

GET  
FILE='F:\Supplemental Instruction 2018 Conference Paper.sav'.  
DATASET NAME DataSet1 WINDOW=FRONT.  
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='F:\Supplemental Instruction 2018 Conference Paper.sav'  
/COMPRESSED.  
FREQUENCIES VARIABLES=A1 A2 A3  
/ORDER=ANALYSIS.

### **Frequencies**

[DataSet1] F:\Supplemental Instruction 2018 Conference Paper.sav

### **Statistics**

		Please indicate your Faculty	Indicate the number of modules for which SI sessions were attended in your First Year of study	Please indicate the year of study that you are currently in
N	Valid	120	121	121
	Missing	2	1	1

### **Frequency Table**

#### **Please indicate your Faculty**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Science & Agriculture	47	38.5	39.2	39.2
	Social Sciences & humanities	48	39.3	40.0	79.2
	Education	5	4.1	4.2	83.3
	Management & Commerce	19	15.6	15.8	99.2
	Health Sciences	1	.8	.8	100.0
	Total	120	98.4	100.0	
Missing	System	2	1.6		
	Total	122	100.0		

**Indicate the number of modules for which SI sessions were attended in your First Year of study**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	One	39	32.0	32.2	32.2
	Two	49	40.2	40.5	72.7
	Three	12	9.8	9.9	82.6
	Four	21	17.2	17.4	100.0
	Total	121	99.2	100.0	
Missing	System	1	.8		
Total		122	100.0		

**Please indicate the year of study that you are currently in**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1st year	5	4.1	4.1	4.1
	2nd year	94	77.0	77.7	81.8
	3rd year	16	13.1	13.2	95.0
	4th year	6	4.9	5.0	100.0
	Total	121	99.2	100.0	
Missing	System	1	.8		
Total		122	100.0		

FREQUENCIES VARIABLES=B4 B5 B6 B7 B8 B9 B10 B11 B12 B13 B14  
/ORDER=ANALYSIS.

**Frequencies**

**Statistics**

		The SI leaders' facilitation methods enhanced understanding of concepts	The lecturer's attitude towards SI fostered my attendance of the SI sessions	The scheduling of the SI sessions ensured availability and accessibility of the students	The monitoring of SI attendance by the lecturers encouraged my attendance to the SI sessions	The student-SI leader relationship created an atmosphere conducive for learning
N	Valid	121	118	120	120	121
	Missing	1	4	2	2	1

### Statistics

	The session venues allowed space for peer collaboration and transactional learning	The SI sessions were characterised by engagement, sharing and exchange of ideas	The SI leader followed me up and kept track of my progress and performance	The SI sessions focused on the mastery of the subject outcomes	My classmates encouraged me to attend SI sessions
N	Valid	120	119	116	117
	Missing	2	3	6	5

### Statistics

	My individual learning needs were accommodated in the SI sessions
N	Valid
	119
	Missing
	3

### Frequency Table

#### **The SI leaders' facilitation methods enhanced understanding of concepts**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	47	38.5	38.8	38.8
	Agree	69	56.6	57.0	95.9
	Disagree	3	2.5	2.5	98.3
	Strongly Disagree	2	1.6	1.7	100.0
	Total	121	99.2	100.0	
Missing	System	1	.8		
	Total	122	100.0		

**The lecturer's attitude towards SI fostered my attendance of the SI sessions**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	28	23.0	23.7	23.7
	Agree	57	46.7	48.3	72.0
	Disagree	27	22.1	22.9	94.9
	Strongly Disagree	6	4.9	5.1	100.0
	Total	118	90.7	100.0	
Missing	System	4	3.3		
	Total	122	100.0		

**The scheduling of the SI sessions ensured availability and accessibility of the students**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	37	30.3	30.8	30.8
	Agree	74	60.7	61.7	92.5
	Disagree	3	2.5	2.5	95.0
	Strongly Disagree	6	4.9	5.0	100.0
	Total	120	98.4	100.0	
Missing	System	2	1.6		
	Total	122	100.0		

**The monitoring of SI attendance by the lecturers encouraged my attendance to the SI sessions**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	35	28.7	29.2	29.2
	Agree	62	50.8	51.7	80.8
	Disagree	17	13.9	14.2	95.0
	Strongly Disagree	6	4.9	5.0	100.0
	Total	120	98.4	100.0	
Missing	System	2	1.6		
	Total	122	100.0		

**The student-SI leader relationship created an atmosphere conducive for learning**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	41	33.6	33.9	33.9
	Agree	68	55.7	56.2	90.1
	Disagree	7	5.7	5.8	95.9
	Strongly Disagree	5	4.1	4.1	100.0
	Total	121	99.2	100.0	
Missing	System	1	.8		
Total		122	100.0		

**The session venues allowed space for peer collaboration and transactional learning**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	44	36.1	36.7	36.7
	Agree	61	50.0	50.8	87.5
	Disagree	11	9.0	9.2	96.7
	Strongly Disagree	4	3.3	3.3	100.0
	Total	120	98.4	100.0	
Missing	System	2	1.6		
Total		122	100.0		

**The SI sessions were characterised by engagement, sharing and exchange of ideas**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	52	42.6	43.7	43.7
	Agree	61	50.0	51.3	95.0
	Disagree	5	4.1	4.2	99.2
	Strongly Disagree	1	.8	.8	100.0
	Total	119	97.5	100.0	
Missing	System	3	2.5		
Total		122	100.0		

**The SI leader followed me up and kept track of my progress and performance**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	37	30.3	31.9	31.9
	Agree	41	33.6	35.3	67.2
	Disagree	30	24.6	25.9	93.1
	Strongly Disagree	8	6.6	6.9	100.0
	Total	116	95.1	100.0	
Missing	System	6	4.9		
Total		122	100.0		

**The SI sessions focused on the mastery of the subject outcomes**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	37	30.3	31.6	31.6
	Agree	71	58.2	60.7	92.3
	Disagree	6	4.9	5.1	97.4
	Strongly Disagree	3	2.5	2.6	100.0
	Total	117	95.9	100.0	
Missing	System	5	4.1		
Total		122	100.0		

**My classmates encouraged me to attend SI sessions**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	19	15.6	16.2	16.2
	Agree	43	35.2	36.8	53.0
	Disagree	36	29.5	30.8	83.8
	Strongly Disagree	19	15.6	16.2	100.0
	Total	117	95.9	100.0	
Missing	System	5	4.1		
Total		122	100.0		

### **My individual learning needs were accommodated in the SI sessions**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	35	28.7	29.4	29.4
	Agree	66	54.1	55.5	84.9
	Disagree	13	10.7	10.9	95.8
	Strongly Disagree	5	4.1	4.2	100.0
	Total	119	97.5	100.0	
Missing	System	3	2.5		
	Total	122	100.0		

FREQUENCIES VARIABLES=C15 C16 C17 C18 C19 C20 C21  
/ORDER=ANALYSIS.

### **Frequencies**

### **Statistics**

	I acquired academic literacies and competencies such as scientific reading and writing as a result of attendance to the SI sessions	My marks for the various assessment tasks (assignments, tests and examinations) improved as a result of attendance to the SI sessions	The sessions unlocked, exposed and unpacked difficult areas in the content subjects	The SI sessions offered a sense of community and belonging to the discipline and the university	SI attendance enabled assimilation into the culture and ethos of the university
N	Valid	119	119	119	116
	Missing	3	3	3	6

## Statistics

		SI sessions developed graduate attributes such as responsibility, independent learning, self-monitoring, et cetera
I acquired study skills as a result of my attendance in the SI sessions		
N	Valid	119
	Missing	3

**Frequency Table**

**I acquired academic literacies and competencies such as scientific reading and writing as a result of attendance to the SI sessions**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	To a great extent	30	24.6	25.2	25.2
	Fairly well	72	59.0	60.5	85.7
	To a limited extent	12	9.8	10.1	95.8
	Not at all	5	4.1	4.2	100.0
	Total	119	97.5	100.0	
Missing	System	3	2.5		
Total		122	100.0		

**My marks for the various assessment tasks (assignments, tests and examinations) improved as a result of attendance to the SI sessions**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	To a great extent	52	42.6	43.7	43.7
	Fairly well	47	38.5	39.5	83.2
	To a limited extent	11	9.0	9.2	92.4
	Not at all	9	7.4	7.6	100.0
	Total	119	97.5	100.0	
Missing	System	3	2.5		
Total		122	100.0		

**The sessions unlocked, exposed and unpacked difficult areas in the content subjects**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	To a great extent	48	39.3	40.3	40.3
	Fairly well	53	43.4	44.5	84.9
	To a limited extent	14	11.5	11.8	96.6
	Not at all	4	3.3	3.4	100.0
	Total	119	97.5	100.0	
Missing	System	3	2.5		
	Total	122	100.0		

**The SI sessions offered a sense of community and belonging to the discipline and the university**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	To a great extent	33	27.0	28.4	28.4
	Fairly well	59	48.4	50.9	79.3
	To a limited extent	21	17.2	18.1	97.4
	Not at all	3	2.5	2.6	100.0
	Total	116	95.1	100.0	
Missing	System	6	4.9		
	Total	122	100.0		

**SI attendance enabled assimilation into the culture and ethos of the university**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	To a great extent	25	20.5	22.1	22.1
	Fairly well	47	38.5	41.6	63.7
	To a limited extent	32	26.2	28.3	92.0
	Not at all	9	7.4	8.0	100.0
	Total	113	92.6	100.0	
Missing	System	9	7.4		
	Total	122	100.0		

**I acquired study skills as a result of my attendance in the SI sessions**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	To a great extent	40	32.8	33.6	33.6
	Fairly well	55	45.1	46.2	79.8
	To a limited extent	18	14.8	15.1	95.0
	Not at all	6	4.9	5.0	100.0
	Total	119	97.5	100.0	
Missing	System	3	2.5		
	Total	122	100.0		

**SI sessions developed graduate attributes such as responsibility, independent learning, self-monitoring, et cetera**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	To a great extent	49	40.2	41.2	41.2
	Fairly well	54	44.3	45.4	86.6
	To a limited extent	11	9.0	9.2	95.8
	Not at all	5	4.1	4.2	100.0
	Total	119	97.5	100.0	
Missing	System	3	2.5		
	Total	122	100.0		

PLUM C15 BY B4 B5 B6 B7 B8 B9 B10 B11 B12 B13 B14 WITH A1 A2 A3  
 /CRITERIA=CIN(95) DELTA(0) LCONVERGE(0) MXITER(100) MXSTEP(5) PCONVERGE(1.0E-6)  
 SINGULAR(1.0E-8)  
 /LINK=LOGIT  
 /PRINT=FIT PARAMETERSUMMARY.

