

# Central Lancashire Online Knowledge (CLoK)

Title	Offering disinclined people the choice between different screening
	appointments: a randomised online survey
Туре	Article
URL	https://clok.uclan.ac.uk/id/eprint/48444/
DOI	https://doi.org/10.1080/08870446.2020.1834559
Date	2021
Citation	Stoffel, Sandro Tiziano, Hirst, Yasemin, Ghanouni, Alex, Waller, Jo and von Wagner, Christian (2021) Offering disinclined people the choice between different screening appointments: a randomised online survey. Psychology & Health, 36 (9). pp. 1135-1146. ISSN 0887-0446
Creators	Stoffel, Sandro Tiziano, Hirst, Yasemin, Ghanouni, Alex, Waller, Jo and von Wagner, Christian

It is advisable to refer to the publisher's version if you intend to cite from the work. https://doi.org/10.1080/08870446.2020.1834559

For information about Research at UCLan please go to <a href="http://www.uclan.ac.uk/research/">http://www.uclan.ac.uk/research/</a>

All outputs in CLoK are protected by Intellectual Property Rights law, including Copyright law. Copyright, IPR and Moral Rights for the works on this site are retained by the individual authors and/or other copyright owners. Terms and conditions for use of this material are defined in the <u>http://clok.uclan.ac.uk/policies/</u>

1	Offering disinclined people the choice between different screening appointments: a
2	randomised online survey
3	Abstract
4	Objectives:
5	An invitation to cancer screening with a single (fixed) appointment time has been shown to
6	be a more effective way at increasing uptake compared with an invitation with an open
7	(unscheduled) appointment. The present study tested whether offering more than one fixed
8	appointment could further enhance this effect or be detrimental to people's intention.
9	Design:
10	Experimental online hypothetical vignette survey.
11	Methods:
12	1,908 respondents who stated that they did not intend to participate in Bowel Scope
13	Screening (BSS) were offered either one, two, four or six hypothetical fixed BSS
14	appointments (all of which covered the same time of day to control for individual
15	preferences).
16	Results:
17	Participants who were given more than one appointment to choose from were less likely to
18	intend to book an appointment despite multiple appointments being perceived as more
19	convenient.
20	Conclusions:
21	These results suggest that when it comes to offering people appointments for cancer
22	screening, less (choice) is more at least if alternatives fail to serve an inherent preference.

23

#### Introduction

Since 2013, the National Health Service (NHS) in England has been offering a once-only endoscopic inspection of the lower part of the bowel (Bowel Scope Screening; BSS) to men and women aged 55 years to reduce incidence of colorectal cancer (CRC). However, uptake is notably lower than that of pre-existing, non-preventive methods of bowel screening based on stool testing (43% vs 54%; McGregor et al., 2016; von Wagner et al., 2011).

29 In order to mitigate practical barriers around booking and attending a screening appointment, 30 the invitation letter for BSS offers a screening appointment with a given date, time, and 31 location that people are asked to confirm if they want to participate. It is suggested that using 32 fixed or specified appointments with a single default option reduces individuals' decisions to 33 a simple binary choice i.e. "yes, I can make that appointment" vs "no, I can't make that 34 appointment". This approach has been found to be more effective in motivating women to 35 attend breast screening than an open invitation that does not feature a specific date and time 36 (Allgood et al. 2017; Hudson, Brazil, The, Duffy & Myles, 2016; Offman et al., 2013). 37 However, single appointments will inevitably propose times that are inconvenient, which 38 means that many invitees will ultimately have to contact the screening centre to schedule a 39 new appointment. Recent data from BSS show that attendance at the exact appointment 40 offered is as low as 18% and re-scheduled appointments with multiple slots account for more 41 than half of those who have subsequently attended screening (McGregor et al., 2016). While 42 those with strong intentions are likely to contact the screening programme to reschedule, 43 those less committed may be discouraged by the inconvenience of the task. A potential way 44 of overcoming the loss of participation at the first suggested appointment is to offer multiple 45 appointment slots when people are invited for screening. However, there is currently no 46 evidence in the screening context about the potential benefits of offering more than one timed 47 appointment.

