

# **Glasgow Caledonian University**

## **1. Introductory Seminar: 24 Nov 2009**

### **1.1 Notes on Discussion**

Contact: Jon Godwin – statistician, background clinical trials, meta analysis.

#### ***Methods***

A lot of potential for applying meta analysis in social sciences (JG)

Network analysis helpful, Francine Cheater (head of institute) also thought so (JG and director of his group)

Would like multilevel training (director of JGs group)

Mixed methods (director of JGs group)

#### ***Teaching in the univ***

A few statistical training courses for s scientists in the univ.

Some taught by Angus McFaddan, probably basic methods and descriptive stats. Also a new person teaching stats on MSc in social research (John McKendrick director would know name).

Reckoned some teaching materials available on their intranet (blackboard system).

Caledonian graduate centre is a network organising courses, director (Bonnie Steves) very interested in working with us and using results from the survey to answer questions for the centre.

Often training is shared between Strathclyde, Glasgow C and Glasgow Univ.

#### ***Data***

Scottish poverty information unit – have collected good data which could be further exploited. John McKendrick director.

Heather spoke with John after the seminar and he is very keen to be involved.

He has a number of datasets that would benefit from secondary analysis – however would need tidying up before they can be used for teaching purposes.

John is not a statistician therefore develops own surveys or uses published surveys in his work.

He has specific interest in European data, and although he would be interested in Scottish data, it is more likely to be focused on the Scottish cohort within UK datasets rather than specific Scottish datasets.

He is keen to improve his statistical skills as it is something that he will require for research projects in the future, Very keen to attend training events.

Member of Scottish Poverty Observatory/Scottish Public Health Observatory? They currently work with published surveys but in the future will require to do log linear analysis. May be potential there to run a joint venture training event in this method???

## **General**

Statistical advisory service could quickly get overloaded. Possibly restrict to intermediate and advanced methods (Jamie Frankis).

Would like only good links to other online resources and events, not large number to choose from, some of which poor quality (Jamie Frankis).

Asked how we defined int/advanced methods.

Keen to be involved and willing to join EC.

Bonnie S mentioned 'SET', a gov funded network offering science and tech training to women, set up has similarities to AQMeN.

Glasgow C can offer good rooms for training close to station, free of charge.

Rob Jones at Strathclyde was mentioned as being a potential speaker at future events and/or having good contacts...

## **Involvement**

Jon Godwin and Francine Cheater are very keen to become more involved in AQMeN – expressed interest to be on Executive Committee of Advisory Group if possible, Passed details on, Susan to contact Jon to discuss further.

Bonnie Steves is representing Glasgow Cal for generic skills pathway of DTC.

## **1.2 Attendees**

Kym Hennessy	School of Health
Jamie Frankis	School of Health
Stephanie McKendry	School of Health
Victoria Boyd	School of Health
Kerri.McPherson	SLS
Stella Bain	SLS
Ross Campbell	LSS
John McKendrick	LSS
John Houston	CBS
E. Christie	
Abraham	Institutes
Linda Brady	Institutes
Jo Booth	School of health
Caroline J Hollin? Martin	School of Health
Jackie Tombs	Institutes
Bonnie Steves	Graduate Centre
Ed Clack	
Francine Cheater	Institutes
Jin Godwin	Institutes

Convened by John Godwin.

## 2. Survey Results

### Discipline

	N	%
Economics, Finance, Management, Business, Marketing	1	5.0
Health Related	12	60.0
Other	2	10.0
Psychology	3	15.0
Social Science, Humanities	1	5.0
Social Work	1	5.0
Total responding	20	100.0

### General level of expertise in quantitative methods

	N	%
1. Not given	5	25
2. Non-user of all methods	2	10
3. Beginner level in at least one descriptive method	1	5
4. Intermediate level in at least one descriptive method	3	15
5. Intermediate level in at least one advanced method (beyond linear regression)	7	35
6. Advanced level in at least one advanced method (beyond linear regression)	2	10

### How would you describe yourself?

	N	%
	11	55.0
Professional statistician	1	5.0
Regular user of quantitative methods	3	15.0
Occasional user of quantitative methods	5	25.0
Total responding	20	100.0

Note: This question was added later and only some respondents have answered

### Expertise: Descriptive quantitative analysis

	Percentage respondents with each level of expertise				
	Advanced	Intermediate	Beginner	Non user	Not given
Frequencies, cross-tabulation, means etc	25	40	25	.	10
Comparing frequencies or means	30	35	25	.	10
Graphical output (eg bar-charts, histograms, pie-charts etc)	25	45	15	.	15
Transforming data distributions (eg log, quadratic)	10	10	30	25	25
Indices of inequality (eg GINI index)	.	5	25	55	15
Measures of association (eg correlation)	20	35	20	10	15

Expertise: Regression analysis

	Percentage respondents with each level of expertise				
	Advanced	Intermediate	Beginner	Non user	Not given
Simple/multiple linear	15	30	15	15	25
Log-linear	5	15	30	25	25
Logistic/ordinal/multinomial	5	15	35	20	25
Other (eg poisson, negative binomial)	.	10	25	35	30

Expertise: Longitudinal analysis

	Percentage respondents with each level of expertise			
	Intermediate	Beginner	Non user	Not given
Event history analysis	.	35	45	20
Times series analysis	10	35	35	20
Trajectory modelling	.	25	50	25
Other longitudinal analysis	10	20	55	15

Expertise: Grouping analysis

	Percentage respondents with each level of expertise			
	Intermediate	Beginner	Non user	Not given
Principal components/factor analysis	25	25	25	25
Cluster/classification analysis	5	20	40	35
Latent class analysis	.	15	60	25
Multi-dimensional scaling	10	15	50	25

Expertise: Other complex analysis methods

	Percentage respondents with each level of expertise				
	Advanced	Intermediate	Beginner	Non user	Not given
Probability, set theory, matrix algebra	.	15	10	55	20
Multi-level modelling	.	5	20	55	20
Structural equation modelling	.	5	20	60	15
Spatial analysis/modelling	.	.	15	70	15
Geographically weighted regression	.	.	15	65	20
Econometric techniques	.	5	15	60	20
Simulation and risk analysis	.	5	15	55	25
Missing value analysis/imputation	.	5	30	55	10
Content analysis (eg NVivo)	5	15	25	45	10

Expertise: Software packages

	Percentage respondents with each level of expertise				
	Advanced	Intermediate	Beginner	Non user	Not given
SPSS	15	30	35	5	15
Stata	.	5	.	70	25
SAS	.	.	5	65	30
R/S/SPlus	.	.	.	70	30
Minitab	.	5	25	35	35
GAUSS	.	.	.	65	35
Amos	.	.	.	65	35
Lisrel	.	.	.	65	35
MPlus	.	.	.	65	35
LatentGold	.	.	.	65	35
MLWin	.	.	.	65	35
ARC/gis	.	.	.	65	35
BUGS (OpenBUGS WinBUGS etc)	.	.	.	65	35

Expertise: Which of the following datasets to you use, and how often?

	Percentage of respondents			
	Use regularly	Used once or occasionally	Do not use	Not given
Growing Up in Scotland (GUS)	.	5	50	45
Scottish School Leavers Survey	.	5	50	45
Scottish Crime Survey	.	5	50	45
Scottish Social Attitudes Survey	.	20	40	40
Scottish Health Survey	.	20	40	40
Scottish Household Survey	5	10	35	50
Scottish components of national datasets (eg BHPS)	5	10	40	45
Other Scottish datasets	.	10	40	50
Other UK datasets	5	15	35	45
Other datasets	5	.	35	60

Training requirements: Descriptive quantitative analysis

	Number requiring training	Percentage of respondents at each level (of those requiring training)			
		Intermediate	Beginner	Non user	Not given
Frequencies, cross-tabulation, means etc	6	33	50	.	17
Comparing frequencies or means	5	40	40	.	20
Graphical output (eg bar-charts, histograms, pie-charts etc)	4	50	25	.	25
Transforming data distributions (eg log, quadratic)	8	.	25	38	38
Indices of inequality (eg GINI index)	9	.	22	56	22
Measures of association (eg correlation)	8	13	38	25	25

Training requirements: Regression analysis

	Number requiring training	Percentage of respondents at each level (of those requiring training)			
		Intermediate	Beginner	Non user	Not given
Simple/multiple linear	11	18	27	18	36
Log-linear	11	.	45	27	27
Logistic/ordinal/multinomial	12	.	50	17	33
Other (eg poisson, negative binomial)	12	8	25	33	33

Training requirements: Longitudinal analysis

	Number requiring training	Percentage of respondents at each level (of those requiring training)			
		Intermediate	Beginner	Non user	Not given
Event history analysis	12	.	25	58	17
Times series analysis	13	8	38	38	15
Trajectory modelling	12	.	17	58	25
Other longitudinal analysis	10	.	20	70	10

Training requirements: Grouping analysis

	Number requiring training	Percentage of respondents at each level (of those requiring training)			
		Intermediate	Beginner	Non user	Not given
Principal components/factor analysis	14	21	21	36	21
Cluster/classification analysis	13	.	15	46	38
Latent class analysis	10	.	10	60	30
Multi-dimensional scaling	13	15	8	54	23

Training requirements: Other complex analysis methods

	Number requiring training	Percentage of respondents at each level (of those requiring training)			
		Intermediate	Beginner	Non user	Not given
Probability, set theory, matrix algebra	8	.	.	88	13
Multi-level modelling	9	11	22	44	22
Structural equation modelling	5	.	20	60	20
Spatial analysis/modelling	4	.	.	75	25
Geographically weighted regression	6	.	.	67	33
Simulation and risk analysis	5	.	.	80	20
Missing value analysis/imputation	4	.	25	75	.
Content analysis (eg NVivo)	7	14	14	71	.

Training requirements: Software packages

	Number requiring training	Percentage of respondents at each level (of those requiring training)		
		Intermediate	Beginner	Non user
SPSS	5	20	80	.
Stata	1	.	.	100
R/S/SPlus	1	.	.	100
Minitab	1	.	.	100

Training requirements: List of top three training priorities (all responses in alphabetical order)

Priority
? LONGITUDINAL ANALYSIS
CORRELATION/ ASSOCIATION
CORRELATIONS
CORRELATIONS
CROSS TABULATIONS
GEOGRAPHICALLY WEIGHTED REGRESSION
GRAPHICAL OUTPUT
GROUPING ANALYSIS
IMPROVE KNOWLEDGE OF METHODS
LATEST PANEL-DATA METHODS
LOGISTIC REGRESSION
META-ANALYSIS
MULTI LEVEL MODELING
MULTI-LEVEL MODELLING
MULTI-LEVEL MODELLING
MULTILEVEL MODELLING
MULTIPLE LOGISTIC REGRESSION
MULTIVARIATE ANALYSES - (MANOVA/MANCOVER ETC.)
POWER AND EFFECT SIZE VS. P VALUE
QUESTIONNAIRE DESIGN AND ANALYSIS
REGRESSION
REGRESSION ANALYSIS
THE USE OF MANY OF THE TESTS MENTIONED HERE
TO BE ABLE TO IDENTIFY RELATIONSHIPS/ DEPENDENCIES BETWEEN VARIABLES.
TO MOVE ON FROM DESCRIPTIVE STATISTICS TO PROVIDE MORE MEANINGFUL DATA.
WHEN TO USE MANY OF THE TESTS MENTIONED

Training requirements: How likely to participate in different types of training

	Very likely	Quite likely	Not likely	Total replies
Taught courses with hands-on training	12	4	.	16
Presentations by experts, but no hands-on training	4	8	4	16
On-line training	6	9	1	16
Training by video link	1	8	6	15
Step by step examples on the website	11	4	1	16

Training requirements: How likely would you be to attend face-to-face training events in ...?

	Very likely	Quite likely	Not likely	Total replies
Aberdeen	.	.	13	13
Dundee	1	2	10	13
Edinburgh	6	7	1	14
Glasgow	15	1	.	16
St Andrews	.	6	8	14
Stirling	6	5	3	14
Elsewhere in Scotland	2	3	3	8

Training requirements: Preferred duration for face to face training

	N	%
Half day	5	31
1 day	10	63
2 days	1	6
Total responding	16	100

Training requirements: Are there any datasets on which you would like specific training?

	N	%
No	7	58
Yes	5	42
Total responding	12	100

Training requirements: Other methods where respondents want training  
(Note only a small number of respondents answered this question)

Method	Level of expertise
Power and effect size	Intermediate
Q sort	Intermediate
SPSS	Beginner

What in your view should be the main priorities for AQMeN?

	Average ranking
Provide support/advice on using quantitative methods	2.7
Provide support/advice on using software packages	4.3
Provide a forum for like-minded people to have dialogue about quantitative methods	5.3
Enable people to make contact with potential collaborators	6.6
Develop modules for teaching quantitative methods at postgraduate level	5.9
Run training or CPD courses on intermediate/advanced level statistics	3.8
Run training or CPD courses on basic level statistics	5.1
Run training or CPD courses on using software packages	5.3
Provide information on other training/CPD opportunities	5.6
Provide information on relevant seminars and/or conferences	6.8

Respondents ranked priorities 1-10 (1 = top priority, 10 = bottom priority)

Which of the following things would you use the AQMeN website to do? Discover and Inform

	Average ranking
Search for information about quantitative methods	2.6
Find resources for teaching quantitative methods	4.5
Use online training resources for statistical software packages	4.0
Discover related organisations and projects in the UK	5.6
Identify upcoming training or other network events via a calendar	4.5
Find contact details of network members	5.6
Find out about activities of network members	5.2
Discover who in the network has expertise on a given subject	4.4

Respondents asked to provide top 5 rankings (1=high, 5=low), unranked items given a low rank of 6

Which of the following things would you use the AQMeN website to do? Participate and Network

	Average ranking
Link to my staff home page & provide a link to AQMeN on my home page	5.8
Write descriptions about my activities & expertise for the website	6.0
Link to my social network sites (Facebook, LinkedIn, Twitter, Wordpress...)	6.0
Write content about topics of interest to myself and the network	5.4
Add links to websites of interest to the network	5.3
Upload teaching materials or datasets directly for use by network	5.2
Start a discussion about a problem or topic on an online forum	2.0
Respond to a thread on an online discussion forum by a member	4.8

Respondents asked to provide top 5 rankings (1=high, 5=low), unranked items given a low rank of 6

Would you be prepared to contribute to AQMeN in any of the following ways?

	Yes	No	Total replies
Organising or hosting a seminar	8	6	14
Presenting a paper at a seminar	6	8	14
Offering support to other network members on methods or software issues (where appropriate)	7	6	13
Be involved in the development of training or CPD activities	6	7	13
Be involved in developing teaching modules on advanced methods	4	8	12