—than do states with lower percentages of female legislators. Students might also note that states with higher values of womleg.2010 also cluster at the higher values of permit.

F. $14.21 + \text{_____} \cdot .138 \text{_____} \cdot \text{permit} + \text{_____} \cdot .115 \text{_____} \cdot \text{womleg.2010}$.

G. .000 / .021

H. No, the relationship is not spurious. The relationship between abortlaw and permit remains statistically significant, controlling for womleg.2010. The effect of permit weakens, from - .184 to -.138, but remains statistically significant.

5.

A.

	demstate09 Percent of state legislators who are Democrats (2009)	dempct.m Percent mass public Democratic	libpct.m Percent mass public Liberal
demstate09 Percent of state legislators who are Democrats (2009)	1	.395	.651
dempct.m Percent mass public Democratic	.395	1	.025
libpct.m Percent mass public Liberal	.651	.025	1

B. increases.

C. incorrect because the correlation, although positive, is very weak (.025).

D. $-28.375 + .887 *dempct_m + 2.630 *libpct_m$.

E. .000 / .000

F. About 40 percent

G. All three statements should be checked.

6.

A.

	regression coefficient	t-statistic	P-value
(Intercept)	6.277		
age	-.020	-5.475	.000
Adjusted R-square	.028		

B. correct. As hypothesized, age is negatively related to gender-role attitudes, and the relationship is statistically significant (P-value = .000).

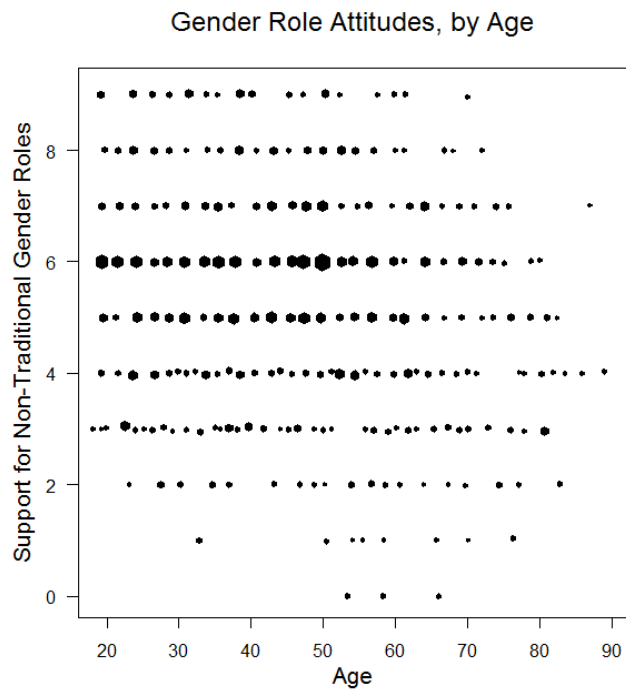
C.

	regression coefficient	t-statistic	P-value
(Intercept)	6.844		
age	-.019	-3.819	.000
authoritarianism	-.237	-4.790	.000
Adjusted R-square	.061		

D. correct. The coefficient on authoritarianism, -.237, is negative and statistically significant (P-value = .000)

E. incorrect. The age-fem.role relationship remains statistically significant after controlling for authoritarianism. The controlled effect of age, -.019, is similar in magnitude to its uncontrolled effect, -.020.

F.



Chapter 9 Dummies and Interaction

1. A.
$$\text{fhrate08.rev} = 5.554 + 1.599 * \text{gdp.cap3Middle} + 4.548 * \text{gdp.cap3High}$$

B.

