Social Studies 201
Fall 2004

Answers for Computer Problem Set 1

1. FREQUENCY DISTRIBUTIONS

PRIORITY

PRIORITY Priority for Federal Surplus

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Reduce Debt	235	33.2	34.9	34.9
	2 Reduce Taxes	225	31.8	33.4	68.2
	3 Infrastructure	26	3.7	3.9	72.1
	4 Social Programs	160	22.6	23.7	95.8
	5 Other	28	4.0	4.2	100.0
	Total	674	95.3	100.0	
Missing	6 More than one response	2	.3		
	7 Uncertain	9	1.3		
	9 No response	22	3.1		
	Total	33	4.7		
Total		707	100.0		

Of those who expressed an opinion on this issue, almost two-thirds favoured reducing debt or taxes (about one-third each). Just under one-quarter of respondents favoured more spending for social programs. Less than five per cent favoured spending for infrastructure or favoured other options.

RESPECT FOR GOVERNMENTS AND POLITICIANS

RESPECTG Respect for Governments

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 No Respect	51	7.2	7.4	7.4
	2	137	19.4	19.8	27.2
	3	289	40.9	41.8	68.9
	4	183	25.9	26.4	95.4
	5 Great Respect	32	4.5	4.6	100.0
	Total	692	97.9	100.0	
Missing	9 No Response	15	2.1		
Total		707	100.0		

RESPECTP Resepect for Politicians

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 No Respect	107	15.1	15.7	15.7
	2	235	33.2	34.5	50.1
	3	276	39.0	40.5	90.6
	4	57	8.1	8.4	99.0
	5 Great Respect	7	1.0	1.0	100.0
	Total	682	96.5	100.0	
Missing	7 Uncertain	1	.1		
	9 No Response	24	3.4		
	Total	25	3.5		
Total		707	100.0		

The distributions demonstrate that respondents do not have strong respect for either governments or politicians. For governments though, responses are more positive, with more respondents expressing respect (about 31% responding 4 or 5 as opposed to 27% responding 1 or 2). For politicians, here is a much larger percentage of respondents (approximately 50%) who respond 1 or 2 (no or little respect) than the nine per cent who respond 4 or 5 (some or great respect).

ACADEMIC EXPERIENCE

ACADEXP ACADEMIC EXPERIENCE

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 GOOD NO WORK	79	11.2	11.5	11.5
	2 GOOD AND WORK	366	51.8	53.5	65.1
	3 GRADES DONT REFLECT WORK	188	26.6	27.5	92.5
	4 High Grades Not a Priority	37	5.2	5.4	98.0
	5 More than one	12	1.7	1.8	99.7
	6 OTHER	2	.3	.3	100.0
	Total	684	96.7	100.0	
Missing	9 NO RESPONSE	15	2.1		
	System	8	1.1		
	Total	23	3.3		
Total		707	100.0		

Responses indicate that students consider themselves to work hard, since categories 2 and 3 include about eighty per cent of students. But there are just over one-quarter of all students who feel that grades do not reflect the effort they put in. The ones who feel they have good grades total almost two-thirds (11.5+53.5=65%), and the majority of these feel they work hard for these grades. Finally, there is a small group of students who do not appear to care much about grades (five per cent) and a few have other responses.

2. MULTICULTURALISM VARIABLES: M1-M6.

M1 Diversity Fundamental

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Strongly Disagree	11	1.6	1.6	1.6
	2	25	3.5	3.6	5.1
	3	133	18.8	19.0	24.1
	4	245	34.7	35.0	59.1
	5 Strongly Agree	286	40.5	40.9	100.0
	Total	700	99.0	100.0	
Missing	9 No response	6	.8		
	System	1	.1		
	Total	7	1.0		
Total		707	100.0		

M2 Equal Access

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Strongly Disagree	4	.6	.6	.6
	2	12	1.7	1.7	2.3
	3	53	7.5	7.6	9.9
	4	175	24.8	25.1	35.0
	5 Strongly Agree	454	64.2	65.0	100.0
	Total	698	98.7	100.0	
Missing	9 No response	8	1.1		
	System	1	.1		
	Total	9	1.3		
Total		707	100.0		

M3 Preserve Cultural Heritage

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Strongly Disagree	12	1.7	1.7	1.7
	2	43	6.1	6.2	7.9
	3	140	19.8	20.1	28.0
	4	225	31.8	32.3	60.3
	5 Strongly Agree	277	39.2	39.7	100.0
	Total	697	98.6	100.0	
Missing	9 No response	9	1.3		
	System	1	.1		
	Total	10	1.4		
Total		707	100.0		

M4 Eliminate Barriers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Strongly Disagree	10	1.4	1.5	1.5
	2	31	4.4	4.5	6.0
	3	122	17.3	17.7	23.7
	4	235	33.2	34.1	57.8
	5 Strongly Agree	291	41.2	42.2	100.0
	Total	689	97.5	100.0	
Missing	7 Uncertain	2	.3		
	9 No response	15	2.1		
	System	1	.1		
	Total	18	2.5		
Total		707	100.0		

