

# LOCKDOWN MEASURES AND TIME AVAILABILITY: COVID-19 IMPACT ON SURVEY RESPONSE RATES AND NONRESPONSE BIAS

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1

1

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2

**New coronavirus** Last update: 29.3.2020

**PROTECT YOURSELF AND OTHERS** 



Stay at home from now on.



Keep your distance.



Wash your hands thoroughly.



Avoid shaking hands.



Cough and sneeze into a tissue or the crook of your arm.



Always call ahead before going to the doctor's or the emergency department.

[www.foph-coronavirus.ch](http://www.foph-coronavirus.ch)

 Schweizerische Eidgenossenschaft  
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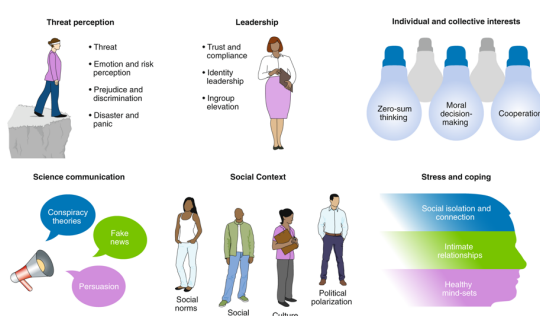
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3

## MOTIVATION

“Urgent action is needed to mitigate the potentially devastating effects of COVID-19, action that can be supported by the behavioural and social sciences.” (Van Bavel et al., 30.4.20; Nature Human Behavior)

- Covid-19 had an unprecedented impact on survey data collection
- Especially face-to-face surveys



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4

## MOTIVATION – TWO STORYLINES

**Covid-19 impact on surveys    Impact of web surveys on data**

5

## MOTIVATION – TWO STORYLINES

**Covid-19 impact on surveys    Impact of web surveys on data**

- Mushrooming of non-probability surveys to get data fast
- Rapid transformation of existing (probability) survey designs and practice to respond to crisis
- Mode switching and mixing
- Implications for substantive research findings

6

## MOTIVATION – TWO STORYLINES

### Covid-19 impact on surveys    Impact of web surveys on data

- Mushrooming of non-probability surveys to get data fast
- Rapid transformation of existing survey designs and practice to respond to crisis
- Mode switching and mixing
- Implications for substantive research findings
- Most viable mode in many European countries
- Not suitable for all populations
- Notorious for lower response rates and selection errors associated with not being able or willing to respond by web
- Growing mobile response

7

## DATA

- Measurement and Observation of Social Attitudes in Switzerland (CH) - ISSP
- Cross-sectional biennial survey of social attitudes of Swiss residents (aged 18+), since 2005
- Changes in survey design over its lifetime:
  1. Switch from address-based to individual-based sample in 2011 from population register;
  2. Switch from face-to-face to push-to-web in 2018 (two part web+mail survey; 3 in 2019)
  3. 2020 edition – Covid-19 3-wave web-only add-on (4 panel waves in total)

 MOSA<sup>i</sup>CH



8

## RESEARCH QUESTIONS - OPTIONS

### Impact of web surveys on data

- What has been the impact of using web-based data collection in MOSAiCH on a) response rates and b) sample composition?
- How do nonrespondents to web differ from face-to-face respondents?
- What can we learn from reasons for refusal recorded by face-to-face interviewers in combination with register data?
  - E.g. Who has 'no time to participate'? Are these people also less likely to complete web surveys?

9

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- How effective is direct recruitment to a web panel for panel retention?

10

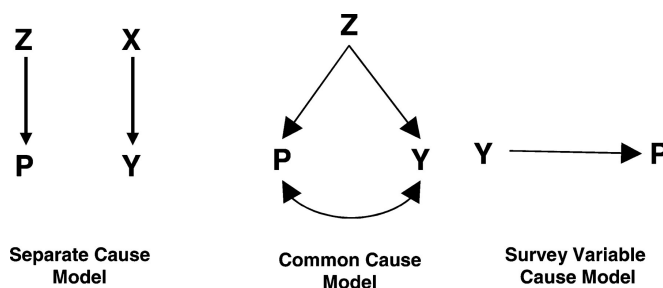
## RESEARCH QUESTIONS - OPTIONS

### Covid-19 impact on surveys

- Was web an effective data collection mode during the Covid pandemic lockdown in Switzerland?
  - In terms of response rates?
  - Achieved sample representativeness?
  - Selection bias in key estimates?

