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Usage of a Method for Ex-Post Identification of Falsifications in Cross-Cultural Context

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Overview

- Background
- Development and evaluating falsification indicators: project IFIS
- Application of the IFIS method to a cross-cultural study
- Conclusions and discussion

Background: Falsifications and Interviewer Effects

"*Interviewer falsification* means the *intentional* departure from the designed interviewer guidelines or instructions, *unreported* by the interviewer, which could result in the contamination of data."

AAPOR (2003)

- Focus: Partial interview falsifications by interviewers
- Scope of the problem:
  - 0.6 - 2.4% falsifications in the German Socio-Economic Panel Study Schräpler & Wagner (2003)
  - 3 -7% falsifications in U.S. Bureau of the Census Biemer & Stockes (1989)
  - 100% falsifications in a study in a non-OECD country Bredl, Winker, & Kötschau (2014)

A Case Study

- EVS: a cross-cultural study including a range of European countries
- A suspicious data set: are the data mainly or partly falsified?

Theoretical Frame: Differences between Real and Falsified Data

Aspect	Real respondents	Falsifiers
Motivation	Tend to give plausible rather than optimal answers (satisficing) Krosnick (1991)	Try to select answers which minimize the chance of being detected (more effort, less satisficing)
Perception:	Face-to-face presentation mode, acoustic, visual: show cards	Self-administered mode: visual
Memory/ Knowledge	Recall and recognize relevant information; provide self-descriptions (low stakes situation) Do not know questionnaire, responses of others	Recall and recognize (implicit) theories of personal behavior and stereotypes to invent most likely responses Borkenau & Liebler (1992), Reuband (1990), Schnell (1991) Know the questionnaire, responses other participants
Reasoning	Automatic processing involving cognitive biases, e.g. response sets Sudman, Bradburn, & Schwarz (1996), Tourangeau, Rips, & Rasinski (2006)	Interruption of automatic processing, controlled processing

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Project IFIS: Indicators and Related Expectations

- Motivation:
  - lower item nonresponse (INR)
  - use open-ended questions (OPEN) more frequently
  - less acquiescent (ARS), extreme (ERS) and middle (MRS) responding
  - lower rounding (ROUND)
  - lower primacy effect (PRIMACY)

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Project IFIS: Indicators and Related Expectations

- Knowledge: Rationalization or use of efficient cognitive strategies
  - response to filters (FILTER) to avoid further questions
  - use semi-open questions (SEMI) less frequently
- Memory: Falsifiers use stereotypes and implicit theories of behavior
  - higher survey non-differentiation (SND)
  - Falsifiers claim familiarity with nonexistent items (VOCT)
- Perception: lower recency effect in the case of acoustic presentation

An Empirical Study for Indicator Validation

- 174 interviewers conducted real face-to-face interviews (N=710).
- The same interviewers received basic socio-demographic information about real survey participants interviewed by his/her colleagues; the interviewers were instructed to falsify corresponding interviews in the lab (N=710).
- Logistic regressions
- Cluster analysis

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Results

Logistic regression: Explaining faked responses

included	B (SE)	Exp (B)
INR	-0.07* (0.03)	0.93
SEMI-OPEN	-1.03*** (0.23)	0.36
ROUNDING	1.71*** (0.31)	5.51
FILTER	1.02*** (0.22)	2.76
OPEN	-0.4*** (0.12)	0.61
ERS	0.07*** (0.02)	1.08
MRS	-0.04 (0.03)	0.96
ARS	-0.52*** (0.07)	0.59
SND	0.86*** (0.12)	2.37
RECENCY	-0.54* (0.24)	0.58
PRIMACY	-0.25* (0.12)	0.78
NEWS	1.11*** (0.33)	3.04
PAST POL. PARTICIPATION	-0.05*** (0.01)	0.95
…..		
VOCT	-0.83*** (0.21)	0.43
…..		

real = 0; false = 1

Cluster analysis: Detecting faked responses.
With the indicators:
82% of falsifiers and
92% of non-falsifiers
was correctly identified

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Application of the Method in the EVS

Indicators/Expectations for faked data:

- Motivation:
  - lower item nonresponse (INR)
  - less acquiescent (ARS), extreme (ERS) and middle (MRS) responding
  - lower primacy effect
- Knowledge: rationalization or use of efficient cognitive strategies
  - response to filters to avoid further questions (FILTER)
- Memory: falsifiers use stereotypes and implicit theories of behavior
  - Lower survey differentiation (SD)