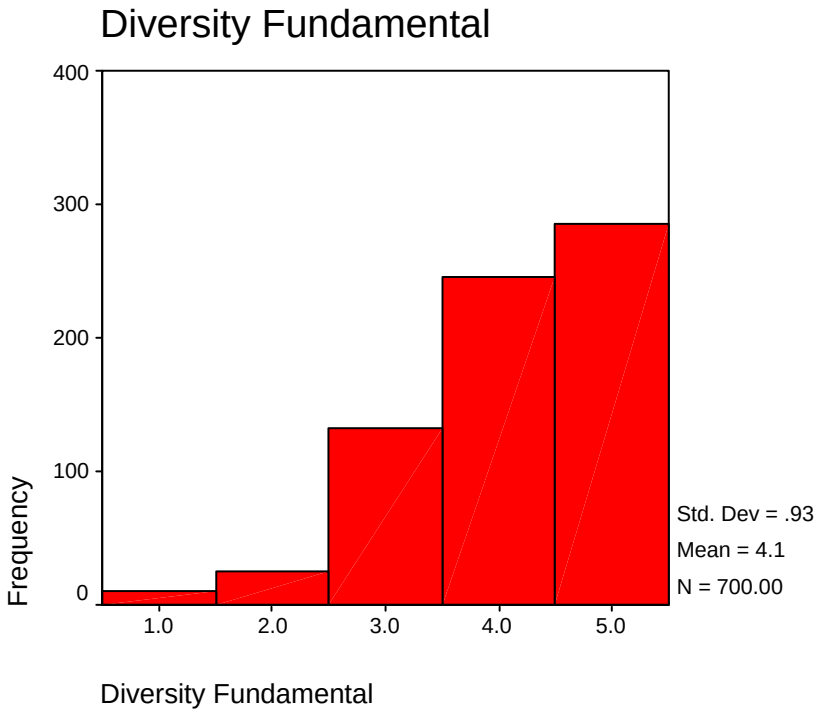
M5 Fund Festivals

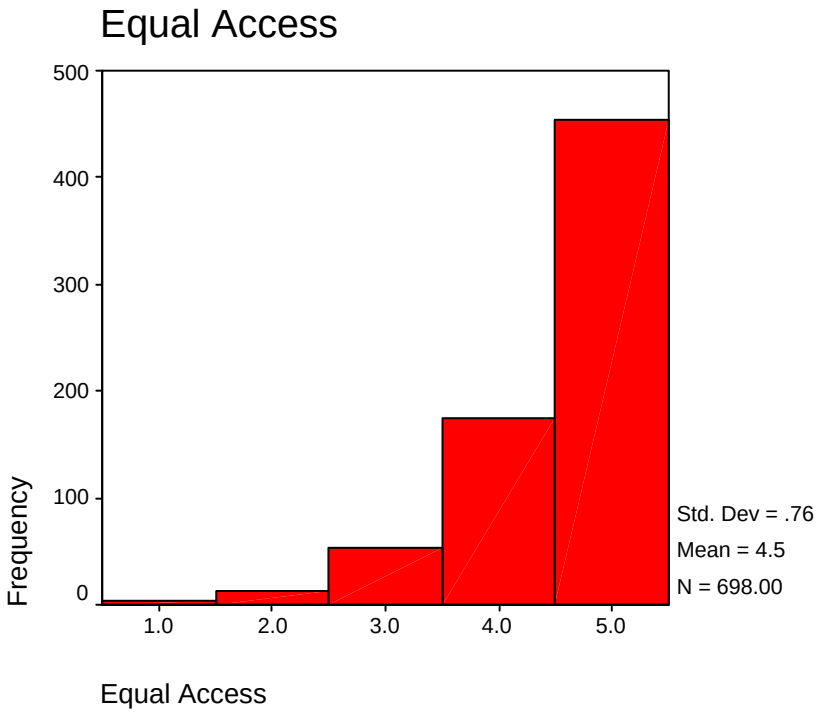
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Strongly Disagree	91	12.9	13.1	13.1
	2	151	21.4	21.7	34.7
	3	199	28.1	28.6	63.3
	4	150	21.2	21.5	84.8
	5 Strongly Agree	106	15.0	15.2	100.0
	Total	697	98.6	100.0	
Missing	7 Uncertain	1	.1		
	9 No response	8	1.1		
	System	1	.1		
	Total	10	1.4		
Total		707	100.0		

