Is anything better than nothing? Data quality under compulsory survey participation

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Context

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- What if data quality is declining when data is playing an increasingly important role
- Apart from questioning the respondent's ability to produce good data, does the respondent always have the incentive to deliver good data?

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  What if the response is mandatory, and is solicited during the last two weeks of classes, close to exam dates and project deadlines?

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  Rushing the answers (a short gap between survey start and end times)

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- Two questions to answer: What is the extent of satisficing? Are the responses sensitive to satisficing behavior?

Extent

Table 1: (Strong) Satisficing Metrics

Metric	Percent of Respondents
Non-differentiation (Lickert scale questions, 5 options)	
Q1-Q10 (course)	31.4
Q11-Q21 (instructor)	43.4
Q1-Q21	26.2
Skipping (open-ended questions)	
Q22 (suggestions to instructor)	80.2
Q23 (experience with instructor)	77.2
Q24 (examples used)	84.9
Q25 (suggestions for course improvement)	87.1
Q22-Q25	73.2
Q1-Q25 (non-differentiation and skipping)	21.0

Extent

Table 2: Correlation Matrix

	length0_q22	length0_q23	length0_q24	length0_q25	sd0_110	sd0_1121
length0_q22	1.0000					
length0_q23	0.6963*	1.0000				
length0_q24	0.6709*	0.7334*	1.0000			
length0_q25	0.6325*	0.6141*	0.6974*	1.0000		
sd0_110	0.0908*	0.0950*	0.0679*	0.0671*	1.0000	
sd0_1121	0.0725*	0.0390*	0.0325*	0.0585*	0.5716*	1.0000

* Significant at 0.05

Table 2a: Propensity to Satisfice - Gender

sd0_1121	0	1
Men	53.7%	46.3%
Women	59.2%	40.8%
Total	56.6%	43.4%

Chi2(1) = 95.96 (P< 0.001)

Impact

Table 3: Impact of Satisficing on Satisfaction -1

Satisfaction	Non-Differentiators	Differentiators
Strongly Disagree	1.3	3.3
Disagree	0.4	5.7
Neutral	5.0	18.1
Agree	19.1	37.9
Strongly Agree	73.8	34.4
.	0.4	0.7
Total	100.0	100.0

Chi2(5): $p<0.01$

Impact of Satisficing on Satisfaction -2

	Item	Obs	Mean	Std. dev.
sd0_1121==1	q21	13,668	4.64*	0.72
sd0_1121==0	q21	17,775	3.95*	1.03
sd0_1121==1	q11q21	13,719	4.64**	0.72
sd0_1121==0	q11q21	17,833	4.06**	0.69

*/**Difference is statistically significant ($p<0.01$)

Impact

Table 3 (cont.)
Impact of Satisficing on Satisfaction -3 (Skipping)

	Q21	Q11-Q21
length0_q22=0	4.110	4.238
length0_q22=1	4.286	4.332
Difference	-0.176*	-.0948*
length0_q23=0	4.258	4.348
length0_q23=1	4.249	4.304
Difference	0.092	.0440*
length0_q24=0	4.270	4.352
length0_q24=1	4.247	4.307
Difference	0.023	.0449*
length0_q25=0	4.269	4.247
length0_q25=1	4.129	4.324
Difference	-0.140*	-.0767*

*Significant p<0.01

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  Need for randomization (Barge and Gehlbach, 2012)

