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Panel Conditioning in Web Surveys

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Panel conditioning

- Content (knowledge on topics)
 - Prepare for future surveys
 - Develop attitudes
- Procedure (question-answering process)
 - Learn how to interpret questions
 - Answer strategically
 - Speed through the survey



Two panels

- CentERpanel
 - Exists 17 years
 - Panel members fill out questions every week
 - Panel duration of respondents ranges from 17 years to a month (mean duration of 6 years and 8 months, standard deviation equals 4 years)
- LISS panel
 - Completely fresh
 - Our questionnaire was the first presented to LISS panel members



Procedure (answer process)

- Differences between trained and fresh respondents with regard to web survey design choices
 - Items per screen
 - Response category effects
 - Question layout



Overall:

Difference in mean duration of the entire survey between panels: 436 seconds for the trained panel and 576 seconds for the fresh panel.



Items per screen experiment

- Social Desirability Scale
- 10 items
- 3 different formats:
 - 1 item per screen
 - 5 items per screen
 - 10 items per screen



Items per screen

- Trained respondents had higher inter-item correlations for multiple-item-per-screen formats.
- No significant difference in item non-response.
- The mean duration to complete the ten social desirability items did not differ significantly between panels.
- Mean score of the Social Desirability Scale showed no evidence for social desirability bias.



Category experiment

Response scales	Format A	Format B	Format C
<u>How many hours do you typically watch TV?</u>			
1	½ hour or less	2½ hour or less	open-ended question
2	½ - 1 hour	2½ - 3 hours	
3	1 - 1½ hours	3 - 3½ hours	
4	1 ½ - 2 hours	3½ - 4 hours	
5	2 - 2 ½ hours	4 - 4 ½ hours	
6	more than 2 ½ hours	more than 4 ½ hours	



Category effects

Table 1. Overview of Frequencies (%) from Different Response Formats for the Trained and Fresh Panel.

	Low response scale		High response scale		Open-ended	
	Trained panel	Fresh panel	Trained panel	Fresh panel	Trained panel	Fresh panel
	more than X*	more than X*	more than X*	more than X*	more than X*	more than X*
Hours watching TV	20	18	51	49	46	44
Birthday parties	24	28	40	41	42	44
Visiting a hairdresser	14	17	28	33	25	21
Days on holiday	35	41	44	45	45	43

*X=two and a half for hours watching TV, nine for visiting a hairdresser, and 17 for birthday parties and days on holiday.



Category effects

- Category effect found
- No significant interaction effect between category effects and panel



Question layout experiment

Question: Overall, how would you rate the quality of education in the Netherlands?

Six formats:

1. Reference format (decremental)
2. Reverse scale: incremental
3. Horizontal layout
4. Add numbers 1 to 5 to verbal labels
5. Add numbers 5 to 1 to verbal labels
6. Add numbers 2 to -2 to verbal labels



Question layout

⊕ **Table 3.** Chi Square Tests and Differences of Means in the Different Manipulations.

I	Trained panel		Fresh panel	
	Chi Square Tests	Diff. Of means	Chi Square Tests	Diff. Of means
	χ^2	t	χ^2	t
Verbal: 1 versus 2	13.901 (p=.016)	1.311 (p=.253)	23.430 (p<.0001)	14.834 (p<.0001)
Graphical: 1 versus 3	2.557 (p=.634)	1.829 (p=.177)	3.492 (p=.625)	1.594 (p=.207)
Numerical: 1 versus 4	4.477 (p=.483)	1.757 (p=.186)	5.743 (p=.332)	.310 (p=.578)
Numerical: 4 versus 5	9.082 (p=.059)	7.081 (p=.008)	13.424 (p=.020)	9.509 (p=.002)
Numerical: 5 versus 6	16.337 (p=.006)	17.361 (p<.0001)	30.988 (p<.0001)	27.091 (p<.0001)
Overall across all non-verbal manipulations (except 2)	37.727 (p=.010)	F=5.399 (p<.0001)	67.840 (p<.0001)	F=8.871 (p<.0001)
Overall across all 6 formats	55.618 (p<.0001)	F=5.944 (p<.0001)	102.906 (p<.0001)	F=11.943 (p<.0001)

Note:

- 1 Reference: Linear Vertical Positive to Negative
- 2 Verbal: Linear Vertical Negative to Positive
- 3 Graphical: Linear Horizontal
- 4 Numerical: Linear Vertical with Numbers 1 to 5
- 5 Numerical: Linear Vertical with Numbers 5 to 1
- 6 Numerical: Linear Vertical with Numbers 2 to -2



Question layout

- Fresh panelists showed stronger effects than trained respondents with regard to the cues in a five-point scale.
- Trained respondents more easily selected one of the first options.



Overall conclusion

- Trained respondents have shorter completion times
- No differences in effect of the number of items per screen
- No differences in response category effects
- Trained respondents are more sensitive to satisficing
- Fresh respondents are more sensitive to non-verbal cues



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