48 Based on the Traditional Economic Theory (THE) of rational choice (Simon, 1955) and Self-49 Determination Theory (SDT; Deci & Ryan, 1980), it is plausible that offering choice is better 50 than a simple allocation: alternative appointments may create a stronger feeling of autonomy 51 which could increase intrinsic motivation to participate (Iyengar & Lepper, 2000; Katz & 52 Assor, 2007; Patall, Cooper & Robinson, 2008; Zuckerman, Porac, Lathin, & Deci, 1978). 53 SDT is focused on the person acquiring motivation by developing a sense of autonomy and 54 competence. SDT based interventions have been tested in the of tobacco dependence, diet, 55 physical activity and dental care (Fortier et al., 2007; Halvari & Halvari, 2006; Ryan & Deci, 56 2007; Williams et al., 1998; Williams et al., 2006).

57 Similarly, presenting a service or product as part of two options can increase its perceived 58 value (Szrek & Baron, 2007). However, Shah and Wolford (2007) suggest an inverse U-59 shaped curve between selection behaviour and choice set size in which choice has a positive 60 or negative effect depending on the number of options. More choice can complicate the 61 decision-making process by causing confusion and inceasing perceived difficulty. According 62 to the Choice Overload Hypothesis (COH), offering additional timed appointments would 63 therfore decrease motivation to engage with the screening invitation and choose an option. 64 Although choice overload has been observed in a range of contexts (Iyengar & Lepper, 2000; 65 Schwartz, 2004), it is likely to be moderated by the intricacies of the decision such as 66 familiarity with the decision-making context and prior preference over the alternatives 67 (Scheibehenne, Greifender & Todd, 2010, Chernev, Boeckenholt & Goodman, 2015). 68 Specifically, choice overload is likely to be amplified where decision makers do not have 69 prior preferences and lack familiarity with the overall context (e.g. the screening test). While 70 many research studies have examined the impact of large choice sets, Tversky and Shafir 71 (1992) have shown that choice overload can occur even with as few as two options. So far, 72 only two studies have discussed offereing choice in the context of CRC screening (Partin et

al., 2012; ,van Dam et al., 2013). While the later study discusses arguments in favour and
against offering a choice of screening strategies, the first concludes, that based on evidence
from seven randomized trials, the number of CRC screening options offered is unlikely to
affect adherence and patient satisfaction either positively or negatively.

The aim of this study was to investigate how the size of the choice set influences intention to confim a given hypothetical appointment in an online experiment. Specifically, we compared a standard screening invitation with a single BSS appointment with alternative invitations that featured either two, four or six appointments to choose from. We tested whether offering more than one timed appointment increased or decreased intentions to confirm an

82 appointment.

83

### Methods

84 *Study Design* 

A randomised online experiment was designed to measure the effect of appointment choice set size on intention to confirm a BSS appointment. A survey company (ResearchNow) invited men and women from their online panel to take part in a survey on BSS if they were aged 35-54 years, living in England, without a previous diagnosis of bowel cancer. This population was assumed to be naïve to BSS with the aim of ensuring that the task was unfamiliar to participants (Stoffel et al, 2019; von Wagner et al., 2019).

91 Once people agreed to participate in the survey, they were given a brief description about BSS 92 and asked to respond to a question that tested their comprehension. If they answered correctly, 93 they were asked to indicate their intention to take part in BSS: *Would you take up the offer if* 94 *you were invited to have the bowel scope screening test*?" with responses on a fully-labelled 95 four-point scale (*'definitely not', 'probably not', 'probably, yes'* and *'definitely, yes'*). 96 Those who intended to take part were excluded from the survey in order to *i*) test the effects of 97 the manipulation among those who do not intend to take part and *ii*) minimise ceiling and social 98 desirability effects often associated with self-reported intention measures (Michie & Abraham, 99 2004; Stoffel et al, 2018; Stoffel et al., 2019; von Wagner et al., 2019).

100 Once eligibility had been established, participants were then allocated at random to one of 101 four experimental conditions in which they were asked to read a hypothetical vignette (See 102 Supplementary Materials). Depending on the condition, the vignette stated that participants 103 should imagine that they had received an invitation letter from their screening centre that 104 contained either one or two, four or six possible appointment dates in eight weeks' time to 105 choose from. Each vignette was followed by a second comprehension question on the main 106 feature of the experimental manipulation. Upon answering correctly, participants were asked 107 to indicate their intention to book an appointment: "Would you call up your local screening 108 centre to confirm (one of) the offered appointment(s)? "using a four-point Likert scale 109 ('definitely not', 'probably not', 'probably, yes' and 'definitely, yes').

