**Supplementary Material: Appendix**

The following regression analysis is built on a binomial logistic model with strong doubters or doubters as the dependent variable. The exponentiated coefficients indicate the odds ratio (OR). When 0<OR <1, it implies a negative relationship between the explanatory variable and the dependent variable; when OR>1, it implies a positive relationship.

**Table A1. Logistic regression of digital doubters on concerns about SCSs**

|  |  |
| --- | --- |
|  | **China** |
|  | Strong doubters | Doubters |
| SCS unfair\* | 7.531\* | 0.961 |
|  | (6.613) | (0.406) |
| No increase in accountability | 2.638 | 4.135\*\*\* |
|  | (2.058) | (1.004) |
| Privacy over life quality | 4.709 | 5.354\*\*\* |
|  | (4.908) | (1.283) |
| Not useful for companies abiding regulations | 9.060\*\* | 8.153\*\*\* |
|  | (7.702) | (2.957) |
| Machine learning algorithms more biased | 1.915 | 3.964\*\*\* |
|  | (1.365) | (0.920) |
| Privacy over convenience | 1.186 | 1.683\* |
|  | (1.142) | (0.425) |
| No/little control over personal information | 1.208 | 0.847 |
|  | (0.892) | (0.188) |
| Government confidence |  |  |
| Quite a lot of confidence | 0.627 | 1.778\* |
|  | (0.439) | (0.446) |
| Not very much confidence | 0.176 | 2.790\*\*\* |
|  | (0.433) | (0.868) |
| No confidence at all | 14.760\*\* | 3.186\* |
|  | (13.798) | (1.578) |
| **Control variables** |  |  |
| Age | 0.968 | 1.015 |
|  | (0.041) | (0.016) |
| Female | 3.966 | 1.024 |
|  | (3.361) | (0.230) |
| Education | 0.496 | 0.709\* |
|  | (0.335) | (0.117) |
| Income | 1.066 | 0.891\*\* |
|  | (0.173) | (0.037) |
| Living location | 1.562 | 1.049 |
| City  | (1.596) | (0.291) |
| Constant | 0.002(0.005) | 0.043(0.030) |
| Observations\*\* | 1439 | 1439 |

Note: \*Exponentiated coefficients; Standard errors in parentheses; \* *p* < 0.05, \*\* *p* < 0.01, \*\*\* *p* < 0.001; \*\*The number of observations in the regression is reduced from the original sample size of n=2,209 due to 1) branch items designed only for users of commercial SCS users, 2) exclusion of the “prefer not to say” income group and 3) missing responses from other items.

