

Modularization in Web Surveys: The Impact on Nonresponse and Measurement Error

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Theory overview

Effects of questionnaire length on participation and indicators of response quality in a web survey (2007)

**The longer is the survey,
the lower is data quality**

Galesic, M., Bosnjak, M.

Modularization in an Era of Mobile Web: Investigating the Effects of Cutting a Survey Into Smaller Pieces on Data Quality (2018)

**The more modules, the less items
missing, and more satisfied the
respondents are
At the same time drop-out rate is higher**

Toepoel, V., Lugtig, P.

Modular Survey Design: Experimental Manipulation Of Survey Length And Monetary Incentive Structure (2019)

**Reducing the survey request in a
primarily self-administered survey did
not lead to increased survey
participation and did not seem to
improve data quality**

Peytchev, A., Peytcheva E., Conzelmann J. G., Wilson A., Wine J.

Shorter is not always better (2016)

**Subjective interest is the survey theme
is more important than its length**

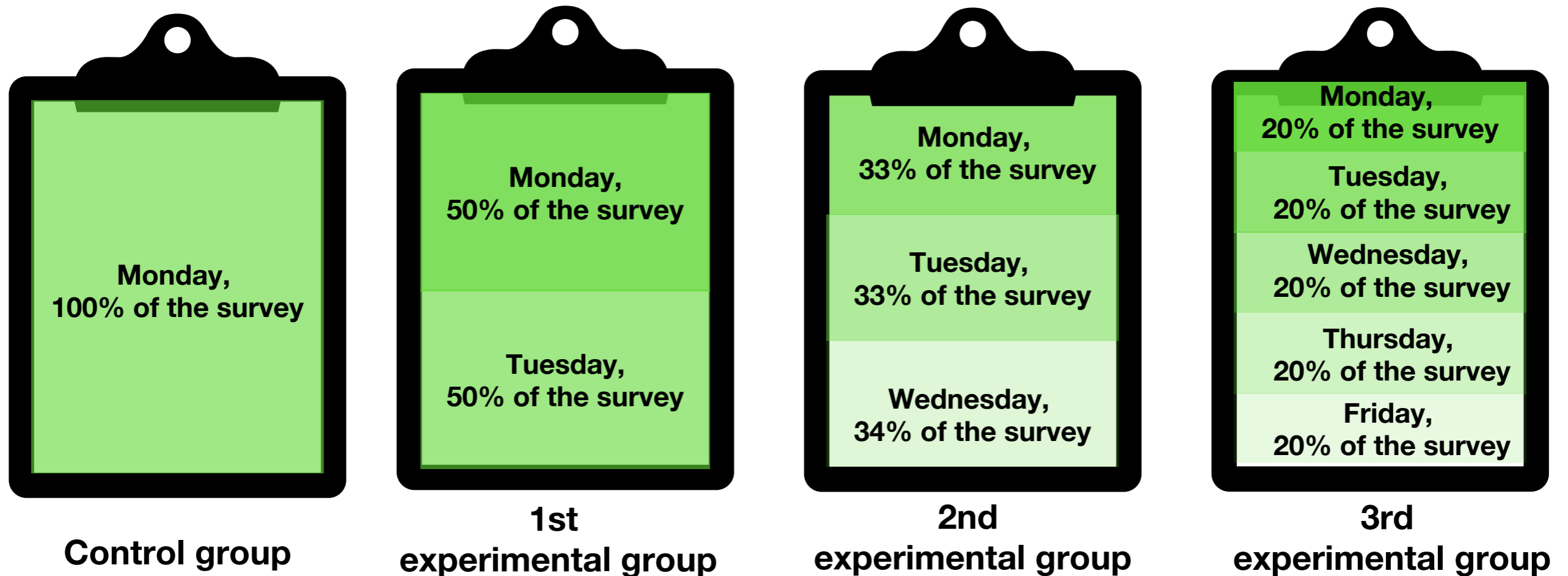
Burdein I.

Online Surveys: Opportunities and Challenges (2019)

Modularization does not work

Couper M.P.

Survey Design



- Volunteer access panel (Online Market Intelligence), Russia
- Software: EnjoySurvey
- 3000 respondents were invited to each condition
- 17 - 25 June 2019
- Respondents: participants of volunteer access panel OMI, 18+, cities (100,000 inhabitants +)

Hypotheses

H1: Break-off rate will be lower in the control condition compared to the experimental conditions.