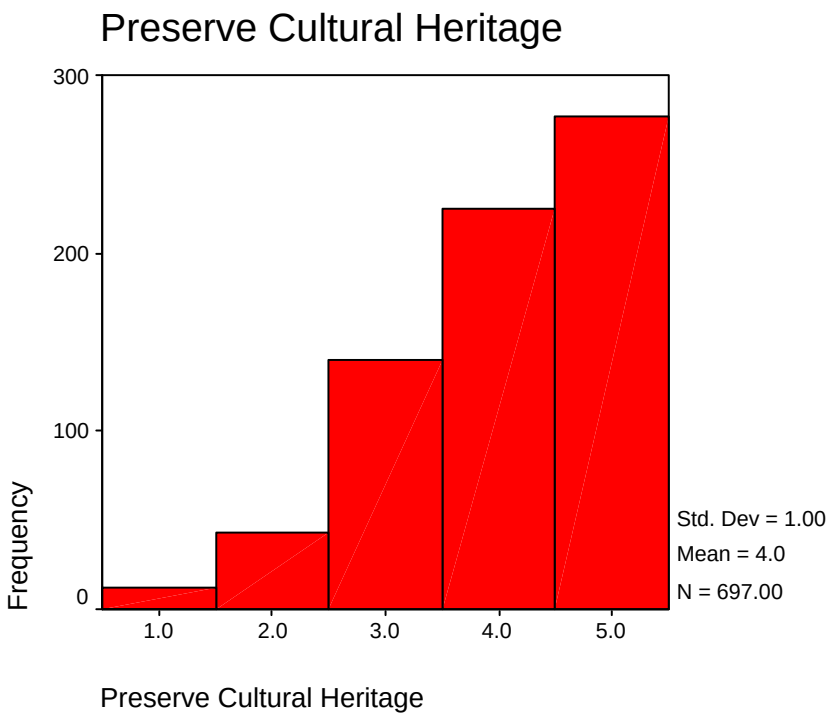
M6 Canadian Society Enriched

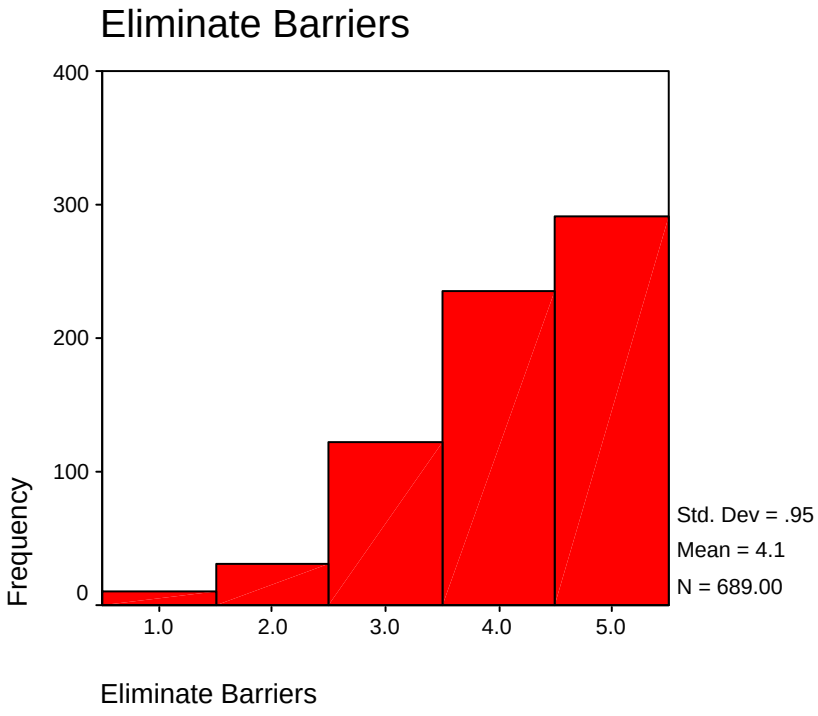
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Strongly Disagree	6	.8	.9	.9
	2	18	2.5	2.6	3.4
	3	88	12.4	12.6	16.0
	4	224	31.7	32.0	47.9
	5 Strongly Agree	365	51.6	52.1	100.0
	Total	701	99.2	100.0	
Missing	7 Uncertain	1	.1		
	9 No response	4	.6		
	System	1	.1		
	Total	6	.8		
Total		707	100.0		