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Results for the Suspicious Data (AZ)

Indicator	Cluster	N	Mean	SD	t (df=1503)	Hypothesis Fake
INR	Big	984 (65%)	14.78	9.60	3.75***	NO
	Small	521 (35%)	12.58	12.81		YES
MRS	Big	984	12.28	3.28	22.02***	NO
	Small	521	8.50	2.95		YES
PRIMACY	Big	984	9.59	2.17	-2.01*	YES
	Small	521	9.82	2.06		NO
ARS	Big	984	10.40	2.29	-3.64***	YES
	Small	521	10.85	2.28		NO
FILTER	Big	984	10.40	1.62	4.53***	YES
	Small	521	10.00	1.65		NO
SD	Big	984	1.91	.27	-18.21***	YES
	Small	521	2.16	.23		NO
			39.54	12.09	-29.04***	YES
		21	57.82	10.67		NO

in group): 2 clusters specified

Results for the large cluster are mostly accordant with the expectations of falsification hypotheses

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Results for the Baseline Data (DE)

Indicator	Cluster	N	Mean	SD	t (df=2073)	Hypothesis Fake	Different from AZ
INR	Big	1527 (74%)	10.99	8.24	38.83***	YES	YES
	Small	548 (26%)	32.27	16.42			
MRS	Big	1527	10.45	4.16	4.08***	YES	YES
	Small	548	11.29	4.08			
PRIMACY	Big	1527	8.54	2.39	-12.54***	NO	YES
	Small	548	7.09	2.17			
ARS	Big	1527	7.18	3.13	-10.55***	NO	YES
	Small	548	5.59	2.71			
FILTER	Big	1527	11.49	1.64	2.41*	NO	YES
		548	11.68	1.65			
			1.88	.30	-8.60***	NO	YES
			1.76	.27			
			40.48	13.75	-14.6		
			31.33	8.15			

in group): 2 clusters specified

Results for the large cluster are mostly NOT accordant with the expectation of falsification hypotheses;
All results differ from AZ

??? Falsifications or cultural differences?

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Neighbor States

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Neighbor States

Indicator	Cluster	Georgia Mean	Georgia Hypothesis Fake	Georgia Different from AZ	Armenia Mean	Armenia Hypothesis Fake	Armenia Different from AZ	Russia Mean	Russia Hypothesis Fake	Russia Different from AZ
INR	Big	18.20	YES	YES	11.33	YES	YES	17.74	YES	YES
	Small	57.65			33.64			43.69		
MRS	Big	8.60	NO	YES	8.40	NO	YES	11.34	YES	YES
	Small	8.20			8.33			12.18		
PRI-MACY	Big	11.71	NO	YES	10.71	NO	YES	8.89	NO	YES
	Small	10.11			9.97			7.68		
ARS	Big	10.99	NO	YES	10.69	NO	YES	9.27	NO	YES
	Small	9.46			9.03			8.82		
FILTER	Big	10.65	NO	YES	11.39	YES	NO	6.93	NO	YES
	Small				10.11			6.82		
S					2.10	NO	YES	2.06	NO	YES
					2.10			1.81		
I				YES	48.05	NO	YES	44.33	NO	YES
					45.51			24.14		

Patterns are similar to DE and different from AZ;

Results for Integrated Data EVS 2008

- Clusters are nearly of equal size and do not provide clear signals for falsification: 5 countries (FR, GR, MT, NO, TR)
- Results for indicators corresponding to the Faked in the IFIS - Project:
  - 1 or 2 Indicators: 39 countries
  - 3 Indicators: 1 country
- No country reached the level of the AZ

Conclusions

- It was possible to differentiate between the suspicious data and other data in the EVS by the application of the multivariate IFIS method
  - Uncertainty is reduced through
    - the multivariate approach
    - usage of reference data

- Although the differences concerning INR and MRS are often significant between the clusters, the direction of these differences (e.g. similarity with faked data in the IFIS project) are not stable
  - difficulty to use these indicators in the case that falsified cases are not known

Discussion

- Limitations:
  - 7 indicators can be used for the analysis. In the IFIS Project up to 11 indicators were used
  - It cannot be concluded that the “suspectible” clusters consist of definite falsifications. Further investigations are needed for such a conclusion, i.e. interviewers’ controls, time stamps, etc.
- Falsifications must not be done by the interviewers, but by other subjects, with a motivation to avoid detection
- Cross-cultural research on the application of the IFIS method is needed

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