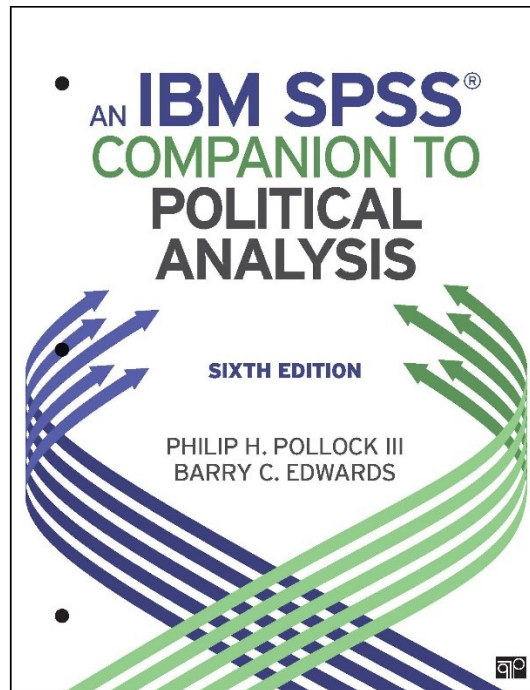


Instructor's Solution Manual to Chapter Exercises in



An IBM SPSS Companion to Political Analysis, Sixth Edition

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Getting Started

There are no exercises at end of the Getting Starting section.

Chapter 1: Introduction to SPSS

1.

- A. 26 \$170,000 or over
- B. 0 Never

2.

Display names
Alphabetical

3.

- A. General Happiness
- B. 1

4.

A.

General Happiness					
		Frequency	Percentage	Valid percentage	Cumulative percentage
Valid	VERY HAPPY	869	30.3	30.4	30.4
	PRETTY HAPPY	1579	55.1	55.2	85.6
	NOT TOO HAPPY	411	14.3	14.4	100.0
	Total	2859	99.7	100.0	
Missing	System	8	.3		
Total		2867	100.0		

B. Word-formatted table looks something like this:

General Happiness	Frequency	Percentage	Cumulative
Very Happy	869	30.4	30.4
Pretty Happy	1579	55.2	85.6
Not Too Happy	411	14.4	100.0
Total	2859	100.0	

Syntax for solution

```
* with GSS dataset

FREQUENCIES VARIABLES=happy
/ORDER=ANALYSIS.
```

5.

SPSS file type	File name extension
Dataset	.sav
Output	.spv
Syntax	.sps

6.

- A. hs_yrs_ss
- B. vep16_turnout
- C. attend_pct
- D. volunteer_percent

7.

NES variable "marital"	
Numeric code	Value label
1	Married, spouse present
2	Married, spouse absent (volunteered)
3	Widowed
4	Divorced
5	Separated
6	Never married

8.

Here are the variable descriptions in the Appendix. Students were asked to describe these variables in "their own words" so their wording should vary without changing the essential meaning.

- A. Total fertility rate: Number children born per woman (CIA)
- B. Percentage of population aged 15–49 with HIV. From World Economic Forum
- C. Number infants dying before age one per 1,000 live births. From World Bank's World Development Indicators
- D. Public expenditure on health as a percentage of GDP (UN)
- E. Age-standardized death rates from non-communicable diseases per 100,000 people (UN)