**Table A2. Logistic regression of digital doubters on worries FRT**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **China** | **Germany** | **UK** | **US** |
|  | Strong doubters | Doubters | Strong doubters | Doubters | Strong doubters | Doubters | Strong doubters | Doubters |
| **Increased consequences** |  |  |  |  |  |  |  |  |
| *Benefits* |  |  |  |  |  |  |  |  |
| Convenience | 0.496\*\* | 0.531\*\*\* | 1.187 | 0.684\* | 0.371\*\*\* | 0.352\*\*\* | 0.588\* | 0.556\*\*\* |
|  | (0.129) | (0.078) | (0.228) | (0.120) | (0.091) | (0.061) | (0.125) | (0.090) |
| Efficiency | 0.467\*\* | 0.605\*\*\* | 0.767 | 0.514\*\*\* | 1.005 | 0.865 | 0.624\* | 0.520\*\*\* |
|  | (0.127) | (0.086) | (0.162) | (0.091) | (0.224) | (0.135) | (0.142) | (0.084) |
| Security | 0.487\*\* | 0.607\*\*\* | 0.279\*\*\* | 0.362\*\*\* | 0.519\*\*\* | 0.465\*\*\* | 0.477\*\*\* | 0.475\*\*\* |
|  | (0.124) | (0.087) | (0.045) | (0.055) | (0.096) | (0.074) | (0.084) | (0.077) |
| *Risks* |  |  |  |  |  |  |  |  |
| Privacy violation | 1.495 | 1.466\* | 1.538\* | 1.803\*\*\* | 1.501\* | 1.598\*\* | 1.680\*\* | 1.556\*\* |
|  | (0.366) | (0.220) | (0.266) | (0.277) | (0.274) | (0.237) | (0.308) | (0.243) |
| Discrimination | 1.070 | 1.099 | 1.724\*\* | 1.596\* | 0.983 | 1.416 | 1.412 | 1.081 |
|  | (0.472) | (0.399) | (0.363) | (0.375) | (0.216) | (0.282) | (0.287) | (0.217) |
| Surveillance | 1.169 | 1.630\*\* | 0.760 | 0.660\*\* | 0.750 | 0.791 | 0.551\*\*\* | 0.764 |
|  | (0.280) | (0.249) | (0.134) | (0.101) | (0.137) | (0.114) | (0.097) | (0.111) |
| None | 0.884 | 0.689 | 0.871 | 0.769 | 0.581 | 1.163 | 0.910 | 0.836 |
|  | (0.655) | (0.315) | (0.324) | (0.268) | (0.198) | (0.363) | (0.330) | (0.309) |
| **Perceived negative consequences** |  |  |  |  |  |  |  |  |
| Refuse to scan | 1.627 | 1.212 | 0.950 | 1.105 | 1.104 | 0.927 | 1.337 | 1.027 |
|  | (0.422) | (0.185) | (0.155) | (0.163) | (0.185) | (0.129) | (0.234) | (0.149) |
| False identification | 1.388 | 0.813 | 0.856 | 0.966 | 0.627\* | 0.679\* | 0.828 | 0.859 |
|  | (0.382) | (0.117) | (0.149) | (0.152) | (0.120) | (0.107) | (0.185) | (0.140) |
| Facial data leak | 1.323 | 1.006 | 0.892 | 1.161 | 1.103 | 0.853 | 1.196 | 0.962 |
|  | (0.422) | (0.165) | (0.144) | (0.163) | (0.194) | (0.122) | (0.216) | (0.141) |
| FRT fail detect | 0.818 | 1.010 | 0.824 | 0.890 | 0.843 | 0.900 | 0.718 | 1.069 |
