

Assignment 4: Due March 27th 5:00 P.M. SUBMIT ELECTRONICALLY PLEASE ON OWL

HINT: PROVIDE ALL DETAILS AND USE FORMAL TESTS OF SIGNIFICANCE WHEN ASKED (5 STEPS).

1. We are studying the religious behavior of older adults in London. We find that among a sample of Londoners (N=650) that roughly 42% go to church regularly. Alternatively, we find that among a sample of Torontonians (N=200) that roughly 30% go to church regularly. Are Torontonians different from Londoners in their church attendance? Use alpha = .05 (10 marks)
2. We are studying the religious behavior of older adults in London. We find that among a sample of Londoners (N=65) that on average they go to church 5.5 times annually, with a standard deviation of 2.1. Alternatively, we find that among a sample of Torontonians (N=20) that they go to church 4.4 times annually, with a standard deviation of 1.8. Are Torontonians less likely to attend church than are Londoners? Use alpha = .05 (10 marks)
3. With a random sample of 2610 Canadians in 1970, the following data was collected from a national sample of Canadians. The researcher is examining whether being well educated leads somebody to be more supportive of “low cost education” (e.g. free tuition to university).

Support for lower cost education

1970	years of education					Total
	< 11 yrs	Some college	some univ	university grad	post grad studies	
Support	440	555	600	579	333	2507
Opposition	32	22	15	22	12	103
	472	577	615	601	345	2610

In 2010, we document with another sample of 3829 Canadians:

Support for lower cost education

2010	years of education					Total
	< 11 yrs	Some college	some univ	university grad	post grad studies	
Support	440	523	553	555	333	2404
Opposition	233	322	345	367	158	1425
	673	845	898	922	491	3829

3a. What is the likely “dependent variable” and “independent variable” in the above tables? (2 marks)

3b. With the 1970 data, is there a significant association? (5 marks)

3c. With the 2010 data, is there a significant association? (5 marks)

3d. Working with these contingency tables and percentages (percentage difference method), what can we say about support for low cost education and how it changes by level of education in 1970? (5 marks)

3e. Similarly, what can be said of 2010? (5 marks)

3f. What is the strength of this association using either Phi or Cramer’s V in 1970? (2 marks)

3g. Do the same with 2010, and indicate how the association has changed (3 marks)

4. The following data was collected from a random sample of Canadian women and another random sample of Canadian men. It documents information on smoking behavior and education.

Women	Less than HS	University graduate	Total
Non-Smoker	40	110	150
Smoker	70	5	75
Total	110	115	225

Men	Less than HS	University graduate	Total
Non-Smoker	50	100	150
Smoker	60	10	70
Total	110	110	220

4a. Which variable is the logical “dependent variable”? (2 marks).

4b. Is there a significant association for women? Is there a significant association for men? (10 marks).

4c. Calculate Lambda for women. Calculate Lambda for men. Is the association stronger for men or women? (10 marks)