

A Vignette Experiment on Determinants of Health Data Sharing Behavior: Willingness to Donate Sensor Data, Medical Records, and Biomarkers

Supplementary Material

Henning Silber¹, Frederic Gerdon^{2,3}, Ruben L. Bach⁴, Christoph Kern⁴, Florian Keusch⁴, and Frauke Kreuter^{3,5}

¹GESIS Leibniz Institute for the Social Sciences, Germany

²Mannheim Centre for European Social Research (MZES), University of Mannheim, Germany

³Department of Statistics, LMU Munich, Germany

⁴School of Social Sciences, University of Mannheim, Germany

⁵Joint Program in Survey Methodology, University of Maryland, USA

1 Descriptive Statistics

Table A1: Descriptive Statistics

Variable	Stats / Values	Freqs (% of Valid)	Valid
Gender [factor]	1. Female	601 (51.8%)	1160 (100.0%)
	2. Male	559 (48.2%)	
Education [factor]	1. Low	409 (35.3%)	1160 (100.0%)
	2. Medium	321 (27.7%)	
	3. High	406 (35.0%)	
	4. Other	24 (2.1%)	
Age [factor]	1. 18-28	166 (14.3%)	1160 (100.0%)
	2. 29-46	324 (27.9%)	
	3. 47-64	324 (27.9%)	
	4. 65+	346 (29.8%)	
Cancer exposure [factor]	1. no	360 (31.3%)	1151 (99.2%)
	2. yes	791 (68.7%)	

Table A1: Descriptive Statistics

Variable	Stats / Values	Freqs (% of Valid)	Valid
Privacy concerns [numeric]	Mean (sd) : 3 (1) min < med < max: 1 < 3 < 5 IQR (CV) : 2 (0.3)	1 : 62 (5.4%) 2 : 267 (23.1%) 3 : 511 (44.1%) 4 : 219 (18.9%) 5 : 99 (8.5%)	1158 (99.8%)
Owens PC [numeric]	Min : 0 Mean : 0.5 Max : 1	0 : 580 (50.0%) 1 : 580 (50.0%)	1160 (100.0%)
Owens laptop [numeric]	Min : 0 Mean : 0.7 Max : 1	0 : 344 (29.7%) 1 : 816 (70.3%)	1160 (100.0%)
Owens smartphone [numeric]	Min : 0 Mean : 0.9 Max : 1	0 : 74 (6.4%) 1 : 1086 (93.6%)	1160 (100.0%)
Owens tablet [numeric]	Min : 0 Mean : 0.5 Max : 1	0 : 557 (48.0%) 1 : 603 (52.0%)	1160 (100.0%)
Owens smartwatch [numeric]	Min : 0 Mean : 0.2 Max : 1	0 : 896 (77.2%) 1 : 264 (22.8%)	1160 (100.0%)
Doesn't own device [numeric]	Min : 0 Mean : 0 Max : 1	0 : 1159 (99.9%) 1 : 1 (0.1%)	1160 (100.0%)
Number of types of devices owned [numeric]	Mean (sd) : 2.9 (1.1) min < med < max: 0 < 3 < 5 IQR (CV) : 2 (0.4)	0 : 2 (0.2%) 1 : 108 (9.3%) 2 : 333 (28.7%) 3 : 376 (32.4%) 4 : 258 (22.2%) 5 : 83 (7.2%)	1160 (100.0%)
Technical affinity (index) [numeric]	Mean (sd) : 21.6 (5.2) min < med < max: 5 < 21 < 30 IQR (CV) : 6 (0.2)	25 distinct values	1151 (99.2%)
Public duty (index) [numeric]	Mean (sd) : 17.1 (4.4) min < med < max: 2 < 18 < 22 IQR (CV) : 5 (0.3)	20 distinct values	1156 (99.7%)