|  | (0.226) | (0.146) | (0.138) | (0.133) | (0.149) | (0.128) | (0.129) | (0.154) |
| None | 1.578 | 0.904 | 0.871 | 1.608 | 0.780 | 1.206 | 1.079 | 1.862 |
|  | (0.830) | (0.282) | (0.320) | (0.477) | (0.312) | (0.385) | (0.391) | (0.621) |
| **Risks vs. benefits** | 5.969\*\*\* | 3.126\*\*\* | 4.728\*\*\* | 3.490\*\*\* | 3.820\*\*\* | 3.125\*\*\* | 2.356\*\*\* | 2.894\*\*\* |
| More risks | (1.614) | (0.667) | (0.905) | (0.726) | (0.719) | (0.650) | (0.412) | (0.530) |
| **Privacy violation** | 3.367\*\*\* | 2.038\*\*\* | 4.383\*\*\* | 3.309\*\*\* | 5.003\*\*\* | 2.772\*\*\* | 4.909\*\*\* | 1.984\*\*\* |
| Yes  | (0.925) | (0.411) | (0.756) | (0.703) | (0.895) | (0.495) | (0.865) | (0.350) |
| **Trust in government**  |  |  |  |  |  |  |  |  |
| Somewhat  | 0.900 | 1.098 | 0.826 | 1.127 | 0.818 | 2.094\*\*\* | 1.414 | 2.638\*\*\* |
|  | (0.239) | (0.164) | (0.177) | (0.207) | (0.229) | (0.464) | (0.480) | (0.632) |
| Very little  | 0.976 | 1.506 | 0.763 | 1.374 | 1.278 | 3.584\*\*\* | 2.147\* | 3.259\*\*\* |
|  | (0.406) | (0.442) | (0.173) | (0.271) | (0.365) | (0.833) | (0.733) | (0.819) |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Not at all | 0.793 | 1.857 | 0.833 | 1.095 | 1.656 | 3.213\*\*\* | 2.083\* | 2.998\*\*\* |
|  | (0.538) | (1.005) | (0.212) | (0.255) | (0.510) | (0.882) | (0.772) | (0.893) |
| **Control variables**  |  |  |  |  |  |  |  |  |
| Age | 1.051\*\*\* | 1.002 | 1.006 | 0.997 | 1.004 | 0.997 | 0.997 | 0.991 |
|  | (0.012) | (0.007) | (0.006) | (0.006) | (0.006) | (0.005) | (0.006) | (0.005) |
| Female | 0.751 | 1.082 | 1.437\* | 1.737\*\*\* | 1.046 | 1.431\*\* | 0.733 | 1.073 |
|  | (0.189) | (0.143) | (0.220) | (0.234) | (0.175) | (0.196) | (0.122) | (0.151) |
| Education | 0.855 | 0.955 | 0.822\*\* | 0.918 | 1.038 | 0.921 | 0.983 | 0.846\*\* |
|  | (0.110) | (0.069) | (0.056) | (0.060) | (0.078) | (0.055) | (0.076) | (0.055) |
| Income  | 0.988 | 0.915\*\*\* | 1.162\*\*\* | 1.037 | 1.002 | 0.999 | 0.978 | 0.972 |
|  | (0.049) | (0.023) | (0.038) | (0.033) | (0.034) | (0.026) | (0.025) | (0.020) |
| Living location | 0.771 | 1.044 | 1.310 | 1.247 | 1.219 | 0.930 | 1.169 | 0.855 |
| City | (0.218) | (0.165) | (0.229) | (0.182) | (0.205) | (0.127) | (0.203) | (0.124) |
| Constant | 0.030(0.017) | 1.340(0.443) | 0.146(0.075) | 1.274(0.560) | 0.149(0.075) | 0.930(0.356) | 0.248(0.135) | 2.056(0.839) |
| Observations | 1386 | 1386 | 1391 | 1391 | 1368 | 1368 | 1261 | 1261 |

