

# Improving web panel respondent behaviour

The effect of encouragement messages throughout the  
course of the survey

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## BACKGROUND

### Motivational messages in web surveys

Web surveys may damage motivation and trigger **satisficing behaviours**

**Motivating respondents** might affect respondent's willingness to participate and increase response rates

“We really appreciate your continued

co-operation. When you

answer all questions, you help the results of the survey be

more accurate and more useful”

If extra answers are given without appropriate thinking, this can **decrease data quality**

Contrary to F2F, in web surveys feedback must be **decided in advance**

## BACKGROUND

### Previous Research

Encouragement messages can be placed in the introduction (e.g. Revilla, 2016) or **within the survey**. For this last case:

- Sakshaug and Crawford (2010) **did not find any effect** of both generic and tailored encouragement messages on **breakoffs**. **College students-USA**.
- Kapelner and Chandler (2010) **found no effect on breakoffs** of showing an alarming encouragement red text asking to answer accurately at the bottom of each question. **Mturk-USA**.
- Al Baghal and Lynn (2015) **increased item response** by prompting an encouragement message after a missed question. **Innovation Panel-UK**.



Limited empirical evidence: **mixed results**, mainly based on **single country** studies and on **non-probability samples**.

## BACKGROUND

### Contribution

1. Use of a **probability-based** web panel
2. More **countries** and different **languages**
3. Repeating in **several waves**
4. Considering more **indicators**
5. Testing more **types** of messages

### Research Questions

1. RQ1. Does the effect of encouragement messages differ across countries?
2. RQ2. Do encouragement messages affect **a)** non-differentiation, **b)** self-reported effort and **c)** survey evaluation?
3. RQ3. Do encouragement messages emphasizing the negative consequences of nonresponse/low effort have different effects than messages emphasizing positive consequences?

## METHOD AND DATA

### The surveys

**Survey experiments included in waves 2, 4 and 6 of the CRONOS panel in Great Britain, Estonia and Slovenia.** Probability-based panel with participants recruited from ESS Round 8. Welcome survey+6 waves, conducted bi-monthly since February 2017.

#### Wave 2

27<sup>th</sup> April-10<sup>th</sup> June 2017

1,763 respondents

99 questions: stages of life, family and the Internet use

#### Wave 4

7<sup>th</sup> September- 12<sup>th</sup> October 2017

1,702 respondents

64 questions: cultural dimensions, the nature and the environment, and personality traits

#### Wave 6

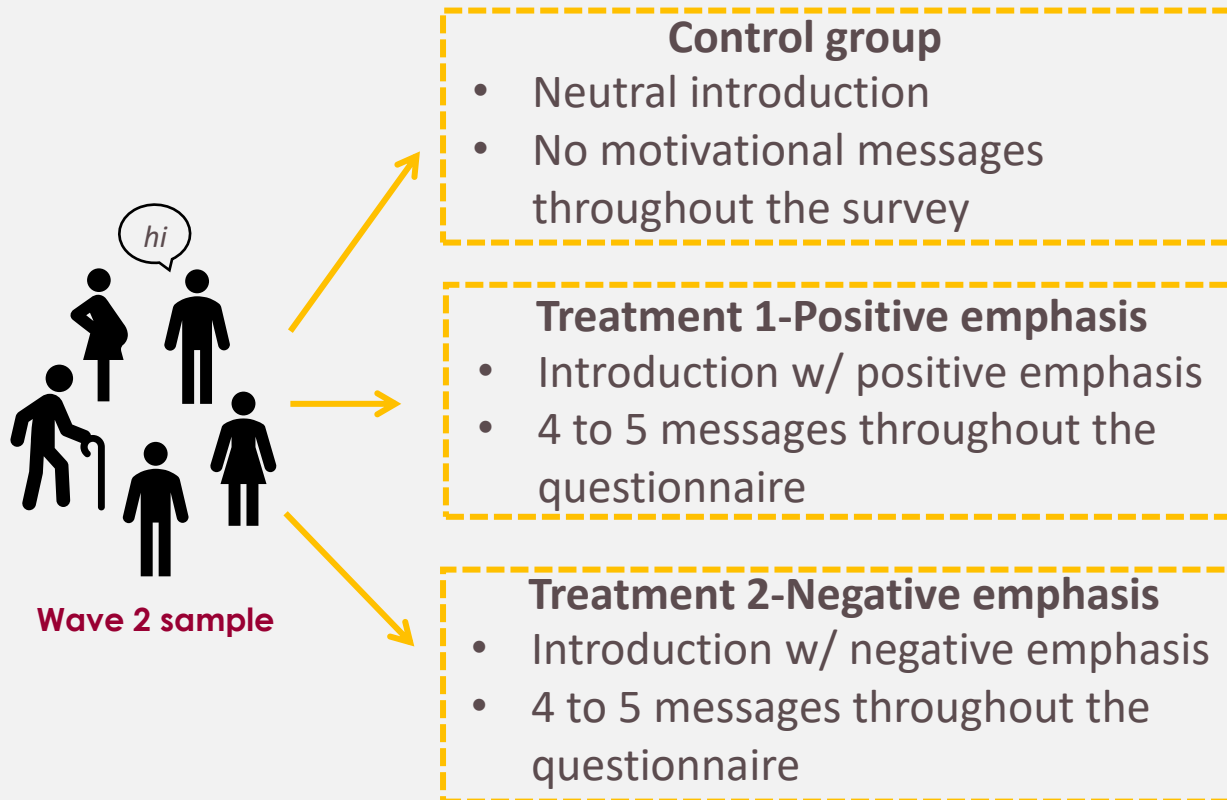
9<sup>th</sup> January- 18<sup>th</sup> February 2018