Table A1: Descriptive Statistics

Variable	Stats / Values	Freqs (% of Valid)	Valid
Trust (public agency) [numeric]	Mean (sd) : 6.7 (2.5) min < med < max: 1 < 7 < 11 IQR (CV) : 4 (0.4)	11 distinct values	1157 (99.7%)
Trust (private company) [numeric]	Mean (sd) : 6 (2.1) min < med < max: 1 < 6 < 11 IQR (CV) : 2 (0.4)	11 distinct values	1157 (99.7%)
Trust (university) [numeric]	Mean (sd) : 7.6 (2.3) min < med < max: 1 < 8 < 11 IQR (CV) : 3 (0.3)	11 distinct values	1156 (99.7%)
Trust (science) [numeric]	Mean (sd) : 7.3 (2.3) min < med < max: 1 < 8 < 11 IQR (CV) : 3 (0.3)	11 distinct values	1156 (99.7%)
Social trust [numeric]	Mean (sd) : 5.2 (2.7) min < med < max: 1 < 6 < 11 IQR (CV) : 4 (0.5)	11 distinct values	1159 (99.9%)
Altruism [numeric]	Mean (sd) : 7.8 (2.6) min < med < max: 1 < 8 < 11 IQR (CV) : 4 (0.3)	11 distinct values	1158 (99.8%)
Political ideology [numeric]	Mean (sd) : 5.8 (1.9) min < med < max: 1 < 6 < 11 IQR (CV) : 1 (0.3)	11 distinct values	1156 (99.7%)

2 Independence Tests

Table A2: Descriptive Statistics by data type

	Sensors		Biomarkers		Records		Test Statistic
	$N = 1160$		$N = 1159$		$N = 1158$		
Age : 18-28	14%	(166)	14%	(166)	14%	(166)	$\chi^2_6=0$, P=1
29-46	28%	(324)	28%	(324)	28%	(324)	
47-64	28%	(324)	28%	(324)	28%	(323)	
65+	30%	(346)	30%	(345)	30%	(345)	

Table A3: Descriptive Statistics by purpose

	Public benefit	Personal rec.	Test Statistic
	<i>N</i> = 1722	<i>N</i> = 1755	
Age : 18-28	14% (247)	14% (251)	$\chi^2_3=0.34$, P=0.953
29-46	28% (474)	28% (498)	
47-64	28% (483)	28% (488)	
65+	30% (518)	30% (518)	

Table A4: Descriptive Statistics by recipient

	University		Company		Agency		Test Statistic
	<i>N</i> = 1145		<i>N</i> = 1186		<i>N</i> = 1146		
Age : 18-28	15%	(172)	14%	(164)	14%	(162)	$\chi^2_6=3.32$, P=0.767
29-46	28%	(323)	29%	(339)	27%	(310)	
47-64	27%	(307)	27%	(324)	30%	(340)	
65+	30%	(343)	30%	(359)	29%	(334)	

Table A5: Descriptive Statistics by data type

	Sensors	Biomarkers	Records	Test Statistic
	$N = 1160$	$N = 1159$	$N = 1158$	
Educ. : Low	35% (409)	35% (409)	35% (407)	$\chi^2_6=0.01$, P=1
Medium	28% (321)	28% (320)	28% (321)	
High	35% (406)	35% (406)	35% (406)	
Other	2% (24)	2% (24)	2% (24)	

Table A6: Descriptive Statistics by purpose

	Public benefit	Personal rec.	Test Statistic
	$N = 1722$	$N = 1755$	
Educ. : Low	36% (620)	34% (605)	$\chi^2_3=1.49$, P=0.686
Medium	27% (465)	28% (497)	
High	35% (599)	35% (619)	
Other	2% (38)	2% (34)	

Table A7: Descriptive Statistics by recipient

	University	Company	Agency	Test Statistic
	$N = 1145$	$N = 1186$	$N = 1146$	
Educ. : Low	34% (389)	36% (429)	36% (407)	$\chi^2_6=12.92$, P=0.044
Medium	29% (330)	26% (309)	28% (323)	
High	34% (390)	36% (429)	35% (399)	
Other	3% (36)	2% (19)	1% (17)	

Table A8: Descriptive Statistics by data type

	Sensors	Biomarkers	Records	Test Statistic
	$N = 1160$	$N = 1159$	$N = 1158$	
Gender : Female	52% (601)	52% (601)	52% (600)	$\chi^2_2=0$, P=1
Male	48% (559)	48% (558)	48% (558)	

Table A9: Descriptive Statistics by purpose

	Public benefit	Personal rec.	Test Statistic
	<i>N</i> = 1722	<i>N</i> = 1755	
Gender : Female	51% (873)	53% (929)	$\chi^2_1=1.74$, P=0.187
Male	49% (849)	47% (826)	

Table A10: Descriptive Statistics by recipient

	University		Company		Agency		Test Statistic
	N = 1145		N = 1186		N = 1146		
Gender : Female	50%	(577)	52%	(614)	53%	(611)	$\chi^2_2=1.96$, P=0.375
Male	50%	(568)	48%	(572)	47%	(535)	