Chapter 2: Descriptive Statistics

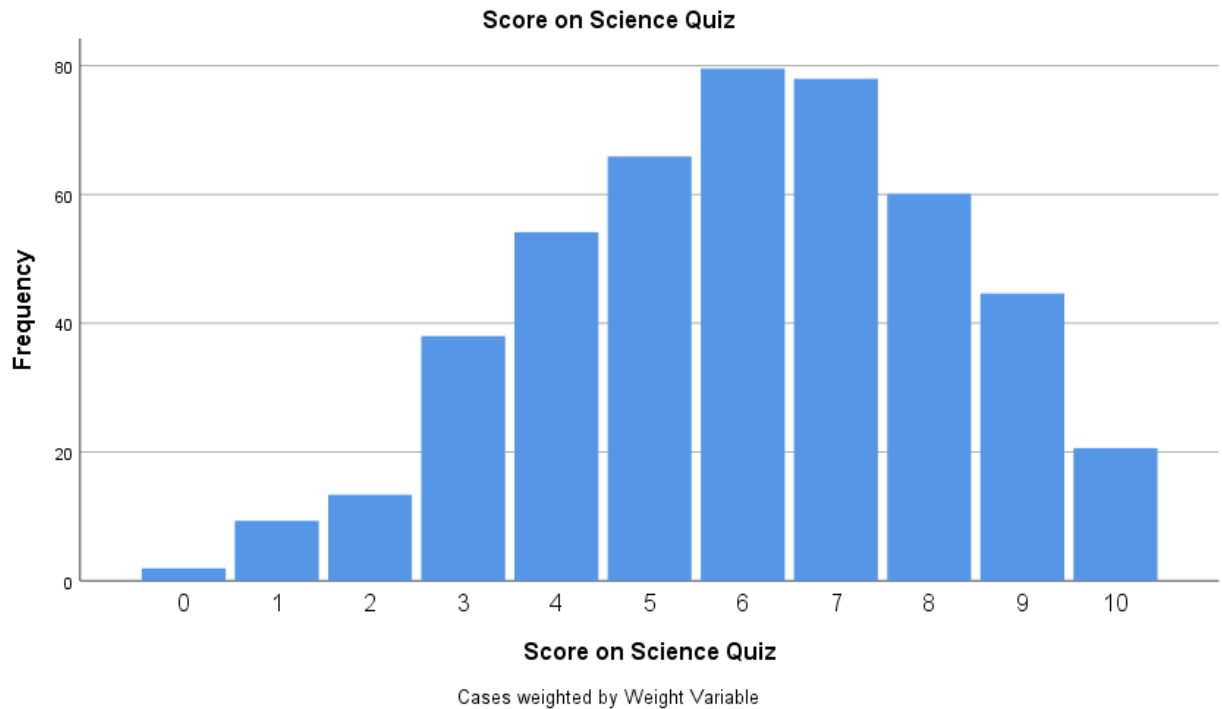
1.

A.

science_quiz score	Frequency*	Percentage	Cumulative percentage
0	2	.4	.4
1	9	2.0	2.4
2	13	2.9	5.3
3	38	8.2	13.4
4	54	11.6	25.1
5	66	14.2	39.2
6	80	17.1	56.3
7	78	16.8	73.1
8	60	12.9	86.0
9	45	9.6	95.6
10	21	4.4	100.0
Total	465	100.0	

B. The science_quiz variable has a mean equal to 6.03, a median equal to 6, and a skewness equal to -0.23.

C.



D. Either answer is correct. The mean (6.03) and median (6) are almost the same so either measure of central tendency will work.

E. The median is a good measure of central tendency in this case between the observations are negatively skewed. The mean is attractive because the science quiz is an interval level variable.

F. About 60% of people got passing grades on science_quiz.

About 15% got an A on the science quiz.

Syntax for solution

```
* with GSS dataset

FREQUENCIES VARIABLES=science_quiz
  /STATISTICS=MEAN MEDIAN SKEWNESS SESKEW
  /BARCHART FREQ
  /ORDER=ANALYSIS.
```

2.

A.

