



SWISS FEDERAL INSTITUTE FOR
VOCATIONAL EDUCATION AND
TRAINING

*Swiss excellence in vocational
education and training*



**General Online Research Conference
GOR 19
6 to 8 March 2019, TH Köln – University of Applied
Sciences, Cologne, Germany**

Ellen Laupper & Lars Balzer
Swiss Federal Institute for Vocational Education and Training SFIVET

**Timing your web survey -
Effects of variations in time of contact,
respondents' completion behaviour and data
quality outcomes in a course evaluation
setting**

Contact: ellen.laupper@sfivet.swiss



This work is licensed under a Creative Commons Attribution 4.0 International License
(<http://creativecommons.org/licenses/by/4.0/>)

Practical (and research) interest

- Is the institutions current contact time protocol really the best protocol for the evaluations data quality?
- In particular, we wanted to know whether the response rate and overall satisfaction rating is affected.

Research findings on effects of...

➤ ... time of contact for web surveys

all in all, mixed results for weekday effects on response rates (Lewis & Hess, 2017)

➤ ... survey response delay

early responders are different from late responders (Fowler, 2008 & Tian & Tang, 2013 in Estelami, 2015)

➤ ... total response time

attitudes are stable and changing in dependency of the (changing) context over time (Schwarz, 2007b)

(Practical and) research interest

- Does timing has an effect on respondents' web survey completion behaviour?
- Does timing has an effect on web survey data quality?
- How does timing effect web survey data quality?

Research design

- **Sample:**

Participants of nine 1-day refresher courses for examiners in VET (N=1000) from the German speaking region of Switzerland were randomly, assigned to one of three groups, within the course.

- **Experimental design:**

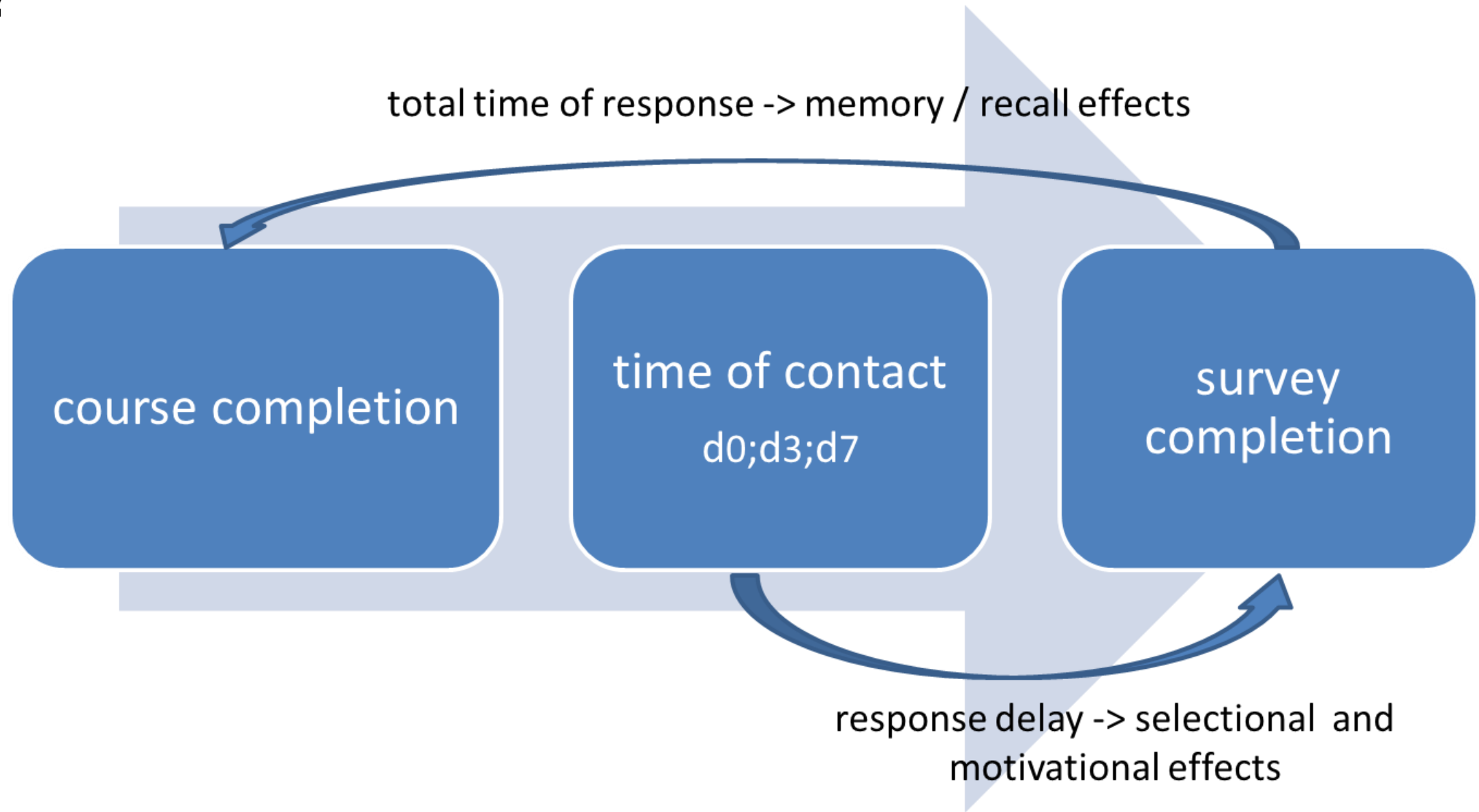
An invitation email was sent...