11

## NONRESPONSE BIAS MECHANISMS



- Not all nonresponse is harmful
- Nonresponse bias is a function of how correlated the propensity to respond (P) to a survey is with a given survey variable (Y)
- If the correlation between Y and P is strong, bias will be large

12

## COVID-19 LOCKDOWN AND TIME AVAILABILITY

- Time availability is a frequently cited reason for refusal
  - Lockdown measures increased time availability for some
  - But decreased time availability for others
- If time availability correlates with key measures of interest in the survey, there is a potential for nonresponse bias – even if response rates increase overall

Y → P

Survey Variable  
Cause Model

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(Groves and Peytcheva, 2008)

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13

13

## MEASURES

Panel Wave	Fieldwork Dates	Topics	Target variables
<b>W1: MOSAiCH Part 1</b>	21.2-22.6.20	<i>Environment</i> Background info: - Socio-demogs - Methodological	Socio-demographics Time-availability indicators Subjective measures (trust in university research & interest in survey)
<b>W2: MOSAiCH Part 2 &amp; Covid-19 Wave 1</b>	30.4-13.7.20	<i>Environment</i> Covid-19, well-being, work, family, politics	Works more hours, works at home, works in free-time, has no time for family, impact on division of childcare & housework
<b>W3: MOSAiCH Covid-19 Wave 2</b>	2.10-1.11.20	Covid-19, well-being, work, family, politics, impact on work-life balance	Works more hours, works at home, works in free-time, has no time for family, division of childcare & housework
<b>W4: MOSAiCH Covid-19 Wave 3</b>	19.3-18.4.21	Covid-19, well-being, work, family, politics, vaccination, impact on work-life balance	Works more hours, works at home, works in free-time, has no time for family, division of childcare & housework

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14

14

## RESEARCH QUESTIONS - OPTIONS

### Covid-19 impact on surveys

- Was web an effective data collection mode during the Covid pandemic lockdown in Switzerland?
  - In terms of response rates?
  - Achieved sample representativeness?
  - Selection bias in key estimates?
- Did lockdown differentially affect people's willingness/ ability to take part in web surveys depending on their time availability?
  - Are variables relating to time availability correlated with nonparticipation?
- How might this affect the accuracy of target variables relating to impact of pandemic on work-life balance?

15

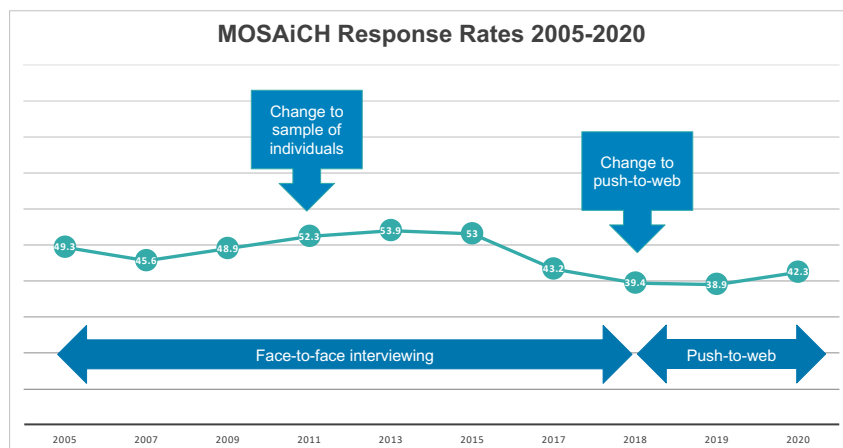
Lockdown measures and time availability: Covid-19  
Impact on survey response rates and nonresponse bias