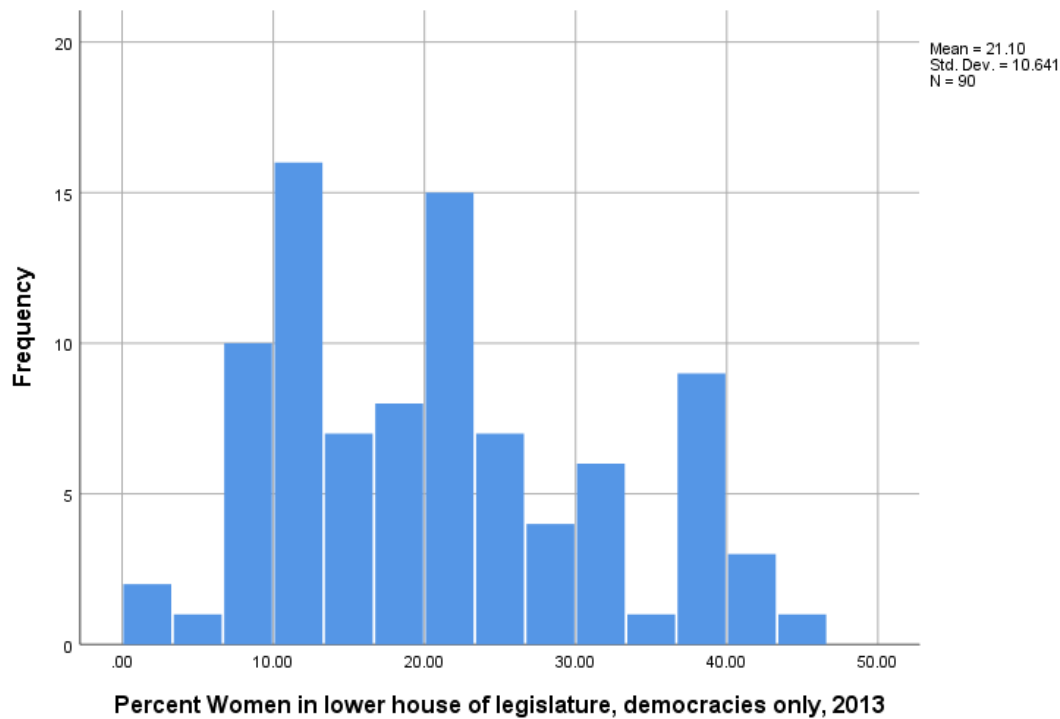
Statistics for women13 variable

Mean	21.10
Median	20.8
Skewness	0.48

B. No. 17.8% women in the legislature is below average for a democracy. According to the summary statistics, the world mean is 21.10% and world median is 20.8%.

C. To reach the top 10% of countries in the world, women would need to constitute about 40% of the US House of Representatives.

D.



E. The five countries with the *lowest percentages* of women legislators are

1. Papua New Guinea
2. Comoros
3. Sri Lanka
4. Nigeria
5. Japan

The five countries with the *highest percentages* of women legislators are

1. Sweden
2. Senegal

3. Finland
4. Nicaragua
5. Iceland

Syntax for solution

```
* with world dataset

FREQUENCIES VARIABLES=women13
  /FORMAT=NOTABLE
  /STATISTICS=MEAN MEDIAN SKEWNESS SESKEW
  /HISTOGRAM
  /ORDER=ANALYSIS.

SUMMARIZE
  /TABLES=country BY women13
  /FORMAT=VALIDLIST NOCASENUM TOTAL
  /TITLE='Case Summaries'
  /MISSING=VARIABLE
  /CELLS=COUNT.
```

3.

A.

If Pundit 1 is correct, femrole will have a negative skew.

If Pundit 2 is correct, femrole will have a positive skew.