Perceptions of the invitation process was assessed through three questions on the perceived difficulty of deciding whether to confirm the offered appointment(s), the convenience of the offered alternative(s), and complexity of the invitation process. All three questions used the same fully labelled five-point Likert scale (*'not at all', 'slightly', 'moderately', 'very much'* and *'extremely'*) and were adapted from a 12-item subjective measurement of mental load and mental effort (Krell & Hui, 2017).

116 Details of respondents' age, gender, ethnicity, employment status, living arrangement, 117 education, car ownership, home ownership, and self-reported health status were collected at 118 the end of the survey (see S1 Table for details about participants' characteristics). Participants received a small financial incentive of around 50 pence from the survey company forcompleting the survey.

121 The selection of appointment times

122 Each appointment time offered was drawn from a set of six half-hour slots on Tuesday, 123 Wednesday, and Thursday mornings between 9.30 and 11.30. The six appointments were 124 chosen through three rounds of pilot testing with 464 participants in which BSS non-intenders 125 had to indicate their preferred appointment among a list. Starting with 10 appointments in the 126 first round, we asked responders which appointment they would prefer. After each round, the 127 two most frequently preferred appointments were removed, resulting in the six appointments 128 that shared the lowest preference rates. This approach was chosen to identify and remove 129 potential dominating appointments to ensure a homogenous choice set.

130

#### Statistical analysis

131 Our main outcome was intention to book the offered appointment using a dichotomised scale 132 ('probably, yes' or 'definitely, yes' vs 'probably not' or 'definitely not') after exposure to the 133 experimental manipulation. Sample size of this study was calculated prior to data collection 134 based on the results of a soft launch. We calculated that we needed approximately 450 135 completes per condition to detect differences of at least 8% in proportion of non-intenders 136 effect size between conditions, with a power of 80% and an alpha value of 0.05 (Cohen, 137 1988). We report all measures, manipulations, and exclusions in these studies. All statistical 138 analysis was conducted with Stata/SE version 15.1 (StataCorp LP, College Station, TX). The 139 survey, data and Stata codes for the experiment are available via OSF: 140 https://osf.io/exbtk/?view\_only=1b2f34b492744df69c11b7ab1a62998e.

141 We used unadjusted and adjusted ordinal logistic regression to investigate the effect of the

142 number of appointments offered on confirmation intentions and perception of the decision

143 task and appointments. Covariates that were included in the adjusted analyses included initial

144 intention, age, gender, ethnicity, employment status, living arrangement, education, car

145 ownership, home ownership, and self-reported health status.

146 *Ethical approval* 

147 The study was approved by the university's research ethics committee (approval number148 13113/002).

149

# Results

150 Study Population

151 Figure 1 demonstrates the flow of participants through the study. In total, 9,129 men and 152 women aged 35-54 years were invited to participate. Out of the 8,386 (91.9%) who correctly 153 identified BSS as a test which involves inserting a flexible tube into the back passage, 2,125 154 (23.3%) indicated that they would either 'probably not' (n=1,717) or 'definitely not' (n=408) 155 do the test. 6,261 who intended to do the test by either saying that they would probably 156 (n=3,947) or definitely (n=2,314) do the test were excluded. 217 participants (10.2%) did not 157 finish the survey. The final sample consisted of 1,908 respondents of whom 57.8% were 158 female, 82.1% White-British, 65.5% married or cohabiting, 76.3% in paid employment, and 159 63.6% in good or excellent self-reported health (63.6%). Drop-outs post-randomisation did not 160 create imbalances (Appendix 1).