## RESULTS

16



## RESPONSE RATES



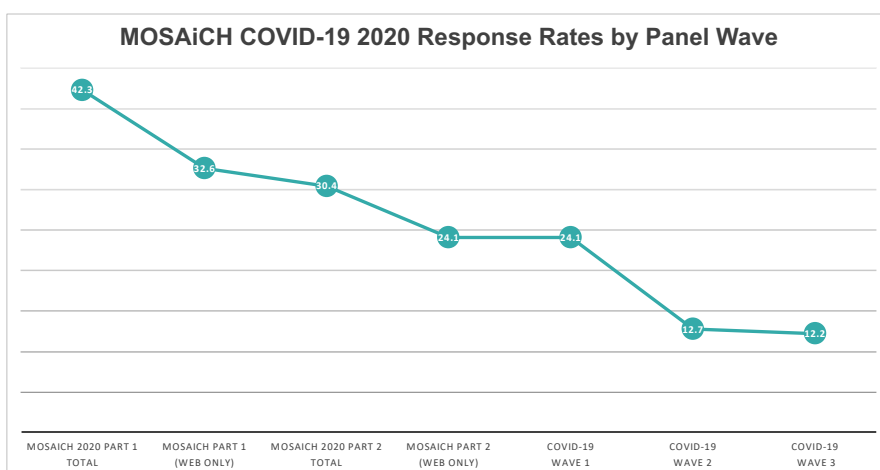
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17

## RESPONSE RATES



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18

### PARTICIPATION IN MOSAICH PART 1

Based on all members of the gross sample (irrespective of eligibility)  
n=10152

Covariates = register variables

**Significant covariates:**  
 Age  
 Marital Status  
 Non-Swiss nationality  
 Registered landline  
 Larger household size  
 Living in cities  
 Living in French and Italian regions

	Coef.	Std.	p
Female	-0.052	0.042	0.214
Aged 18-34	0.131	0.086	0.128
Aged 35-49	0.201	0.073	0.006
Aged 50-64	0.290	0.062	0.000
Single (never married)	-0.210	0.062	0.001
Divorced or widowed	-0.374	0.071	0.000
Nationality: Central Europe	0.187	0.106	0.077
Nationality: Western Europe	-0.107	0.138	0.441
Nationality: South-West Europe	-0.923	0.131	0.000
Nationality: Southern Europe	-0.718	0.113	0.000
Nationality: South-East Europe	-1.007	0.139	0.000
Nationality: Other countries	-0.462	0.140	0.001
Born in Switzerland	0.513	0.063	0.000
Registered landline telephone	0.235	0.047	0.000
Household size: 2 people	0.190	0.067	0.004
Household size: 3 people	0.111	0.078	0.153
Household size: 4 people +	0.210	0.077	0.006
Degree of urbanisation 1: Cities	0.157	0.063	0.013
Degree of urbanisation 1: Towns	0.076	0.056	0.179
French-speaking CH	0.360	0.051	0.000
Italian-speaking CH	0.545	0.103	0.000
Constant	-1.024	0.110	0.000

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19

### PARTICIPATION IN MOSAICH PART 1 BY WEB

Based on all members of the gross sample (irrespective of eligibility)  
n=10152

Covariates = register variables

**Significant covariates:**  
 Age  
 Marital Status  
 Non-Swiss nationality  
 Registered landline  
 Larger household size  
 Living in cities  
 Living in French and Italian regions

	Coef.	Std.	p
Female	-0.149	0.044	0.001
Aged 18-34	0.537	0.091	0.000
Aged 35-49	0.523	0.078	0.000
Aged 50-64	0.513	0.066	0.000
Single (never married)	-0.210	0.065	0.001
Divorced or widowed	-0.455	0.077	0.000
Nationality: Central Europe	0.139	0.112	0.214
Nationality: Western Europe	0.167	0.142	0.240
Nationality: South-West Europe	-1.046	0.151	0.000
Nationality: Southern Europe	-0.616	0.121	0.000
Nationality: South-East Europe	-1.031	0.156	0.000
Nationality: Other countries	-0.352	0.148	0.017
Born in Switzerland	0.472	0.067	0.000
Registered landline telephone	0.189	0.050	0.000
Household size: 2 people	0.206	0.071	0.004
Household size: 3 people	0.078	0.083	0.346
Household size: 4 people +	0.181	0.081	0.025
Degree of urbanisation 1: Cities	0.176	0.066	0.008
Degree of urbanisation 1: Towns	0.074	0.059	0.210
French-speaking CH	0.213	0.053	0.000
Italian-speaking CH	0.358	0.106	0.001
Constant	-1.548	0.118	0.000