1,702 respondents

84 questions: income fairness, social and institutional trust and political efficacy

## METHOD AND DATA

### The experiment



*The contents and the first section of this survey. We really varied respondents were appreciate your continued co-operation. My husband was answering the questions following the content remaining the two results of the survey he could be a bit more appropriate locations and less useful.*

## METHOD AND DATA

### Indicators and analyses

Since **several motivational messages were used**, comparisons were done for **each block of questions that come after one of the messages**, and before the next one. Except for effort reported and survey evaluation. Indicators used:

#### Breakoffs

Proportion of respondents leaving the survey in each set of questions

#### Non-differentiation

Sets of questions using the same scale at **least five times in a row** and with the items **not all in the same direction**.

#### Effort reported

Mean effort reported in 5-point scale

#### Item nonresponse

Average proportion of nonresponse over all questions in a block.

Proportion of pure straight-liners (variance of 0)

#### Survey evaluation

Mean difficulty and enjoyment reported in 5-point scales

## RESULTS

Estonia			Great Britain			Slovenia			
	Control	Negative	Positive	Control	Negative	Positive	Control	Negative	Positive
Wave 2	Set 1								
	Set 2								
	Set 3								
	Set 4								
	Set 5								
Wave 4	Set 1								
	Set 2								
	Set 3								
	Set 4								
	Set 5								
Wave 6	Set 1								
	Set 2								
	Set 3								
	Set 4								
	Set 5								
	Set 6								

Note: Z-tests ('prtest' in Stata) at 5% level significance



## RESULTS

### Proportion of significant results

#### Breakoffs

0.0% of significant differences (0 of 96)

#### Item nonresponse

**UK:** 37.5% of significant differences (12 of 32)

- 37.5% for **positive** emphasis (6 of 16)
- 37.5% for **negative** emphasis (6 of 16)

**Estonia:** 9.4% of significant differences (3 of 32)

- 8.3% for **positive** emphasis (1 of 12)
- 16.7% for **negative** emphasis (2 of 12)

**Slovenia:** 9.4% of significant differences (3 of 32)

- 8.3% for **positive** emphasis (1 of 12)
- 16.7% for **negative** emphasis (2 of 12)



*Note:* Z-tests ('prtest' in Stata) at 5% level significance for proportions;  
T-test at 5% level significance for means

## RESULTS

### Proportion of significant results

#### Straight-liners

**UK:** 7.1% of significant differences (1 of 14)

- 14.3% for **positive** emphasis (1 of 7)
- 0.0% for **negative** emphasis (0 of 7)



**Estonia:** 0.0% of significant differences

**Slovenia:** 0.0% of significant differences

#### Effort reported

**UK:** 0.0% of significant differences

**Estonia:** 50.0% of significant differences (3 of 6)

- 33.3% for **positive** emphasis (1 of 3)
- 66.66% for **negative** emphasis (2 of 3)



