

```
DATA sydney;
  INFILE '/home/u58684395/Tutorial 3/sydneycohort2.txt' DELIMITER='09'X FIRSTOBS=2;
  INPUT Ill Swam;
RUN;

PROC FORMAT;
  VALUE SwamFormat 0="Non-swimmer" 2="Polluted-swimmer" 1="Unpolluted-swimmer" ;
  VALUE Illformat 1="Fell Ill" 0="No Illness";
RUN;

PROC FREQ DATA=sydney ORDER=data;
  FORMAT Swam SwamFormat. Ill Illformat.;
  TABLES Swam*Ill / NOPERCENT NOCOL NOROW RELRISK RISKDIFF;
  TITLE "3x2 Contingency Table For Sydney Beach Users Cohort Study";
RUN;

PROC FREQ DATA=sydney ORDER=data;
  FORMAT Swam SwamFormat. Ill Illformat.;
  WHERE Swam LE 1;
  TABLES Swam*Ill / NOPERCENT NOCOL NOROW RELRISK;
  TITLE "Unpolluted Sydney Beach Users Cohort Study";
RUN;

PROC FREQ DATA=sydney ORDER=data;
  FORMAT Swam SwamFormat. Ill Illformat.;
  WHERE Swam NE 1;
  TABLES Swam*Ill / NOPERCENT NOCOL NOROW RELRISK;
  TITLE "Polluted Sydney Beach Users Cohort Study";
RUN;
```

**3x2 Contingency Table For Sydney Beach Users Cohort Study**

The FREQ Procedure

Frequency	Table of Swam by Ill			
	Swam	Ill		
		Fell Ill	No Illness	Total
	Polluted-swimmer	55	99	154
	Unpolluted-swimmer	477	1293	1770
	Non-swimmer	151	764	915
	Total	683	2156	2839

**Unpolluted Sydney Beach Users Cohort Study**

The FREQ Procedure

Frequency	Table of Swam by Ill			
	Swam	Ill		
		Fell Ill	No Illness	Total
	Unpolluted-swimmer	477	1293	1770
	Non-swimmer	151	764	915
	Total	628	2057	2685

Statistics for Table of Swam by Ill

Odds Ratio and Relative Risks			
Statistic	Value	95% Confidence Limits	
Odds Ratio	1.8665	1.5226	2.2882
Relative Risk (Column 1)	1.6330	1.3850	1.9254
Relative Risk (Column 2)	0.8749	0.8403	0.9109

Sample Size = 2685

**Polluted Sydney Beach Users Cohort Study**

The FREQ Procedure

Frequency	Table of Swam by Ill			
	Swam	Ill		
		Fell Ill	No Illness	Total
	Polluted-swimmer	55	99	154
	Non-swimmer	151	764	915
	Total	206	863	1069

Statistics for Table of Swam by Ill

Odds Ratio and Relative Risks			
Statistic	Value	95% Confidence Limits	
Odds Ratio	2.8109	1.9358	4.0816
Relative Risk (Column 1)	2.1641	1.6734	2.7988
Relative Risk (Column 2)	0.7699	0.6820	0.8691

Sample Size = 1069

Out of those who visited Sydney Beach while it was polluted there were 154 people who swam while 55 of them got sick and 915 people who did not swim and 151 reported sick for a relative risk ratio of 2.1641. Meanwhile those who visited while it was unpolluted 477 out of 1770 swimmers fell sick while 151 out of 915 non-swimmers fell sick with a relative risk ratio of 1.6330, Both RR are larger than one which means that the risk of swimmers getting sick is greater than non-swimmers.