- to **group 1** (d0) at 8 p.m. on the day of course completion (on Mondays)
- **group 2** (d3) received the email three days later (on Thursdays) at the same time of day,
- and **group 3** (d7) was contacted by email exactly one week after course completion (on Mondays),

to control for weekday effects.

- A reminder email was sent to all participants, who did not complete the survey within 10 days after they were contacted for the first time.

Bringing theoretical approaches together – which effect is it then?



Demographic comparison between experimental groups

Table 1. Description of the three experimental samples

		N	d0 %	N	d3 %	N	d7 %	N	total %	value	df	sig.
No. of participants in the courses		334	33.4	332	33.2	334	33.4	1000	100.0			
No. of participants in the evaluation (1)		288	35.9	258	32.2	256	31.9	802	100.0			.407
gender (2):	women	175	63.9	156	64.7	146	61.6	477	63.4	.539	2	.764
	men	99	36.1	85	35.3	91	38.4	275	36.6			
job function (N=785) (2)	examiner	266	94.7%	243	95.7%	231	92.4%	740	94.3%	2.618	2	.270
	chef examiner	24	8.5%	27	10.6%	27	10.8%	78	9.9%	0.956	2	.620
	active in a working group	8	2.8%	7	2.8%	15	6.0%	30	3.8%	4.739	2	.094
	other	7	2.5%	4	1.6%	7	2.8%	18	2.3%	0.921	2	.631
working location (N=770) (2)	host company	245	88.8%	202	81.8%	208	84.2%	655	85.1%	5.217	2	.074
	branch trainig center	29	10.5%	22	8.9%	25	10.1%	76	9.9%	0.401	2	.818
	VET school	16	5.8%	26	10.5%	19	7.7%	61	7.9%	4.023	2	.134
	other	23	8.3%	31	12.6%	25	10.1%	79	10.3%	2.525	2	.283
prior knowledge (N=786) (2) has visited already a...	... basic examiner course	274	97.2%	253	99.2%	243	97.6%	770	98.0%	3.085	2	.214
	... chef examiner course	16	5.7%	17	6.7%	18	7.2%	51	6.5%	0.547	2	.761
	... ocupation specific course	107	37.9%	97	38.0%	107	43.0%	311	39.6%	1.767	2	.413
	... other course	18	6.4%	12	4.7%	15	6.0%	45	5.7%	0.758	2	.684
	no prior course visited	3	1.1%	1	0.4%	2	0.8%	6	0.8%	0.805	2	.669
Age in years (mean) (3)		248	42.8	214	42.1	225	43.1	687	42.7	0.508	2	.602
Job-related experience as an examiner in years (mean) (3)		263	8.9	240	9.1	226	9.2	729	9.0	0.155	2	.857