**PLUM - Ordinal Regression**

## Warnings

There are 321 (75.0%) cells (i.e., dependent variable levels by observed combinations of predictor variable values) with zero frequencies.

Unexpected singularities in the Fisher Information matrix are encountered. There may be a quasi-complete separation in the data. Some parameter estimates will tend to infinity.

The PLUM procedure continues despite the above warning(s). Subsequent results shown are based on the last iteration. Validity of the model fit is uncertain.

## Case Processing Summary

		N	Marginal Percentage
I acquired academic literacies and competencies such as scientific reading and writing as a result of attendance to the SI sessions	To a great extent	28	26.2%
	Fairly well	66	61.7%
	To a limited extent	9	8.4%
	Not at all	4	3.7%
The SI leaders' facilitation methods enhanced understanding of concepts	Strongly Agree	40	37.4%
	Agree	63	58.9%
	Disagree	3	2.8%
	Strongly Disagree	1	0.9%
The lecturer's attitude towards SI fostered my attendance of the SI sessions	Strongly Agree	27	25.2%
	Agree	51	47.7%
	Disagree	25	23.4%
	Strongly Disagree	4	3.7%
The scheduling of the SI sessions ensured availability and accessibility of the students	Strongly Agree	35	32.7%
	Agree	65	60.7%
	Disagree	1	0.9%
	Strongly Disagree	6	5.6%
The monitoring of SI attendance by the lecturers encouraged my attendance to the SI sessions	Strongly Agree	29	27.1%
	Agree	57	53.3%
	Disagree	16	15.0%
	Strongly Disagree	5	4.7%
The student-SI leader relationship created an atmosphere conducive for learning	Strongly Agree	35	32.7%
	Agree	63	58.9%
	Disagree	5	4.7%
	Strongly Disagree	4	3.7%

### Case Processing Summary

		N	Marginal Percentage
The session venues allowed space for peer collaboration and transactional learning	Strongly Agree	41	38.3%
	Agree	53	49.5%
	Disagree	10	9.3%
	Strongly Disagree	3	2.8%
The SI sessions were characterised by engagement, sharing and exchange of ideas	Strongly Agree	46	43.0%
	Agree	57	53.3%
	Disagree	4	3.7%
The SI leader followed me up and kept track of my progress and performance	Strongly Agree	35	32.7%
	Agree	35	32.7%
	Disagree	29	27.1%
	Strongly Disagree	8	7.5%
The SI sessions focused on the mastery of the subject outcomes	Strongly Agree	34	31.8%
	Agree	66	61.7%
	Disagree	6	5.6%
	Strongly Disagree	1	0.9%
My classmates encouraged me to attend SI sessions	Strongly Agree	17	15.9%
	Agree	39	36.4%
	Disagree	32	29.9%
	Strongly Disagree	19	17.8%
My individual learning needs were accommodated in the SI sessions	Strongly Agree	33	30.8%
	Agree	59	55.1%
	Disagree	10	9.3%
	Strongly Disagree	5	4.7%
Valid		107	100.0%
Missing		15	
Total		122	

### Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	209.707			
Final	135.731	73.977	34	.000

Link function: Logit.

### Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	320.071	284	.069
Deviance	135.731	284	1.000

Link function: Logit.

### Pseudo R-Square

Cox and Snell	.499
Nagelkerke	.581
McFadden	.353

Link function: Logit.

### Parameter Estimates

		Estimate	Std. Error	Wald	df	Sig.	95% ...	Lower Bound
Threshold	[C15 = 1]	-23.015	4.261	29.173	1	.000	-31.366	
	[C15 = 2]	-17.797	4.207	17.901	1	.000	-26.042	
	[C15 = 3]	-15.569	4.229	13.554	1	.000	-23.857	
Location	A1	.097	.275	.125	1	.724	-.441	
	A2	-.585	.254	5.293	1	.021	-1.084	
	A3	-.540	.557	.941	1	.332	-1.632	
	[B4=1]	-21.161	2.103	101.271	1	.000	-25.282	
	[B4=2]	-20.062	2.035	97.177	1	.000	-24.051	
	[B4=3]	-18.988	.000	.	1	.	-18.988	
	[B4=4]	0 <sup>a</sup>	.	.	0	.	.	.
	[B5=1]	2.405	2.521	.910	1	.340	-2.537	
	[B5=2]	3.572	2.509	2.026	1	.155	-1.346	
	[B5=3]	3.716	2.515	2.183	1	.140	-1.213	
Category	[B5=4]	0 <sup>a</sup>	.	.	0	.	.	.
	[B6=1]	4.144	1.918	4.671	1	.031	.386	
	[B6=2]	3.525	1.759	4.015	1	.045	.077	
	[B6=3]	4.609	4.695	.964	1	.326	-4.594	
	[B6=4]	0 <sup>a</sup>	.	.	0	.	.	.
	[B7=1]	-3.342	1.733	3.719	1	.054	-6.740	
	[B7=2]	-2.536	1.636	2.403	1	.121	-5.742	
	[B7=3]	-2.382	1.773	1.806	1	.179	-5.856	

### Parameter Estimates

95% Confidence		Upper Bound
Threshold	[C15 = 1]	-14.663
	[C15 = 2]	-9.553
	[C15 = 3]	-7.280
Location	A1	.635
	A2	-.087
	A3	.551
	[B4=1]	-17.039
	[B4=2]	-16.073
	[B4=3]	-18.988
	[B4=4]	
	[B5=1]	7.347
	[B5=2]	8.490
	[B5=3]	8.645
	[B5=4]	
	[B6=1]	7.903
	[B6=2]	6.972
	[B6=3]	13.812
	[B6=4]	
	[B7=1]	.055
	[B7=2]	.670
	[B7=3]	1.092

### Parameter Estimates

	Estimate	Std. Error	Wald	df	Sig.	95% ...
						Lower Bound
[B7=4]	0 <sup>a</sup>	.	.	0	.	.
[B8=1]	2.575	1.581	2.653	1	.103	-.524
[B8=2]	1.513	1.600	.894	1	.344	-1.624
[B8=3]	2.030	1.923	1.115	1	.291	-1.738
[B8=4]	0 <sup>a</sup>	.	.	0	.	.
[B9=1]	-3.718	3.585	1.075	1	.300	-10.744
[B9=2]	-2.566	3.582	.513	1	.474	-9.588
[B9=3]	-1.664	3.620	.211	1	.646	-8.759
[B9=4]	0 <sup>a</sup>	.	.	0	.	.
[B10=1]	3.598	2.048	3.087	1	.079	-.415
[B10=2]	3.291	1.977	2.770	1	.096	-.584
[B10=3]	0 <sup>a</sup>	.	.	0	.	.
[B11=1]	1.268	1.293	.962	1	.327	-1.266
[B11=2]	1.863	1.338	1.938	1	.164	-.760
[B11=3]	3.345	1.373	5.938	1	.015	.655
[B11=4]	0 <sup>a</sup>	.	.	0	.	.
[B12=1]	-.454	1.298	.122	1	.727	-2.999
[B12=2]	-.840	1.214	.478	1	.489	-3.220
[B12=3]	0 <sup>a</sup>	.	.	0	.	.
[B12=4]	0 <sup>a</sup>	.	.	0	.	.
[B13=1]	1.675	1.096	2.335	1	.126	-.473
[B13=2]	.930	.970	.920	1	.337	-.970
[B13=3]	.837	.968	.747	1	.387	-1.061
[B13=4]	0 <sup>a</sup>	.	.	0	.	.
[B14=1]	-9.131	2.479	13.565	1	.000	-13.990
[B14=2]	-6.640	2.266	8.587	1	.003	-11.082
[B14=3]	-5.569	2.195	6.440	1	.011	-9.871
[B14=4]	0 <sup>a</sup>	.	.	0	.	.

### Parameter Estimates

	95% Confidence Upper Bound
[B7=4]	.
[B8=1]	5.673
[B8=2]	4.650
[B8=3]	5.798
[B8=4]	.
[B9=1]	3.309
[B9=2]	4.455
[B9=3]	5.431
[B9=4]	.
[B10=1]	7.612
[B10=2]	7.166
[B10=3]	.
[B11=1]	3.802
[B11=2]	4.486
[B11=3]	6.036
[B11=4]	.
[B12=1]	2.091
[B12=2]	1.541
[B12=3]	.
[B12=4]	.
[B13=1]	3.823
[B13=2]	2.831
[B13=3]	2.735
[B13=4]	.
[B14=1]	-4.272
[B14=2]	-2.199
[B14=3]	-1.268
[B14=4]	.

Link function: Logit.