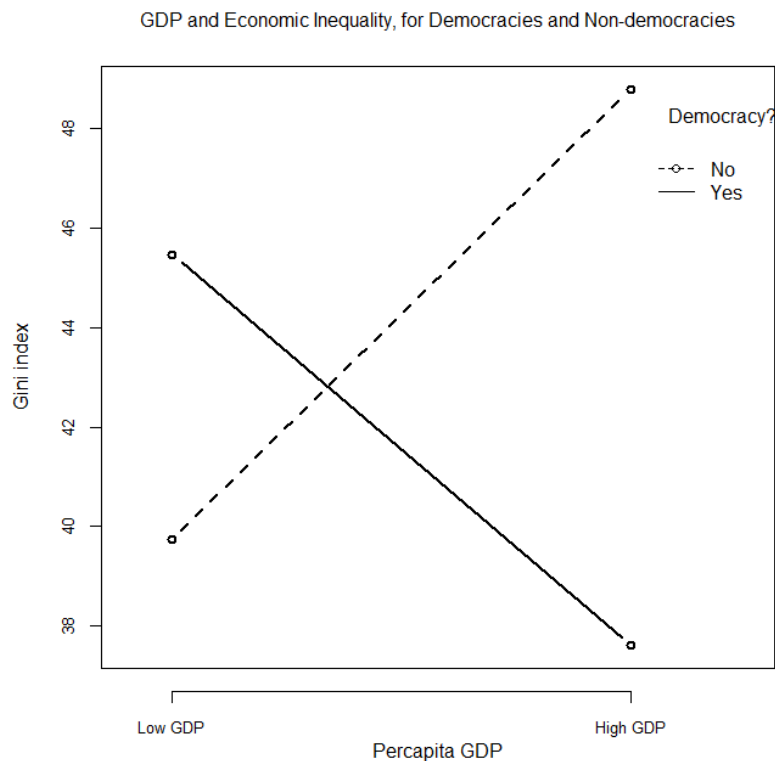
GDP per capita (gdp.cap3)	Estimated value on democratic freedoms scale (fhrate08.rev)
Low	5.554
Middle	7.113 [equal to 5.554 + 1.599]
High	10.102 [equal to 5.554 + 4.548]

C. Yes. The t-statistic (2.637) and P-value (.009) tell us that middle-GDP countries score significantly higher than low-GDP countries.

D. Yes. The t-statistic (7.500) and P-value (.000) tell us that high-GDP countries score significantly higher than low-GDP countries.

E. 24.53 percent

2. A.



B. is occurring in the data. The gini08-hi.gdp relationship does not have the same tendency for democracies and dictatorships. For democracies, as GDP increases, wealth becomes more equitably distributed (gini08 declines). For dictatorships, as GDP increases, wealth becomes less equitably distributed (gini08 increases).

C. $\text{gini08} = 39.743 + 9.057 \cdot \text{hi_gdp} + 5.731 \cdot \text{democ_regime} - 16.923 \cdot \text{rich_democ}$.

D. Use the regression to arrive at estimated mean values of gini08 for low-GDP and high-GDP democracies and dictatorships. Write your estimates in the table that follows:

Country GDP and regime	Estimated mean of gini08
Low-GDP democracies	45.47
Low-GDP dictatorships	39.74
High-GDP democracies	37.61
High-GDP dictatorships	48.80

E. This claim is correct. For low-GDP countries, the model reduces to: $39.743 + 5.731 \cdot$

democ_regime . The coefficient on democ_regime , 5.731, is significant ($t = 2.522$; $P\text{-value} =$

.013), telling us that democratic regimes average significantly higher on gini08 than non-democratic regimes.

F. This claim is correct. For rich dictatorships, the estimated value of gini08 is equal to $39.743 + 9.057$, or (rounded) 48.8, suggesting increasing inequality. For rich democracies, the twin penalties of hi.gdp (9.057) and democ.regime (5.731) are more than neutralized by the large interaction effect (-16.923): $39.74 + 9.06 + 5.73 - 16.92 = 37.61$. Interestingly, high-GDP democracies, at 37.61, have a distribution of wealth that is about the same as that of low-GDP dictatorships (39.74).

3. A. For each one unit increase in dogmatism there is a 4.102 point decrease in the abortion scale.

B. The analysis supports the hypothesis. The regression coefficient on dogmatism, -4.102, is statistically significant ($t = -9.393$, $P\text{-value} = .000$). This suggests that dogmatism is significantly related to abortion opinions.

C. Controlling for education, for each one-unit increase in dogmatism there is a 3.916 point decrease in the abortion scale. Controlling for dogmatism, people with higher levels of education score 7.59 points higher on the abortion scale than do people with lower levels of education.