Data

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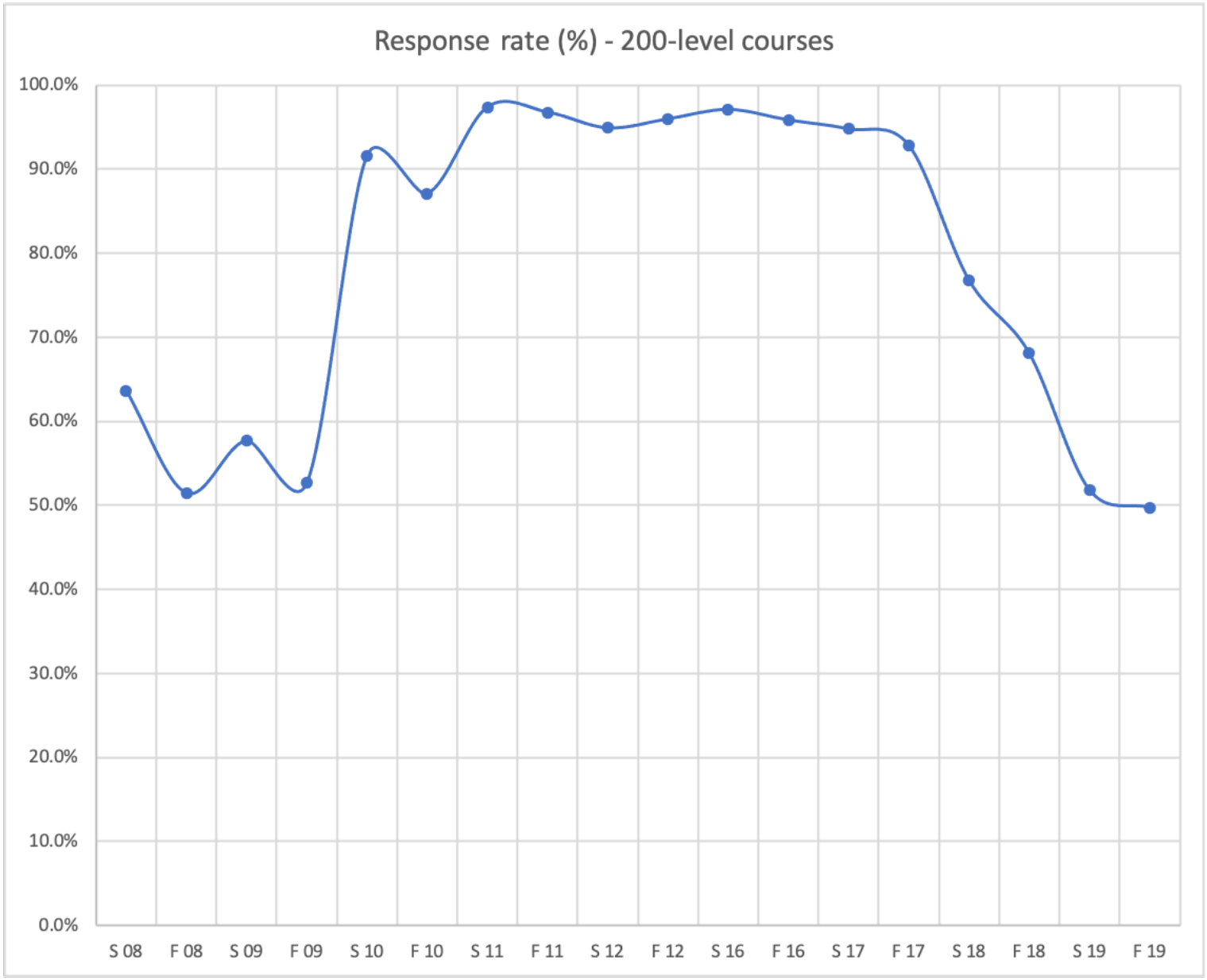
Response rate (%) - 200-level courses
100.0%
90.0%
80.0%
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
S 08
F 08
S 09
F 09
S 10
F 10
S 11
F 11
S 12
F 12
S 16
F 16
S 17
F 17
S 18
F 18
S 19
F 19

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Fuzzy discontinuity

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Policy rule as an instrument: Correlated with satisficing for reasons unrelated to satisfaction (exogenous variation in satisficing that affects satisfaction).

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The intensity of satisficing jumps when the survey is compulsory. Just before or after the rule change, other characteristics uncontrolled for (ex.: CGPA) are unchanged.

OLS

Linear regression

regress q1121 male gender_inter length0_q22 i.crs i.fid, vce(robust)

Number of obs = 31,552
R-squared= 0.1002
Root MSE= 0.72179

Dependant variable: q11q21

	Coefficient	Robust std. err	z	P>|z|	[95% C I]	
male	0.037	0.018	2.080	0.038	0.002	0.072
gender_inter	-0.019	0.020	-0.950	0.343	-0.059	0.020
length0_q22	0.086	0.011	7.830	0.000	0.065	0.108
_cons	4.445	0.150	29.610	0.000	4.151	4.739

Instructor and course fixed effects are omitted

x.png

Instrumental variable

x.png

Instrumental variables 2SLS regression

ivregress 2sls q11q21 male gender_inter (length0_q22 = option) i.crs i.fid, vce(robust)

Number of obs= 31,552 .
R-squared=
Root MSE=0.93295

Dependant variable: q11q21

	Coefficient	Robust std. err	z	P>|z|	[95% C I]	
length0_q22	-1.411	0.229	-6.170	0.000	-1.860	-0.963
male	0.070	0.024	2.950	0.003	0.024	0.116
gender_inter	-0.017	0.026	-0.670	0.505	-0.068	0.034
_cons	5.637	0.264	21.390	0.000	5.120	6.154

Instructor and course fixed effects are omitted

Conclusion

Corr(option, satisficing)=-0.06*

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Change in sign and larger impact

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Either case: Impact is significant

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Either case: Tade-off between quantity and quality when forced to participate.

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  Recall characteristics are similar in the neighborhood (before and after), which can be verified.

Thank you!

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