**Slovenia:** 0.0% of significant differences

*Note:* Z-tests ('prtest' in Stata) at 5% level significance for proportions;  
T-test at 5% level significance for means

## RESULTS

Proportion of significant results

### Difficulty

0.0% of significant differences

### Enjoyment

**UK:** 16.7% of significant differences (1 of 6)

- 33.3% for **positive** emphasis (1 of 3)
- 0% for **negative** emphasis (0 of 3)



**Estonia:** 0-0% of significant differences

**Slovenia:** 0.0% of significant differences

*Note:* Z-tests ('prtest' in Stata) at 5% level significance for proportions;  
T-test at 5% level significance for means

## Discussion and Conclusions

### Main results

- **No clear pattern.** Results depend on the indicator considered and the country.
- **No impact on the proportion of break-offs.** Nevertheless, the proportion of break-offs in the control group are already low.
- In **Great Britain**, in almost half of the sets, the **control group had a higher average proportion of item non-response** than one or both treatment groups
- **Few effects on straight-lining**
- Motivational messages increased self-reported effort in Estonia in waves 2 and 4.
- No clear effect on **survey evaluation**

## Discussion and Conclusions

### Conclusions

- These **findings are similar** to what other authors have found in the past.
- **Differences across countries.**
  - **Estonia and Great Britain** have **opposite results** for item non-response, variance and completion time.
  - **Slovenia** presents nearly **no significant differences** (7 of 140 comparisons).
- The impact of motivational messages also varied depending on their position in the questionnaire
  - Of **26** significant differences, **12 were found in the top sets, 11 in the middles sets** and 3 in the bottom sets.
- Overall, **positive and negative messages have similar effects** both in direction and frequency. Both types of motivational message having relatively little effect

## Discussion and Conclusions

### Implications

- Using **standard motivational messages** to all respondents might **not be the correct approach**. Adaptative? Targeted?
- Differences across countries exist. Strategies to motivate respondents might be more useful if **country-specific**. Further research in different countries is necessary.

### Limits

- **Data quality** for the CRONOS panel is **already high** (Berzelak, Weber and Revilla, 2018).
- Complex experimental design



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[upf.edu/web/survey](https://upf.edu/web/survey)



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Bosch, O.J., Weber, W., and M. Revilla (2018) Improving web panel respondent behaviour: The effect of encouragement messages throughout the course of the survey. Deliverable 7.12 of the SERISS project funded under the European Union's Horizon 2020 research and innovation programme GA No: 654221. Available at: [www.seriss.eu/resources/deliverables?](http://www.seriss.eu/resources/deliverables?)

## RESULTS

### Break off

Proportion of break-offs per set of questions, country and group (in %)

		Estonia			Great Britain			Slovenia		
		Control	Negative	Positive	Control	Negative	Positive	Control	Negative	Positive
Wave 2	Set 1	1.4	1.3	0.0	1.3	2.1	0.8	1.2	0.0	0.6
	Set 2	0.0	0.4	0.0	0.9	0.4	2.1	0.0	0.0	1.3
	Set 3	1.4	1.3	0.0	1.3	0.0	0.0	0.0	0.6	0.6
	Set 4	1.4	2.6	2.7	0.4	0.4	0.9	0.0	0.0	1.8
	Set 5	0.0	0.4	0.0	0.0	0.0	0.4	0.0	0.0	0.0
Wave 4	Set 1	0.5	2.0	1.5	1.0	2.1	1.8	1.5	0.6	2.2
	Set 2	1.0	1.5	0.5	0.0	0.5	0.0	0.0	0.0	0.6
	Set 3	0.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
	Set 4	0.0	1.0	0.0	0.5	1.6	1.3	0.5	0.0	0.0
	Set 5	0.0	0.5	0.0	0.0	0.0	0.4	0.0	0.0	0.0
Wave 6	Set 1	1.5	2.9	3.5	2.9	6.9	3.9	4.3	4.2	2.9
	Set 2	0.5	1.5	0.0	0.5	1.5	0.9	0.0	0.5	0.0
	Set 3	0.5	0.5	1.0	0.0	1.0	0.4	0.0	0.0	0.0
	Set 4	0.0	1.0	0.0	1.0	0.0	0.4	0.0	0.0	0.0
	Set 5	1.0	1.0	0.5	1.4	2.5	0.9	1.0	1.1	0.6
	Set 6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Note: No significant differences