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20



		Coef.	Std.	p
<b>PARTICIPATION IN COVID WAVE 1</b>				
Based on all participants responding at wave 1 n=4281				
Covariates = register variables				
<b>Significant covariates:</b>				
Sex	Female	-0.205	0.063	0.001
Age	Aged 18-34	0.432	0.134	0.001
	Aged 35-49	0.433	0.111	0.000
	Aged 50-64	0.401	0.093	0.000
Marital Status	Single (never married)	-0.090	0.096	0.351
	Divorced or widowed	-0.221	0.111	0.046
Non-Swiss nationality	Nationality: Central Europe	0.154	0.168	0.359
	Nationality: Western Europe	0.696	0.231	0.003
Registered landline	Nationality: South-West Europe	-0.486	0.232	0.036
	Nationality: Southern Europe	-0.439	0.196	0.025
Larger household size	Nationality: South-East Europe	-0.844	0.264	0.001
	Nationality: Other countries	-0.554	0.240	0.021
	Born in Switzerland	0.314	0.099	0.002
	Registered landline telephone	0.168	0.072	0.019
	Household size: 2 people	-0.012	0.105	0.907
	Household size: 3 people	-0.290	0.123	0.019
	Household size: 4 people +	-0.151	0.120	0.209
	Degree of urbanisation 1: Cities	0.114	0.095	0.231
	Degree of urbanisation 1: Towns	-0.042	0.084	0.615
	French-speaking CH	-0.090	0.075	0.226
	Italian-speaking CH	-0.186	0.145	0.199
	Constant	-0.093	0.171	0.589

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21

		Coef.	Std.	p
<b>PARTICIPATION IN COVID-19 WAVE 1</b>				
Based on all participants responding at wave 1 by web n=3299				
Covariates = register variables				
<b>Significant covariates:</b>				
Age	Female	-0.009	0.081	0.910
	Aged 18-34	-0.461	0.173	0.008
	Aged 35-49	-0.267	0.148	0.071
	Aged 50-64	-0.116	0.131	0.377
Non-Swiss nationality	Single (never married)	-0.027	0.119	0.820
	Divorced or widowed	0.044	0.156	0.779
Registered landline	Nationality: Central Europe	0.300	0.208	0.150
	Nationality: Western Europe	0.371	0.263	0.159
Larger household size	Nationality: South-West Europe	-0.156	0.292	0.592
	Nationality: Southern Europe	-0.628	0.221	0.005
	Nationality: South-East Europe	-0.885	0.293	0.003
	Nationality: Other countries	-0.755	0.262	0.004
	Born in Switzerland	0.463	0.124	0.000
	Registered landline telephone	0.309	0.091	0.001
	Household size: 2 people	-0.156	0.139	0.264
	Household size: 3 people	-0.425	0.158	0.007
	Household size: 4 people +	-0.268	0.154	0.081
	Degree of urbanisation 1: Cities	0.096	0.124	0.436
	Degree of urbanisation 1: Towns	-0.099	0.110	0.368
	French-speaking CH	0.066	0.097	0.497
	Italian-speaking CH	-0.057	0.185	0.757
	Constant	0.989	0.224	0.000

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22

## PARTICIPATION IN COVID WAVE 1

	Coef.	Std.	b
Female	-0.083	0.069	0.227
Aged 18-34	-0.163	0.165	0.323
Aged 35-49	-0.019	0.141	0.890
Aged 50-64	0.109	0.123	0.374
Single (never married)	-0.182	0.105	0.062
Divorced or widowed	-0.201	0.119	0.090
Nationality: Central Europe	-0.003	0.179	0.986
Nationality: Western Europe	0.609	0.249	0.014
Nationality: South-West Europe	-0.198	0.251	0.429
Nationality: Southern Europe	-0.328	0.213	0.122
Nationality: South-East Europe	-0.457	0.282	0.106
Nationality: Other countries	-0.384	0.263	0.144
Born in Switzerland	0.320	0.108	0.003
Registered landline telephone	0.159	0.077	0.040
Household size: 2 people	-0.057	0.112	0.610
Household size: 3 people	-0.382	0.132	0.004
Household size: 4 people +	-0.297	0.130	0.022
Degree of urbanisation 1: Cities	-0.177	0.104	0.089
Degree of urbanisation 1: Towns	-0.215	0.090	0.017
French-speaking CH	-0.075	0.182	0.360
Italian-speaking CH	0.163	0.161	0.312
Tertiary Education	0.516	0.080	0.000
In paid work	-0.009	0.098	0.931
In education	0.696	0.205	0.001
Apprentice	0.060	0.267	0.823
Hours spent in car per week	0.004	0.005	0.536
Regularly takes part in activities	0.132	0.069	0.056
Frequently spends time in nature	-0.321	0.076	0.000
Trusts university research centres	0.266	0.072	0.000
Interested in the questionnaire	0.740	0.086	0.000
Has a smartphone	0.775	0.094	0.000
Has a PC	0.886	0.094	0.000
Constant	-1.675	0.216	0.000