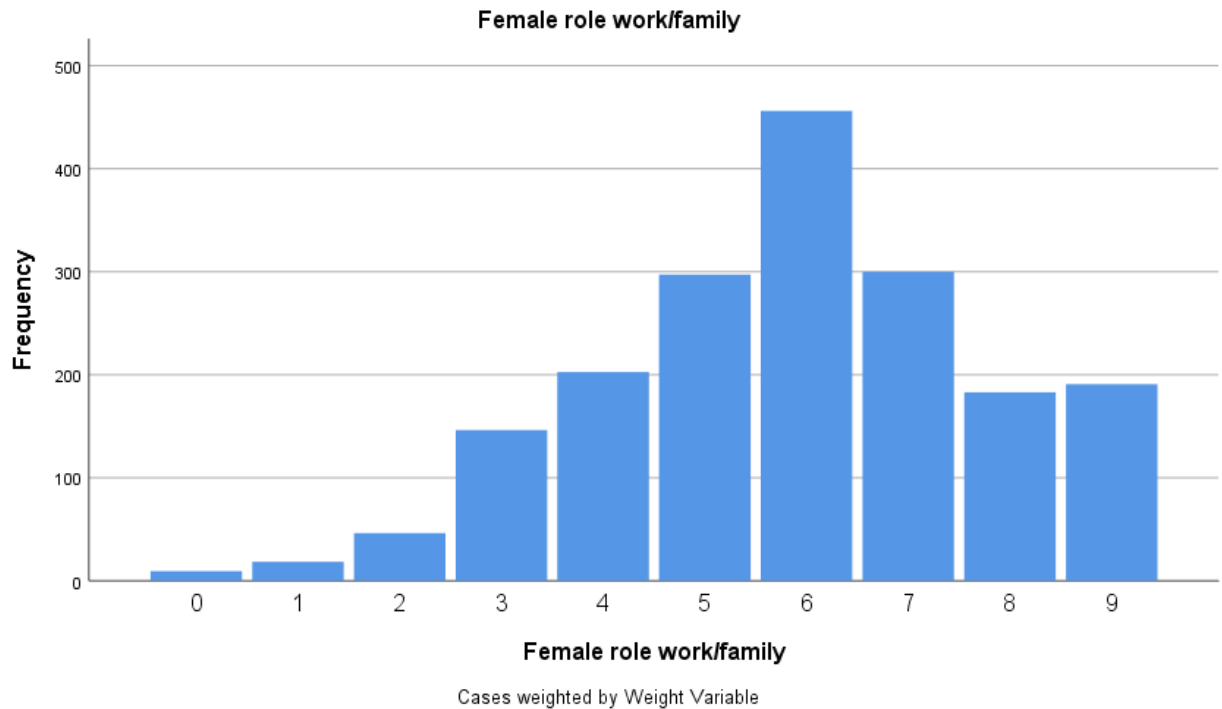
If Pundit 1 is correct, femrole's mean will be lower than its median.

If Pundit 2 is correct, femrole's mean will be higher than its median.

B.

Statistics for femrole variable	
Mean	5.87
Median	6
Mode	6
Skewness	-0.29

C. The choice of bar color is arbitrary.



D. Pundit 1's assessment is more accurate. The distribution of femrole values is negatively skewed and the median is higher than the mean. The bar graph shows values tailing off on the left side. (Wording may vary.)