161

## [Insert Figure 1 here]

162

#### Intention to book BSS appointment

- 163 The unadjusted and adjusted logistic regression in Table 1 shows the negative effect of
- 164 offering a choice on intention (Odds Ratios, ORs) varied between 0.69 and 0.75, indicating

165	that presenting individuals with more than one appointment option reduced the intention to
166	book an appointment (Table 1 and 2).
167	[Insert Table 1 here]
168	There were no statistically significant differences between conditions whose choice sets
169	contained more than one appointment.
170	Perception of screening invitation
171	Most participants (89.1%) did not perceive the decision task to be very or extremely difficult,
172	irrespective of experimental group (Table 2).
173	[Insert Table 2 here]
174	Approximately half of the sample perceived the invitation process to be very or extremely
175	complex (52.2%). However, the adjusted logistic regression did not reveal a statistically
176	significant effect of offering choices among appointments on these two perception items
177	(Table 3).
178	Conversely, individuals who were presented with more than one appointment option were
179	more likely to perceive their choice sets to be convenient. Specifically, those who were
180	offered four or six options perceived them to be more convenient than those who only got one
181	option (OR: 1.57; 95% CI: 1.25-1.97, p<0.001 and OR: 1.53; 95% CI: 1.1-1.93, p<0.001).
182	Conversely, offering two appointments to choose from was not associated with greater
183	perceived convenience (OR: 1.15; 95% CI: 0.91-1.45).
184	[Insert Table 3 here]
185	Discussion
186	This study investigated whether the size of the appointment choice set affects BSS
187	confirmation intentions among disinclined men and women. The study was tested on two

opposing concepts: Self-Determination Theory and Traditional Economic Theory, which both
advocate choice, versus the Choice Overload Hypothesis, which stipulates that 'less is more'
when it comes to offering alternative screening appointments. Consistent with literature on
choice overload (Scheibehenne et al., 2010, Chernev et al. 2015), our experiment suggests
that offering choice has a negative effect on intentions to confirm an appointment.
Furthermore, similar to Tversky and Shafir (1992), we found that offering as few as two
options decreases confirmation intentions.

A strength of our experiment was the use of a series of comprehension checks to ensure that all participants in the final sample correctly understood the decision task, providing a high level of internal validity. However, this study also has some limitations. Firstly, we used an online experiment with hypothetical scenarios and participants aged 35 to 54 who were not yet eligible for screening, potentially reducing the relevance of their responses and limiting external validity of our findings.

The next step would be to test external validity through a randomised controlled trial within the screening programme, in which eligible individuals are invited for screening with one or more appointment times.

204 Secondly, our experiment does not explain why offering choice between different screening 205 appointments had a negative effect on screening intentions as our results suggest that offering 206 choice did not increase the difficulty of the participation decision or the complexity of the 207 screening invitation. Furthermore, the positive effect of offering choice among four or more 208 alternatives on perceived convenience of the appointments suggests that choice is not 209 unambiguously bad. Future research could look at other subjective and behavioural outcomes 210 such as choice satisfaction, decision reget, decision confidence, and choice deferral (Chernev 211 et al. 2015). In addition, we deliberately chose to remove potentially dominating choice

options by offering appointmet times within relatively short time slots. Future research would
need to determine the extent to which there are strong preferences for appointment slots,
including day of the week, time of the day and whether these could still be used to optimise
invitation strategies.

216 Finally, the role of familiarity with the decision task should be addressed before extrapolating

217 our findings to other health services such as dental checks, immunization and breast and

218 cervical cancer screening where individuals are invited regularly. In these situations,

219 individuals who have participated previously may already be familiar with the invitation

220 process and have specific preferences and expectations.

### 221 Conclusions

The results from this online experimental survey support the current practice of the NHS Bowel Scope Screening Programme to send a single fixed appointment by showing that offering choice without addressing pre-determined preferences for specific times and days is likely to reduce rather than increase motivation to book an appointment.

226

#### References

- 227 Allgood, P. C., Maroni, R., Hudson, S., Offman, J., Turnbull, A. E., Peacock, L., Steel, J.,
- 228 Kirby, G., Ingram, C.E., Somers, J. and Fuller, C. (2017). Effect of second timed
- appointments for non-attenders of breast cancer screening in England: a randomised
- 230 controlled trial. The Lancet Oncology, 18(7), 972-980, doi:10.1016/S1470-2045(17)30340-6
- 231 Chernev, A., Böckenholt, U., & Goodman, J. (2015). Choice overload: A conceptual review
- and meta-analysis. Journal of Consumer Psychology, 25(2), 333-358,
- 233 doi:10.1016/j.jcps.2014.08.002
- 234 Cohen, J. (1988). Statistical power analysis for the behavioral sciences 2nd edn.