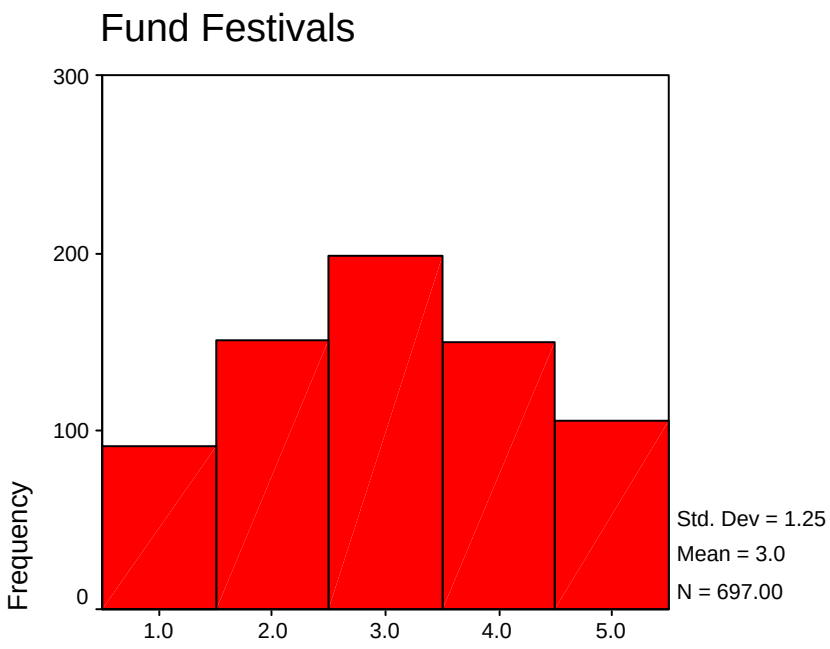
Histogram

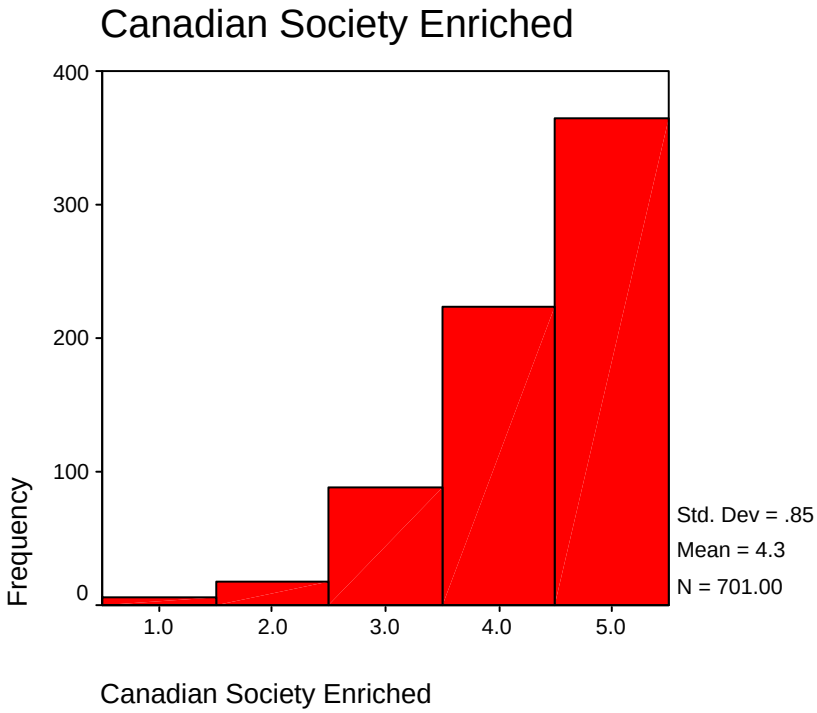

Diversity Fundamental
400
300
200
100
0
Frequency
1.0
2.0
3.0
4.0
5.0
Std. Dev = .93
Mean = 4.1
N = 700.00
Diversity Fundamental


Equal Access
500
400
300
200
100
0
Frequency
1.0
2.0
3.0
4.0
5.0
Std. Dev = .76
Mean = 4.5
N = 698.00
Equal Access


Preserve Cultural Heritage
300
200
100
0
Frequency
1.0
2.0
3.0
4.0
5.0
Std. Dev = 1.00
Mean = 4.0
N = 697.00
Preserve Cultural Heritage


Eliminate Barriers
400
300
200
100
0
Frequency
1.0
2.0
3.0
4.0
5.0
Std. Dev = .95
Mean = 4.1
N = 689.00
Eliminate Barriers





With the exception of variable M5, funding of festivals, there is strong agreement with each of the principles of multiculturalism. For each of M1-M4 and M6, it is apparent from the histograms that most respondents answered 4 or 5, representing mild or strong agreement with the principles. While there were some neutral responses (response 3), for each of the statements, other than M5, there were less than ten per cent of respondents who disagreed, responding with a 1 or 2. For M5, funding festivals, responses differed from all the other five variables. Respondents were almost equally split between the agree

(4 or 5) and disagree (1 or 2) responses, with approximately thirty-five per cent of respondents on each side. In addition, almost thirty per cent of respondents were neutral on the issue, responding with a 3.