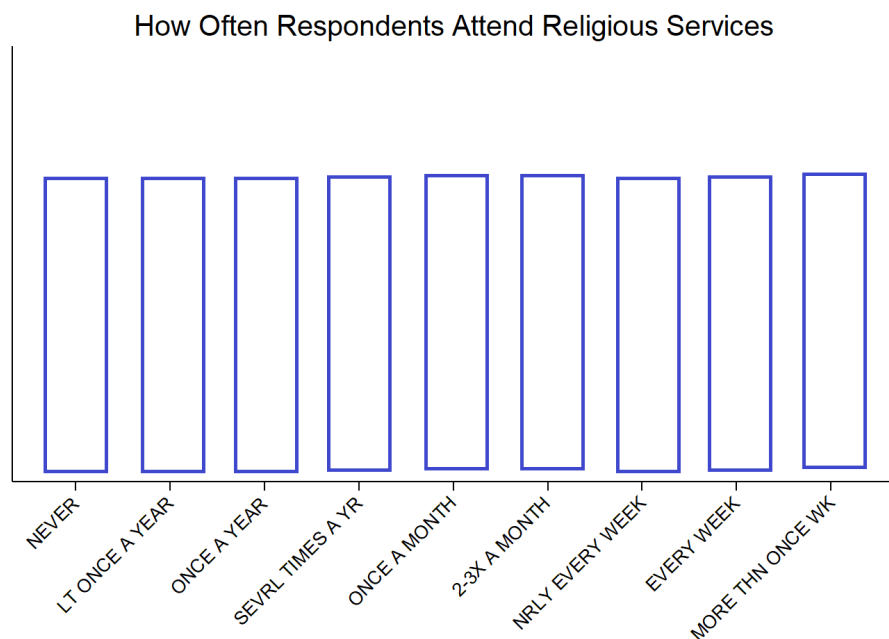
Syntax for solution

```
* with GSS dataset

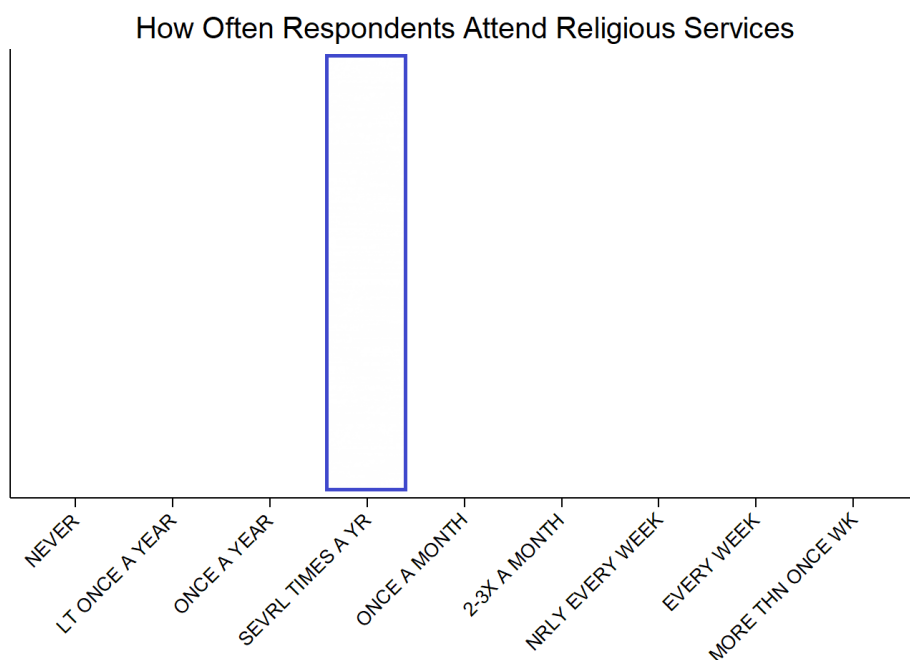
FREQUENCIES VARIABLES=femrole
  /FORMAT=NOTABLE
  /STATISTICS=MEAN MEDIAN SKEWNESS SESKEW
  /BARCHART FREQ
  /ORDER=ANALYSIS.
```

4.

A. Maximum dispersion when percentage of observations in each category the same. Figure should something like this:



B. No dispersion when all observations in the same category. (It doesn't matter which category so long as observations all in the same one.)



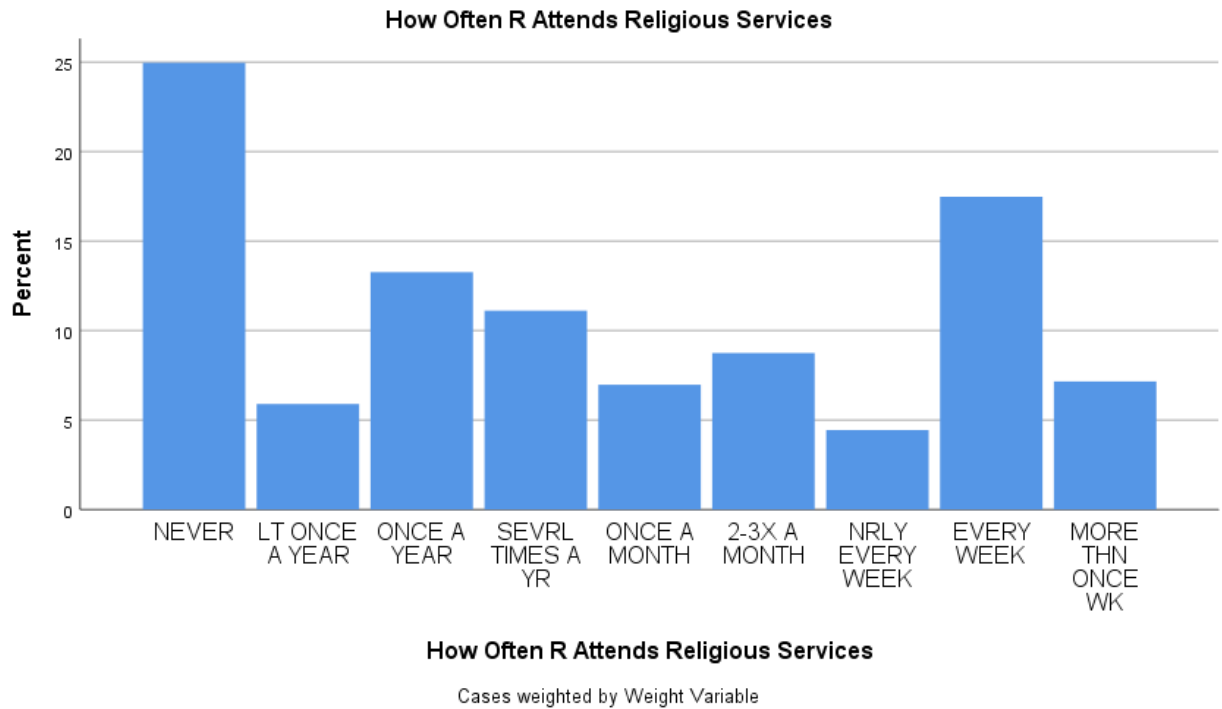
C.