- 235 Deci, E. L., & Ryan, R. M. (1980). Self-determination theory: When mind mediates behavior.
- The Journal of Mind and Behavior, 33-43.
- 237 Fortier, M. S., Sweet, S. N., O'Sullivan, T. L., & Williams, G. C. (2007). A self-
- 238 determination process model of physical activity adoption in the context of a randomized
- controlled trial. Psychology of Sport and Exercise, 8(5), 741-757.
- 240 Hudson, S., Brazil, D., Teh, W., Duffy, S. W., & Myles, J. P. (2016). Effectiveness of timed
- and non-timed second appointments in improving uptake in breast cancer screening. Journal
- of Medical Screening, 23(3), 160-163, doi:10.1177/0969141315624937
- 243 Iyengar, S. S., & Lepper, M. R. (2000). When choice is demotivating: Can one desire too
- 244 much of a good thing? Journal of Personality and Social Psychology, 79(6), 995, doi:
- 245 http://dx.doi.org/10.1037/0022-3514.79.6.995
- 246 Katz, I., & Assor, A. (2007). When choice motivates and when it does not. Educational

247 Psychology Review, 19(4), 429, doi: 10.1007/s10648-006-9027-y

- 248 Krell, M., & Hui, S.K.F. (2017). Evaluating an instrument to measure mental load and mental
- 249 effort considering different sources of validity evidence. Cogent Education, 4:1 doi:
- 250 10.1080/2331186X.2017.1280256
- 251 McGregor, L. M., Bonello, B., Kerrison, R. S., Nickerson, C., Baio, G., Berkman, L., Rees,
- 252 C.J., Atkin, W., Wardle, J. and von Wagner, C. (2016). Uptake of Bowel scope (flexible
- sigmoidoscopy) screening in the English National Programme: the first 14 months. Journal of
- 254 Medical Screening, 23(2), 77-82, doi:10.1177/0969141315604659
- 255 Michie, S., & Abraham, C. (2004). Interventions to change health behaviours: evidence-
- based or evidence-inspired? Psychology & Health, 19(1), 29-49, doi:
- 257 10.1080/0887044031000141199

- Halvari, A. E. M., & Halvari, H. (2006). Motivational predictors of change in oral health: An
- experimental test of self-determination theory. Motivation and emotion, 30(4), 294.
- 260 Offman, J., Wilson, M., Lamont, M., Birke, H., Kutt, E., Marriage, S., Loughrey, Y., Hudson,
- 261 S., Hartley, A., Smith, J. and Eckersley, B. (2013). A randomised trial of weekend and
- 262 evening breast screening appointments. British Journal of Cancer, 109(3), 597, doi:
- 263 10.1038/bjc.2013.377
- 264 Partin, M. R., Powell, A. A., Burgess, D. J., & Wilt, T. J. (2012). Bringing an organizational
- 265 perspective to the optimal number of colorectal cancer screening options debate. Journal of
- 266 general internal medicine, 27(3), 376-380, doi: 10.1007/s11606-011-1870-y
- 267 Patall, E. A., Cooper, H., & Robinson, J. C. (2008). The effects of choice on intrinsic
- 268 motivation and related outcomes: a meta-analysis of research findings. Psychological
- 269 Bulletin, 134(2), 270, doi:10.1037/0033-2909.134.2.270
- 270 Ryan, R. M., & Deci, E. L. (2007). Active human nature: Self-determination theory and the
- 271 promotion and maintenance of sport, exercise, and health. Intrinsic motivation and self-
- determination in exercise and sport, 1, 19.
- 273 Scheibehenne, B., Greifeneder, R., & Todd, P. M. (2010). Can there ever be too many
- 274 options? A meta-analytic review of choice overload. Journal of Consumer Research, 37(3),
- 275 409-425, doi: 10.1086/651235
- 276 Schwartz, B. (2004). The paradox of choice: Why more is less (Vol. 6). New York:
- 277 HarperCollins.
- 278 Scheibehenne, B., Greifeneder, R., & Todd, P. M. (2010). Can there ever be too many
- 279 options? A meta-analytic review of choice overload. Journal of Consumer Research, 37(3),
- 280 409-425, doi: 10.1086/651235

