

```

*Table 7.3 from Loveless, p141*.
data list free / Dem IA count.
begin data.
1 1 13
1 2 20
2 1 8
2 2 22
end data.
variable labels Dem "Democracy".
value labels Dem 1 'no' 2 'yes'.
variable labels IA "Internet Access".
value labels IA 1 '<50%' 2 '>50%'.

```

```

weight by count.
crosstabs tables = Dem by IA
/cells = column count
/statistics = all.

```

Democracy * Internet Access Crosstabulation

		Internet Access		Total	
		<50%	>50%		
Democracy	no	Count	13	20	33
		% within Internet Access	61.9%	47.6%	52.4%
	yes	Count	8	22	30
		% within Internet Access	38.1%	52.4%	47.6%
Total		Count	21	42	63
		% within Internet Access	100.0%	100.0%	100.0%

Symmetric Measures

		Value	Asymptotic Standard Error ^a	Approximate T ^b	Approximate Significance
Nominal by Nominal	Phi	.135			.285
	Cramer's V	.135			.285
	Contingency Coefficient	.134			.285
Ordinal by Ordinal	Kendall's tau-b	.135	.124	1.085	.278
	Kendall's tau-c	.127	.117	1.085	.278
	Gamma	.283	.251	1.085	.278
	Spearman Correlation	.135	.124	1.063	.292 ^c
Interval by Interval	Pearson's R	.135	.124	1.063	.292 ^c
Measure of Agreement	Kappa	.125	.115	1.070	.285
N of Valid Cases		63			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

Note that the Gamma value corresponds to the coefficient reported by Loveless, except that the sign here is positive not negative as he reports.

$$\Phi = \frac{AD - BC}{\sqrt{(A+B)(C+D)(A+C)(B+D)}}$$

$$= \frac{13(22) - 20(8)}{\sqrt{(33)(30)(21)(42)}}$$

$$= \frac{286 - 160}{\sqrt{873,180}}$$

$$= \frac{126}{934.44}$$

$$= .1348$$

$$= .135$$

Table 7.6 from Loveless, Ch 7, p142.

data list free / Dem IA count.

begin data.

1 1 17

1 2 33

2 1 33

2 2 17

end data.

variable labels Dem "Democracy".

value labels Dem 1 'no' 2 'yes'.

variable labels IA "Internet Access".

value labels IA 1 '<50%' 2 '>50%'.

weight by count.

crosstabs tables = Dem by IA

/cells = column count

/statistics = all.

Democracy * Internet Access Crosstabulation

		Internet Access		Total	
		<50%	>50%		
Democracy	no	Count	17	33	50
		% within Internet Access	34.0%	66.0%	50.0%
	yes	Count	33	17	50
		% within Internet Access	66.0%	34.0%	50.0%
Total		Count	50	50	100
		% within Internet Access	100.0%	100.0%	100.0%

Symmetric Measures

		Value	Asymptotic Standard Error ^a	Approximate T ^b	Approximate Significance
Nominal by Nominal	Phi	-.320			.001
	Cramer's V	.320			.001
	Contingency Coefficient	.305			.001
Ordinal by Ordinal	Kendall's tau-b	-.320	.095	-3.378	<.001
	Kendall's tau-c	-.320	.095	-3.378	<.001
	Gamma	-.581	.140	-3.378	<.001
	Spearman Correlation	-.320	.095	-3.344	.001 ^c
Interval by Interval	Pearson's R	-.320	.095	-3.344	.001 ^c
Measure of Agreement	Kappa	-.320	.095	-3.200	.001
N of Valid Cases		100			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

```

*Table 7.7 from Loveless, Ch 7, p144*.
data list free / Dem IA count.
begin data.
1 1 9
1 2 10
1 3 14
2 1 6
2 2 7
2 3 17
end data.
variable labels Dem "Democracy".
value labels Dem 1 'no' 2 'yes'.
variable labels IA "Internet Access".
value labels IA 1 'low 1/3' 2 'middle 1/3' 3 'high 1/3'.

weight by count.
crosstabs tables = Dem by IA
/cells = column count
/statistics = all.