## RESULTS

### Item non-response

Average proportion of item non-response per set of questions, country and group (in %)

		Estonia			Great Britain			Slovenia		
		Control	Negative	Positive	Control	Negative	Positive	Control	Negative	Positive
Wave 2	Set 1	3.3	2.8	3.0	2.9	2.6	2.6	2.6	2.0	1.7
	Set 2	0.4	0.2	0.5	0.4	0.1	0.2	0.3	0.3	0.1
	Set 3	0.1	0.3*	0.0	0.4	0.0*	0.2*	0.1	0.1	0.1
	Set 4	0.3	0.5	0.2	0.8	0.1*	0.1*	0.3	0.3	0.2
	Set 5	0.1	0.0	0.5	0.6	0.2	0.2	0.2	0.0	0.0
Wave 4	Set 1	0.35	0.0*	0.0*	0.4	0.2*	0.0*	0.1	0.0	0.2
	Set 2	0.1	0.1	0.1	0.6	0.0*	0.1*	0.34	0.0*	0.5
	Set 3	0.0	0.0	0.2	0.5	0.1*	0.0*	0.0	0.1	0.2*
	Set 4	1.5	1.5	0.7	2.5	2.4	1.2	1.1	1.4	1.4
	Set 5	0.2	0.0	0.4	0.7	0.0	0.0	0.0	0.0	0.0
Wave 6	Set 1	0.5	0.9	0.5	1.4	0.8	1.1	0.7	0.9	0.9
	Set 2	0.1	0.4	0.3	0.2	0.1	0.0*	0.1	0.2	0.0
	Set 3	1.1	0.9	0.9	1.1	0.3*	0.5	0.5	1.0*	1.0
	Set 4	0.6	0.8	0.4	1.8	0.8	1.4	0.7	0.6	0.7
	Set 5	2.3	2.1	1.8	4.4	2.6	3.4	2.7	2.0	3.0
	Set 6	0.4	0.7	0.7	0.8	0.4	1.1	0.7	0.6	0.4

Note: \* in column “Negative” indicates significant differences between control and negative (5% level)

\* in column “Positive” indicates significant differences between control and positive (5% level)

## RESULTS

### Variance

Average variance of answers per set of questions, country and group

		Estonia			Great Britain			Slovenia		
		Control	Negative	Positive	Control	Negative	Positive	Control	Negative	Positive
Wave 2	Set 1	1.0	1.0	1.0	1.2	1.2	1.2	1.0	1.1	1.0
Wave 4	Set 1	3.8	3.7	3.9	4.6	3.8*	4.4	3.9	3.9	3.6
	Set 2	5.1	5.1	5.3	5.8	5.3	5.7	5.8	5.6	5.5
	Set 3	1.3	1.5*	1.3	1.6	1.6	1.6	1.6	1.5	1.6
	Set 4	0.7	0.6	0.6	0.6	0.6	0.7	0.6	0.6	0.5
Wave 6	Set 1	0.7	0.6	0.6	0.8	0.8	0.8	0.7	0.7	0.8
	Set 2	1.3	1.3	1.2	1.2	1.2	1.3	1.5	1.4	1.4

Note: \* in column “Negative” indicates significant differences between control and negative (5% level)

\* in column “Positive” indicates significant differences between control and positive (5% level)

## RESULTS

### Straight-liners

Proportion of straight-liners per set of questions, country and group (in %)

		Estonia			Great Britain			Slovenia		
		Control	Negative	Positive	Control	Negative	Positive	Control	Negative	Positive
Wave 2	Set 1	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0
Wave 4	Set 1	0.6	0.0	1.6	1.0	0.0	0.5	3.1	2.2	1.7
	Set 2	0.0	0.0	1.1	0.5	0.0	0.5	0.5	0.0	0.0
	Set 3	1.7	0.0	0.5	1.0	1.6	0.0	0.5	2.2	0.0
	Set 4	5.1	4.6	6.8	5.8	6.7	5.5	5.7	6.7	10.3
Wave 6	Set 1	1.0	1.6	1.6	2.5	2.2	0*	2.0	1.7	1.8
	Set 2	0.0	0.0	0.0	1.5	0.0	0.5	0.0	1.7	1.8