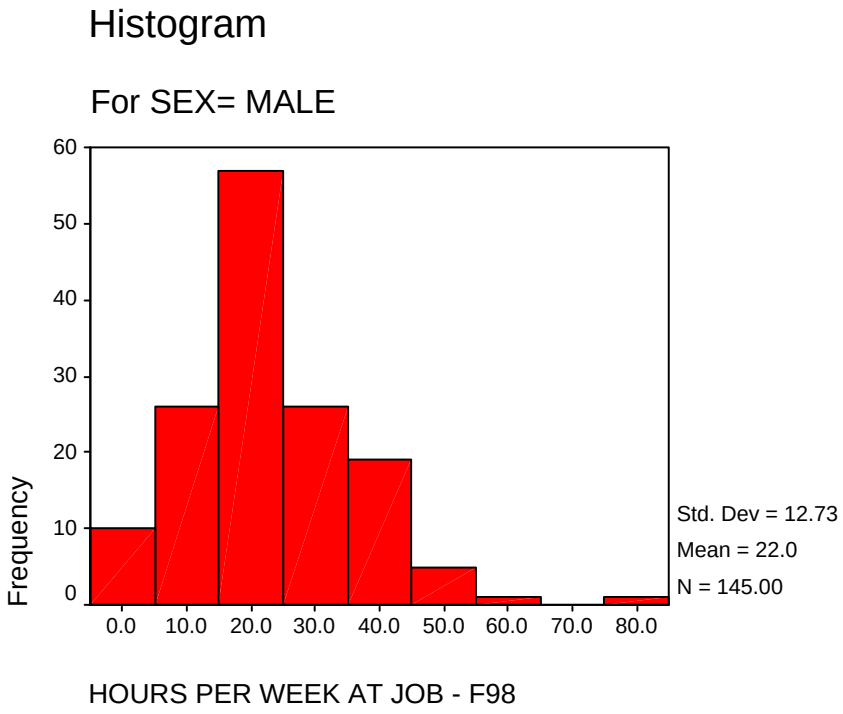
The table on page 3 provides a way of summarizing the responses, indicating which of the six statements is most strong supported. The issue of equal access is the principle most strongly supported. The table reports 91% agreeing – this comes from the 25.1% responding 4 and the 65% responding 5, for a total of 90.1%, just slightly different from the 91% reported in the table. Similarly, for each of the other statements, the per cent agreeing is the sum of the per cent valid responses for responses 4 and 5. The percentages from the SPSS output differ slightly from the table, since some cases were eliminated from the data file.

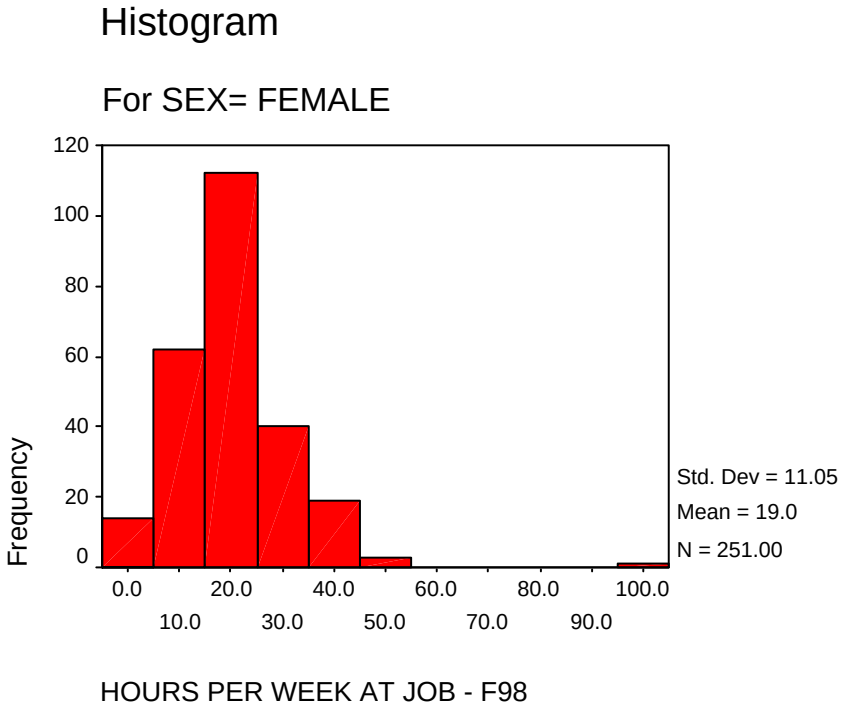
3. STEM-AND-LEAF DISPLAYS OF HOURS WORKED AT JOBS FOR MALES AND FEMALES

Descriptives

	SEX SEX OF			Statistic	Std. Error
JOBHOURS HOURS PER WEEK AT JOB - F98	1 MALE	Mean		22.00	1.057
		95% Confidence Interval for Mean	Lower Bound	19.91	
			Upper Bound	24.09	
		5% Trimmed Mean		21.34	
		Median		20.00	
		Variance		162.000	
		Std. Deviation		12.728	
		Minimum		1	
		Maximum		80	
		Range		79	
		Interquartile Range		15.50	
		Skewness		.983	.201
		Kurtosis		2.172	.400
	2 FEMALE	Mean		19.04	.698
		95% Confidence Interval for Mean	Lower Bound	17.67	
			Upper Bound	20.41	
		5% Trimmed Mean		18.40	
		Median		18.00	
		Variance		122.120	
		Std. Deviation		11.051	
		Minimum		2	
		Maximum		**	
		Range		98	
		Interquartile Range		13.00	
		Skewness		1.950	.154
		Kurtosis		10.661	.306

Histograms


Histogram
For SEX= MALE
Frequency
60
50
40
30
20
10
0
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
Std. Dev = 12.73
Mean = 22.0
N = 145.00
HOURS PER WEEK AT JOB - F98


Histogram
For SEX= FEMALE
Frequency
120
100
80
60
40
20
0
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
Std. Dev = 11.05
Mean = 19.0
N = 251.00
HOURS PER WEEK AT JOB - F98

Stem-and-Leaf Plots

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HOURS PER WEEK AT JOB - F98 Stem-and-Leaf Plot for
SEX= MALE

 Frequency    Stem &  Leaf

    10.00        0 .  1123344444
    11.00        0 .  55556666888
    15.00        1 .  000000222233444
    23.00        1 .  55555555566666666688888
    34.00        2 .  0000000000000000000000002222334444
    13.00        2 .  5555555556688
    13.00        3 .  0000000000022
     6.00        3 .  555568
    13.00        4 .  0000000000000
     2.00        4 .  55
     3.00        5 .  000
     2.00 Extremes    (>=56)

 Stem width:  10
 Each leaf:       1 case(s)


HOURS PER WEEK AT JOB - F98 Stem-and-Leaf Plot for
SEX= FEMALE

 Frequency    Stem &  Leaf

    14.00        0 .  233444
    27.00        0 .  555666788889
    35.00        1 .  00000000012222234
    58.00        1 .  55555555555556666666777788888&
    54.00        2 .  000000000000000000001122334
    21.00        2 .  5555557788
    19.00        3 .  00000022&
     8.00        3 .  577&
    11.00        4 .  00000
     4.00 Extremes    (>=45)