Attend value	Frequency*	Percentage	Cumulative
--------------	------------	------------	------------

			percentage
Never	711	25.0	25.0
<Once/yr	168	5.9	30.8
Once/yr	378	13.3	44.1
Sev times/yr	316	11.1	55.2
Once/mo	198	7.0	62.2
2–3 times/mo	249	8.7	70.9
Nrly evry wk	127	4.4	75.4
Every wk	498	17.5	92.8
>Once/wk	204	7.2	100.0
Total	2849	100.00%	

* Weighted frequencies

D.



E.

The mode of attend is Never.

The median of attend is Sev times/yr.

F. High dispersion. Although there are not the same number of respondents in each category, there observations are spread out among the categories. (Instructions do not call for explanation.)

Syntax for solution

```
* with GSS dataset

FREQUENCIES VARIABLES=attend
/FORMAT=NOTABLE
/STATISTICS=MEDIAN MODE
/BARCHART PERCENT
/ORDER=ANALYSIS.
```

5.

A.

Send back children brought to US illegally?	Percentage
1. Should send back – favor a great deal	7.7%
2. Should send back – favor a moderate amount	8.5%
3. Should send back – favor a little	2.7%
4. Should allow to stay – favor a little	9.9%
5. Should allow to stay – favor a moderate amount	33.9%
6. Should allow to stay – favor a great	37.3%
Total	100.0%

Should marijuana be legal?	Percentage
Favor	45.3%
Neither favor nor oppose	25.8%
Oppose	28.9%
Total	100.0%