(1) One sample chi-square test

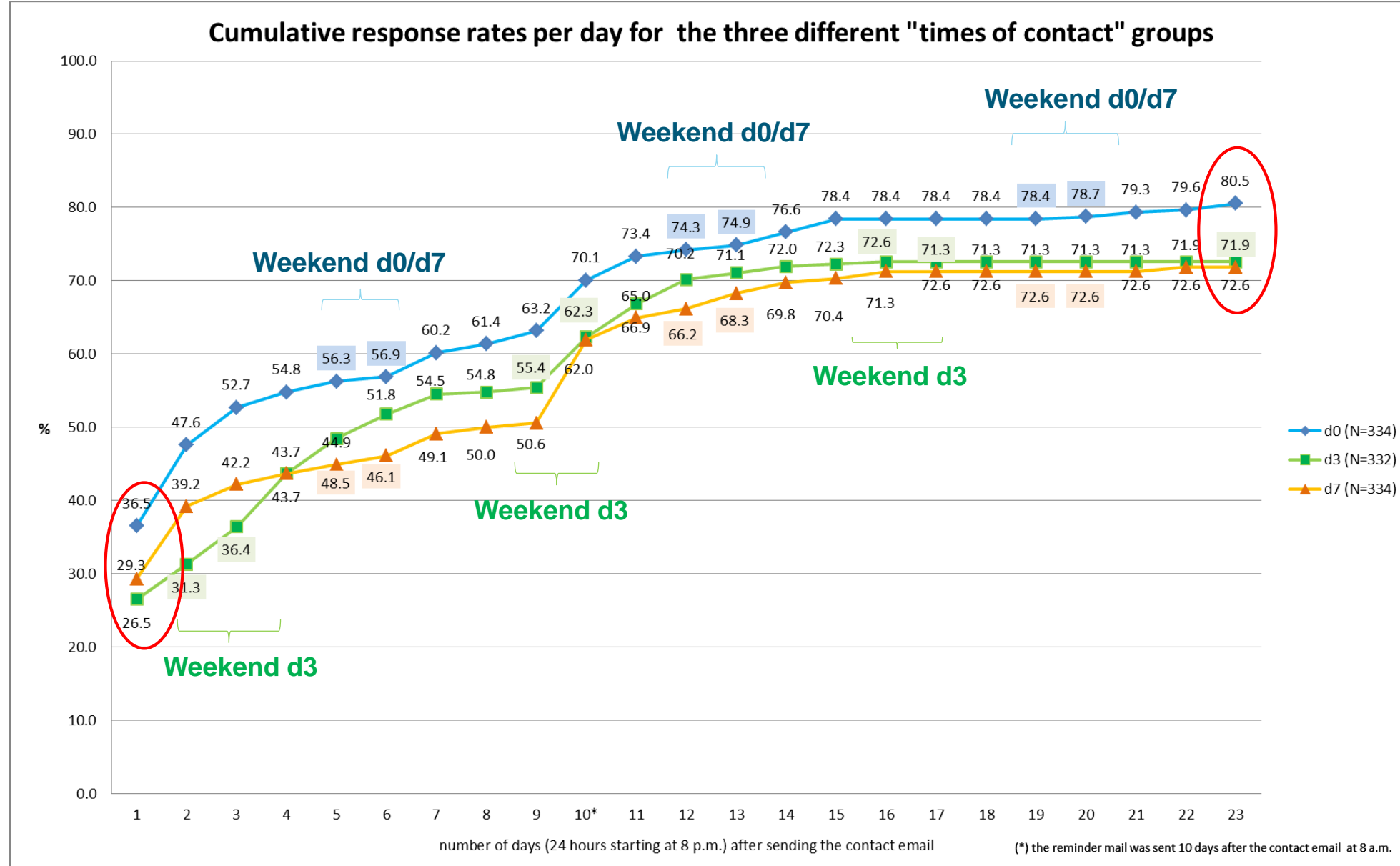
(2) Pearson's chi-square test

(3) Independent samples t-test