Note: Exponentiated coefficients; standard errors in parentheses; \* *p* < 0.05, \*\* *p* < 0.01, \*\*\* *p* < 0.001

**Table A3. Logistic regression of digital doubters on concerns about CTAs**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **China** | **Germany** | **US** |
|  | Strong doubters | Doubters | Strong doubters | Doubters | Strong doubters | Doubters |
| **Perceived consequences\*** |  |  |  |  |  |  |
| *Benefits* |  |  |  |  |  |  |
| Isolate infected individuals | 0.670 | 0.827 | 0.724\* | 0.689\*\* | 0.566\*\* | 0.546\*\*\* |
|  | (0.294) | (0.126) | (0.110) | (0.090) | (0.101) | (0.071) |
| Safer to go out | 0.644 | 0.468\*\*\* | 0.176\*\*\* | 0.270\*\*\* | 0.362\*\*\* | 0.431\*\*\* |
|  | (0.273) | (0.070) | (0.055) | (0.043) | (0.080) | (0.058) |
| Getting health info | 0.312\* | 0.603\*\*\* | 0.204\*\*\* | 0.591\*\*\* | 0.408\*\*\* | 0.444\*\*\* |
|  | (0.147) | (0.091) | (0.059) | (0.089) | (0.084) | (0.058) |
| *Risks* |  |  |  |  |  |  |
| Privacy violation | 1.604 | 1.580\* | 2.379\*\*\* | 2.467\*\*\* | 2.253\*\*\* | 1.547\*\* |
|  | (0.705) | (0.321) | (0.373) | (0.361) | (0.375) | (0.227) |
| Discrimination | 2.099 | 0.967 | 1.754\*\*\* | 1.667\*\* | 1.295 | 1.247 |
|  | (1.074) | (0.227) | (0.263) | (0.264) | (0.225) | (0.191) |
| Gov’t surveillance | 0.490 | 1.003 | 1.975\*\*\* | 1.512\*\* | 2.311\*\*\* | 1.496\*\* |
|  | (0.293) | (0.177) | (0.309) | (0.222) | (0.377) | (0.219) |
| Data for commercial use | 0.549 | 1.039 | 1.231 | 1.183 | 1.016 | 1.137 |
|  | (0.272) | (0.211) | (0.201) | (0.187) | (0.167) | (0.171) |
| None | 0.576 | 1.349 | 2.467\*\*\* | 3.746\*\*\* | 1.564\* | 2.746\*\*\* |
|  | (0.450) | (0.338) | (0.617) | (0.978) | (0.350) | (0.624) |
| **Trust in government**  |  |  |  |  |  |  |
| Somewhat | 1.614 | 1.427 | 1.586\* | 2.079\*\*\* | 1.321 | 2.053\*\* |
|  | (0.751) | (0.269) | (0.372) | (0.342) | (0.437) | (0.467) |
| Neither trust nor distrust  | 1.000 | 3.220\*\*\* | 1.860\* | 4.007\*\*\* | 1.233 | 6.263\*\*\* |
|  | (.) | (0.802) | (0.457) | (0.740) | (0.428) | (1.545) |
| Not much | 9.178\*\* | 2.447 | 4.628\*\*\* | 6.802\*\*\* | 2.169\* | 3.451\*\*\* |
|  | (6.418) | (1.415) | (1.201) | (1.720) | (0.716) | (0.811) |
| Not at all  | 12.503\*\* | 6.544\*\* | 8.902\*\*\* | 10.291\*\*\* | 3.771\*\*\* | 5.427\*\*\* |
|  | (10.586) | (4.322) | (2.646) | (3.145) | (1.271) | (1.354) |
| **Control variables** |  |  |  |  |  |  |
| Age | 1.005 | 0.987 | 0.992 | 0.989\* | 1.005 | 0.997 |
|  | (0.017) | (0.007) | (0.006) | (0.005) | (0.005) | (0.004) |
| Female | 0.890 | 0.915 | 0.610\*\*\* | 0.961 | 0.897 | 1.085 |
|  | (0.326) | (0.121) | (0.084) | (0.118) | (0.123) | (0.126) |
| Education | 0.957 | 0.784\*\* | 0.883 | 0.909 | 1.051 | 0.900\* |
|  | (0.198) | (0.059) | (0.069) | (0.060) | (0.073) | (0.048) |
| Income  | 0.837\* | 0.944\* | 0.963 | 0.929\* | 0.999 | 1.000 |
|  | (0.069) | (0.026) | (0.034) | (0.029) | (0.020) | (0.017) |
| Living location | 1.021 | 1.041 | 1.031 | 1.079 | 0.981 | 0.916 |
| City  | (0.362) | (0.150) | (0.148) | (0.138) | (0.135) | (0.109) |
| Constant | 0.099(0.082) | 1.276(0.391) | 0.278(0.112) | 1.320(0.436) | 0.085(0.040) | 0.845(0.293) |
| Observations | 1854\*\* | 1933 | 1716 | 1716 | 1714 | 1714 |

Note: \* Exponentiated coefficients; standard errors in parentheses; \* *p* < 0.05, \*\* *p* < 0.01, \*\*\* *p* < 0.001; \*\*79 observations from the “neither trust nor distrust” group of “trust in government” variable in the China sample is removed due to perfect prediction.

**Table A4 VIF tables for different models**

|  |  |
| --- | --- |
| **SCSs**  |  |
| **Variable** | **Strong doubters VIF** | **doubters****VIF** |
| SCS unfair | 1.05 | 1.05 |
| No increase in honesty and accountability (of individuals and companies) | 1.28 | 1.28 |
| Privacy over life quality | 1.23 | 1.23 |
| Not useful for companies abiding by regulations | 1.13 | 1.13 |
| Machine-learning algorithms more biased | 1.16 | 1.16 |
| Privacy over convenience | 1.02 | 1.02 |
| No/little control over personal information | 1.05 | 1.05 |
| Government confidence |  |  |
| Quite a lot of confidence | 1.15 | 1.15 |
| Not much confidence  | 1.14 | 1.14 |
| No confidence at all | 1.05 | 1.05 |
| **Control variables** |  |  |
| Age | 1.12 | 1.12 |
| Female | 1.08 | 1.08 |
| Education | 1.19 | 1.19 |
| Income | 1.2 | 1.2 |
| Living location – City | 1.13 | 1.13 |
| Mean VIF | 1.13 | 1.13 |

|  |
| --- |
| **FRT** |
|  | **China** | **Germany** | **UK** | **US** |
| **Variable** | **Strong doubters****VIF** | **doubters****VIF** | **Strong doubters****VIF** | **doubters****VIF** | **Strong doubters****VIF** | **doubters****VIF** | **Strong doubters****VIF** | **doubters****VIF** |
| Convenience | 1.23 | 1.23 | 1.31 | 1.31 | 1.22 | 1.22 | 1.29 | 1.29 |
| Efficiency | 1.27 | 1.27 | 1.22 | 1.22 | 1.26 | 1.26 | 1.37 | 1.37 |
| Security | 1.15 | 1.15 | 1.31 | 1.31 | 1.4 | 1.4 | 1.31 | 1.31 |
| Privacy violation | 1.28 | 1.28 | 1.4 | 1.4 | 1.33 | 1.33 | 1.34 | 1.34 |
| Discrimination | 1.07 | 1.07 | 1.14 | 1.14 | 1.2 | 1.2 | 1.16 | 1.16 |
| Surveillance | 1.18 | 1.18 | 1.29 | 1.29 | 1.23 | 1.23 | 1.22 | 1.22 |
| None (increased consequences) | 1.33 | 1.33 | 1.3 | 1.3 | 1.33 | 1.33 | 1.28 | 1.28 |
| Refuse to scan | 1.07 | 1.07 | 1.18 | 1.18 | 1.1 | 1.1 | 1.08 | 1.08 |
| False identification | 1.22 | 1.22 | 1.3 | 1.3 | 1.31 | 1.31 | 1.32 | 1.32 |
| Facial data leak | 1.31 | 1.31 | 1.15 | 1.15 | 1.18 | 1.18 | 1.17 | 1.17 |
| FRT fail detect | 1.18 | 1.18 | 1.1 | 1.1 | 1.1 | 1.1 | 1.13 | 1.13 |
| None (perceived negative consequences) | 1.57 | 1.57 | 1.51 | 1.51 | 1.34 | 1.34 | 1.38 | 1.38 |
| Risks vs. benefits | 1.2 | 1.2 | 1.38 | 1.38 | 1.5 | 1.5 | 1.4 | 1.4 |
| Privacy threats | 1.2 | 1.2 | 1.62 | 1.62 | 1.41 | 1.41 | 1.42 | 1.42 |
| Government trust  |  |  |  |  |  |  |  |  |
| Somewhat | 1.07 | 1.07 | 1.81 | 1.81 | 2.86 | 2.86 | 2.95 | 2.95 |
| Very little  | 1.10 | 1.10 | 1.78 | 1.78 | 2.85 | 2.85 | 2.86 | 2.86 |
| Not at all | 1.05 | 1.05 | 1.64 | 1.64 | 2.38 | 2.38 | 2.13 | 2.13 |
| Age | 1.08 | 1.08 | 1.11 | 1.11 | 1.1 | 1.1 | 1.12 | 1.12 |
| Female | 1.03 | 1.03 | 1.04 | 1.04 | 1.06 | 1.06 | 1.11 | 1.11 |
| Education | 1.33 | 1.33 | 1.09 | 1.09 | 1.12 | 1.12 | 1.14 | 1.14 |
| Income | 1.41 | 1.41 | 1.46 | 1.46 | 1.12 | 1.12 | 1.1 | 1.1 |
| Living location – City | 1.18 | 1.18 | 1.06 | 1.06 | 1.03 | 1.03 | 1.06 | 1.06 |
| Mean VIF | 1,21 | 1.21 | 1.33 | 1.33 | 1.43 | 1.34 | 1.42 | 1.42 |