 Stem width:  10
 Each leaf:       2 case(s)
 & denotes fractional leaves.
```

Hours at jobs for males and females. The histograms provide a quick picture of the two distributions. From either the histograms or the stem-and-leaf displays, the two distributions are fairly similar in that there are relatively few of each sex with less than ten hours at jobs, the greatest number at around twenty hours at jobs, and successively fewer respondents as the number of hours at jobs increases above twenty-five or thirty hours. For males though, it appears as if there are more respondents who have more weekly hours of work at jobs, than for female respondents. That is, the bars of the male histogram are taller than the corresponding bars for the female histogram, at the larger number of hours at jobs. This may be what is primarily responsible for the higher mean male hours at jobs (twenty-two hours weekly) than female hours at jobs (nineteen hours).

For males the mode is 20 hours – there are more male respondents (twenty-four) in the stem-and-leaf display at exactly 20 hours than at any other value. Or if the grouping of the display is used, the category from 20-24 hours at jobs is the mode – that is the row of the display with the greatest number of cases. For females, the modes are the same – twenty hours is the most common value listed, and the 15-19 category occurs more frequently than any other category. Note that, for females, each leaf of the display represents two cases.

There are 145 males in this sample, so the 145/2=72.5 or 73rd case is the median. Counting from the smallest value, until the 73rd case is reached, the median is 20 hours worked at jobs. That is, there are 10 cases in the first row, 11 in the second, 15 in the third, and 23 in the fourth row, for a total of 10+11+15+23=59 cases. The next 14 cases (to reach the 73rd) are all exactly 20. For males, the median is 20 hours worked at jobs weekly.

There are 251 females, so the 126th case is the median. There are 14+27+35=76 cases in the first three rows, so the 126-76=50th case in the fourth row will be the median value. According to the note below the display, each number in the row represents two cases, so the 50th case across is 18. For females, the median is 18 hours worked at jobs weekly.

4. PROBLEMS OF MULTICULTURALISM

Statistics

		PM1 Hard to Know What Canadian Means	PM3 Creates Divisions	PM5 Maintains Offensive Practices
N	Valid	695	674	680
	Missing	12	33	27
Mean		2.23	3.00	2.17
Median		2.00	3.00	2.00
Mode		2	3	2
Std. Deviation		1.144	1.055	.969
Percentiles	25	1.00	2.00	1.00
	50	2.00	3.00	2.00
	75	3.00	4.00	3.00

Frequency Table

PM1 Hard to Know What Canadian Means

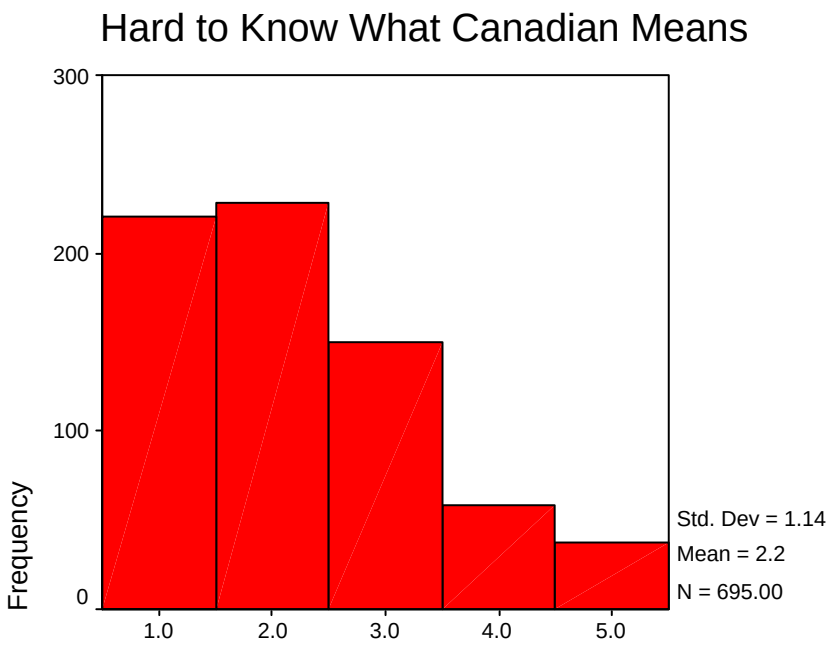
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Strongly Disagree	221	31.3	31.8	31.8
	2	228	32.2	32.8	64.6
	3	150	21.2	21.6	86.2
	4	58	8.2	8.3	94.5
	5 Strongly Agree	38	5.4	5.5	100.0
	Total	695	98.3	100.0	
Missing	6 Other	1	.1		
	8 Not Applicable	1	.1		
	9 No Response	9	1.3		
	System	1	.1		
	Total	12	1.7		
Total		707	100.0		

PM3 Creates Divisions

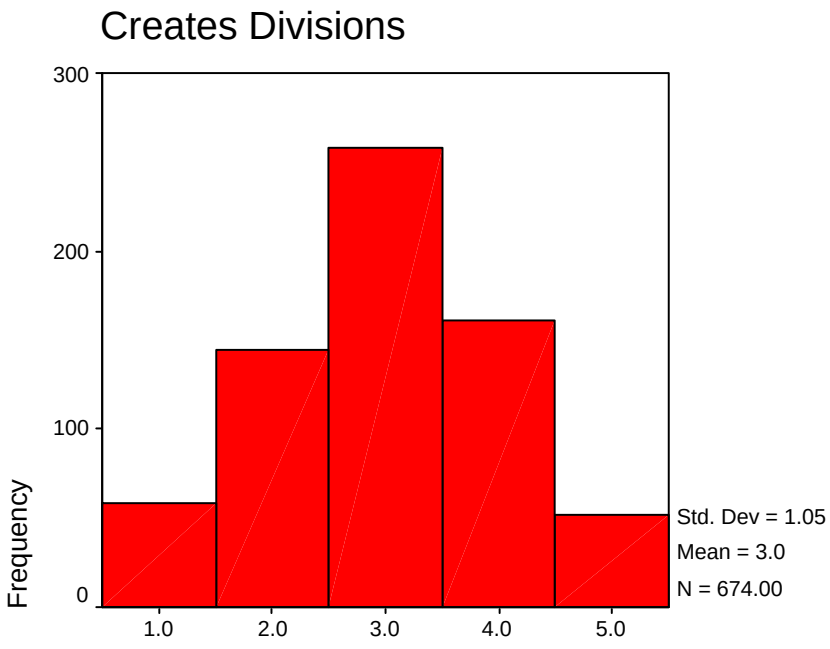
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Strongly Disagree	59	8.3	8.8	8.8
	2	144	20.4	21.4	30.1
	3	258	36.5	38.3	68.4
	4	161	22.8	23.9	92.3
	5 Strongly Agree	52	7.4	7.7	100.0
	Total	674	95.3	100.0	
Missing	7 Uncertain	3	.4		
	9 No Response	28	4.0		
	System	2	.3		
	Total	33	4.7		
Total		707	100.0		

PM5 Maintains Offensive Practices

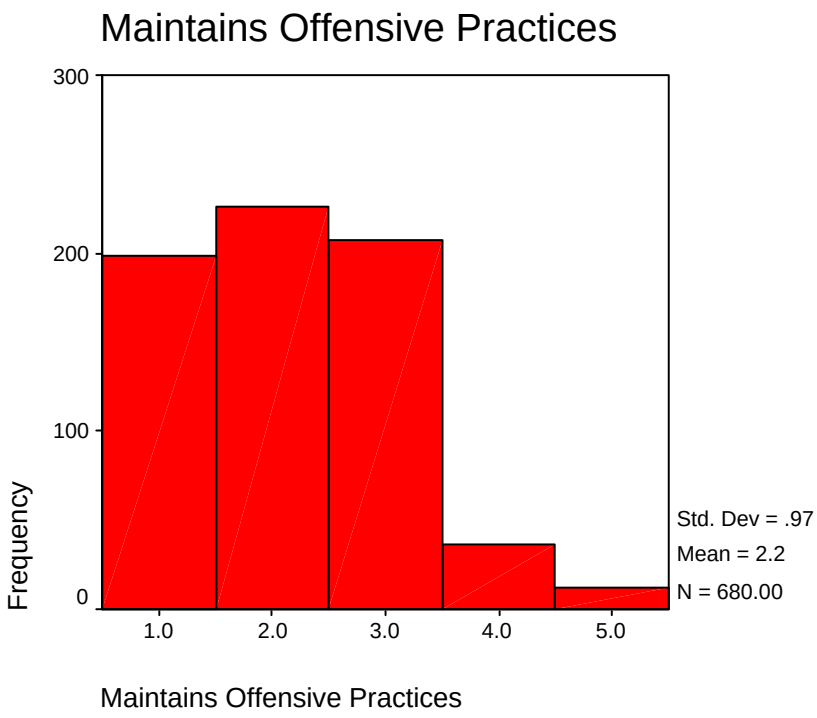
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Strongly Disagree	199	28.1	29.3	29.3
	2	226	32.0	33.2	62.5
	3	207	29.3	30.4	92.9
	4	36	5.1	5.3	98.2
	5 Strongly Agree	12	1.7	1.8	100.0
	Total	680	96.2	100.0	
Missing	7 Uncertain	1	.1		
	9 No Response	24	3.4		