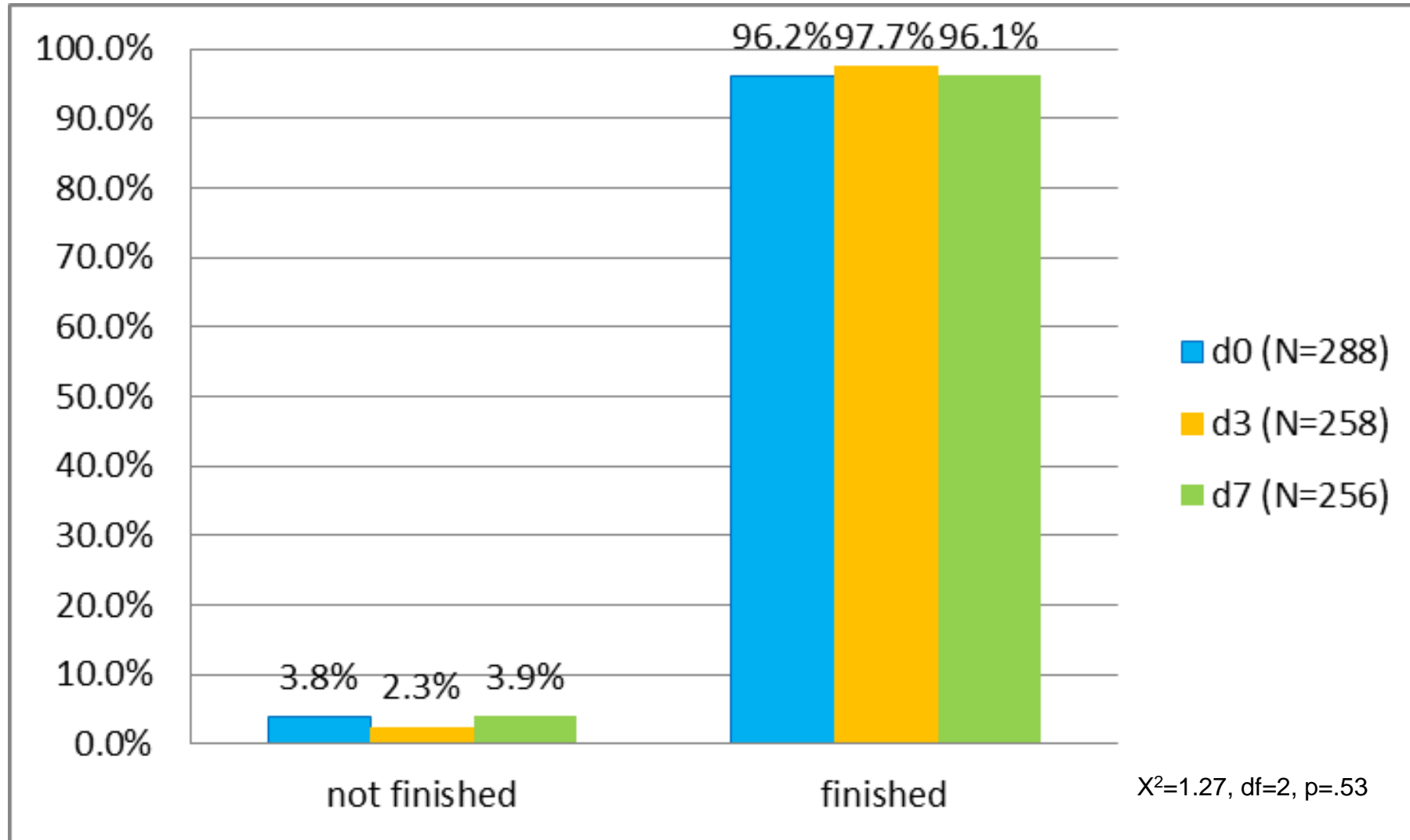
Outcome indicators of respondents' completion behaviour and web survey quality

Indicator	Definition (e.g. from Aizpurua et al. (2018), Wenz (2017), Matjašič et al. (2018))	Eligible items
response rate	percentage of questionnaires opened	
breakoff rate	percentage of questionnaires not finished	
survey completion time	completion time on the survey level (in seconds, cut off point 5% at the lower and higher end, log-transformed)	
item nonresponse	number of items not answered	24 items
nonsubstantive response	number of items to which respondent's provided a "no answer possible" response	16 items
straight lining	number of grid questions in which respondent's selected the same response option for all items (0-4* on 6 point Likert scales; 1=does not apply at all, 6=does apply entirely) the higher the score, the higher the SL tendency	16 items respective 4 grid questions
overall course satisfaction	response provided on a 7 point Likert scale (1=one of the worst courses I have ever taken, 7=one of the best courses I have ever taken)	1 item
goal attainment	scale mean respective as a latent variable (6 point Likert scale; 1=does not apply at all, 6=does apply entirely)	6 items of the goal attainment scale

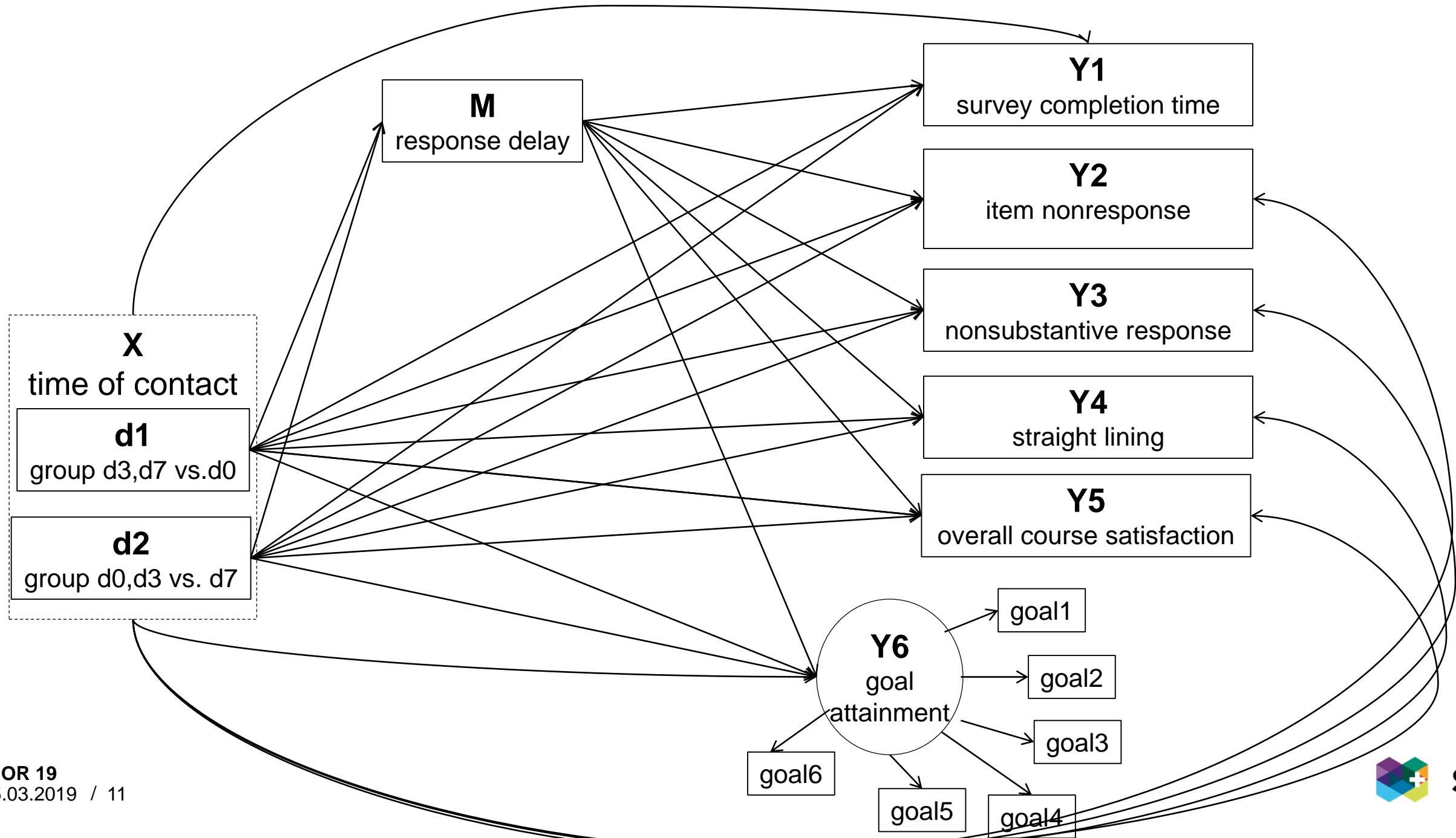
Response rates for the three «contact» groups



Breakoff rates for the three «contact» groups

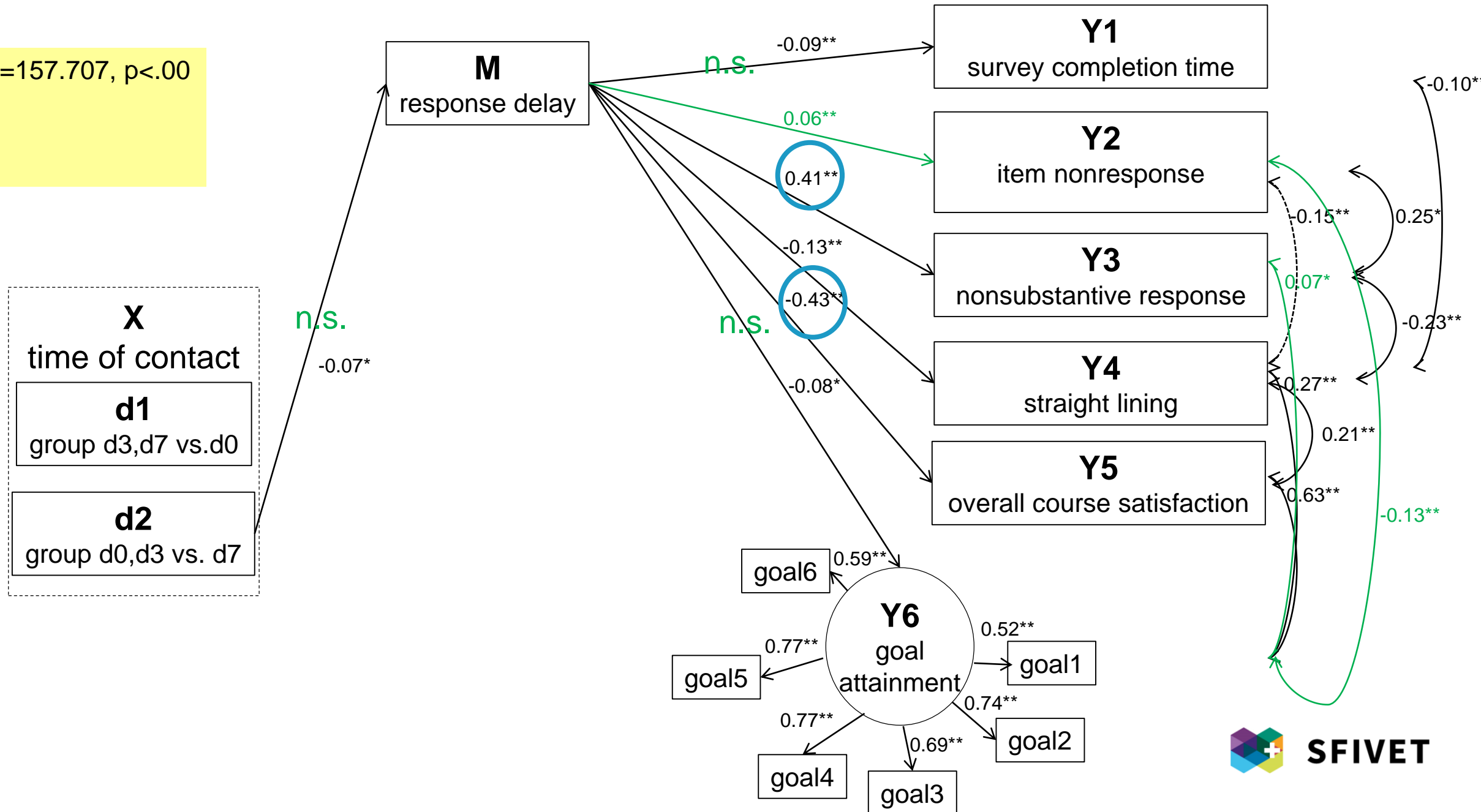


A mediation model testing for effects of timing



Model results

$\chi^2 (63, N=702)=157.707, p<.00$
 CFI=0.939
 RMSEA=.046
 SRMR=.037



Conclusions, discussion and future research

- theoretical implications:
 - brings together the three different lines of research on timing effects of web survey
 - although selection effects are found, data quality effects seem to be mainly related to response delay
- implications for the course evaluation practice: time of contact does not seem to matter
- it is a quite specific sample and setting as well as quite narrow time frame
- a study with a larger dataset with more N's on the group level could solidify the results
- more detailed information on possible relevant time intervals as well as respondents' completion behaviour is needed (e.g. number of interruptions, possible causes for interruptions or delayed survey completion, device used, information on respondents' motivation)

Thank you for listening!

Any questions, comments, thoughts?

for more information contact:

Ellen Laupper

Project Manager R&D

Evaluation Unit

Research and development

Swiss Federal Institute for Vocational Education and Training SFIVET

+41 58 458 27 92

ellen.laupper@sfivet.swiss

www.sfivet.swiss

References

- Aizpurua, E., Park, K. H., Heiden, E. O., & Losch, M. E. (2018). Predictors of Multitasking and its Impact on Data Quality : Lessons from a Statewide Dual-frame Telephone Survey. *Survey Practice*, 11(2).
- Bacon, D. R., Johnson, C. J., & Stewart, K. A. (2016). Nonresponse bias in student evaluations of teaching. *Marketing Education Review*, 26(2), 93–104. <http://doi.org/10.1080/10528008.2016.1166442>
- Bjertnaes, O. A. (2012). The association between survey timing and patient-reported experiences with hospitals: Results of a national postal survey. *BMC Medical Research Methodology*, 12, 2–7. <http://doi.org/10.1186/1471-2288-12-13>
- Estelami, H. (2015). The Effects of Survey Timing on Student. Evaluation of Teaching Measures Obtained Using Online Surveys. *Journal of Marketing Education*, 37(1), 54–64. <http://doi.org/10.1177/0273475314552324>
- Hayes, A. F., & Preacher, K. J. (2014). Statistical mediation analysis with a multicategorical independent variable. *British Journal of Mathematical and Statistical Psychology*, 67(3), 451–470. <http://doi.org/10.1111/bmsp.12028>
- Lewis, T., & Hess, K. (2017). The effect of alternative e-mail contact timing strategies on response rates in a Self-administered Web Survey. *Field Methods*, 29(4), 1525822X1771586. <http://doi.org/10.1177/1525822X17715865>
- Matjašič, M., Vehovar, V., & Manfreda, K. L. (2018). Web survey paradata on response time outliers: A systematic literature review. *Metodoloski Zvezki*, 15(1), 23–41.

- Reisenwitz, T. H. (2016). Student Evaluation of Teaching: An Investigation of Nonresponse Bias in an Online Context. *Journal of Marketing Education*, 38(1), 7–17. <http://doi.org/10.1177/0273475315596778>
- Sauermann, H., & Roach, M. (2013). Increasing web survey response rates in innovation research. An experimental study of static and dynamic contact design features. *Research Policy*, 42, 273–286. <http://doi.org/10.1016/j.respol.2012.05.003>
- Schwarz, N. (2007). Cognitive aspects of survey memory. *Applied Cognitive Psychology*, 21, 277–287. <http://doi.org/10.1002/acp>
- Wenz, A. (2017). *Sources of error in mobile survey data collection*. University of Essex.