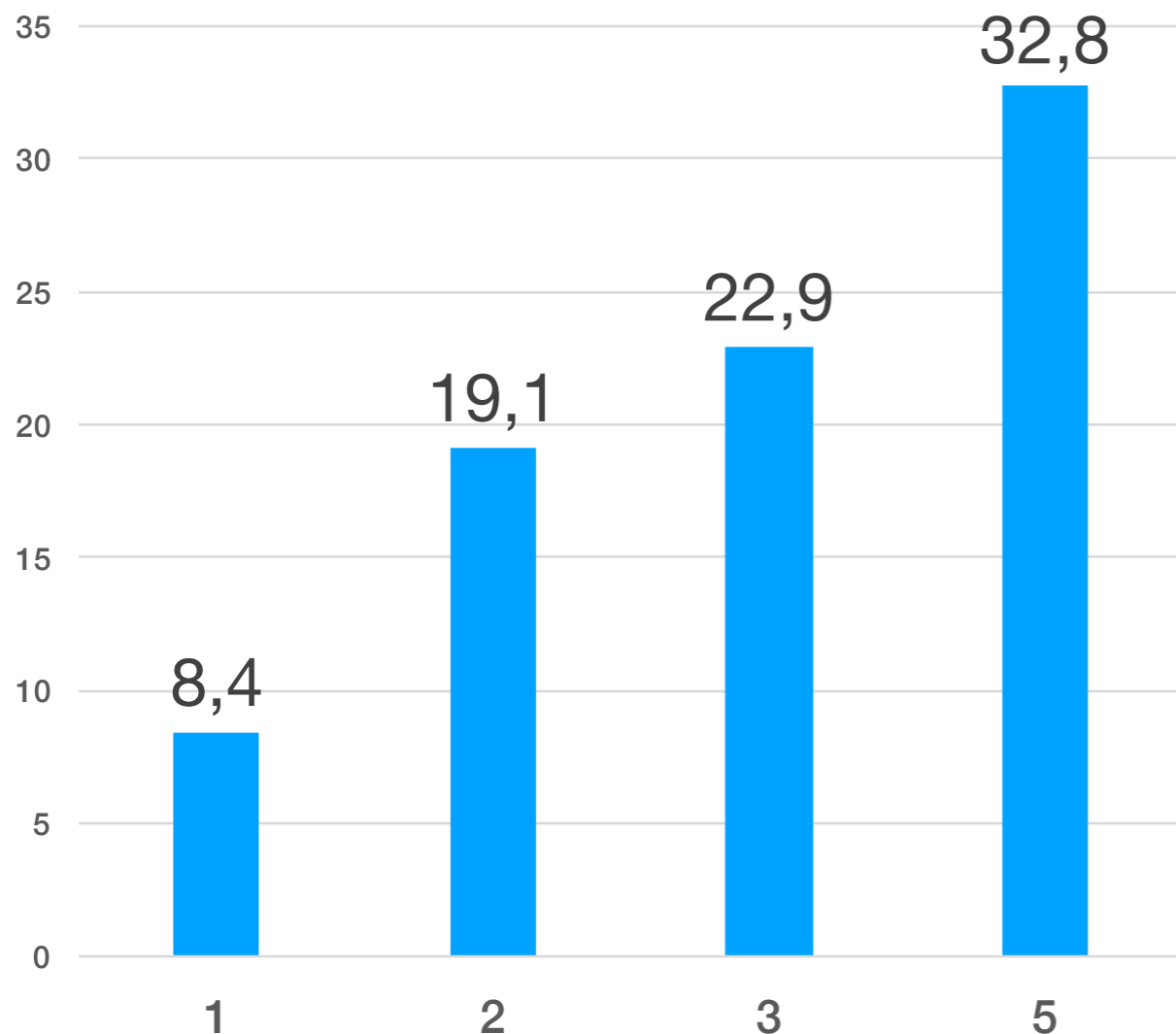
H2: Data quality will be higher in the experimental conditions compared to the control condition (item non-response rate, criterial validity, test-retest reliability)