	System	2	.3		
	Total	27	3.8		
Total		707	100.0		



Hard to Know What Canadian Means



Creates Divisions



The interquartile range (IQR) is the seventy-fifth percentile minus the twenty-fifth percentile. The values for the IQR are:

	PM1	PM3	PM5
75th percentile	**3**	**4**	**3**
25th percentile	**1**	**2**	**1**
IQR	**2**	**2**	**2**

The distribution for PM3, multiculturalism creates divisions, is probably easiest to describe. It seems quite symmetrical, with about thirty per cent of respondents on each side of the centre, and just under forty per cent in the centre at response 3. In fact, the mean, median, and mode are each 3, indicating a symmetric distribution. Respondents appear equally split between agree and disagree on this issue.

Responses to PM1, hard to know what Canadian means, are generally on the disagree side, with only fourteen per cent on the agree side (responding 4 or 5). As a result, the measures of average are each close to 2, representing a response such as "mildly disagree." The median and mode are each at 2, and the mean is just a little above 2.

For PM5, that multiculturalism maintains offensive practices, there is even more disagreement, with a mean of only 2.17. Again, each of the median and mode is at 2. As a result, respondents generally disagree with this statement.

In terms of variation, the IQR is identical for each of the three statements, so there is little difference in the variation of responses as measured by the IQR. But for a discrete variable such as this, the IQR may not provide as accurate an indication of variation as the standard deviation, since the latter takes into account all the values in the distribution. From the standard deviations, it can be seen that there is least variation in PM5 (s=0.969), that is, respondents generally are in disagreement with this. There is slightly greater variation in PM3 (s=1.055) and greatest variation in PM1 (s=1.144). This indicates greatest similarity of responses for PM5 and least similarity of responses for PM1, with PM3 between these extremes of variation.

5. DESCRIPTIVES

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
V5 Increase Corporate Taxes	696	1	5	3.80	1.043
V6 Government Helps Business	688	1	5	3.58	1.028
V7 Power to Affect Future	692	1	5	3.27	1.141
V8 User Fees	693	1	5	2.03	1.176
V9 More Health Care Dollars	686	1	5	3.49	1.067
Valid N (listwise)	678				

For the four opinion variables V5, V6, V7, and V9, there is generally mild agreement, with mean responses between 3.27 and 3.80 – that is, between the neutral response of 3 and the mildly agree response of 4. Of these four, there is greatest agreement with V5 (mean of 3.80), the question on corporate taxes, followed by just a little less agreement that government helps corporations more than citizens (mean of 3.58). Respondents generally support more health care financing (mean of 3.49) and are slightly on the agree side that they have the power to affect their future (mean of 3.27). For V8, user fees, there is disagreement with this, given a mean of only 2.03, well on the disagree side.

Response to V8 and V9 are generally consistent – these questions are asked in the opposite manner. That is, respondents who support more health care financing would generally be expected to oppose used fees. This is what the results show, since there is disagreement with user fees (mean of only 2), while there is agreement with more health care financing (mean of 3.5).

In terms of variation, there is not all that much difference among the standard deviations of responses. Responses concerning user fees and power to affect the future have slightly greater variation than do responses to the other three statements.

Last edited September 28, 2004