D. The analysis does not support the critics argument. The abortion_scale-dogmatism relationship remains statistically significant, controlling for educ2. The regression coefficient, -3.916, is only slightly weaker than the regression coefficient in the bivariate model, -4.102.

4. A. $46.609 - 2.790 * \text{dogmatism} + 17.216 * \text{educ2} - 1.934 * \text{educH_dog}$.

B.

Level of education (educ2)	Level of dogmatism		
	Very low dogmatism (dogmatism = 0)	Moderate dogmatism (dogmatism = 5)	Very high dogmatism (dogmatism = 12)
Lower education (educ2=0)	46.61	32.66	13.13
Higher education (educ2 =1)	63.83	40.23	7.19

C. Yes. Although the relationship between abortion opinions and dogmatism has the same tendency at both levels of education, the relationship is stronger for respondents with a higher level of education. For respondents with lower levels of education, the abortion scale declines from 46.61 to 13.13 across the values of dogmatism. For respondents with higher levels of education, the decline is much steeper: 63.83 to 7.19.

5.

A. blacks who think that homosexuality is “always wrong.”

B. $a ; a + b^2$

C. positive / negative

D. $\text{polviews.n} = 3.618 - .049 * \text{race2} + 1.267 * \text{homosex2} - .762 * \text{race2} * \text{homosex2}$.

E. $\text{homosex2} / \text{race2} * \text{homosex2}$

F. 3.62 / 4.89

G. 3.57 / 4.08

H. correct. The model supports the idea that opinions about homosexuality are more weakly related to ideological self-identifications among blacks than among whites. But

they are not unrelated. “Not always wrong” whites (3.62) and “not always wrong blacks” (3.57) do not differ significantly on polviews.n: The coefficient on race2 (-.049) is not statistically significant. “Always wrong” whites score significantly higher, 1.27 points higher, on polviews.n than “not always wrong” whites. For blacks, this effect is substantially reduced: $1.27 - .76$. Overall, the estimated effect of *homosex2* for whites is $4.89 - 3.62 = 1.27$. For blacks, the effect is $4.08 - 3.57 = .51$.

Chapter 10 Logistic Regression

1. A.

Model estimates	Coefficient	P-value	Odds ratio
Constant	.842		
frac.eth	-1.592	.021	.204
gdp.10.thou	.713	.010	2.039
Model summary	Statistic	P-value	
Chi-square	21.602	.000	
Cox-Snell R-square	.117		
Nagelkerke R-square	.159		
McFadden's R2	.093		

B. Decreases the odds of democracy by about 80 percent.

Increases the odds of democracy by about 104 percent.

C. 0.7265048, 0.3767172

D. Yes. No matter which value of fractionalization you choose to examine, the probabilities increase from left to right: from low GDP, to median GDP, to high GDP.

E. Yes. According the describe (or summary) run, the median value of frac.eth is equal to 0.43425, or .43. At frac.eth=.43, the probabilities for low GDP, median GDP, and high GDP countries are 0.5481309, 0.5725944, and 0.6473893, respectively. All of these probabilities are greater than .50.

F. Yes. Low GDP countries switch between a fractionalization of 0.55 (probability = 0.5005234) and .56 (probability = 0.4965437). At a fractionalization of .56, the probability that high GDP countries are democratic is equal to 0.5988405 \approx .60.

2. A.

Model estimates	Coefficient	P-value	Odds ratio
Constant	-4.830		
educ_r	.358	.000	1.430
age	.031	.000	1.032
Model summary	Statistic	Significance	
Chi-square	281.094	.000	
Cox-Snell R-square	.128		
Nagelkerke R-square	.194		
McFadden's R2	.127		

B. For older voters, the nes/nesD findings are similar to the gss/gssD findings. In the nes analyses, the switchover occurs between 7 and 8 years of schooling, the interval for which the probability of voting increases from .42931659 to .51829683, an increase of .089, or .09. For younger voters, however, the two sets of findings are different. For 2008 turnout, we find that the switchover from a probability of less than .5 to a probability to more than .5 occurs between 11 and 12 years of education: from 0.48065716 to 0.56965654, an increase of .09.

C.