- 281 Shah, A. M., & Wolford, G. (2007). Buying behavior as a function of parametric variation of
- number of choices. Psychological Science, 18(5), 369-370, doi: 10.1111/j.1467-
- 283 9280.2007.01906.x
- 284 Simon, H. A. (1955). A behavioral model of rational choice. The Quarterly Journal of
- 285 Economics, 69(1), 99-118.
- 286 Stoffel, S.T., Hirst, Y., Ghanouni, A. McGregor, L.M., Kerrison, R., Verstraete, W.,
- 287 Gallagher, A., Waller, J., & von Wagner, C. (2018) Testing active choice for the screening
- 288 practioner's gender in a randomised experimental online survey. Journal of Medical
- 289 Screening <u>https://doi.org/10.1177/0969141318806322</u>
- 290 Stoffel, S. T., Yang, J., Vlaev, I., & von Wagner, C. (2019). Testing the decoy effect to
- increase interest in colorectal cancer screening. PloS one, 14(3), e0213668,
- 292 https://doi.org/10.1371/journal.pone.0213668
- 293 Szrek, H., & Baron, J. (2007). The value of choice in insurance purchasing. Journal of
- 294 Economic Psychology, 28(5), 529-544, doi: 10.1016/j.joep.2007.02.003
- 295 Tversky, A., & Shafir, E. (1992). Choice under conflict: The dynamics of deferred decision.
- 296 Psychological science, 3(6), 358-361, doi: 10.1111/j.1467-9280.1992.tb00047.x
- van Dam, L., Kuipers, E. J., Steyerberg, E. W., van Leerdam, M. E., & de Beaufort, I. D.
- 298 (2013). The price of autonomy: should we offer individuals a choice of colorectal cancer
- screening strategies?. The Lancet Oncology, 14(1), e38-e46, doi: 10.1016/S1470-
- 300 2045(12)70455-2
- 301 von Wagner, C., Baio, G., Raine, R., Snowball, J., Morris, S., Atkin, W., Obichere, A.,
- 302 Handley, G., Logan, R.F., Rainbow, S. and Smith, S. (2011). Inequalities in participation in
- 303 an organized national colorectal cancer screening programme: results from the first 2.6

- 304 million invitations in England. International Journal of Epidemiology, 40(3), 712-718, doi:
  305 10.1093/ije/dyy066
- 306 Williams, G. C., Deci, E. L., & Ryan, R. M. (1998). Building health-care partnerships by
- 307 supporting autonomy: Promoting maintained behavior change and positive health outcomes.
- 308 Partnerships in healthcare: Transforming relational process, 67-87.
- 309 Williams, G. C., McGregor, H. A., Sharp, D., Levesque, C., Kouides, R. W., Ryan, R. M., &
- 310 Deci, E. L. (2006). Testing a self-determination theory intervention for motivating tobacco
- 311 cessation: supporting autonomy and competence in a clinical trial. Health psychology, 25(1),
- 312 91.
- 313 von Wagner, C., Hirst, Y., Waller, J., Ghanouni, A., McGregor, L. M. Kerrison, R. S., ... &
- 314 Stoffel, S. T. (2019). The impact of descriptive norms on motivation to participate in cancer
- 315 screening Evidence from online experiments. Patient Education and Counseling. 0738-
- 316 3991, <u>https://doi.org/10.1016/j.pec.2019.04.001</u>
- 317 Zuckerman, M., Porac, J., Lathin, D., & Deci, E. L. (1978). On the importance of self-
- 318 determination for intrinsically-motivated behavior. Personality and Social Psychology
- 319 Bulletin, 4(3), 443-446, doi: 10.1177/014616727800400317

	Una	djusted model	Adjusted model <sup>†</sup>		
	Odds ratio	95% CI	Odds ratio	95% CI	
Appointment(s) offered					
1 option	Ref.		Ref.		
2 options	0.753	0.585 - 0.948*	0.685	0.529 - 0.888**	
4 options	0.689	0.535 - 0.886**	0.691	0.533 - 0.896**	
6 options	0.749	0.581 - 0.966*	0.710	0.546 - 0.923*	