Based on all participants responding at wave 1 - n=4281; Register variables + wave 1 questionnaire variables

### Significant covariates:

- Non-Swiss nationality
- Registered landline
- Larger household size
- Living in towns/suburbs
- Tertiary education
- In education
- Spending time outside
- Trusting University research centres
- Interest in the questionnaire
- Having a smartphone
- Having a PC



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23

23

## PARTICIPATION IN COVID WAVE 1

Based on all participants responding at wave 1 by web; n=3299; Register variables + wave 1 questionnaire variables

### Significant covariates:

- Age
- Non-Swiss nationality
- Registered landline
- Larger household size
- Living in towns/suburbs
- Tertiary education
- Taking part in social activities
- Spending time outside
- Trusting University research centres
- Interest in the questionnaire
- Having a smartphone
- Having a PC

	Coef.	Std.	b
Female	0.082	0.087	0.341
Aged 18-34	-0.748	0.207	0.000
Aged 35-49	-0.476	0.182	0.009
Aged 50-64	-0.199	0.164	0.223
Single (never married)	-0.124	0.127	0.331
Divorced or widowed	0.053	0.163	0.745
Nationality: Central Europe	0.109	0.219	0.618
Nationality: Western Europe	0.258	0.277	0.352
Nationality: South-West Europe	0.015	0.310	0.961
Nationality: Southern Europe	-0.499	0.237	0.035
Nationality: South-East Europe	-0.542	0.309	0.079
Nationality: Other countries	-0.619	0.283	0.029
Born in Switzerland	0.369	0.132	0.005
Registered landline telephone	0.248	0.096	0.010
Household size: 2 people	-0.148	0.145	0.310
Household size: 3 people	-0.422	0.166	0.011
Household size: 4 people +	-0.301	0.163	0.064
Degree of urbanisation 1: Cities	-0.115	0.133	0.385
Degree of urbanisation 1: Towns	-0.228	0.116	0.049
French-speaking CH	0.088	0.105	0.402
Italian-speaking CH	0.242	0.197	0.220
Tertiary Education	0.323	0.099	0.001
In paid work	0.027	0.124	0.830
In education	0.393	0.229	0.086
Apprentice	-0.047	0.306	0.879
Hours spent in car per week	-0.007	0.007	0.375
Regularly takes part in activities	0.245	0.088	0.005
Frequently spends time in nature	-0.283	0.095	0.003
Trusts university research centres	0.300	0.091	0.001
Interested in the questionnaire	0.779	0.104	0.000
Has a smartphone	0.366	0.125	0.003
Has a PC	0.758	0.117	0.000
Constant	-0.405	0.272	0.137



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24

24

## KEY TAKE-HOMES

- How effective is direct recruitment to a web panel for panel retention?
- Did lockdown differentially affect people's willingness/ ability to take part in web surveys depending on their time availability?
  - Are variables relating to time availability correlated with nonparticipation?

25

## KEY TAKE-HOMES

- How effective is direct recruitment to a web panel for panel retention?



Mail recruitment to web-based surveys and short-term panels effective in Swiss context. Push-to-web with mail is better still. But attrition is still substantial and selective.

- Did lockdown differentially affect people's willingness/ ability to take part in web surveys depending on their time availability?

- Are variables relating to time availability correlated with nonparticipation?



Some evidence that variables associated with time-availability affected response propensity during lockdown, with implications for key target variables.

26

## NEXT STEPS

- Investigate predictors of panel retention/ attrition from later waves
- Investigate risk of bias in target variables:
- Correlation with response propensities based on:
  - Register variables only (used for nonresponse weighting)
  - Register variables + questionnaire variables presented here
- Extend analysis to look at reasons for refusal in previous MOSAiCH rounds to draw conclusions about whether web is more or less appealing to those with limited time availability.

27

**THANK YOU VERY MUCH FOR YOUR  
ATTENTION!**

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28