- a. This parameter is set to zero because it is redundant.

```

/CRITERIA=CIN(95) DELTA(0) LCONVERGE(0) MXITER(100) MXSTER(5) PCONVERGE(1.0E-6)
SINGULAR(1.0E-8)
/LINK=LOGIT
/PRINT=FIT PARAMETERSUMMARY.

```

## PLUM - Ordinal Regression

### Warnings

There are 321 (75.0%) cells (i.e., dependent variable levels by observed combinations of predictor variable values) with zero frequencies.

The log-likelihood value cannot be further increased after maximum number of step-halving.

The PLUM procedure continues despite the above warning(s). Subsequent results shown are based on the last iteration. Validity of the model fit is uncertain.

### Case Processing Summary

		N	Marginal Percentage
My marks for the various assessment tasks (assignments, tests and examinations) improved as a result of attendance to the SI sessions	To a great extent	48	44.9%
	Fairly well	42	39.3%
	To a limited extent	10	9.3%
	Not at all	7	6.5%
The SI leaders' facilitation methods enhanced understanding of concepts	Strongly Agree	40	37.4%
	Agree	63	58.9%
	Disagree	3	2.8%
	Strongly Disagree	1	0.9%
The lecturer's attitude towards SI fostered my attendance of the SI sessions	Strongly Agree	27	25.2%
	Agree	51	47.7%
	Disagree	25	23.4%
	Strongly Disagree	4	3.7%
The scheduling of the SI sessions ensured availability and accessibility of the students	Strongly Agree	35	32.7%
	Agree	65	60.7%
	Disagree	1	0.9%
	Strongly Disagree	6	5.6%
The monitoring of SI attendance by the lecturers encouraged my attendance to the SI sessions	Strongly Agree	29	27.1%
	Agree	57	53.3%
	Disagree	16	15.0%
	Strongly Disagree	5	4.7%

### Case Processing Summary

		N	Marginal Percentage
The student-SI leader relationship created an atmosphere conducive for learning	Strongly Agree	35	32.7%
	Agree	63	58.9%
	Disagree	5	4.7%
	Strongly Disagree	4	3.7%
The session venues allowed space for peer collaboration and transactional learning	Strongly Agree	41	38.3%
	Agree	53	49.5%
	Disagree	10	9.3%
	Strongly Disagree	3	2.8%
The SI sessions were characterised by engagement, sharing and exchange of ideas	Strongly Agree	46	43.0%
	Agree	57	53.3%
	Disagree	4	3.7%
The SI leader followed me up and kept track of my progress and performance	Strongly Agree	35	32.7%
	Agree	35	32.7%
	Disagree	29	27.1%
	Strongly Disagree	8	7.5%
The SI sessions focused on the mastery of the subject outcomes	Strongly Agree	34	31.8%
	Agree	66	61.7%
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	Agree	59	55.1%
	Disagree	10	9.3%
	Strongly Disagree	5	4.7%
Valid		107	100.0%
Missing		15	
Total		122	

### Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	241.091			
Final	98.048	143.043	34	.000

Link function: Logit.

### Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	237.718	284	.979
Deviance	166.392	284	1.000

Link function: Logit.

### Pseudo R-Square

Cox and Snell	.737
Nagelkerke	.824
McFadden	.593

Link function: Logit.

### Parameter Estimates

		Estimate	Std. Error	Wald	df	Sig.	95% ...	Lower Bound
Threshold	[C16 = 1]	-5.732	1726.692	.000	1	.997	-3389.985	
	[C16 = 2]	-2.716	1726.692	.000	1	.999	-3386.970	
	[C16 = 3]	-.878	1726.691	.000	1	1.000	-3385.132	
Location	A1	-.507	.262	3.752	1	.053		-1.021
	A2	.134	.223	.359	1	.549		-.304
	A3	.640	.530	1.456	1	.228		-.399
	[B4=1]	-38.832	2091.669	.000	1	.985	-4138.427	
	[B4=2]	-38.709	2091.669	.000	1	.985	-4138.305	
	[B4=3]	-37.563	2091.668	.000	1	.986	-4137.157	
	[B4=4]	0 <sup>a</sup>	.	.	0	.	.	.
	[B5=1]	17.968	621.372	.001	1	.977	-1199.897	
	[B5=2]	17.063	621.372	.001	1	.978	-1200.803	
	[B5=3]	16.484	621.371	.001	1	.979	-1201.382	
	[B5=4]	0 <sup>a</sup>	.	.	0	.	.	.
	[B6=1]	3.118	1.819	2.939	1	.086		-.447
	[B6=2]	2.445	1.761	1.927	1	.165		-1.007
	[B6=3]	1.751	2446.127	.000	1	.999	-4792.569	
	[B6=4]	0 <sup>a</sup>	.	.	0	.	.	.
Threshold	[B7=1]	-3.688	1.754	4.422	1	.035	-7.126	
	[B7=2]	-3.900	1.694	5.300	1	.021	-7.221	
	[B7=3]	-1.317	1.665	.625	1	.429	-4.579	
	[B7=4]	0 <sup>a</sup>	.	.	0	.	.	.
	[B8=1]	23.265	621.389	.001	1	.970	-1194.635	
	[B8=2]	23.522	621.388	.001	1	.970	-1194.376	
	[B8=3]	21.712	621.385	.001	1	.972	-1196.181	
	[B8=4]	0 <sup>a</sup>	.	.	0	.	.	.
	[B9=1]	17.004	1334.051	.000	1	.990	-2597.688	
	[B9=2]	17.358	1334.051	.000	1	.990	-2597.335	
	[B9=3]	17.501	1334.052	.000	1	.990	-2597.192	
	[B9=4]	0 <sup>a</sup>	.	.	0	.	.	.
Location	[B10=1]	-2.781	1.906	2.128	1	.145		-6.518
	[B10=2]	-2.840	1.860	2.331	1	.127		-6.487
	[B10=3]	0 <sup>a</sup>	.	.	0	.	.	.
	[B11=1]	-.629	1.359	.215	1	.643		-3.293

### Parameter Estimates

		95% Confidence .
		Upper Bound
Threshold	[C16 = 1]	3378.521
	[C16 = 2]	3381.537
	[C16 = 3]	3383.375
Location	A1	.006
	A2	.571
	A3	1.678
	[B4=1]	4060.763
	[B4=2]	4060.886
	[B4=3]	4062.030
	[B4=4]	.
	[B5=1]	1235.834
	[B5=2]	1234.929
	[B5=3]	1234.349
	[B5=4]	.
	[B6=1]	6.682
	[B6=2]	5.898
	[B6=3]	4796.071
	[B6=4]	.
	[B7=1]	-.251
	[B7=2]	-.580
	[B7=3]	1.946
	[B7=4]	.
	[B8=1]	1241.164
	[B8=2]	1241.420
	[B8=3]	1239.605
	[B8=4]	.
.	[B9=1]	2631.697
	[B9=2]	2632.050
	[B9=3]	2632.194
	[B9=4]	.
	[B10=1]	.955
	[B10=2]	.806
	[B10=3]	.
	[B11=1]	2.034

### Parameter Estimates

	Estimate	Std. Error	Wald	df	Sig.	95% ...
						Lower Bound
[B11=2]	.466	1.334	.122	1	.727	-2.149
[B11=3]	.823	1.328	.384	1	.536	-1.780
[B11=4]	0 <sup>a</sup>	.	.	0	.	.
[B12=1]	-.468	1.172	.159	1	.690	-2.764
[B12=2]	-.451	1.092	.170	1	.680	-2.591
[B12=3]	0 <sup>a</sup>	.	.	0	.	.
[B12=4]	0 <sup>a</sup>	.	.	0	.	.
[B13=1]	.201	1.043	.037	1	.847	-1.844
[B13=2]	.332	.925	.129	1	.720	-1.481
[B13=3]	1.644	.920	3.191	1	.074	-.160
[B13=4]	0 <sup>a</sup>	.	.	0	.	.
[B14=1]	-21.822	621.377	.001	1	.972	-1239.698
[B14=2]	-21.954	621.376	.001	1	.972	-1239.829
[B14=3]	-21.435	621.375	.001	1	.972	-1239.308
[B14=4]	0 <sup>a</sup>	.	.	0	.	.

### Parameter Estimates

95% Confidence	
	Upper Bound
[B11=2]	3.080
[B11=3]	3.427
[B11=4]	.
[B12=1]	1.829
[B12=2]	1.690
[B12=3]	.
[B12=4]	.
[B13=1]	2.246
[B13=2]	2.145
[B13=3]	3.448
[B13=4]	.
[B14=1]	1196.054
[B14=2]	1195.922
[B14=3]	1196.438
[B14=4]	.

Link function: Logit.

- a. This parameter is set to zero because it is redundant.

```
PLUMC17 BY B4 B5 B6 B7 B8 B9 B10 B11 B12 B13 B14 WITHA1 A2 A3  
/CRITERIA=CIN(95) DELTA(0) LCONVERGE(0) MXITER(100) MXSTEP(5) PCONVERGE(1.0E-6)  
SINGULAR(1.0E-8)  
/LINK=LOGIT  
/PRINT=FIT PARAMETERSUMMARY.
```

## PLUM - Ordinal Regression

### Warnings

There are 321 (75.0%) cells (i.e., dependent variable levels by observed combinations of predictor variable values) with zero frequencies.

Unexpected singularities in the Fisher Information matrix are encountered. There may be a quasi-complete separation in the data. Some parameter estimates will tend to infinity.

The PLUM procedure continues despite the above warning(s). Subsequent results shown are based on the last iteration. Validity of the model fit is uncertain.