```

Democracy * Internet Access Crosstabulation

		Internet Access			Total	
		low 1/3	middle 1/3	'high 1		
Democracy	no	Count	9	10	14	33
		% within Internet Access	60.0%	58.8%	45.2%	52.4%
	yes	Count	6	7	17	30
		% within Internet Access	40.0%	41.2%	54.8%	47.6%
Total		Count	15	17	31	63
		% within Internet Access	100.0%	100.0%	100.0%	100.0%

Directional Measures

			Value	Asymptotic Standard Error ^a	Approximate T ^b	Approximate Significance
Nominal by Nominal	Lambda	Symmetric	.048	.088	.540	.589
		Democracy Dependent	.100	.176	.540	.589
		Internet Access Dependent	.000	.000	. ^c	. ^c
	Goodman and Kruskal tau	Democracy Dependent	.020	.036		.533 ^d
		Internet Access Dependent	.012	.021		.473 ^d
	Uncertainty Coefficient	Symmetric	.012	.021	.570	.526 ^e
		Democracy Dependent	.015	.026	.570	.526 ^e
		Internet Access Dependent	.010	.017	.570	.526 ^e
	Ordinal by Ordinal	Somers' d	Symmetric	.129	.117	1.098
Democracy Dependent			.115	.105	1.098	.272
Internet Access Dependent			.145	.133	1.098	.272
Nominal by Interval	Eta	Democracy Dependent	.143			
		Internet Access Dependent	.132			

- a. Not assuming the null hypothesis.
- b. Using the asymptotic standard error assuming the null hypothesis.
- c. Cannot be computed because the asymptotic standard error equals zero.
- d. Based on chi-square approximation
- e. Likelihood ratio chi-square probability.

Symmetric Measures

		Value	Asymptotic Standard Error ^a	Approximate T ^b	Approximate Significance
Nominal by Nominal	Phi	.143			.527
	Cramer's V	.143			.527
	Contingency Coefficient	.141			.527
Ordinal by Ordinal	Kendall's tau-b	.130	.118	1.098	.272
	Kendall's tau-c	.145	.132	1.098	.272
	Gamma	.229	.205	1.098	.272
	Spearman Correlation	.137	.125	1.077	.286 ^c
Interval by Interval	Pearson's R	.132	.124	1.038	.304 ^c
Measure of Agreement	Kappa	.001	.060	.017	.987
N of Valid Cases		63			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

```

*Table 7.9 from Loveless, Ch 7, p146*.
data list free / Dem IA count.
begin data.
1 1 7
1 2 8
1 3 11
2 1 7
2 2 7
2 3 7
3 1 0
3 2 2
3 3 13
end data.
variable labels Dem "Democracy".
value labels Dem 1 'not free' 2 'part free' 3 'free'.
variable labels IA "Internet Access".
value labels IA 1 'low 1/3' 2 'middle 1/3' 3 'high 1/3'.

weight by count.
crosstabs tables = Dem by IA
/cells = column count
/statistics = all.

```

Democracy * Internet Access Crosstabulation

		Internet Access			Total	
		low 1/3	middle 1/3	'high 1		
Democracy	not free	Count	7	8	11	26
		% within Internet Access	46.7%	47.1%	35.5%	41.3%
	part free	Count	8	7	7	22
		% within Internet Access	53.3%	41.2%	22.6%	34.9%
	free	Count	0	2	13	15
		% within Internet Access	0.0%	11.8%	41.9%	23.8%
Total	Count	15	17	31	63	
	% within Internet Access	100.0%	100.0%	100.0%	100.0%	

