Problem #3.3

		Second Shot $S_2 = 1$	Second Shot $S_2 = 0$
First Shot	$S_1 = 1$	251	34
	$S_1 = 0$	48	5

$H_0 : S_1 \perp\!\!\!\perp S_2$ vs H_1 : not H_0

Data is not ordinal so a restricted alternative is not necessary.

Statistics	**Value**	**p-value**	**Conclusion**
X^2	0.2727	0.6015	Do not reject H_0, there is evidence that the first and second shot are independent
G^2	0.2858	0.5930	Do not reject H_0, there is evidence that the first and second shot are independent

Problem #3.9(a)

Table 1: Counts

	Drugs	No Drugs
Schizophrenia	105	8
Affective disorder	12	2
Neurosis	18	19
Personality disorder	47	52
Special Systems	0	13

Table 2: Perason Standard Residuals

	Drugs	No Drugs
Schizophrenia	7.874526	-7.874526
Affective disorder	1.602262	-1.602262
Neurosis	-2.385315	2.385315
Personality disorder	-4.841701	4.841701
Special Systems	-5.139491	5.139491

OUTSTANDING: conclusion

Problem #3.12

Gamma, γ: 0.3873
95% CI: (0.3156, 0.4591)

Gamma is 0.3873 which indicates that when attitudes disagree (i.e. counts that are not on the diagonal), the proportion of concordant attitudes towards abortions ($\uparrow$ school = $\uparrow$ approval) is larger than the proportion of discordant attitudes. This means that there is greater approval of abortion when there is more schooling.

Problem #3.15

		Normalization	
		Yes	No
Group	Treatment	7	8
	Control	0	15

	Type of CI for OR	**95% CI**
(a)	Woolf (i.e. Wald)	$(0, \infty)$
(b)	Cornfield's Exact	$(2.646, \infty)$ OUTSTANDING: Answer: $(0.618, \infty)$
(c)	Profile Likelihood	$(5.117, \infty)$

Problem #3.31

OUTSTANDING: