Using Mixed-Methods Evaluation Methods Taking Into Account Gender/Class Realities: Using QCA and NVIVO Wendy Olsen

Funded by British Academy: Innovation in Global Labour Research Using Deep Linkage and Mixed Methods

Applications to:

Theorising Bangladesh Indebtedness Mediated by involvement in an NGO All NGOs are different; and Indian Women's Work Mediated by involvement in either the self-help groups, an MFI, Or an NGO, or the Employment Guarantee Scheme

Steps for a Mixed-Methods **Evaluation Approach** □ Step 1: a complex theory of the ontic realities, ie the types of things □ Step 2: fieldwork □ Step 3: analysing early, & linking results □ Step 4: keyness, discourses □ Step 5: perhaps QCA analysis □ Step 6: transparency: database □ Step 7: draw conclusions

Key Sampling Themes

Representativeness at some level

Idea of the replication of entities across a geographic space

Generalisation to known subpopulations and concrete spaces

Step 1: a complex theory of the ontic realities, ie the types of things

The ontic reality is treated by statisticians as Structured \Box Outcome = result of structures, events. Logic is \Box Y = results arise from S, I, E, C, random error I = institutions, local entities C = contextA non-statistical approach.

Discussion of Key Sampling Themes

ADVICE

- You may triangulate a national dataset onto your local data
 - Match questions on demographics, take a random sample not non-random!
 - Randomness at some, not all levels is, overall, non-random
 - But generalisation can be made at the level-to-which randomness was applied, e.g. by geographic transect walks.
 - E.g. a village. Or all the Slums of Dhaka if the Slums were stage 1 and
 - The choice of households was stage 2
 - □ And the choice of individuals (KISH) was stage 3
 - □ So be very professional about selection of cases.
 - Multi-stage quota sampling vs. Multi-stage RANDOM sampling: The difference is in the degree of REPLACEMENT of non-response cases.

ADVICE

- You may triangulate a national dataset onto your local data
 - Match questions on demographics, take a random sample not non-random!
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 - E.g. a village. Or all the Jums of Dhaka if the Slums were stage 1 and
 - The choice of households won the outcome
 - And the choice of individuals (KISHVariable.)
 - □ So be very professional about For example on income
 - Multi-stage quota campling vs levels, if you want to a single of explain the change in sincome over time.

response cases.

The

NVIVO Keyness Analysis of Discourses in Large Dataset (With Example of Matrix Results from South India) Wendy Olsen 2016 **Gender Norms Project** 9 Acknowledging funding of ESRC DFID Pov. Allev. Fund and British Academy

Next Steps:

Step 2: fieldwork Step 3: analysing early, & linking results Step 4: keyness

How to conduct a Keyness Analysis for a Social Science Research Project.

- 1. Pool all the transcripts
- 2. Find out the keyness of words
- 3. Code up the concordances
- 4. Group the words into discourses

Interpret selected

discourses only

- 6. Treat each one of those very carefully: the dominant discourse must be discerned, then the marginalised, deviant and innovative (intertextual) ones.
- 7. Trace key arguments through these. (Mixed Methods)

How the Keyness Analysis is Done

- 1. Keyness of words
- 2. Discourses too
- 3. Interpretations: dominant discourse; Marginalised & intertextual ones.
- 4. Trace key arguments through these. (Mixed ⁻⁻ Methods)

Key References:

- Touri, M., and N. Koteyko (2014) "Using Corpus Linguistic Software", International Journal of Social Research Methodology
 - Fairclough, Norman various, books on Discourse and Power.

Part One: The Keyness Words (Touri and Koteyko 2014) **Keyness is the relative prevalence of** words in one corpus of material over another. □ Specifically, count S words in corpus, vs. N words in the British National **Corpus of English Language.** Use the formula provided here.

Formula for Keyness

□ Keyness = odds ratio

The odds of a word appearing in the fieldwork based corpus vs. the odds of it appearing in the national corpus

$$\Box K = \frac{\frac{s_i}{S - s_i}}{\frac{n_i}{N - n_i}}$$
 For each word I

Counting words using NVIVO then Matching words using STATA or SPSS Report output as a word list, RANKED.

Word Count Query in NVIVO



Excel Spreadsheet – Highest Keyness

Delemmatised	(mention)	of mentions	Ratio				
				BNC	BNC % of BNC		
				Prevalence			
Word	Length	Count	Percent			Odds	
brickfields	11	2	0%	2	0%	4738.06	
laws'	5	2	0%	3	0%	3158.71	
purdah'	7	1	0%	2	0%	2369.03	
coops	5	2	0%	11	0%	861.47	
passbook	8	1	0%	6	0%	789.68	
betel	5	3	0%	23	0%	618.01	
mindset	7	1	0%	11	0%	430.73	
parishad	8	2	0%	25	0%	379.04	
stipends	8	2	0%	38	0%	249.37	
negatively	10	2	0%	52	0%	182.23	
sons'	5	1	0%	28	0%	169.22	
educate	7	12	1%	365	0%	155.77	
workloads	9	1	0%	43	0%	110.19	
rears	5	1	0%	45	0%	105.29	
chores	6	6	1%	275	0%	103.38	
robbers	7	5	0%	244	0%	97.09	
tailoring	9	3	0%	147	0%	96.70	
dhaka	5	1	0%	55	0%	86.15	

Ratio. We created a spreadsheet to



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In this example fr<mark>om South</mark> India, 39 interviews with couples. п 39 Interviews □ 47,000 Words We reduced these to 233 key words. Extremely concise summary. An expert groups these into discourse topics.

Interim Product Conforms to Miles & Huberman's Advised "onepage summary"

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Here's an example (a small South Indian project)

APPENDIX 1: extra tables to illustrate matters from South Indian Mixed Methods Tenancy Project

Table a1: Entire list of 233 high keyness matched words from the SSIs (Alphabetical)

		Count	Count in Baby	B	A	AXB	Size of Baby	Size of SSI
	Word	in SSI	BNC	oddsbnc	oddsssi	oddsratio	BNC	Data
	10000	10	6	C.0002	0.0037	24.22	39,701	2,741
	15000	2	1	0.0000	0.0007	28.99	39701	2741
	20000	2	1	0.0000	0.0007	28.99	39701	2741
	200ft	2	5	0.0001	0.0007	5.80	39701	2741
	30000	5	2	0.0001	0.0018	36.27	39701	2741
	350ft	1	1	0.0000	0.0004	14.49	39701	2741
	40000	2	1	0.0000	0.0007	28.99	39701	2741
	50000	5	2	0.0001	0.0018	36.27	39701	2741
	500ft	1	2	0.0001	0.0004	7.24	39701	2741
4	acres	174	35	0.0009	0.0678	76.82	39701	2741
	adioinina	3	19	0.0005	0.0011	2.29	39701	2741
	agreement	67	232	0.0059	0.0251	4.26	39701	2741
1	agriculture	151	121	0.0031	0.0583	19.07	39701	2741
	alias 7	15)	3	0.0001	0.0055	72.81	39701	2741
	allah	3	1	0.0000	0.0011	43.50	39701	2741
	anumore	20	10	0.0003	0.0074	29.17	39701	2741
	anymore	23	1	0.0000	0.0085	335.95	39701	2741
	appilla	20				A CONTRACTOR OF THE OWNER OF THE		State of the second second

- Annotate and summarise the Key Terms.
- Group them into dominant discourses.
- □ This is also like thematic analysis, initially.

Discourses are sets of rules which are coherent but which are held to only via normed practices, and which can be broken, at a certain price.

Example of patriarchal talk about marriage as an exchange of assets.

Next: Locate the marginalised discourses

Steps for a Mixed-Methods Evaluation Approach

- Step 1: a complex theory of the ontic realities, ie the types of things
- □ Step 2: fieldwork
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- Step 4: keyness, <u>discourses</u>
- □ Step 5: perhaps QCA analysis
- □ Step 6: transparency: database
- □ Step 7: draw conclusions

Discourses we found (South India; North India)

Dominant ones:

- Agriculture as production
- Family as duty, obligations (disciplining)
- Moneylending **GS a solution**

Marginal ones:

- Agriculture as a burden the older generation carry, disliked
- Family as conflict
- Moneylending and
 - debt **as a problem**

SCALE of the DATABASE: A Small Research Project in Bangladesh

1 interview	673 raw words of 5+ letters	396 "words" i.e. word- roots, in one interview, if you stem the words	By hand
11 interviews	1666 words	1249 after stemming	By NVIVO
32 interviews	2798 words	2066 word- roots, after stemming	By NVIVO

Using the Words with Highest Keyness

- We set a cutoff level for keyness (the odds ratio) e.g. 4, or 9.
- Collect the concordances using NVIVO
- You now have extensive quotations to compare and contrast.
- Link the survey data to this database.

REMINDER: My Keyness Method

- 1. Pool all the transcripts using NVIVO.
- Find out the keyness of words
- 2. Code up the concordances
- 3. Group the words into discourses
- 4. Interpret selected discourses only

5. Treat each one of those

very carefully

6. <u>Trace key arguments</u> <u>through them.</u>

COMPARATIVE NVIVO

Results for two discourses (family talk and money talk) [india 1 and bangla 1 combined] Mentioned within 30 words of each other, in combination.

	A : Tightness node	B : money	C : problems	D : spend	E : works
1:	20	18	11	9	22
Family					
2:	12	10	6	5	11
children					
3 :	15	6	3	0	13
daughter					
4:	10	6	8	1	11
husband					
5 :	11	6	1	4	11
mother					27

Steps for a Mixed-Methods **Evaluation Approach** □ Step 1: a complex theory of the ontic realities, ie the types of things □ Step 2: fieldwork □ Step 3: analysing early, & linking results □ Step 4: keyness, discourses □ Step 5: perhaps QCA analysis □ Step 6: transparency: database □ Step 7: draw conclusions

Qualitative Comparative Analysis

Logic is <u>Y = results arise from S, I, E, C, random error</u> I = institutions, local entities C = context A non-statistical approach.

Is event E necessary, or sufficient for Y?

Aims and Means of QCA

Aims

- To focus on one outcome.
- How does the effect of X or T or E on that outcome change depending upon the contexts?

Circumstances matter
 Measure to what

extent it was the case.

Means

- Insert a survey matrix into fsQCA freeware
- Produce tests of necessity of EACH condition for Y
- Then test for sufficient PATHWAYS.
- Test the results using a measure, or an F Test
- See my GITHUB

freeware.

Details of the QCA F-Tests

1 We first define our terms and conceptual framework (S, I, E, X, Y, C)

<u>2 Empirical measure of Csuff</u> (consistency for sufficiency of X for Y)

<u>3 Empirical measure of Goodness-of-fit</u> (F-tests) for each pathway to Y

See

https://github.com/WendyOlsen/fsgof

Amending the QCA for treatments, impacts of interventions

- In logic add 'T' as a new event
- Allow it to work as a 'necessary' cause (test) of higher levels of Y
- Allow it to be considered as a sufficient pathway for higher levels of Y
- Allow it to be considered as part of sufficient combination pathways for higher levels of Y

Practical Example

Average debt was Taka 20,200 per household in Round 1 2016, while 38 of the households borrowed from their

employer (out of 445 households), averaging 16,200 Taka. None of these who borrowed from employers were

widows or divorced female household heads.

Social Class of the Househo	old Via	Number of Households (%)	Average Total Debt 2016			
Both Male & Female Prima	ary &					
Secondary Occupations						
Professional		27 (6%)	36,000 Taka			
Self-employed with emplo	yees	92 (21%)	33,000 Taka			
Employed		34 (8%)	22,000 Taka			
Own account		236 (53%)	17,000 Taka			
Manual Labourer		34 (8%)	4,000 Taka			
Family Worker		1 (<1%)	0			
Unemployed		1 (<1%)	55,000 Taka			
Housewife		6 (1%)	333 Taka			
Student		1 (<1%)	0			
Retired		13 (3%)	4,800 Taka			
Overall		445 (100%)	20,000 Taka			

Applications to:

Theorising Bangladesh Indebtedness \square Mediated by involvement in an NGO □ All NGOs are different; and Debt is higher in higher rural social classes Indian and Bangladesh Rural Women's Work Mediated by involvement in either the self-help groups, an MFI, Or an NGO, or the Employment **Guarantee Schemes** These are in turn mediated by social class.

Sample of Raw Debt Data – Bangladesh

Women who are case-studies in the ASA paper on debt, women's work and discourses of collective solid

A. Three less poor and three working poor women in our survey:

-	+ QID 	age eduy	years	femhead relig		satisfi	ed?	How Satisfied?	composite	Modern
440.	 67	49	6	1	Hindu	1		Satisfied	8.970914	2.59
441.	371	57	0	1	Muslim	0	Very	Dissatisfied	-10.55005	.59
442.	358	23	7	0	Muslim	0		Dissatisfied	8.479168	.59
443.	 203	17	0	0	 Muslim	0		Dissatisfied	-3.575279	07
444.	351	29	9	0	Hindu	1		Satisfied	2.313156	1.26
445.	404	32	0	1	Muslim	1		Satisfied	5.92374	07
Mean c	over 44	5 women: 3	35 yrs,	3.3 у	ears, 7%	fhh, 13%	Hindu	u, 69% satisfie	d or very sa	atisfied,
Mean o	of the	composite	index	is .12	and mean	of the	moder	n index is 0.	_	

B. What each woman actually does compared with the husband:

	+					+
	QID	name	mainocc	fpocc	fsocc	fhh
440. 441. 442.	67 371 358	Shuchonda Ambia Aminul	Professional Housewife Self-employed with empl	Housewife Housewife Housewife	Own account Own account	1 1 1 0
443. 444. 445.	 203 351 404	Hakima Mollika Aleya	Manual Labourer Own account Manual Labourer	Housewife Housewife Housewife	<u>Manual Labourer</u> Manual Labourer	 0 0 1

Where Research Occurred



How NVIVO Helps

Third case study of low income women

- Aleya, Muslim, has <0.5 acres of land in far north. Her husband has a straight and he already had 2 wives when he married her. Class man under the straight and friends have created a savings society, and to save the straight are to the village in the past, and gave the straight and gave the straight and gave the straight are to the village in the past, and gave the straight are to the village in the past, and gave the straight are to the village in the past, and gave the straight are to the village in the past, and gave the straight are to the village in the past, and gave the straight are to the village in the past, and gave the straight are to the village in the past, and gave the straight are to the village in the past, and gave the straight are to the village in the past, and gave the straight are to the village in the past, and gave the straight are to the village in the past, and gave the straight are the straight are to the village in the past, and gave the straight are the
- 990 A: He has.
- 998 Q: Why did he leave?
- 999 A: He just left. He had taken me to Dhaka... But then my husband left me in debt. I had to repay the loans, I had to pay rent so I had a job in the garment sector for 1.5 years

Results from QCA Part for India and Bangladesh

Step 1. Using fsgof, we can glimpse how each pathway has sufficient cause. Then list key pathways.

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Step 2. Run fsQCA

□ I do this in a simple spreadsheet and do not need to use fsQCA software.

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5	X4Y1	1	0.683	295.865		0.62	1	108	44	5 2.73949	0.5	5.47898	445	0)	
6	X5Y1	1	0.508	535.945		1.59	0	76	44	5 7.05191	0.5	14.1038	445	0)	
7	X6Y1	1	0.589	701.181		0.73	1	216	44	5 3.24621	0.5	6.49242	445	0)	
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9	X13Y1	1	0.668	308.923		0.42	1	165	44	5 1.87226	0.5	3.74452	445	0)	
10	X14Y1	1	0.693	218.156		0.54	1	91	44	5 2.39732	0.5	4.79464	445	0)	
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12	X16Y1	1	0.677	217.881		0.34	1	143	44	5 1.52364	0.5	3.04729	445	0)	
13	X23Y1	1	0.666	294.08		0.42	1	158	44	5 1.86127	0.5	3.72253	445	0)	
14	X24Y1	1	0.716	136.232		0.40	1	76	44	5 1.79253	0.5	3.58505	445	0)	
4.5	VOEVA		0.000	60.070			0.00				0.5			-		

Step 2. Run fsQCA

□ I do this in a simple spreadsheet and do not need to use fsQCA software.

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2	X1245Y1	1	0.994	0.011	0.0	0.96	1	445	0.011	
3	X12345Y1	. 1	0.994	0.011	0.0	0.96	1	445	0.011	
4	X12456Y1	. 1	0.994	0.011	0.0	0.96	1	445	0.011	
5	X123456Y	[′] 1	0.994	0.011	0.0	0.96	1	445	0.011	
6	X1256Y1	1	0.992	0.022	0.0	1	2	445	0.011	
7	X12356Y1	. 1	0.992	0.022	0.0	1	2	445	0.011	
8	X1345Y1	1	0.991	0.022	0.0	1	2	445	0.011	
9	X13456Y1	. 1	0.991	0.022	0.0	1	2	445	0.011	
10	X125Y1	1	0.989	0.034	0.0	1	3	445	0.01133	
11	X1235Y1	1	0.989	0.034	0.0	1	3	445	0.01133	
12	X145Y1	1	0.988	0.034	0.0	1	3	445	0.01133	
13	X1356Y1	1	0.988	0.045	0.0	1	4	445	0.01125	

Step 2. Run fsQCA

I do this in a simple spreadsheet and I can use fsQCA software to combine

pathways.

Notice F test
 Has good discern
 ment.

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2	X1245Y1		0.99	0.011	0.0	0.96	1	445	0.011	0.5	0.022	445	0.882		0.5	-0.	5
3	X12345Y	1	0.99	0.011	. 0.0	0.96	1	445	0.011	0.5	0.022	445	0.882				
4	X12456Y	1 :	0.99	0.011	. 0.0	0.96	1	445	0.011	0.5	0.022	445	0.882				
5	X123456	Y :	0.99	0.011	. 0.0	0.96	1	445	0.011	0.5	0.022	445	0.882				
6	X1256Y1		0.99	0.022	0.0	1	2	445	0.011	0.5	0.022	445	0.978				
7	X12356Y	1 :	0.99	0.022	0.0	1	2	445	0.011	0.5	0.022	445	0.978				
8	X1345Y1		0.99	0.022	0.0	1	2	445	0.011	0.5	0.022	445	0.978				
9	X13456Y	1 :	0.99	0.022	0.0	1	2	445	0.011	0.5	0.022	445	0.978				
10	X125Y1		1 0.98	0.034	0.0	1	3	445	0.01133	0.5	0.02267	445	0.995				
11	X1235Y1		1 0.98	0.034	0.0	1	3	445	0.01133	0.5	0.02267	445	0.995				
12	X145Y1	1	1 0.98	0.034	0.0	1	3	445	0.01133	0.5	0.02267	445	0.995				
13	X1356Y1		1 0.98	0.045	0.0	1	4	445	0.01125	0.5	0.0225	445	0.999				
14	X1456Y1		1 0.98	0.034	0.0	1	3	445	0.01133	0.5	0.02267	445	0.995				
15	X135Y1		1 0.98	0.056	0.0	1	5	445	0.0112	0.5	0.0224	445	1				
16	X156Y1		1 0.98	34 0.067	0.0	1	6	445	0.01117	0.5	0.02233	445	1				
17	X15Y1		1 0.98	33 0.078	0.0	1	7	445	0.01114	0.5	0.02229	445	1				
18	X345Y1		1 0.86	6.356	0.5	0.7	3	445	2.11867	0.5	4.23733	445	0.006				
19	X245Y1		1 0.85	6.429	0.4	0.84	4	445	1.60725	0.5	3.2145	445	0.013				
20	X2345Y1		1 0.84	6.345	0.7	0.49	2	445	3.1725	0.5	6.345	445	0.002				
21	X2456Y1		1 0.8	6.345	0.7	0.49	2	445	3.1725	0.5	6.345	445	0.002				
22	X3456Y1		1 0.81	6.356	0.5	0.7	3	445	5 2.11867	0.5	4.23733	445	0.006				
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Notice also that the sample sizes matter.



Reminder: Mixed Mode Data

- Step 1: ontic exploration, list the types of things, name the key processes,
 - SAMPLING: Get samples which have CONTRASTS on BOTH X and Y
 - □ AND ON T, the treatment event (low/high!) or (Yes/No)
 - And on contextual factors (see leaflet)
 - Make sure the qualitative cases are chosen from among the pre- and post-intervention sample cases.
- □ Step 2: fieldwork
- □ Step 3: analysing early, & linking results
- □ Step 4: keyness, discourses
- □ Step 5: perhaps QCA analysis
- □ Step 6: transparency: database

Step 7: draw conclusions

Discussion

Critiques and Responses

RCT critique

Unobserved heterogeneity critique

Responses: Complex differentiation of how causal mechanisms work

Critique 2

Endogeneity critique

(it says that the key factors in your model can't be distinguished from the irrelevant ones you have included because you've included too many factors)

□ **Responses**:

□ Complex interactions → do not ignore possible pathway reversal phenomena!
 □ Example of the role religion plays in investment
 □ That's why deductive statistics is weaker.
 □ Parsimonious QCA explanatory model.

Conclusions

- Ontic complexity
- Teamwork
- Combining the keyness stage with a selective interpretation stage; and
- Add A QCA or Fuzzy Set QCA Stage.
- Models and results are debated in an ongoing, open-ended way.
- We try to make the interpretation match, complement or contradict the original Research Question.
- Be rigorous and transparent.

Acknowledgements-Collaborators John McLoughlin at Univ of Manchester, Samantha Watson at Flowminder, University of Southampton

- John has programmed in Python to break up the British National Corpus into parts and put them into NVIVO. Counting the word frequencies in Baby BNC in NVIVO, he then compared these with the word frequencies in each qualitative data set.
- See GITHUB for the programme, searching on either John McLoughlin or Wendy Olsen.

See Also:

See also a calibration example at: <u>https://www.facebook.com/groups/mi</u> <u>xednetwork/</u>

Integrated Mixed Methods Network

And many examples of QCA and Fuzzy Set Analysis of Cases at www.compasss.org (sic)

And JISCMAIL QUAL-COMPARE (190 members) email list. Free to join.

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