#### Table 1 Ordinal logistic regressions on intentions to confirm appointment (N=1,908) 321

<sup>+</sup>Adjusted for initial intentions, gender, age, marital status, ethnicity, education, employment, car and house ownership and self-reported health status. Full model is reported in S2 Table in the supplementary file. (\* p < 0.05; \*\* p < 0.01)

	1 opt	tion (N=438)	2 optior	ns (N=488)	4 optior	ns (N=506)	6 optic	ons (N=476)	Overall	(N=1,908)	
	N	(%)	N	(%)	N	(%)	N	(%)	Ν	(%)	p-value
Intention to confirm appointme	nt										
Definitely not	68	(15.5%)	67	(13.7%)	85	(16.8%)	64	(13.4%)	284	(14.9%)	
Probably not	219	(50.0%)	295	(60.5%)	293	(57.9%)	294	(61.8%)	1101	(57.7%)	0.001
Probably yes	104	(23.8%)	105	(21.5%)	100	(19.8%)	89	(18.7%)	398	(20.9%)	0.001
Definitely yes	47	(10.7%)	21	(4.3%)	28	(5.5%)	29	(6.1%)	125	(6.5%)	
Difficulty of decision task											
Not at all	190	(43.4%)	233	(47.8%)	235	(46.4%)	219	(46.0%)	877	(46.0%)	
Slightly	104	(23.7%)	109	(22.3%)	127	(25.1%)	129	(27.1%)	469	(24.6%)	
Moderately	95	(21.7%)	94	(19.3%)	88	(17.4%)	76	(16.0%)	353	(18.5%)	0.550
Very much	33	(7.5%)	32	(6.6%)	41	(8.1%)	39	(8.2%)	145	(7.6%)	
Extremely	16	(3.7%)	20	(4.1%)	15	(3.0%)	13	(2.7%)	64	(3.3%)	
Complexity of invitation proces	8										
Not at all	32	(7.3%)	26	(5.3%)	35	(6.9%)	30	(6.3%)	123	(6.5%)	
Slightly	59	(13.5%)	72	(14.8%)	85	(16.8%)	70	(14.7%)	286	(15.0%)	
Moderately	125	(28.5%)	130	(26.6%)	131	(25.9%)	117	(24.6%)	503	(26.4%)	0.778
Very much	159	(36.3%)	193	(39.6%)	197	(38.9%)	189	(39.7%)	738	(38.7%)	
Extremely	63	(14.4%)	67	(13.7%)	58	(11.5%)	70	(14.7%)	258	(13.5%)	
Convenience of appointment(s)											
Not at all	122	(27.9%)	130	(26.7%)	102	(20.2%)	107	(22.5%)	461	(24.2%)	
Slightly	97	(22.1%)	108	(22.1%)	110	(21.7%)	98	(20.6%)	413	(21.6%)	
Moderately	142	(32.4%)	140	(28.7%)	145	(28.7%)	131	(27.5%)	558	(29.3%)	0.003
Very much	57	(13.0%)	86	(17.6%)	120	(23.7%)	106	(22.3%)	369	(19.3%)	
Extremely	20	(4.6%)	24	(4.9%)	129	(5.7%)	34	(7.1%)	107	(5.6%)	

325 *Table 2 Effect of offering choice on confirmation intentions and perception of the decision task and appointments* 

326 + Chi-Square test

	Difficul decision	Difficulty making decision <sup>†</sup>		Complexity of invitation process <sup>†</sup>		Convenience of appointment(s) <sup>†</sup>		
	OR	95% CI	OR	95% CI	OR	95% CI		
Appointment(s) offered								
1 option	Ref.		Ref.		Ref.			
2 options	0.854	0.670 - 1.088	1.100	0.870 - 1.391	1.148	0.912 - 1.446		
4 options	0.903	0.710 - 1.147	0.919	0.729 - 1.159	1.571	1.250 - 1.974**		
6 options	0.856	0.672 - 1.091	1.111	0.876 - 1.408	1.530	1.211 - 1.934**		

Table 3 Adjusted ordinal logistic regressions on perception items (N=1,908) 328

<sup>+</sup>Adjusted for initial intentions, gender, age, marital status, ethnicity, education, employment, car and house ownership and self-reported health status. Full model is reported in S2 Table in the supplementary file. (\* p<0.05; \*\* p<0.01) 329 330

# Figure 1 Flow through the study