Directional Measures

			Value	Asymptotic Standard Error ^a	Approximate T ^b	Approximate Significance	
Nominal by Nominal	Lambda	Symmetric	.058	.118	.479	.632	
		Democracy Dependent	.081	.162	.481	.630	
		Internet Access Dependent	.031	.119	.258	.796	
	Goodman and Kruskal tau	Democracy Dependent	.082	.039		.038 ^c	
		Internet Access Dependent	.113	.046		.007 ^c	
		Uncertainty Coefficient	Symmetric	.115	.041	2.775	.004 ^d
			Democracy Dependent	.114	.040	2.775	.004 ^d
			Internet Access Dependent	.117	.042	2.775	.004 ^d
	Ordinal by Ordinal	Somers' d	Symmetric	.243	.103	2.319	.020
Democracy Dependent			.248	.107	2.319	.020	
Internet Access Dependent			.239	.100	2.319	.020	
Nominal by Interval	Eta	Democracy Dependent	.303				
		Internet Access Dependent	.433				

- Not assuming the null hypothesis.
- Using the asymptotic standard error assuming the null hypothesis.
- Based on chi-square approximation
- Likelihood ratio chi-square probability.

Symmetric Measures

		Value	Asymptotic Standard Error ^a	Approximate T ^b	Approximate Significance
Nominal by Nominal	Phi	.443			.015
	Cramer's V	.313			.015
	Contingency Coefficient	.405			.015
Ordinal by Ordinal	Kendall's tau-b	.243	.103	2.319	.020
	Kendall's tau-c	.234	.101	2.319	.020
	Gamma	.368	.151	2.319	.020
	Spearman Correlation	.273	.115	2.217	.030 ^c
Interval by Interval	Pearson's R	.291	.103	2.378	.021 ^c
Measure of Agreement	Kappa	.172	.083	2.123	.034
N of Valid Cases		63			

- Not assuming the null hypothesis.
- Using the asymptotic standard error assuming the null hypothesis.
- Based on normal approximation.

Table 7.11a from Loveless, Ch 7, p153.

data list free / Dem IA count.

begin data.

1 1 7

1 2 6

1 3 3

2 1 6

2 2 3

2 3 3

3 1 0

3 2 0

3 3 6

end data.

variable labels Dem "Democracy".

value labels Dem 1 'not free' 2 'part free' 3 'free'.

variable labels IA "Internet Access".

value labels IA 1 'low 1/3' 2 'middle 1/3' 3 'high 1/3'.

weight by count.

crosstabs tables = Dem by IA

/cells = column count

/statistics = all.

Democracy * Internet Access Crosstabulation

		Internet Access			Total	
		low 1/3	middle 1/3	'high 1		
Democracy	not free	Count	7	6	3	16
		% within Internet Access	53.8%	66.7%	25.0%	47.1%
	part free	Count	6	3	3	12
		% within Internet Access	46.2%	33.3%	25.0%	35.3%
	free	Count	0	0	6	6
		% within Internet Access	0.0%	0.0%	50.0%	17.6%
Total	Count	13	9	12	34	
	% within Internet Access	100.0%	100.0%	100.0%	100.0%	

Directional Measures

			Value	Asymptotic Standard Error ^a	Approximate T ^b	Approximate Significance
Nominal by Nominal	Lambda	Symmetric	.231	.117	1.814	.070
		Democracy Dependent	.167	.152	1.015	.310
		Internet Access Dependent	.286	.099	2.699	.007
	Goodman and Kruskal tau	Democracy Dependent	.152	.081		.040 ^c
		Internet Access Dependent	.214	.046		.007 ^c
		Uncertainty Coefficient				
	Uncertainty Coefficient	Symmetric	.217	.072	2.829	.004 ^d
		Democracy Dependent	.223	.070	2.829	.004 ^d
		Internet Access Dependent	.211	.075	2.829	.004 ^d
Ordinal by Ordinal	Somers' d	Symmetric	.348	.145	2.312	.021
		Democracy Dependent	.339	.147	2.312	.021
		Internet Access Dependent	.358	.143	2.312	.021
Nominal by Interval	Eta	Democracy Dependent	.541			
		Internet Access Dependent	.556			

- a. Not assuming the null hypothesis.
- b. Using the asymptotic standard error assuming the null hypothesis.
- c. Based on chi-square approximation
- d. Likelihood ratio chi-square probability.