### Case Processing Summary

		N	Marginal Percentage
The sessions unlocked, exposed and unpacked difficult areas in the content subjects	To a great extent	42	39.3%
	Fairly well	50	46.7%
	To a limited extent	12	11.2%
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The SI leaders' facilitation methods enhanced understanding of concepts	Strongly Agree	40	37.4%
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The monitoring of SI attendance by the lecturers encouraged my attendance to the SI sessions	Strongly Agree	29	27.1%
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The student-SI leader relationship created an atmosphere conducive for learning	Strongly Agree	35	32.7%
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	Strongly Disagree	4	3.7%
The session venues allowed space for peer collaboration and transactional learning	Strongly Agree	41	38.3%
	Agree	53	49.5%
	Disagree	10	9.3%
	Strongly Disagree	3	2.8%
The SI sessions were characterised by engagement, sharing and exchange of ideas	Strongly Agree	46	43.0%
	Agree	57	53.3%
	Disagree	4	3.7%
The SI leader followed me up and kept track of my progress and performance	Strongly Agree	35	32.7%
	Agree	35	32.7%
	Disagree	29	27.1%
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Valid		107	100.0%
Missing		15	
Total		122	

### Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	228.589			
Final	148.332	80.257	34	.000

Link function: Logit.

### Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	178.323	284	1.000
Deviance	148.332	284	1.000

Link function: Logit.

### Pseudo R-Square

Cox and Snell	.528
Nagelkerke	.598
McFadden	.351

Link function: Logit.

### Parameter Estimates

		Estimate	Std. Error	Wald	df	Sig.	95% ...	Lower Bound
Threshold	[C17 = 1]	-5.042	4.081	1.527	1	.217		-13.039
	[C17 = 2]	-.964	4.041	.057	1	.811		-8.885
	[C17 = 3]	2.547	4.212	.366	1	.545		-5.708
Location	A1	-.503	.259	3.768	1	.052		-1.012
	A2	-.087	.236	.135	1	.714		-.550
	A3	-.635	.575	1.220	1	.269		-1.761
	[B4=1]	10.057	4.836	4.324	1	.038		.578
	[B4=2]	11.039	4.761	5.376	1	.020		1.707
	[B4=3]	11.442	5.033	5.168	1	.023		1.577
	[B4=4]	0 <sup>a</sup>	.	.	0	.		.
	[B5=1]	6.226	2.213	7.911	1	.005		1.887
	[B5=2]	5.378	2.186	6.049	1	.014		1.092
	[B5=3]	3.283	2.096	2.453	1	.117		-.825
Item	[B5=4]	0 <sup>a</sup>	.	.	0	.		.
	[B6=1]	2.321	1.595	2.116	1	.146		-.806
	[B6=2]	1.452	1.428	1.034	1	.309		-1.347
	[B6=3]	-14.539	.000	.	1	.		-14.539
	[B6=4]	0 <sup>a</sup>	.	.	0	.		.
	[B7=1]	-3.639	1.697	4.599	1	.032		-6.964
	[B7=2]	-3.126	1.572	3.957	1	.047		-6.206
	[B7=3]	-2.172	1.678	1.676	1	.195		-5.460
	[B7=4]	0 <sup>a</sup>	.	.	0	.		.
	[B8=1]	-3.248	1.603	4.106	1	.043		-6.389
Response	[B8=2]	-3.057	1.594	3.677	1	.055		-6.181
	[B8=3]	-5.094	2.127	5.734	1	.017		-9.264
	[B8=4]	0 <sup>a</sup>	.	.	0	.		.
	[B9=1]	-5.052	2.367	4.554	1	.033		-9.692
	[B9=2]	-4.896	2.335	4.397	1	.036		-9.472
	[B9=3]	-4.434	2.428	3.336	1	.068		-9.192
	[B9=4]	0 <sup>a</sup>	.	.	0	.		.
	[B10=1]	.911	1.777	.263	1	.608		-2.573
	[B10=2]	2.007	1.770	1.287	1	.257		-1.461

### Parameter Estimates

	95% Confidence .	Upper Bound
Threshold	[C17 = 1]	2.956
	[C17 = 2]	6.956
	[C17 = 3]	10.803
Location	A1	.005
	A2	.377
	A3	.492
	[B4=1]	19.535
	[B4=2]	20.371
	[B4=3]	21.307
	[B4=4]	.
	[B5=1]	10.564
	[B5=2]	9.663
	[B5=3]	7.392
	[B5=4]	.
	[B6=1]	5.448
	[B6=2]	4.250
	[B6=3]	-14.539
	[B6=4]	.
	[B7=1]	-.313
	[B7=2]	-.046
	[B7=3]	1.116
	[B7=4]	.
	[B8=1]	-.106
	[B8=2]	.068
	[B8=3]	-.924
	[B8=4]	.
	[B9=1]	-.412
	[B9=2]	-.320
	[B9=3]	.324
	[B9=4]	.
	[B10=1]	4.394
	[B10=2]	5.476

### Parameter Estimates

	Estimate	Std. Error	Wald	df	Sig.	95% ...
						Lower Bound
[B10=3]	0 <sup>a</sup>	.	.	0	.	.
[B11=1]	.608	1.289	.223	1	.637	-1.918
[B11=2]	.716	1.292	.307	1	.579	-1.815
[B11=3]	.931	1.229	.574	1	.449	-1.477
[B11=4]	0 <sup>a</sup>	.	.	0	.	.
[B12=1]	-4.173	1.356	9.475	1	.002	-6.831
[B12=2]	-2.944	1.231	5.720	1	.017	-5.356
[B12=3]	0 <sup>a</sup>	.	.	0	.	.
[B12=4]	0 <sup>a</sup>	.	.	0	.	.
[B13=1]	-.356	1.021	.122	1	.727	-2.358
[B13=2]	-.079	.895	.008	1	.930	-1.834
[B13=3]	1.452	.921	2.487	1	.115	-.353
[B13=4]	0 <sup>a</sup>	.	.	0	.	.
[B14=1]	-7.576	2.312	10.734	1	.001	-12.107
[B14=2]	-7.783	2.227	12.210	1	.000	-12.148
[B14=3]	-5.137	2.024	6.438	1	.011	-9.104
[B14=4]	0 <sup>a</sup>	.	.	0	.	.

### Parameter Estimates

	95% Confidence .	Upper Bound
[B10=3]		.
[B11=1]	3.134	
[B11=2]	3.248	
[B11=3]	3.340	
[B11=4]		.
[B12=1]	-1.516	
[B12=2]	-.531	
[B12=3]		.
[B12=4]		.
[B13=1]	1.645	
[B13=2]	1.676	
[B13=3]	3.258	
[B13=4]		.
[B14=1]	-3.044	
[B14=2]	-3.417	
[B14=3]	-1.169	
[B14=4]		.

Link function: Logit.

- a. This parameter is set to zero because it is redundant.

```
PLUM C17 BY B4 B5 B6 B7 B8 B9 B10 B11 B12 B13 B14 WITH A1 A2 A3
/CRITERIA=CIN(95) DELTA(0) LCONVERGE(0) MXITER(100) MXSTEP(5) PCONVERGE(1.0E-6) SINGULAR(1.0E-
8)
/LINK=LOGIT
/PRINT=FIT PARAMETER SUMMARY.
```

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Cox and Snell	.528
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Link function: Logit.

### Parameter Estimates

		Estimate	Std. Error	Wald	df	Sig.	95% ...	Lower Bound
Threshold	[C17 = 1]	-5.042	4.081	1.527	1	.217		-13.039
	[C17 = 2]	-.964	4.041	.057	1	.811		-8.885
	[C17 = 3]	2.547	4.212	.366	1	.545		-5.708
Location	A1	-.503	.259	3.768	1	.052		-1.012
	A2	-.087	.236	.135	1	.714		-.550
	A3	-.635	.575	1.220	1	.269		-1.761
	[B4=1]	10.057	4.836	4.324	1	.038		.578
	[B4=2]	11.039	4.761	5.376	1	.020		1.707
	[B4=3]	11.442	5.033	5.168	1	.023		1.577
	[B4=4]	0 <sup>a</sup>	.	.	0	.		.
	[B5=1]	6.226	2.213	7.911	1	.005		1.887
	[B5=2]	5.378	2.186	6.049	1	.014		1.092
	[B5=3]	3.283	2.096	2.453	1	.117		-.825
Category	[B5=4]	0 <sup>a</sup>	.	.	0	.		.
	[B6=1]	2.321	1.595	2.116	1	.146		-.806
	[B6=2]	1.452	1.428	1.034	1	.309		-1.347
	[B6=3]	-14.539	.000	.	1	.		-14.539
	[B6=4]	0 <sup>a</sup>	.	.	0	.		.
	[B7=1]	-3.639	1.697	4.599	1	.032		-6.964
	[B7=2]	-3.126	1.572	3.957	1	.047		-6.206
Intercept	[B7=3]	-2.172	1.678	1.676	1	.195		-5.460

### Parameter Estimates

	95% Confidence .	Upper Bound
Threshold	[C17 = 1]	2.956
	[C17 = 2]	6.956
	[C17 = 3]	10.803
Location	A1	.005
	A2	.377
	A3	.492
	[B4=1]	19.535
	[B4=2]	20.371
	[B4=3]	21.307
	[B4=4]	.
	[B5=1]	10.564
	[B5=2]	9.663
	[B5=3]	7.392
	[B5=4]	.
	[B6=1]	5.448
	[B6=2]	4.250
	[B6=3]	-14.539
	[B6=4]	.
[B7=1]	[B7=1]	-.313
	[B7=2]	-.046
	[B7=3]	1.116