Number of completes

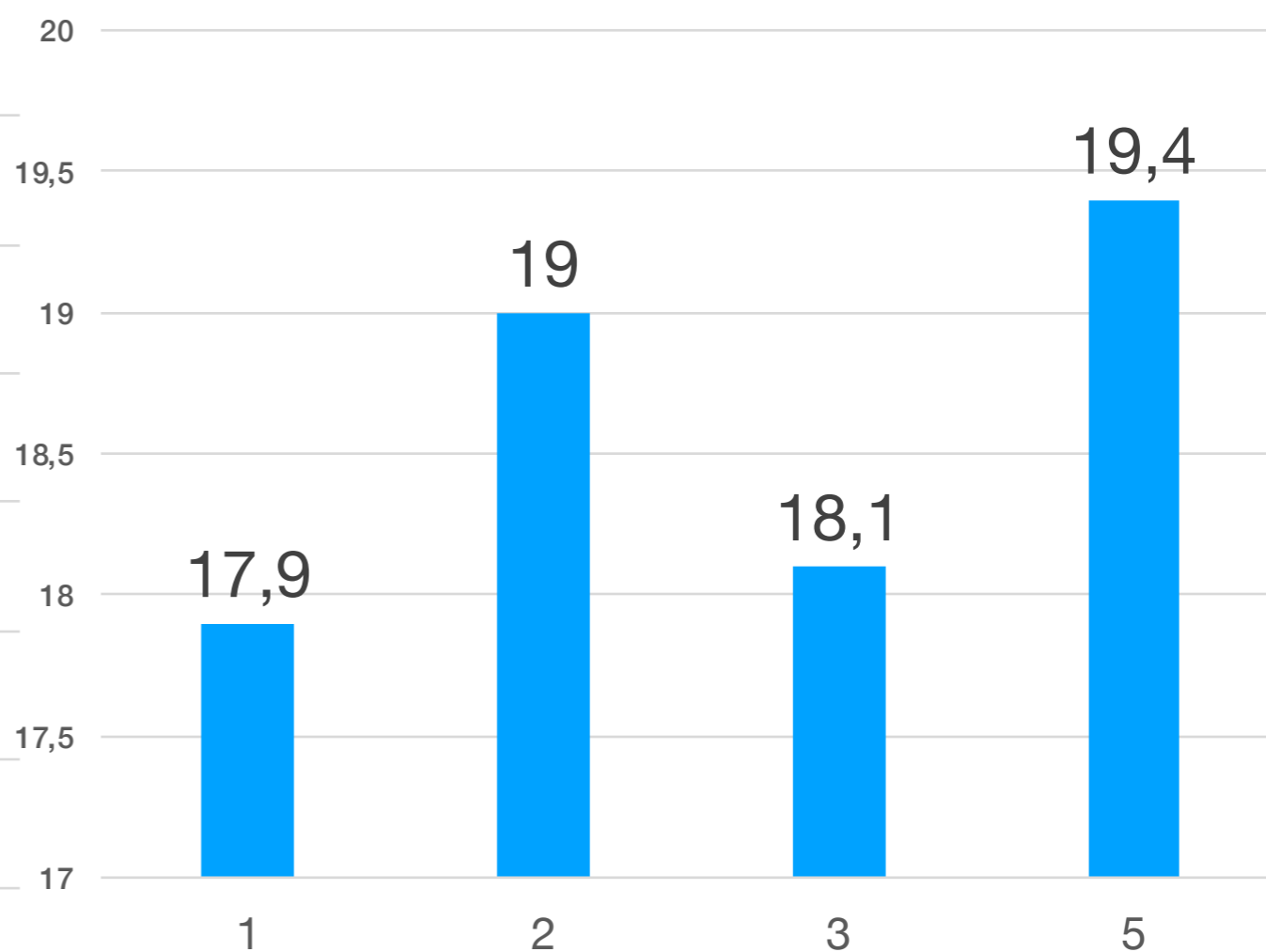
| | |
|----------------------|------------|
| Control group | 491 |
| 2 modules | 462 |
| 3 modules | 418 |
| 5 modules | 391 |

Break-off and Start rates

Break-off rate



Start rate (at least once)



Break-off rate is significantly lower in the Control group

No significant differences

Device type

| | 1 | 2 | 3 | 4 | 5 |
|----------------------|-------|-------|-------|-------|-------|
| 5 modules | | | | | |
| desktop | 58,0% | 57,3% | 57,3% | 57,4% | 57,4% |
| mobile | 42,0% | 42,7% | 42,7% | 42,6% | 42,6% |
| 3 modules | | | | | |
| desktop | 63,6% | 64,4% | 62,2% | | |
| mobile | 36,4% | 35,6% | 37,8% | | |
| 2 modules | | | | | |
| desktop | 65,9% | 64,9% | | | |
| mobile | 34,1% | 35,1% | | | |
| control group | | | | | |
| desktop | 65,8% | | | | |
| mobile | 34,2% | | | | |

Proportion of respondents that pass survey on their mobile phone is higher in groups with higher number of modules

Completion time

| N module | Mean LOI (Minutes) | Standard Deviation |
|----------|--------------------|--------------------|
| 1 | 30.8 | 11.7 |
| 2 | 30.4 | 13.1 |
| 3 | 30.0 | 12.7 |
| 5 | 30.2 | 12.7 |

- ANOVA: no difference

*5% outliers from the top and from the bottom in terms of completion time were excluded from the analysis

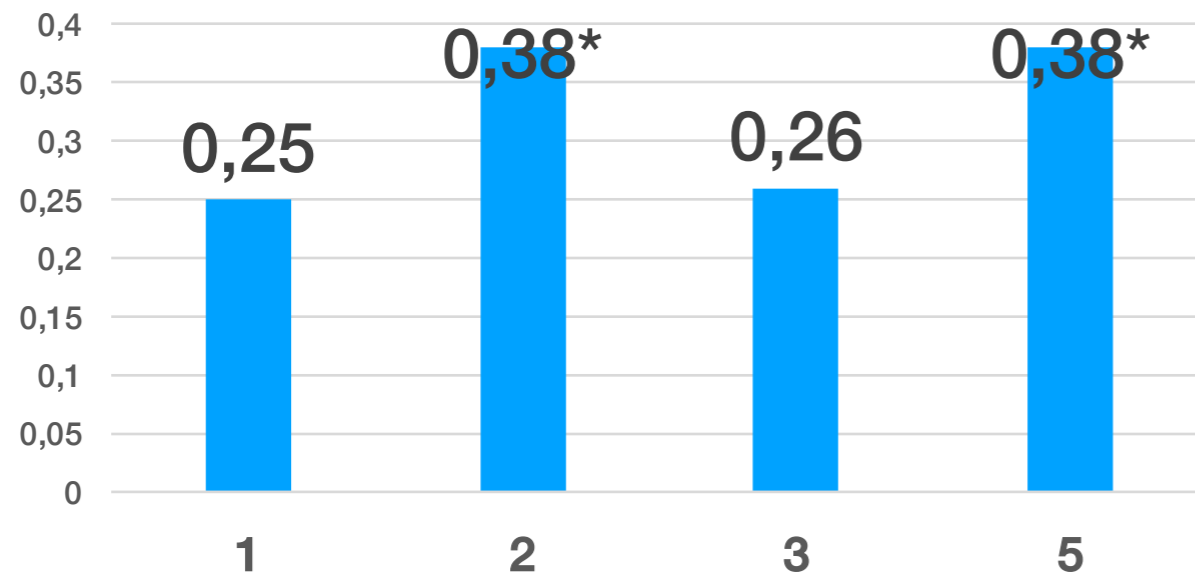
Item non-response, Straight-lining and Extreme response style

- Item nonresponse rate: $M=0.03$ ($SD=0.03$). No differences.
- Straight-lining: $M=0.04$ ($SD=0.21$). No differences.
- Extreme response style: $M=0.28$ ($SD=0.45$).) No differences.

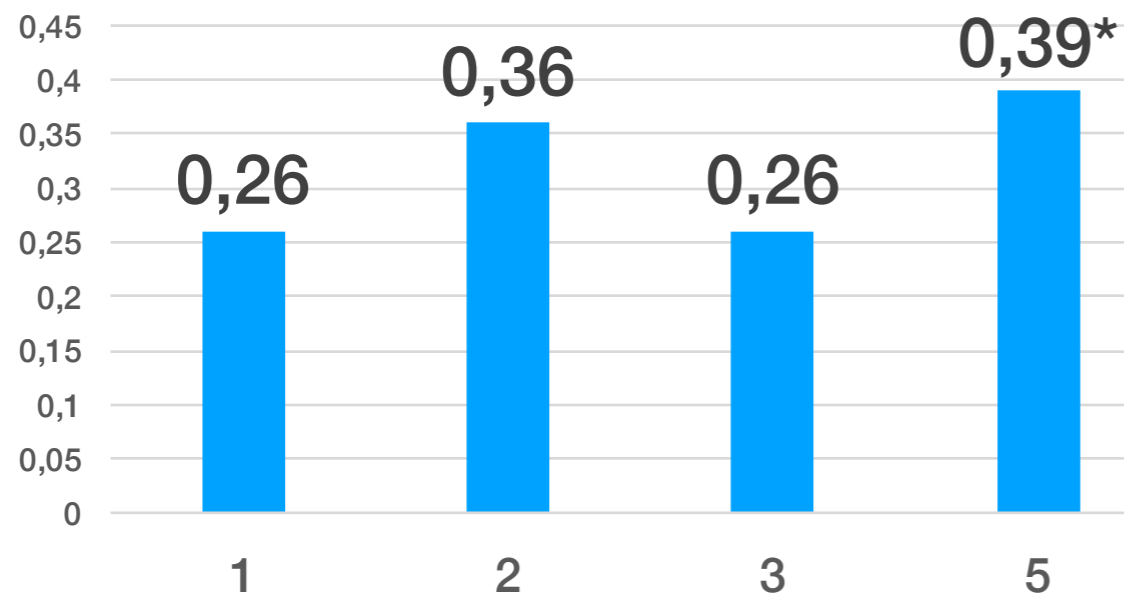
***Only fully completed interviews**

Criteria validity

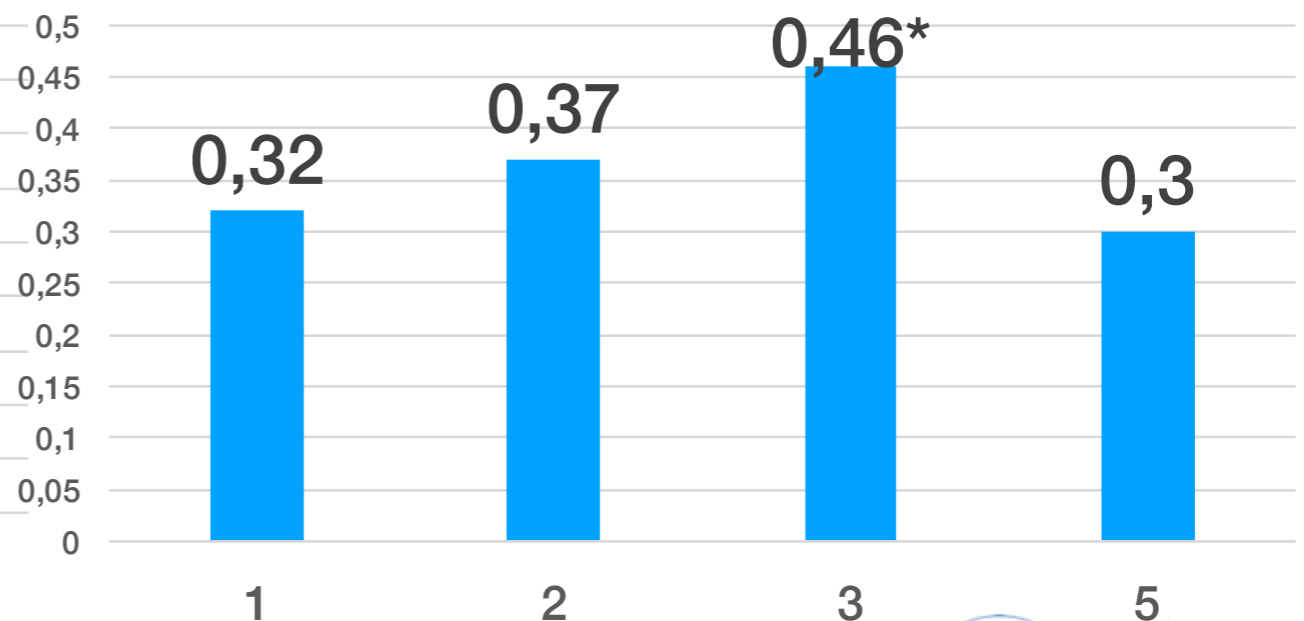
Generalised trust ~ Rational trust:



Generalised trust ~ Trust:



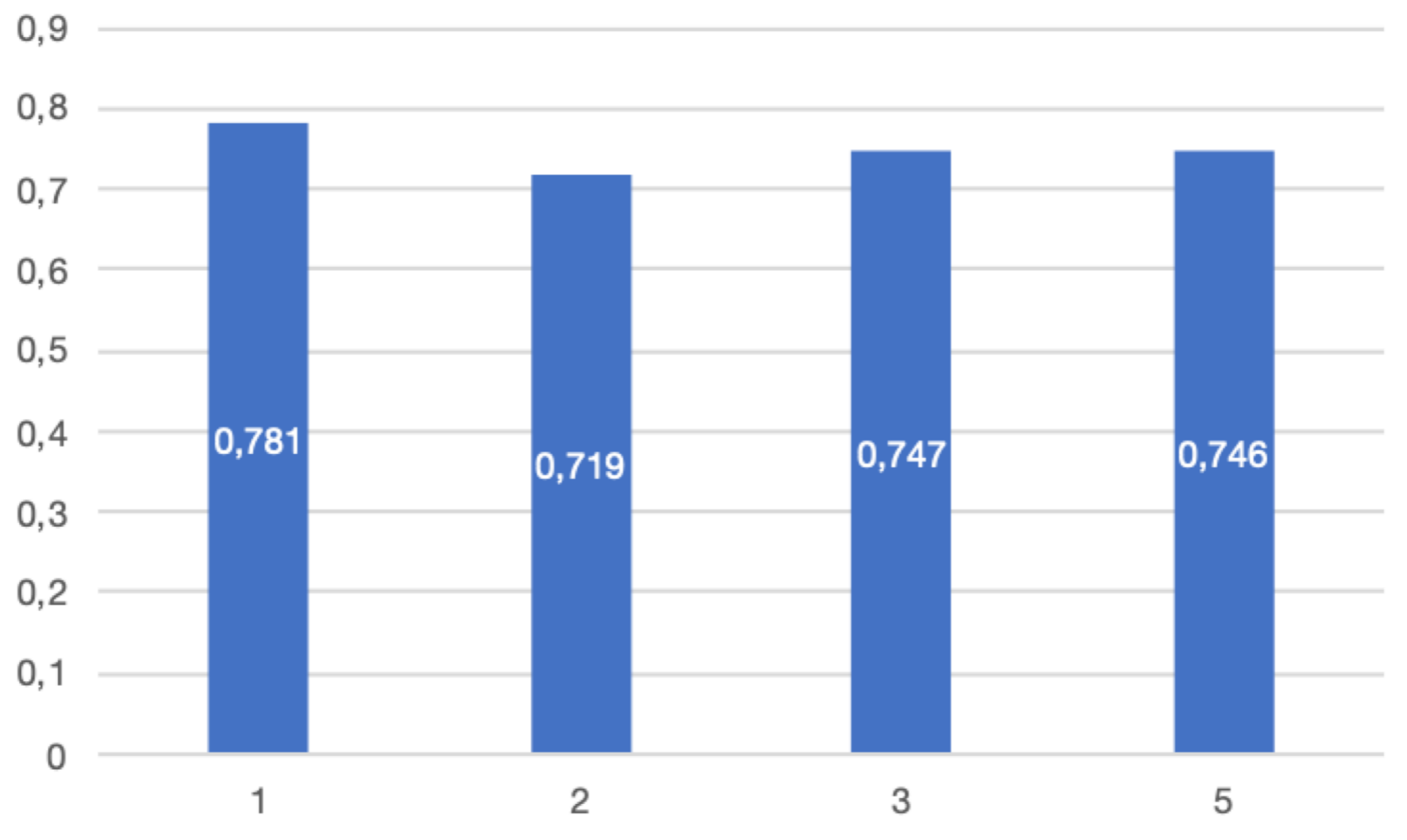
Generalised trust ~ Trust to strangers:



Test – retest reliability

The question about subjective happiness was asked at the beginning and in the middle of the survey

In experimental groups they were in different modules



$r(1) > r(2)$: $z = 2.06^*$

No other significant differences

Conclusions

- Break-off rate was significantly lower in the control group compared to other experimental groups and was the highest in the condition with 5 modules
- Almost no difference in test-retest reliability
- Criterial validity tends to be higher in the experimental conditions
- No significant differences in completion times, item non-response rate, straightening, and extreme response style

Limitations

- Non-probability online access panel
- Limited paradata capturing possibilities

Thank you for the attention!

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Future design announcement