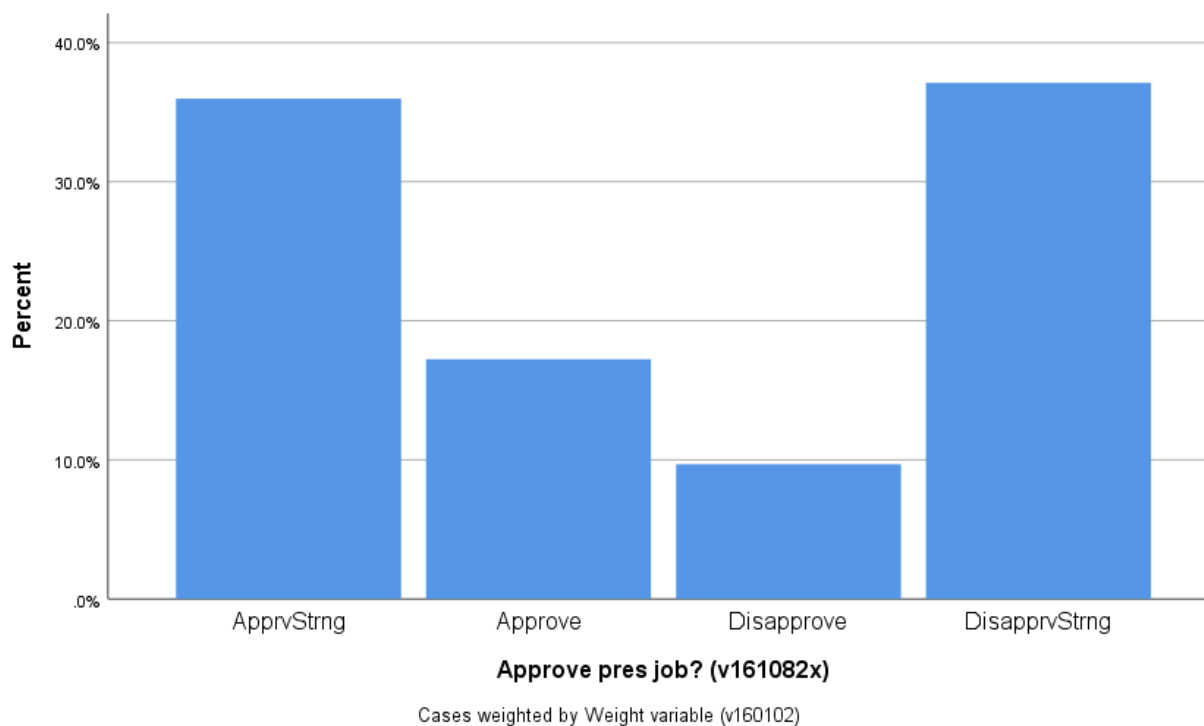
Presidential approval scale	Percentage
Approve Strongly	36.0%
Approve	17.2%
Disapprove	9.7%
Disapprove Strongly	37.1%
Total	100.0%

B. Sending back children brought to US illegally. 71.2% of people moderately or strongly favor letting children brought to US illegally stay in the country. (Wording may vary.)

C. Legalization of marijuana. Opinions are spread out among the values favor, neutral, oppose with no response constituting a majority. (Wording may vary.)

D. Presidential approval. Most respondents either strongly approve the job the president is doing or strongly disapprove the job he is doing. (Note: this NES wave was conducted in 2016 so this question is about Barack Obama, not Donald Trump.) (Wording may vary.)

E.



Syntax for solution

```
* with GSS dataset

FREQUENCIES VARIABLES=immig_chldrn grass pres_job
/ORDER=ANALYSIS.

GRAPH
/BAR(SIMPLE)=PCT BY pres_job.
```

6.

A.

	U.S. Congress	My House incumbent
Approve Strongly	7.2%	25.4%
Approve	18.0%	44.9%
Disapprove	20.2%	18.4%
Disapprove Strongly	54.6%	11.3%
Total	100.0%	100.0%

B. Incorrect. The distribution of opinions about House incumbents is not similar to the distribution of opinions about the whole Congress. The majority of people strongly disapprove of Congress as a whole, but the majority either approve or strongly approve of their House incumbent. (Wording may vary.)

Syntax for solution

```
* with NES dataset

FREQUENCIES VARIABLES=cong_approve cong_incumb_approve
/ORDER=ANALYSIS.
```

7.