Symmetric Measures

		Value	Asymptotic Standard Error ^a	Approximate T ^b	Approximate Significance
Nominal by Nominal	Phi	.640			.008
	Cramer's V	.452			.008
	Contingency Coefficient	.539			.008
Ordinal by Ordinal	Kendall's tau-b	.348	.145	2.312	.021
	Kendall's tau-c	.335	.145	2.312	.021
	Gamma	.506	.194	2.312	.021
	Spearman Correlation	.396	.159	2.436	.021 ^c
Interval by Interval	Pearson's R	.445	.137	2.810	.008 ^c
Measure of Agreement	Kappa	.203	.129	1.742	.082
N of Valid Cases		34			

- a. Not assuming the null hypothesis.
- b. Using the asymptotic standard error assuming the null hypothesis.
- c. Based on normal approximation.

Note that text reports the Gamma score of .506 instead of Lambda .167 as stated. The correct measure is V which =.452 or Taub which is .348.

Table 7.11b from Loveless, Ch 7, p153.

data list free / Dem IA count.

begin data.

1 1 0

1 2 2

1 3 8

2 1 2

2 2 4

2 3 4

3 1 0

3 2 2

3 3 7

end data.

variable labels Dem "Democracy".

value labels Dem 1 'not free' 2 'part free' 3 'free'.

variable labels IA "Internet Access".

value labels IA 1 'low 1/3' 2 'middle 1/3' 3 'high 1/3'.

weight by count.

crosstabs tables = Dem by IA

/cells = column count

/statistics = all.

Democracy * Internet Access Crosstabulation

			Internet Access			Total
			low 1/3	middle 1/3	'high 1	
Democracy	not free	Count	0	2	8	10
		% within Internet Access	0.0%	25.0%	42.1%	34.5%
	part free	Count	2	4	4	10
		% within Internet Access	100.0%	50.0%	21.1%	34.5%
	free	Count	0	2	7	9
		% within Internet Access	0.0%	25.0%	36.8%	31.0%
Total	Count	2	8	19	29	
	% within Internet Access	100.0%	100.0%	100.0%	100.0%	

Directional Measures

			Value	Asymptotic Standard Error ^a	Approximate T ^b	Approximate Significance	
Nominal by Nominal	Lambda	Symmetric	.138	.158	.826	.409	
		Democracy Dependent	.211	.132	1.466	.143	
		Internet Access Dependent	.000	.283	.000	1.000	
	Goodman and Kruskal tau	Democracy Dependent	.109	.051		.193 ^c	
		Internet Access Dependent	.105	.094		.207 ^c	
		Uncertainty Coefficient	Symmetric	.121	.070	1.636	.151 ^d
			Democracy Dependent	.106	.065	1.636	.151 ^d
			Internet Access Dependent	.142	.078	1.636	.151 ^d
		Ordinal by Ordinal	Somers' d	Symmetric	-.033	.149	-.220
		Democracy Dependent	-.039	.176	-.220	.826	
		Internet Access Dependent	-.029	.130	-.220	.826	
	Nominal by Interval	Eta	Democracy Dependent	.031			
		Internet Access Dependent	.454				

- a. Not assuming the null hypothesis.
- b. Using the asymptotic standard error assuming the null hypothesis.
- c. Based on chi-square approximation
- d. Likelihood ratio chi-square probability.

Symmetric Measures

		Value	Asymptotic Standard Error ^a	Approximate T ^b	Approximate Significance
Nominal by Nominal	Phi	.462			.186
	Cramer's V	.326			.186
	Contingency Coefficient	.419			.186
Ordinal by Ordinal	Kendall's tau-b	-.033	.151	-.220	.826
	Kendall's tau-c	-.029	.130	-.220	.826
	Gamma	-.056	.252	-.220	.826
	Spearman Correlation	-.037	.169	-.192	.849 ^c
Interval by Interval	Pearson's R	-.029	.137	-.149	.883 ^c
Measure of Agreement	Kappa	.084	.105	.766	.443
N of Valid Cases		29			

- a. Not assuming the null hypothesis.
- b. Using the asymptotic standard error assuming the null hypothesis.
- c. Based on normal approximation.

Again the text reports Gamma despite saying that it reports Lambda. I think the appropriate measure should be V or preferably Taub.