Note: \* in column “Negative” indicates significant differences between control and negative (5% level)

\* in column “Positive” indicates significant differences between control and positive (5% level)

## RESULTS

### Completion time

Average completion time per set of questions, country and group (in seconds)

		Estonia			Great Britain			Slovenia		
		Control	Negative	Positive	Control	Negative	Positive	Control	Negative	Positive
Wave 2	Set 1	19.5	21.8*	20.9	17.9	17.6	18.2	18.2	19.2	17.2
	Set 2	19.0	20.8	19.5	17.5	17.4	18.0	18.8	17.4	16.8*
	Set 3	15.3	16.8	15.3	14.7	14.2	14.8	15.3	14.9	13.9
	Set 4	13.4	14.5	13.9	12.2	12.2	12.7	12.7	12.7	11.7
	Set 5	12.0	12.7	12.6	10.0	10.4	11.1	11.6	11.5	10.8
Wave 4	Set 1	16.4	18.4	17.4	14.7	15.0	15.2	14.7	14.1	13.8
	Set 2	14.2	15.2	15.1	13.4	13.5	13.7	12.7	12.3	11.9
	Set 3	12.3	13.2	12.8	11.6	11.3	11.8	11.9	11.8	11.3
	Set 4	15.0	16.5	15.9	14.5	14.4	14.8	13.5	13.1	12.8
	Set 5	9.1	9.7	9.4	9.8	9.6	10.0	9.1	9.7	9.2
Wave 6	Set 1	18.8	20.9	20.0	20.1	16.9*	18.7	19.5	18.4	16.1*
	Set 2	15.5	17.3	17.2	15.8	14.0*	15.3	14.4	14.1	13.6
	Set 3	17.0	19.4*	19.0	16.9	15.8	16.4	15.7	16.0	15.2
	Set 4	34.4	36.8*	36.0	35.1	34.5	34.5	32.6	33.3	33.1
	Set 5	19.7	21.4	21.7	19.1	18.2	18.9	17.4	18.1	18.2
	Set 6	11.7	12.6	12.2	10.3	10.3	10.3	11.1	10.1	10.1

Note: \* in column “Negative” indicates significant differences between control and negative (5% level)

\* in column “Positive” indicates significant differences between control and positive (5% level)

## RESULTS

### Effort

Mean effort reported per wave, country and group

	Estonia			Great Britain			Slovenia		
	Control	Negative	Positive	Control	Negative	Positive	Control	Negative	Positive
Wave 2	2.4	2.8*	2.5	3.5	3.5	3.6	3.7	3.8	3.9
Wave 4	2.4	2.8*	2.6*	3.4	3.5	3.5	3.9	4.0	3.9
Wave 6	2.7	3.1	3.0	3.6	3.7	3.7	3.9	4.0	3.9

Note: \* in column “Negative” indicates significant differences between control and negative (5% level)

\* in column “Positive” indicates significant differences between control and positive (5% level)

## RESULTS

### Survey evaluation

#### Mean survey evaluation per wave, country and group

		Estonia			Great Britain			Slovenia		
		Control	Negative	Positive	Control	Negative	Positive	Control	Negative	Positive
Wave 2	Difficult	1.5	1.6	1.5	1.3	1.4	1.3	1.6	1.6	1.6
	Enjoy	2.9	2.9	3.0	3.1	3.3	3.3*	3.8	3.9	4.0
Wave 4	Difficult	1.7	1.8	1.8	1.6	1.7	1.7	1.9	1.8	1.8
	Enjoy	2.8	2.9	2.9	3.2	3.2	3.3	3.8	3.9	3.8
Wave 6	Difficult	1.6	1.7	1.7	1.6	1.6	1.5	1.8	1.7	1.7
	Enjoy	2.8	2.9	2.9	3.1	3.2	3.2	3.7	3.7	3.8

Note: \* in column “Negative” indicates significant differences between control and negative (5% level)

\* in column “Positive” indicates significant differences between control and positive (5% level)