### Parameter Estimates

	Estimate	Std. Error	Wald	df	Sig.	95% ...
						Lower Bound
[B7=4]	0 <sup>a</sup>	.	.	0	.	.
[B8=1]	-3.248	1.603	4.106	1	.043	-6.389
[B8=2]	-3.057	1.594	3.677	1	.055	-6.181
[B8=3]	-5.094	2.127	5.734	1	.017	-9.264
[B8=4]	0 <sup>a</sup>	.	.	0	.	.
[B9=1]	-5.052	2.367	4.554	1	.033	-9.692
[B9=2]	-4.896	2.335	4.397	1	.036	-9.472
[B9=3]	-4.434	2.428	3.336	1	.068	-9.192
[B9=4]	0 <sup>a</sup>	.	.	0	.	.
[B10=1]	.911	1.777	.263	1	.608	-2.573
[B10=2]	2.007	1.770	1.287	1	.257	-1.461
[B10=3]	0 <sup>a</sup>	.	.	0	.	.
[B11=1]	.608	1.289	.223	1	.637	-1.918
[B11=2]	.716	1.292	.307	1	.579	-1.815
[B11=3]	.931	1.229	.574	1	.449	-1.477
[B11=4]	0 <sup>a</sup>	.	.	0	.	.
[B12=1]	-4.173	1.356	9.475	1	.002	-6.831
[B12=2]	-2.944	1.231	5.720	1	.017	-5.356
[B12=3]	0 <sup>a</sup>	.	.	0	.	.
[B12=4]	0 <sup>a</sup>	.	.	0	.	.
[B13=1]	-.356	1.021	.122	1	.727	-2.358
[B13=2]	-.079	.895	.008	1	.930	-1.834
[B13=3]	1.452	.921	2.487	1	.115	-.353
[B13=4]	0 <sup>a</sup>	.	.	0	.	.
[B14=1]	-7.576	2.312	10.734	1	.001	-12.107
[B14=2]	-7.783	2.227	12.210	1	.000	-12.148
[B14=3]	-5.137	2.024	6.438	1	.011	-9.104
[B14=4]	0 <sup>a</sup>	.	.	0	.	.

### Parameter Estimates

	95% Confidence Upper Bound
[B7=4]	.
[B8=1]	-.106
[B8=2]	.068
[B8=3]	-.924
[B8=4]	.
[B9=1]	-.412
[B9=2]	-.320
[B9=3]	.324
[B9=4]	.
[B10=1]	4.394
[B10=2]	5.476
[B10=3]	.
[B11=1]	3.134
[B11=2]	3.248
[B11=3]	3.340
[B11=4]	.
[B12=1]	-1.516
[B12=2]	-.531
[B12=3]	.
[B12=4]	.
[B13=1]	1.645
[B13=2]	1.676
[B13=3]	3.258
[B13=4]	.
[B14=1]	-3.044
[B14=2]	-3.417
[B14=3]	-1.169
[B14=4]	.

Link function: Logit.

- a. This parameter is set to zero because it is redundant.

```

/CRITERIA=CIN(95) DELTA(0) LCONVERGE(0) MXITER(100) MXSTER(5) PCONVERGE(1.0E-6)
SINGULAR(1.0E-8)
/LINK=LOGIT
/PRINT=FIT PARAMETERSUMMARY.

```

## PLUM - Ordinal Regression

### Warnings

There are 303 (75.0%) cells (i.e., dependent variable levels by observed combinations of predictor variable values) with zero frequencies.

Unexpected singularities in the Fisher Information matrix are encountered. There may be a quasi-complete separation in the data. Some parameter estimates will tend to infinity.

The PLUM procedure continues despite the above warning(s). Subsequent results shown are based on the last iteration. Validity of the model fit is uncertain.

### Case Processing Summary

		N	Marginal Percentage
SI attendance enabled assimilation into the culture and ethos of the university	To a great extent	22	21.8%
	Fairly well	43	42.6%
	To a limited extent	29	28.7%
	Not at all	7	6.9%
The SI leaders' facilitation methods enhanced understanding of concepts	Strongly Agree	38	37.6%
	Agree	59	58.4%
	Disagree	3	3.0%
	Strongly Disagree	1	1.0%
The lecturer's attitude towards SI fostered my attendance of the SI sessions	Strongly Agree	26	25.7%
	Agree	51	50.5%
	Disagree	20	19.8%
	Strongly Disagree	4	4.0%
The scheduling of the SI sessions ensured availability and accessibility of the students	Strongly Agree	33	32.7%
	Agree	61	60.4%
	Disagree	1	1.0%
	Strongly Disagree	6	5.9%
The monitoring of SI attendance by the lecturers encouraged my attendance to the SI sessions	Strongly Agree	28	27.7%
	Agree	55	54.5%
	Disagree	13	12.9%
	Strongly Disagree	5	5.0%

### Case Processing Summary

		N	Marginal Percentage
The student-SI leader relationship created an atmosphere conducive for learning	Strongly Agree	33	32.7%
	Agree	60	59.4%
	Disagree	5	5.0%
	Strongly Disagree	3	3.0%
The session venues allowed space for peer collaboration and transactional learning	Strongly Agree	39	38.6%
	Agree	50	49.5%
	Disagree	9	8.9%
	Strongly Disagree	3	3.0%
The SI sessions were characterised by engagement, sharing and exchange of ideas	Strongly Agree	43	42.6%
	Agree	54	53.5%
	Disagree	4	4.0%
The SI leader followed me up and kept track of my progress and performance	Strongly Agree	34	33.7%
	Agree	35	34.7%
	Disagree	25	24.8%
	Strongly Disagree	7	6.9%
The SI sessions focused on the mastery of the subject outcomes	Strongly Agree	31	30.7%
	Agree	64	63.4%
	Disagree	5	5.0%
	Strongly Disagree	1	1.0%
My classmates encouraged me to attend SI sessions	Strongly Agree	17	16.8%
	Agree	36	35.6%
	Disagree	30	29.7%
	Strongly Disagree	18	17.8%
My individual learning needs were accommodated in the SI sessions	Strongly Agree	31	30.7%
	Agree	56	55.4%
	Disagree	9	8.9%
	Strongly Disagree	5	5.0%
Valid		101	100.0%
Missing		21	
Total		122	

### Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	250.239			
Final	192.636	57.603	34	.007

Link function: Logit.

### Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	251.684	266	.727
Deviance	192.636	266	1.000

Link function: Logit.

### Pseudo R-Square

Cox and Snell	.435
Nagelkerke	.474
McFadden	.230

Link function: Logit.

### Parameter Estimates

		Estimate	Std. Error	Wald	df	Sig.	95% ...
							Lower Bound
Threshold	[C19 = 1]	19.078	3.440	30.758	1	.000	12.336
	[C19 = 2]	21.787	3.397	41.141	1	.000	15.130
	[C19 = 3]	24.784	3.294	56.628	1	.000	18.329
Location	A1	-.110	.241	.207	1	.649	-.582
	A2	-.039	.207	.035	1	.852	-.445
	A3	-.742	.511	2.110	1	.146	-1.743
	[B4=1]	25.964	1.606	261.333	1	.000	22.816
	[B4=2]	27.109	1.539	310.382	1	.000	24.093
	[B4=3]	27.998	.000	.	1	.	27.998
	[B4=4]	0 <sup>a</sup>	.	.	0	.	.
	[B5=1]	2.760	1.962	1.979	1	.160	-1.085
	[B5=2]	3.233	1.968	2.700	1	.100	-.623
	[B5=3]	3.210	1.965	2.670	1	.102	-.641
	[B5=4]	0 <sup>a</sup>	.	.	0	.	.
Item	[B6=1]	-.301	1.482	.041	1	.839	-3.206
	[B6=2]	.103	1.312	.006	1	.937	-2.469
	[B6=3]	2.650	3.518	.567	1	.451	-4.245
	[B6=4]	0 <sup>a</sup>	.	.	0	.	.
	[B7=1]	-2.364	1.527	2.398	1	.122	-5.356
	[B7=2]	-3.619	1.463	6.120	1	.013	-6.487
	[B7=3]	-2.577	1.680	2.352	1	.125	-5.869
	[B7=4]	0 <sup>a</sup>	.	.	0	.	.
	[B8=1]	.867	1.894	.209	1	.647	-2.846
	[B8=2]	1.142	1.877	.370	1	.543	-2.537
	[B8=3]	.055	1.980	.001	1	.978	-3.825
	[B8=4]	0 <sup>a</sup>	.	.	0	.	.
Response	[B9=1]	-1.372	2.270	.365	1	.546	-5.822
	[B9=2]	-1.377	2.233	.380	1	.537	-5.754
	[B9=3]	-.384	2.355	.027	1	.871	-5.000
	[B9=4]	0 <sup>a</sup>	.	.	0	.	.
Response	[B10=1]	-.063	1.576	.002	1	.968	-3.152
	[B10=2]	-1.123	1.540	.531	1	.466	-4.142
	[B10=3]	0 <sup>a</sup>	.	.	0	.	.
Response	[B11=1]	1.961	1.240	2.503	1	.114	-.469

### Parameter Estimates

	95% Confidence	Upper Bound
Threshold	[C19 = 1]	25.820
	[C19 = 2]	28.444
	[C19 = 3]	31.239
Location	A1	.363
	A2	.368
	A3	.259
	[B4=1]	29.112
	[B4=2]	30.125
	[B4=3]	27.998
	[B4=4]	
	[B5=1]	6.605
	[B5=2]	7.090
	[B5=3]	7.060
	[B5=4]	
	[B6=1]	2.604
	[B6=2]	2.675
	[B6=3]	9.545
	[B6=4]	
.	[B7=1]	.628
	[B7=2]	-.752
	[B7=3]	.716
	[B7=4]	
	[B8=1]	4.580
	[B8=2]	4.821
	[B8=3]	3.935
	[B8=4]	
	[B9=1]	3.078
	[B9=2]	2.999
.	[B9=3]	4.232
	[B9=4]	
	[B10=1]	3.026
	[B10=2]	1.897
.	[B10=3]	
	[B11=1]	4.391