3 Multilevel models – continuous outcome

Table A11: Results of the multi-level regression analyses predicting willingness to share health data: Main effects and interaction effects between the experimental dimensions

	Model 1a	Model 1b	Model 1c
Intercept	4.170*** (0.120)	4.149*** (0.126)	4.168*** (0.132)
Type: Biomarkers	0.616*** (0.056)	0.616*** (0.056)	0.592*** (0.112)
Type: Medical records	0.435*** (0.056)	0.435*** (0.056)	0.444*** (0.108)
Recipient: Private company	−0.660*** (0.065)	−0.584*** (0.094)	−0.556*** (0.114)
Recipient: Public agency	−0.380*** (0.066)	−0.403*** (0.096)	−0.498*** (0.115)
Purpose: Personal rec.	−0.256*** (0.053)	−0.218* (0.095)	−0.256*** (0.053)
Block order	0.168 (0.106)	0.170 (0.106)	0.176 (0.106)
Education: Medium	−0.029 (0.132)	−0.030 (0.132)	−0.029 (0.132)
Education: High	0.021 (0.128)	0.020 (0.128)	0.022 (0.127)
Education: Other	0.005 (0.370)	0.003 (0.370)	0.010 (0.370)
Recipient (private) * Purpose (rec.)		−0.155 (0.132)	
Recipient (public) * Purpose (rec.)		0.044 (0.133)	
Type (biomarkers) * Recipient (private)			−0.092 (0.161)
Type (records) * Recipient (private)			−0.215 (0.158)
Type (biomarkers) * Recipient (public)			0.166 (0.164)
Type (records) * Recipient (public)			0.203 (0.162)
AIC	11773.471	11779.658	11782.723
BIC	11845.702	11863.928	11879.032
Level-1 r^2	0.106	0.106	0.106
Level-2 r^2	0.000	0.000	0.000
Num. obs.	3039	3039	3039
Num. groups	1014	1014	1014
Variance: Intercept	2.310	2.309	2.302
Variance: Residual	1.585	1.585	1.585

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table A12: Results of the multi-level regression analyses predicting willingness to share health data: Additional measures and interaction effects

	Model 2a	Model 2b	Model 2c
Intercept	1.569*** (0.201)	2.161*** (0.174)	2.522*** (0.181)
Type: Biomarkers	0.619*** (0.056)	0.626*** (0.057)	0.622*** (0.056)
Type: Medical records	0.428*** (0.056)	0.456*** (0.057)	0.454*** (0.056)
Purpose: Personal rec.	-0.266*** (0.053)	-0.255*** (0.054)	-0.267*** (0.053)
Recipient: University	-0.276 (0.208)		
Trust (university)	0.287*** (0.023)		
Block order	0.186 (0.097)	0.140 (0.098)	0.024 (0.100)
Education: Medium	-0.182 (0.121)	-0.035 (0.123)	-0.037 (0.124)
Education: High	-0.242* (0.118)	-0.011 (0.118)	-0.023 (0.119)
Education: Other	-0.039 (0.344)	-0.031 (0.342)	-0.067 (0.345)
Recipient (university) * Trust (university)	0.103*** (0.026)		
Recipient: Public agency		-0.208 (0.158)	
Trust (public agency)		0.254*** (0.021)	
Recipient (public) * Trust (public)		0.025 (0.022)	
Recipient: Private company			-1.137*** (0.168)
Trust (private)			0.263*** (0.026)
Recipient (private) * Trust (private)			0.117*** (0.027)
AIC	11560.105	11686.677	11625.690
BIC	11638.309	11764.893	11703.906
Level-1 r^2	0.100	0.064	0.097
Level-2 r^2	0.206	0.179	0.157
Num. obs.	3028	3031	3031
Num. groups	1010	1011	1011
Variance: Intercept	1.814	1.876	1.926
Variance: Residual	1.595	1.659	1.600

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table A13: Results of the multi-level regression analyses predicting willingness to share health data: Additional measures and interaction effects