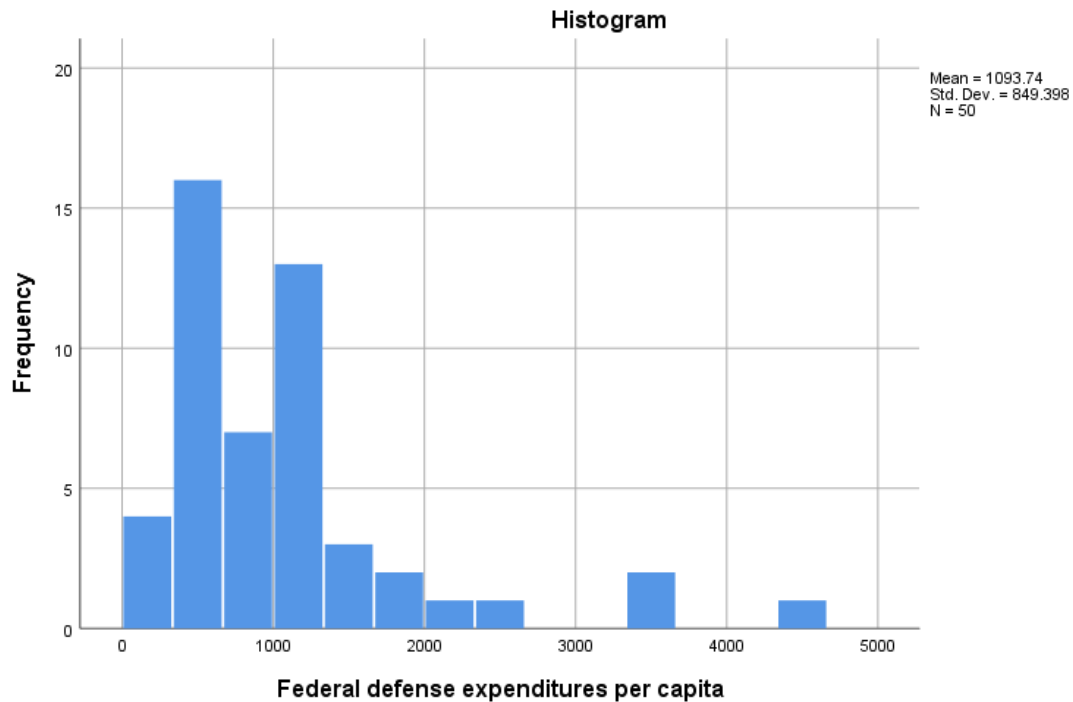
A. If the conventional wisdom is correct, the distribution of defense-related expenditures will have a positive skew. If the conventional wisdom is correct, the mean of defense-related expenditures will be higher than its median.

B.

Statistics for defexpen variable	
Mean	1093.74
Median	931.5
Skewness	2.29

C. The median is more representative of how much a typical state receives. Defense expenditures per state are skewed because a few states receive a lot of expenditures.

D.



E. The conventional wisdom is accurate

F. The state with the lowest per capita defense spending is West Virginia, with \$282 per capita. The state with the highest per capita defense spending is Virginia, with \$4,425 per capita.

Syntax for solution

```
* with States dataset

FREQUENCIES VARIABLES=defexpen
  /FORMAT=NOTABLE
  /STATISTICS=MEAN MEDIAN SKEWNESS SESKEW
  /HISTOGRAM
  /ORDER=ANALYSIS.

SUMMARIZE
  /TABLES=state BY defexpen
  /FORMAT=VALIDLIST NOCASENUM TOTAL
  /TITLE='Case Summaries'
  /MISSING=VARIABLE
  /CELLS=COUNT.
```

8.

A.

	blackpct_2016	hispanicpct_2016
Mean	10.52	11.54
Median	7.3	9.05
Skewness	1.16	1.86

B. Demographer 1. In this case, the typical state's percentage black and percentage Hispanic are better described by the median values because the values have a positive skew. (Wording may vary.)

C. Five states with the *lowest percentages* of Hispanics:

1. West Virginia
2. Maine
3. Vermont
4. Mississippi
5. Kentucky

Five states with the *highest percentages* of Hispanics:

1. New Mexico
2. Texas
3. California
4. Arizona
5. Nevada

Syntax for solution

```
* with States dataset

FREQUENCIES VARIABLES=blackpct_2016 hispanicpct_2016
  /FORMAT=NOTABLE
  /STATISTICS=MEAN MEDIAN SKEWNESS SESKEW
  /ORDER=ANALYSIS.

SUMMARIZE
  /TABLES=state BY hispanicpct_2016
  /FORMAT=VALIDLIST NOCASENUM TOTAL
  /TITLE='Case Summaries'
  /MISSING=VARIABLE
  /CELLS=COUNT.
```