### Parameter Estimates

	Estimate	Std. Error	Wald	df	Sig.	95% ...	Lower Bound
[B11=2]	1.486	1.235	1.448	1	.229		-.935
[B11=3]	2.843	1.212	5.502	1	.019		.468
[B11=4]	0 <sup>a</sup>			0			
[B12=1]	-.762	1.208	.397	1	.528		-3.130
[B12=2]	-1.240	1.152	1.158	1	.282		-3.498
[B12=3]	0 <sup>a</sup>			0			
[B12=4]	0 <sup>a</sup>			0			
[B13=1]	-1.295	.976	1.761	1	.185		-3.208
[B13=2]	-.762	.898	.720	1	.396		-2.522
[B13=3]	-.609	.877	.482	1	.488		-2.329
[B13=4]	0 <sup>a</sup>			0			
[B14=1]	-3.376	1.975	2.922	1	.087		-7.246
[B14=2]	-3.071	1.856	2.738	1	.098		-6.709
[B14=3]	-2.346	1.798	1.703	1	.192		-5.870
[B14=4]	0 <sup>a</sup>			0			

### Parameter Estimates

95% Confidence	Upper Bound
[B11=2]	3.907
[B11=3]	5.219
[B11=4]	.
[B12=1]	1.607
[B12=2]	1.018
[B12=3]	.
[B12=4]	.
[B13=1]	.618
[B13=2]	.998
[B13=3]	1.111
[B13=4]	.
[B14=1]	.495
[B14=2]	.567
[B14=3]	1.177
[B14=4]	.

Link function: Logit.

- a. This parameter is set to zero because it is redundant.

```
PLUMC20 BY B4 B5 B6 B7 B8 B9 B10 B11 B12 B13 B14 WITHA1 A2 A3  
/CRITERIA=CIN(95) DELTA(0) LCONVERGE(0) MXITER(100) MXSTEP(5) PCONVERGE(1.0E-6)  
SINGULAR(1.0E-8)  
/LINK=LOGIT  
/PRINT=FIT PARAMETERSUMMARY.
```

## PLUM - Ordinal Regression

### Warnings

There are 321 (75.0%) cells (i.e., dependent variable levels by observed combinations of predictor variable values) with zero frequencies.

Unexpected singularities in the Fisher Information matrix are encountered. There may be a quasi-complete separation in the data. Some parameter estimates will tend to infinity.

The PLUM procedure continues despite the above warning(s). Subsequent results shown are based on the last iteration. Validity of the model fit is uncertain.

### Case Processing Summary

		N	Marginal Percentage
I acquired study skills as a result of my attendance in the SI sessions	To a great extent	38	35.5%
	Fairly well	50	46.7%
	To a limited extent	15	14.0%
	Not at all	4	3.7%
The SI leaders' facilitation methods enhanced understanding of concepts	Strongly Agree	40	37.4%
	Agree	63	58.9%
	Disagree	3	2.8%
	Strongly Disagree	1	0.9%
The lecturer's attitude towards SI fostered my attendance of the SI sessions	Strongly Agree	27	25.2%
	Agree	51	47.7%
	Disagree	25	23.4%
	Strongly Disagree	4	3.7%
The scheduling of the SI sessions ensured availability and accessibility of the students	Strongly Agree	35	32.7%
	Agree	65	60.7%
	Disagree	1	0.9%
	Strongly Disagree	6	5.6%
The monitoring of SI attendance by the lecturers encouraged my attendance to the SI sessions	Strongly Agree	29	27.1%
	Agree	57	53.3%
	Disagree	16	15.0%
	Strongly Disagree	5	4.7%
The student-SI leader relationship created an atmosphere conducive for learning	Strongly Agree	35	32.7%
	Agree	63	58.9%
	Disagree	5	4.7%
	Strongly Disagree	4	3.7%
The session venues allowed space for peer collaboration and transactional learning	Strongly Agree	41	38.3%
	Agree	53	49.5%
	Disagree	10	9.3%
	Strongly Disagree	3	2.8%
The SI sessions were characterised by engagement, sharing and exchange of ideas	Strongly Agree	46	43.0%
	Agree	57	53.3%
	Disagree	4	3.7%
	Strongly Disagree	—	—
The SI leader followed me up and kept track of my progress and performance	Strongly Agree	35	32.7%
	Agree	35	32.7%
	Disagree	29	27.1%
	Strongly Disagree	8	7.5%

### Case Processing Summary

		N	Marginal Percentage
The SI sessions focused on the mastery of the subject outcomes	Strongly Agree	34	31.8%
	Agree	66	61.7%
	Disagree	6	5.6%
	Strongly Disagree	1	0.9%
My classmates encouraged me to attend SI sessions	Strongly Agree	17	15.9%
	Agree	39	36.4%
	Disagree	32	29.9%
	Strongly Disagree	19	17.8%
My individual learning needs were accommodated in the SI sessions	Strongly Agree	33	30.8%
	Agree	59	55.1%
	Disagree	10	9.3%
	Strongly Disagree	5	4.7%
Valid		107	100.0%
Missing		15	
Total		122	

### Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	239.995			
Final	141.363	98.632	34	.000

Link function: Logit.

### Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	236.608	284	.981
Deviance	141.363	284	1.000

Link function: Logit.

### Pseudo R-Square

Cox and Snell	.602
Nagelkerke	.674
McFadden	.411

Link function: Logit.

### Parameter Estimates

		Estimate	Std. Error	Wald	df	Sig.	95% ...
							Lower Bound
Threshold	[C20 = 1]	-6.669	4.220	2.497	1	.114	-14.940
	[C20 = 2]	-2.210	4.070	.295	1	.587	-10.187
	[C20 = 3]	1.077	4.154	.067	1	.795	-7.064
Location	A1	.292	.271	1.160	1	.281	-.239
	A2	-.810	.273	8.826	1	.003	-1.344
	A3	-.800	.576	1.930	1	.165	-1.929
	[B4=1]	-18.310	3.620	25.579	1	.000	-25.406
	[B4=2]	-17.825	3.522	25.618	1	.000	-24.728
	[B4=3]	-18.567	3.652	25.847	1	.000	-25.725
	[B4=4]	0 <sup>a</sup>	.	.	0	.	.
	[B5=1]	2.105	2.325	.820	1	.365	-2.453
	[B5=2]	2.006	2.259	.789	1	.375	-2.422
	[B5=3]	2.971	2.281	1.697	1	.193	-1.499
	[B5=4]	0 <sup>a</sup>	.	.	0	.	.
	[B6=1]	2.057	1.638	1.577	1	.209	-1.154
	[B6=2]	1.682	1.473	1.303	1	.254	-1.206
	[B6=3]	3.852	4.230	.829	1	.363	-4.439
	[B6=4]	0 <sup>a</sup>	.	.	0	.	.
	[B7=1]	-1.241	1.602	.599	1	.439	-4.381
	[B7=2]	-.920	1.513	.370	1	.543	-3.886
	[B7=3]	-.423	1.681	.063	1	.801	-3.717
	[B7=4]	0 <sup>a</sup>	.	.	0	.	.
Covariance Structure	[B8=1]	2.346	1.663	1.990	1	.158	-.914
	[B8=2]	2.124	1.692	1.577	1	.209	-1.191
	[B8=3]	2.164	1.959	1.220	1	.269	-1.676
	[B8=4]	0 <sup>a</sup>	.	.	0	.	.
	[B9=1]	17.260	1.003	295.981	1	.000	15.293
	[B9=2]	18.236	.872	437.327	1	.000	16.527
	[B9=3]	18.795	.000	.	1	.	18.795
	[B9=4]	0 <sup>a</sup>	.	.	0	.	.
	[B10=1]	-3.760	1.897	3.928	1	.047	-7.478
	[B10=2]	-4.163	1.845	5.089	1	.024	-7.780

### Parameter Estimates

	95% Confidence .	Upper Bound
Threshold	[C20 = 1]	1.602
	[C20 = 2]	5.766
	[C20 = 3]	9.218
Location	A1	.823
	A2	-.276
	A3	.329
	[B4=1]	-11.214
	[B4=2]	-10.923
	[B4=3]	-11.409
	[B4=4]	.
	[B5=1]	6.663
	[B5=2]	6.435
	[B5=3]	7.441
	[B5=4]	.
	[B6=1]	5.267
	[B6=2]	4.570
	[B6=3]	12.143
	[B6=4]	.
	[B7=1]	1.900
	[B7=2]	2.046
	[B7=3]	2.871
	[B7=4]	.
	[B8=1]	5.606
	[B8=2]	5.440
	[B8=3]	6.004
	[B8=4]	.
	[B9=1]	19.226
	[B9=2]	19.946
	[B9=3]	18.795
	[B9=4]	.
	[B10=1]	-.042
	[B10=2]	-.546

### Parameter Estimates

	Estimate	Std. Error	Wald	df	Sig.	95% ...
						Lower Bound
[B10=3]	0 <sup>a</sup>	.	.	0	.	.
[B11=1]	2.093	1.358	2.375	1	.123	-.569
[B11=2]	3.574	1.386	6.651	1	.010	.858
[B11=3]	3.926	1.371	8.201	1	.004	1.239
[B11=4]	0 <sup>a</sup>	.	.	0	.	.
[B12=1]	.026	1.226	.000	1	.983	-2.376
[B12=2]	.285	1.144	.062	1	.803	-1.957
[B12=3]	0 <sup>a</sup>	.	.	0	.	.
[B12=4]	0 <sup>a</sup>	.	.	0	.	.
[B13=1]	-1.017	1.043	.952	1	.329	-3.061
[B13=2]	-.688	.913	.568	1	.451	-2.478
[B13=3]	-.084	.911	.009	1	.926	-1.870
[B13=4]	0 <sup>a</sup>	.	.	0	.	.
[B14=1]	-8.393	2.279	13.562	1	.000	-12.860
[B14=2]	-6.170	2.129	8.397	1	.004	-10.344
[B14=3]	-2.122	1.857	1.306	1	.253	-5.762
[B14=4]	0 <sup>a</sup>	.	.	0	.	.