	Model 3a	Model 3b	Model 3c
Intercept	2.017*** (0.210)	3.236*** (0.221)	2.555*** (0.261)
Type: Biomarkers	0.613*** (0.056)	0.615*** (0.056)	0.614*** (0.056)
Type: Medical records	0.439*** (0.056)	0.435*** (0.056)	0.437*** (0.056)
Recipient: Private company	−0.642*** (0.065)	−0.661*** (0.065)	−0.667*** (0.065)
Recipient: Public agency	−0.367*** (0.065)	−0.386*** (0.066)	−0.383*** (0.066)
Purpose: Public benefit	−0.172 (0.184)	−0.169 (0.175)	−0.065 (0.219)
Trust (science)	0.276*** (0.025)		
Block order	0.170 (0.097)	0.173 (0.105)	0.175 (0.103)
Education: Medium	−0.167 (0.122)	−0.062 (0.131)	−0.021 (0.129)
Education: High	−0.303* (0.119)	0.001 (0.126)	−0.001 (0.124)
Education: Other	0.040 (0.347)	0.011 (0.366)	−0.006 (0.360)
Purpose (public) * Trust (science)	0.060* (0.024)		
Altruism		0.087*** (0.024)	
Purpose (public) * Altruism		0.054* (0.021)	
Public duty			0.079*** (0.014)
Purpose (public) * Public duty			0.019 (0.012)
AIC	11580.659	11735.599	11703.005
BIC	11664.892	11819.842	11787.234
Level-1 r^2	0.107	0.107	0.105
Level-2 r^2	0.185	0.019	0.054
Num. obs.	3031	3033	3030
Num. groups	1011	1012	1011
Variance: Intercept	1.861	2.240	2.162
Variance: Residual	1.584	1.583	1.587

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table A14: Results of the multi-level regression analyses predicting willingness to share health data: Explorative analyses

	Model 4a	Model 4b	Model 4c	Model 4d
(Intercept)	4.414*** (0.194)	2.800*** (0.296)	3.538*** (0.217)	4.830*** (0.206)
Type: Biomarkers	0.616*** (0.056)	0.620*** (0.056)	0.614*** (0.056)	0.618*** (0.056)
Type: Medical records	0.435*** (0.056)	0.439*** (0.056)	0.429*** (0.056)	0.436*** (0.056)
Recipient: Private company	−0.658*** (0.065)	−0.665*** (0.066)	−0.659*** (0.065)	−0.658*** (0.065)
Recipient: Public agency	−0.376*** (0.066)	−0.388*** (0.066)	−0.375*** (0.066)	−0.389*** (0.066)
Purpose: Personal rec.	−0.255*** (0.053)	−0.253*** (0.054)	−0.257*** (0.053)	−0.261*** (0.053)
Gender (male)	0.184 (0.108)			
Education (medium)	−0.004 (0.133)			
Education (high)	0.006 (0.130)			
Education (other)	−0.040 (0.370)			
Age (29-46)	−0.476* (0.189)			
Age (47-64)	−0.484** (0.186)			
Age (65+)	−0.221 (0.183)			
Block order	0.168 (0.106)	0.170 (0.105)	0.151 (0.103)	0.093 (0.106)
Owns smartphone		0.505* (0.220)		
Owns smartwatch		0.300* (0.133)		
Technical affinity		0.038*** (0.011)		
Social trust			0.147*** (0.020)	
Political ideology			−0.018 (0.028)	
Cancer exposure				0.271* (0.115)
Privacy concerns				−0.267*** (0.054)
AIC	11779.080	11666.970	11671.043	11642.163
BIC	11875.389	11739.122	11737.212	11708.292
Level-1 r^2	0.106	0.106	0.107	0.113
Level-2 r^2	0.000	0.031	0.064	0.019
Num. obs.	3039	3019	3027	3016
Num. groups	1014	1007	1010	1006
Variance: Intercept	2.290	2.213	2.151	2.242
Variance: Residual	1.585	1.585	1.583	1.572

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table A15: Results of the multi-level regression analyses predicting willingness to share health data: Including speeders

	Model 5a	Model 5b	Model 5c
Intercept	4.174*** (0.112)	4.148*** (0.117)	4.171*** (0.123)
Type: Biomarkers	0.574*** (0.051)	0.574*** (0.051)	0.556*** (0.103)
Type: Medical records	0.413*** (0.051)	0.413*** (0.051)	0.428*** (0.100)
Recipient: Private company	-0.602*** (0.060)	-0.523*** (0.085)	-0.515*** (0.105)
Recipient: Public agency	-0.352*** (0.060)	-0.358*** (0.088)	-0.442*** (0.106)
Purpose: Personal rec.	-0.216*** (0.049)	-0.167 (0.087)	-0.217*** (0.049)
Block order	0.085 (0.099)	0.085 (0.099)	0.091 (0.099)
Education: Medium	-0.016 (0.125)	-0.018 (0.125)	-0.017 (0.125)
Education: High	0.090 (0.118)	0.089 (0.118)	0.091 (0.118)
Education: Other	-0.101 (0.353)	-0.102 (0.353)	-0.098 (0.353)
Recipient (private) * Purpose (rec.)		-0.159 (0.121)	
Recipient (public) * Purpose (rec.)		0.012 (0.122)	
Type (biomarkers) * Recipient (private)			-0.080 (0.148)
Type (records) * Recipient (private)			-0.178 (0.146)
Type (biomarkers) * Recipient (public)			0.137 (0.151)
Type (records) * Recipient (public)			0.141 (0.148)
AIC	13362.190	13368.702	13374.170
BIC	13436.037	13454.857	13472.633
Level-1 r^2	0.096	0.096	0.096
Level-2 r^2	0.000	0.000	0.000
Num. obs.	3477	3477	3477
Num. groups	1160	1160	1160
Variance: Intercept	2.309	2.306	2.303
Variance: Residual	1.522	1.523	1.523

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

4 Fixed-effects models – continuous outcome

Table A16: Results of the fixed-effects regression analyses predicting willingness to share health data: Main effects and interaction effects between the experimental dimensions

	Model 1a	Model 1b	Model 1c
Type: Biomarkers	0.617*** (0.056)	0.618*** (0.056)	0.626*** (0.116)
Type: Medical records	0.437*** (0.056)	0.437*** (0.056)	0.422*** (0.112)
Recipient: Private company	−0.656*** (0.068)	−0.594*** (0.098)	−0.573*** (0.119)
Recipient: Public agency	−0.367*** (0.069)	−0.405*** (0.101)	−0.456*** (0.120)
Purpose: Personal rec.	−0.235*** (0.056)	−0.217* (0.099)	−0.235*** (0.056)
Recipient (private) * Purpose (rec.)		−0.127 (0.139)	
Recipient (public) * Purpose (rec.)		0.074 (0.140)	
Type (biomarkers) * Recipient (private)			−0.098 (0.168)
Type (records) * Recipient (private)			−0.148 (0.165)
Type (biomarkers) * Recipient (public)			0.074 (0.172)
Type (records) * Recipient (public)			0.208 (0.169)
R ²	0.108	0.109	0.110
Num. obs.	3039	3039	3039

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table A17: Results of the fixed-effects regression analyses predicting willingness to share health data: Additional measures and interaction effects

	Model 2a	Model 2b	Model 2c
Type: Biomarkers	0.621*** (0.056)	0.629*** (0.057)	0.624*** (0.056)
Type: Medical records	0.429*** (0.056)	0.457*** (0.057)	0.454*** (0.056)
Purpose: Personal rec.	-0.227*** (0.056)	-0.222*** (0.057)	-0.230*** (0.056)
Recipient: University	-0.211 (0.218)		
Recipient (university) * Trust (university)	0.095*** (0.027)		
Recipient: Public agency		-0.202 (0.166)	
Recipient (public) * Trust (public)		0.025 (0.023)	
Recipient: Private company			-1.097*** (0.176)
Recipient (private) * Trust (private)			0.108*** (0.029)
R ²	0.105	0.069	0.102
Num. obs.	3028	3031	3031

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table A18: Results of the fixed-effects regression analyses predicting willingness to share health data: Additional measures and interaction effects

	Model 3a	Model 3b	Model 3c
Type: Biomarkers	0.615*** (0.056)	0.616*** (0.056)	0.616*** (0.056)
Type: Medical records	0.440*** (0.056)	0.436*** (0.056)	0.439*** (0.056)
Recipient: Private company	-0.658*** (0.068)	-0.659*** (0.069)	-0.662*** (0.069)
Recipient: Public agency	-0.365*** (0.069)	-0.369*** (0.069)	-0.368*** (0.069)
Purpose: Public benefit	-0.287 (0.194)	-0.242 (0.181)	-0.094 (0.228)
Purpose (public) * Trust (science)	0.071** (0.025)		
Purpose (public) * Altruism		0.061** (0.022)	
Purpose (public) * Public duty			0.019 (0.013)
R ²	0.112	0.112	0.110
Num. obs.	3031	3033	3030

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

5 Multilevel models – ordinal outcome

Table A19: Results of the ordinal multi-level regression analyses predicting willingness to share health data: Main effects and interaction effects between the experimental dimensions

	Model 1a	Model 1b	Model 1c
Type: Biomarkers	0.550*** (0.050)	0.550*** (0.051)	0.537*** (0.099)
Type: Medical records	0.390*** (0.050)	0.391*** (0.050)	0.395*** (0.096)
Recipient: Private company	−0.573*** (0.059)	−0.517*** (0.084)	−0.474*** (0.102)
Recipient: Public agency	−0.315*** (0.058)	−0.333*** (0.086)	−0.421*** (0.102)
Purpose: Personal rec.	−0.212*** (0.048)	−0.186* (0.084)	−0.212*** (0.048)
Block order	0.103 (0.099)	0.104 (0.099)	0.110 (0.099)
Education: Medium	−0.026 (0.124)	−0.027 (0.124)	−0.026 (0.124)
Education: High	0.039 (0.119)	0.039 (0.119)	0.040 (0.119)
Education: Other	0.069 (0.351)	0.068 (0.351)	0.075 (0.351)
Recipient (private) * Purpose (rec.)		−0.111 (0.118)	
Recipient (public) * Purpose (rec.)		0.036 (0.118)	
Type (biomarkers) * Recipient (private)			−0.102 (0.142)
Type (records) * Recipient (private)			−0.185 (0.140)
Type (biomarkers) * Recipient (public)			0.146 (0.146)
Type (records) * Recipient (public)			0.186 (0.144)
AIC	10204.720	10207.002	10205.544
BIC	10301.029	10315.349	10325.930
Num. obs.	3039	3039	3039
Num. groups	1014	1014	1014
Variance: Intercept	2.041	2.042	2.038

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table A20: Results of the ordinal multi-level regression analyses predicting willingness to share health data: Additional measures and interaction effects

	Model 2a	Model 2b	Model 2c
Type: Biomarkers	0.549*** (0.051)	0.543*** (0.050)	0.551*** (0.051)
Type: Medical records	0.382*** (0.050)	0.399*** (0.050)	0.402*** (0.050)
Purpose: Personal rec.	-0.220*** (0.048)	-0.212*** (0.047)	-0.217*** (0.048)
Recipient: University	-0.302 (0.199)		
Trust (university)	0.285*** (0.023)		
Block order	0.126 (0.090)	0.079 (0.090)	-0.029 (0.093)
Education: Medium	-0.193 (0.113)	-0.031 (0.112)	-0.043 (0.115)
Education: High	-0.224* (0.110)	0.011 (0.108)	-0.003 (0.111)
Education: Other	-0.004 (0.329)	0.017 (0.317)	-0.003 (0.326)
Recipient (university) * Trust (university)	0.095*** (0.025)		
Recipient: Public agency		-0.227 (0.147)	
Trust (public agency)		0.235*** (0.020)	
Recipient (public) * Trust (public)		0.029 (0.021)	
Recipient: Private company			-1.069*** (0.160)
Trust (private)			0.246*** (0.025)
Recipient (private) * Trust (private)			0.113*** (0.026)
AIC	9979.083	10100.546	10052.772
BIC	10081.349	10202.829	10155.055
Num. obs.	3028	3031	3031
Num. groups	1010	1011	1011
Variance: Intercept	1.584	1.575	1.695

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table A21: Results of the ordinal multi-level regression analyses predicting willingness to share health data: Additional measures and interaction effects

	Model 3a	Model 3b	Model 3c
Type: Biomarkers	0.552*** (0.051)	0.552*** (0.051)	0.549*** (0.051)
Type: Medical records	0.397*** (0.050)	0.391*** (0.050)	0.393*** (0.050)
Recipient: Private company	−0.561*** (0.059)	−0.576*** (0.059)	−0.578*** (0.059)
Recipient: Public agency	−0.304*** (0.058)	−0.319*** (0.058)	−0.317*** (0.058)
Trust (science)	0.266*** (0.025)		
Block order	0.104 (0.092)	0.106 (0.098)	0.109 (0.097)
Education: Medium	−0.175 (0.115)	−0.061 (0.123)	−0.028 (0.121)
Education: High	−0.283* (0.112)	0.019 (0.118)	0.010 (0.116)
Education: Other	0.085 (0.331)	0.078 (0.348)	0.055 (0.341)
Altruism		0.086*** (0.022)	
Public duty			0.077*** (0.013)
AIC	9995.327	10152.059	10118.450
BIC	10103.627	10260.370	10226.744
Num. obs.	3031	3033	3030
Num. groups	1011	1012	1011
Variance: Intercept	1.653	1.981	1.906

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$