### Parameter Estimates

	95% Confidence Upper Bound
[B10=3]	.
[B11=1]	4.756
[B11=2]	6.290
[B11=3]	6.613
[B11=4]	.
[B12=1]	2.429
[B12=2]	2.527
[B12=3]	.
[B12=4]	.
[B13=1]	1.026
[B13=2]	1.102
[B13=3]	1.702
[B13=4]	.
[B14=1]	-3.926
[B14=2]	-1.997
[B14=3]	1.517
[B14=4]	.

Link function: Logit.

a. This parameter is set to zero because it is redundant.

```
PLUM C21 BY B4 B5 B6 B7 B8 B9 B10 B11 B12 B13 B14 WITH A1 A2 A3
/CRITERIA=CIN(95) DELTA(0) LCONVERGE(0) MXITER(100) MXSTEP(5) PCONVERGE(1.0E-6)
SINGULAR(1.0E-8)
/LINK=LOGIT
/PRINT=FIT PARAMETERSUMMARY.
```

### PLUM - Ordinal Regression

## Warnings

There are 321 (75.0%) cells (i.e., dependent variable levels by observed combinations of predictor variable values) with zero frequencies.

Unexpected singularities in the Fisher Information matrix are encountered. There may be a quasi-complete separation in the data. Some parameter estimates will tend to infinity.

The PLUM procedure continues despite the above warning(s). Subsequent results shown are based on the last iteration. Validity of the model fit is uncertain.

## Case Processing Summary

		N	Marginal Percentage
SI sessions developed graduate attributes such as responsibility, independent learning, self-monitoring, et cetera	To a great extent	43	40.2%
	Fairly well	50	46.7%
	To a limited extent	11	10.3%
	Not at all	3	2.8%
The SI leaders' facilitation methods enhanced understanding of concepts	Strongly Agree	40	37.4%
	Agree	63	58.9%
	Disagree	3	2.8%
	Strongly Disagree	1	0.9%
The lecturer's attitude towards SI fostered my attendance of the SI sessions	Strongly Agree	27	25.2%
	Agree	51	47.7%
	Disagree	25	23.4%
	Strongly Disagree	4	3.7%
The scheduling of the SI sessions ensured availability and accessibility of the students	Strongly Agree	35	32.7%
	Agree	65	60.7%
	Disagree	1	0.9%
	Strongly Disagree	6	5.6%
The monitoring of SI attendance by the lecturers encouraged my attendance to the SI sessions	Strongly Agree	29	27.1%
	Agree	57	53.3%
	Disagree	16	15.0%
	Strongly Disagree	5	4.7%
The student-SI leader relationship created an atmosphere conducive for learning	Strongly Agree	35	32.7%
	Agree	63	58.9%
	Disagree	5	4.7%
	Strongly Disagree	4	3.7%

### Case Processing Summary

		N	Marginal Percentage
The session venues allowed space for peer collaboration and transactional learning	Strongly Agree	41	38.3%
	Agree	53	49.5%
	Disagree	10	9.3%
	Strongly Disagree	3	2.8%
The SI sessions were characterised by engagement, sharing and exchange of ideas	Strongly Agree	46	43.0%
	Agree	57	53.3%
	Disagree	4	3.7%
The SI leader followed me up and kept track of my progress and performance	Strongly Agree	35	32.7%
	Agree	35	32.7%
	Disagree	29	27.1%
	Strongly Disagree	8	7.5%
The SI sessions focused on the mastery of the subject outcomes	Strongly Agree	34	31.8%
	Agree	66	61.7%
	Disagree	6	5.6%
	Strongly Disagree	1	0.9%
My classmates encouraged me to attend SI sessions	Strongly Agree	17	15.9%
	Agree	39	36.4%
	Disagree	32	29.9%
	Strongly Disagree	19	17.8%
My individual learning needs were accommodated in the SI sessions	Strongly Agree	33	30.8%
	Agree	59	55.1%
	Disagree	10	9.3%
	Strongly Disagree	5	4.7%
Valid		107	100.0%
Missing		15	
Total		122	

### Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	225.974			
Final	113.309	112.665	34	.000

Link function: Logit.

### Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	158.980	284	1.000
Deviance	113.309	284	1.000

Link function: Logit.

### Pseudo R-Square

Cox and Snell	.651
Nagelkerke	.741
McFadden	.499

Link function: Logit.

### Parameter Estimates

		Estimate	Std. Error	Wald	df	Sig.	95% ...
Threshold	[C21 = 1]	-4.915	13257.479	.000	1	1.000	-25989.095
	[C21 = 2]	.429	13257.478	.000	1	1.000	-25983.752
	[C21 = 3]	4.116	13257.478	.000	1	1.000	-25980.064
Location	A1	-.635	.320	3.933	1	.047	-1.262
	A2	-.665	.299	4.935	1	.026	-1.252
	A3	-.488	.664	.540	1	.462	-1.789
	[B4=1]	4.034	13257.480	.000	1	1.000	-25980.149
	[B4=2]	5.486	13257.480	.000	1	1.000	-25978.696
	[B4=3]	3.534	13257.480	.000	1	1.000	-25980.649
	[B4=4]	0 <sup>a</sup>	.	.	0	.	.
	[B5=1]	-3.972	2.395	2.749	1	.097	-8.666
	[B5=2]	-4.819	2.348	4.212	1	.040	-9.420
	[B5=3]	-4.590	2.360	3.782	1	.052	-9.216
Scale	[B5=4]	0 <sup>a</sup>	.	.	0	.	.
	[B6=1]	3.178	2.177	2.132	1	.144	-1.088
	[B6=2]	3.476	2.055	2.863	1	.091	-.551
	[B6=3]	-22.485	.000	.	1	.	-22.485
	[B6=4]	0 <sup>a</sup>	.	.	0	.	.
	[B7=1]	-2.128	1.777	1.434	1	.231	-5.612
	[B7=2]	-2.149	1.663	1.670	1	.196	-5.408
	[B7=3]	-3.076	1.924	2.557	1	.110	-6.846

### Parameter Estimates

	95% Confidence	Upper Bound
Threshold	[C21 = 1]	25979.266
	[C21 = 2]	25984.609
	[C21 = 3]	25988.296
Location	A1	-.007
	A2	-.078
	A3	.813
	[B4=1]	25988.216
	[B4=2]	25989.669
	[B4=3]	25987.718
	[B4=4]	.
	[B5=1]	.723
	[B5=2]	-.217
	[B5=3]	.036
	[B5=4]	.
	[B6=1]	7.444
	[B6=2]	7.503
	[B6=3]	-22.485
	[B6=4]	.
[B7=1]	[B7=1]	1.355
	[B7=2]	1.111
	[B7=3]	.694

### Parameter Estimates

	Estimate	Std. Error	Wald	df	Sig.	95% ...
						Lower Bound
[B7=4]	0 <sup>a</sup>	.	.	0	.	.
[B8=1]	.035	2.076	.000	1	.986	-4.035
[B8=2]	1.110	2.093	.281	1	.596	-2.991
[B8=3]	1.429	2.480	.332	1	.564	-3.431
[B8=4]	0 <sup>a</sup>	.	.	0	.	.
[B9=1]	9.897	5.211	3.606	1	.058	-.318
[B9=2]	11.787	5.245	5.051	1	.025	1.507
[B9=3]	11.057	5.293	4.363	1	.037	.682
[B9=4]	0 <sup>a</sup>	.	.	0	.	.
[B10=1]	-11.398	3.946	8.343	1	.004	-19.132
[B10=2]	-11.347	3.849	8.693	1	.003	-18.891
[B10=3]	0 <sup>a</sup>	.	.	0	.	.
[B11=1]	-2.705	1.396	3.755	1	.053	-5.441
[B11=2]	-1.895	1.414	1.797	1	.180	-4.666
[B11=3]	-.770	1.362	.320	1	.572	-3.439
[B11=4]	0 <sup>a</sup>	.	.	0	.	.
[B12=1]	-.511	1.416	.130	1	.718	-3.287
[B12=2]	.055	1.349	.002	1	.968	-2.590
[B12=3]	0 <sup>a</sup>	.	.	0	.	.
[B12=4]	0 <sup>a</sup>	.	.	0	.	.
[B13=1]	-1.026	1.150	.797	1	.372	-3.279
[B13=2]	-1.757	1.039	2.862	1	.091	-3.793
[B13=3]	-1.915	1.045	3.359	1	.067	-3.964
[B13=4]	0 <sup>a</sup>	.	.	0	.	.
[B14=1]	-.227	2.212	.011	1	.918	-4.562
[B14=2]	1.827	2.120	.742	1	.389	-2.329
[B14=3]	2.427	2.067	1.380	1	.240	-1.623
[B14=4]	0 <sup>a</sup>	.	.	0	.	.

### Parameter Estimates

	95% Confidence Upper Bound
[B7=4]	.
[B8=1]	4.105
[B8=2]	5.211
[B8=3]	6.289
[B8=4]	.
[B9=1]	20.111
[B9=2]	22.068
[B9=3]	21.432
[B9=4]	.
[B10=1]	-3.664
[B10=2]	-3.804
[B10=3]	.
[B11=1]	.031
[B11=2]	.876
[B11=3]	1.899
[B11=4]	.
[B12=1]	2.265
[B12=2]	2.699
[B12=3]	.
[B12=4]	.
[B13=1]	1.227
[B13=2]	.278
[B13=3]	.133
[B13=4]	.
[B14=1]	4.107
[B14=2]	5.982
[B14=3]	6.478
[B14=4]	.

Link function: Logit.

- a. This parameter is set to zero because it is redundant.

```

/CRITERIA=CIN(95) DELTA(0) LCONVERGE(0) MXITER(100) MXSTER(5) PCONVERGE(1.0E-6)
SINGULAR(1.0E-8)
/LINK=LOGIT
/PRINT=FIT PARAMETERSUMMARY.

```

## PLUM - Ordinal Regression

### Warnings

There are 312 (75.0%) cells (i.e., dependent variable levels by observed combinations of predictor variable values) with zero frequencies.

Unexpected singularities in the Fisher Information matrix are encountered. There may be a quasi-complete separation in the data. Some parameter estimates will tend to infinity.

The PLUM procedure continues despite the above warning(s). Subsequent results shown are based on the last iteration. Validity of the model fit is uncertain.

### Case Processing Summary

		N	Marginal Percentage
The SI sessions offered a sense of community and belonging to the discipline and the university	To a great extent	30	28.8%
	Fairly well	54	51.9%
	To a limited extent	19	18.3%
	Not at all	1	1.0%
The SI leaders' facilitation methods enhanced understanding of concepts	Strongly Agree	39	37.5%
	Agree	61	58.7%
	Disagree	3	2.9%
	Strongly Disagree	1	1.0%
The lecturer's attitude towards SI fostered my attendance of the SI sessions	Strongly Agree	27	26.0%
	Agree	51	49.0%
	Disagree	22	21.2%
	Strongly Disagree	4	3.8%
The scheduling of the SI sessions ensured availability and accessibility of the students	Strongly Agree	34	32.7%
	Agree	63	60.6%
	Disagree	1	1.0%
	Strongly Disagree	6	5.8%
The monitoring of SI attendance by the lecturers encouraged my attendance to the SI sessions	Strongly Agree	28	26.9%
	Agree	56	53.8%
	Disagree	15	14.4%
	Strongly Disagree	5	4.8%

### Case Processing Summary

		N	Marginal Percentage
The student-SI leader relationship created an atmosphere conducive for learning	Strongly Agree	34	32.7%
	Agree	62	59.6%
	Disagree	4	3.8%
	Strongly Disagree	4	3.8%
The session venues allowed space for peer collaboration and transactional learning	Strongly Agree	39	37.5%
	Agree	52	50.0%
	Disagree	10	9.6%
	Strongly Disagree	3	2.9%
The SI sessions were characterised by engagement, sharing and exchange of ideas	Strongly Agree	45	43.3%
	Agree	55	52.9%
	Disagree	4	3.8%
	Strongly Disagree	8	7.7%
The SI leader followed me up and kept track of my progress and performance	Strongly Agree	34	32.7%
	Agree	35	33.7%
	Disagree	27	26.0%
	Strongly Disagree	8	7.7%
The SI sessions focused on the mastery of the subject outcomes	Strongly Agree	33	31.7%
	Agree	65	62.5%
	Disagree	5	4.8%
	Strongly Disagree	1	1.0%
My classmates encouraged me to attend SI sessions	Strongly Agree	16	15.4%
	Agree	38	36.5%
	Disagree	31	29.8%
	Strongly Disagree	19	18.3%
My individual learning needs were accommodated in the SI sessions	Strongly Agree	32	30.8%
	Agree	58	55.8%
	Disagree	9	8.7%
	Strongly Disagree	5	4.8%
Valid		104	100.0%
Missing		18	
Total		122	

### Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	219.263			
Final	156.498	62.765	34	.002

Link function: Logit.

### Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	205.466	275	.999
Deviance	156.498	275	1.000

Link function: Logit.

### Pseudo R-Square

Cox and Snell	.453
Nagelkerke	.516
McFadden	.286

Link function: Logit.

### Parameter Estimates

		Estimate	Std. Error	Wald	df	Sig.	95% ...
							Lower Bound
Threshold	[C18 = 1]	-9.884	4.571	4.675	1	.031	-18.843
	[C18 = 2]	-6.174	4.510	1.874	1	.171	-15.013
	[C18 = 3]	-1.969	4.310	.209	1	.648	-10.417
Location	A1	-.076	.253	.090	1	.764	-.571
	A2	.475	.232	4.182	1	.041	.020
	A3	-.403	.555	.526	1	.468	-1.491
	[B4=1]	-28.464	4.043	49.555	1	.000	-36.389
	[B4=2]	-28.006	3.958	50.068	1	.000	-35.764
	[B4=3]	-30.882	4.127	55.982	1	.000	-38.971
	[B4=4]	0 <sup>a</sup>	.	.	0	.	.
	[B5=1]	1.003	2.263	.196	1	.658	-3.433
	[B5=2]	1.037	2.216	.219	1	.640	-3.305
	[B5=3]	1.979	2.236	.783	1	.376	-2.404
	[B5=4]	0 <sup>a</sup>	.	.	0	.	.
	[B6=1]	.861	1.568	.302	1	.583	-2.212
	[B6=2]	2.645	1.450	3.325	1	.068	-.198
	[B6=3]	1.392	3.938	.125	1	.724	-6.327
	[B6=4]	0 <sup>a</sup>	.	.	0	.	.
	[B7=1]	-.949	1.614	.346	1	.557	-4.114
	[B7=2]	-.933	1.543	.366	1	.545	-3.957
	[B7=3]	-3.446	1.781	3.745	1	.053	-6.936
	[B7=4]	0 <sup>a</sup>	.	.	0	.	.
[B8]	[B8=1]	.439	1.548	.080	1	.777	-2.596
	[B8=2]	.632	1.582	.160	1	.690	-2.469
	[B8=3]	5.212	2.110	6.102	1	.014	1.077
	[B8=4]	0 <sup>a</sup>	.	.	0	.	.
	[B9=1]	21.597	.957	509.423	1	.000	19.721
	[B9=2]	21.879	.854	655.722	1	.000	20.204
	[B9=3]	22.458	.000	.	1	.	22.458
	[B9=4]	0 <sup>a</sup>	.	.	0	.	.
	[B10=1]	-3.783	2.028	3.478	1	.062	-7.758
	[B10=2]	-3.878	1.952	3.946	1	.047	-7.704
	[B10=3]	0 <sup>a</sup>	.	.	0	.	.
[B11]	[B11=1]	.993	1.246	.636	1	.425	-1.448

## Parameter Estimates

95% Confidence .

	Upper Bound
Threshold	[C18 = 1]      -.924
	[C18 = 2]      2.665
	[C18 = 3]      6.479
Location	A1      .419
	A2      .930
	A3      .686
	[B4=1]      -20.539
	[B4=2]      -20.249
	[B4=3]      -22.792
	[B4=4]      .
	[B5=1]      5.439
	[B5=2]      5.380
	[B5=3]      6.362
	[B5=4]      .
	[B6=1]      3.935
	[B6=2]      5.487
	[B6=3]      9.111
	[B6=4]      .
	[B7=1]      2.215
	[B7=2]      2.091
	[B7=3]      .044
	[B7=4]      .
	[B8=1]      3.474
	[B8=2]      3.733
	[B8=3]      9.348
	[B8=4]      .
	[B9=1]      23.472
	[B9=2]      23.554
	[B9=3]      22.458
	[B9=4]      .
	[B10=1]      .193
	[B10=2]      -.052
	[B10=3]      .
	[B11=1]      3.434

### Parameter Estimates

	Estimate	Std. Error	Wald	df	Sig.	95% ...
						Lower Bound
[B11=2]	1.110	1.270	.764	1	.382	-1.379
[B11=3]	1.540	1.231	1.563	1	.211	-.874
[B11=4]	0 <sup>a</sup>	.	.	0	.	.
[B12=1]	1.628	1.306	1.555	1	.212	-.931
[B12=2]	1.087	1.227	.784	1	.376	-1.319
[B12=3]	0 <sup>a</sup>	.	.	0	.	.
[B12=4]	0 <sup>a</sup>	.	.	0	.	.
[B13=1]	-2.650	1.043	6.452	1	.011	-4.695
[B13=2]	-2.592	.926	7.837	1	.005	-4.408
[B13=3]	-1.305	.888	2.161	1	.142	-3.045
[B13=4]	0 <sup>a</sup>	.	.	0	.	.
[B14=1]	-1.118	1.999	.312	1	.576	-5.036
[B14=2]	-1.549	1.893	.669	1	.413	-5.259
[B14=3]	-1.582	1.870	.715	1	.398	-5.247
[B14=4]	0 <sup>a</sup>	.	.	0	.	.

### Parameter Estimates

95% Confidence .

	Upper Bound
[B11=2]	3.599
[B11=3]	3.953
[B11=4]	.
[B12=1]	4.188
[B12=2]	3.492
[B12=3]	.
[B12=4]	.
[B13=1]	-.605
[B13=2]	-.777
[B13=3]	.435
[B13=4]	.
[B14=1]	2.801
[B14=2]	2.161
[B14=3]	2.083
[B14=4]	.

Link function: Logit.

- a. This parameter is set to zero because it is redundant.