|  |
| --- |
| **CTAs** |
|  | **China** | **Germany** | **US** |
| **Variable** | **Strong doubters****VIF** | **doubters****VIF** | **Strong doubters****VIF** | **doubters****VIF** | **Strong doubters****VIF** | **doubters****VIF** |
| Isolate infected individuals | 1.13 | 1.13 | 1.11 | 1.11 | 1.19 | 1.19 |
| Safer to go out | 1.26 | 1.26 | 1.2 | 1.2 | 1.35 | 1.35 |
| Getting health info | 1.19 | 1.19 | 1.2 | 1.2 | 1.3 | 1.3 |
| Privacy violation | 1.31 | 1.31 | 1.48 | 1.48 | 1.6 | 1.6 |
| Discrimination | 1.2 | 1.2 | 1.28 | 1.28 | 1.41 | 1.41 |
| Gov’t surveillance | 1.1 | 1.1 | 1.5 | 1.5 | 1.54 | 1.54 |
| Data for commercial use | 1.23 | 1.23 | 1.48 | 1.48 | 1.4 | 1.4 |
| None | 1.18 | 1.18 | 1.24 | 1.24 | 1.33 | 1.33 |
| **Trust in government**  |  |  |  |  |  |  |
| Somewhat | 1.03 | 1.03 | 1.77 | 1.77 | 3.21 | 3.21 |
| Neither trust nor distrust  | 1.03 | 1.03 | 1.73 | 1.73 | 2.74 | 2.74 |
| Not much  | 1.03 | 1.03 | 1.59 | 1.59 | 3.00 | 3.00 |
| Not at all | 1.01 | 1.01 | 1.45 | 1.45 | 2.62 | 2.62 |
| Age | 1.06 | 1.06 | 1.09 | 1.09 | 1.03 | 1.03 |
| Female | 1.02 | 1.02 | 1.03 | 1.03 | 1.03 | 1.03 |
| Education | 1.29 | 1.29 | 1.14 | 1.14 | 1.12 | 1.12 |
| Income | 1.33 | 1.33 | 1.1 | 1.1 | 1.06 | 1.06 |
| Living location – City | 1.11 | 1.11 | 1.02 | 1.02 | 1.03 | 1.03 |
| Mean VIF | 1.15 | 1.15 | 1.32 | 1.32 | 1.65 | 1.65 |

**Table A5 Model statistics and goodness-of-fit test**

**SCSs**

|  |  |
| --- | --- |
|  | **China** |
|  | **Strong doubters** | **doubters** |
| *Logistic regression* |  |  |
| **Number of obs.** | 1,439 | 1,439 |
| **LR chi2(15)** |  38.94 | 401.99  |
| **Prob > chi2** | 0.0000 |  0.0000 |
| **Pseudo R2** | 0.3563 | 0.3788 |
| **Log likelihood** | -35.17379 | -329.63545 |
| *Logistic model for strong doubters/doubters in three countries, goodness-of-fit test* |
| **Number of groups** | 10 | 10  |
| **Hosmer–Lemeshow chi2(8)** | 13.91 |  5.22 |
| **Prob > chi2** |  0.0842 | 0.7335 |

**FRT**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **China** | **Germany** | **UK** | **US** |
|  | **Strong doubters** | **doubters** | **Strong doubters** | **doubters** | **Strong doubters** | **doubters** | **Strong doubters** | **doubters** |
| *Logistic regression*  |  |  |
| **Number of obs.** | 1,386 | 1,386 | 1,391 | 1,391 | 1,368 | 1,368 | 1,261 | 1,261 |
| **LR chi2(22)** | 234.84 | 260.48 | 633.58 | 458.99 | 418.81 |  427.26 | 420.86 | 367.8 |
| **Prob > chi2** | 0.0000 |  0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Pseudo R2** | 0.2981 | 0.1509 | 0.3586 | 0.2483 | 0.2819 | 0.2253 | 0.2916 | 0.211 |
| **Log likelihood** | -276.52824 | -732.83865  | -566.73895 | -694.91276  | -533.55261  | -734.59559  | -511.29328  | -687.80397  |
| *Logistic model for strong doubters/doubters in three countries, goodness-of-fit test* |  |  |
| **Number of groups** | 10 | 10  | 10 | 10 |  10 | 10 | 10 | 10 |
| **Hosmer–Lemeshow chi2(8)** | 4.72 | 5.01 | 3.49 | 8.34 | 7.27 | 15.37 | 4.38 | 12.28 |
| **Prob > chi2** | 0.7873 | 0.7565 | 0.8997 | 0.4013 | 0.5080 |  0.0523 | 0.8212 | 0.1393 |

**CTAs**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **China** | **Germany** | **US** |
|  | **Strong doubters** | **doubters** | **Strong doubters** | **doubters** | **Strong doubters** | **doubters** |
| *Logistic regression* |  |  |  |  |  |  |
| **Number of obs.** | 1,854 | 1,933 | 1,716 | 1,716 | 1,714 | 1,714 |
| **LR chi2(17)** | 47.75 | 183.15 | 591.52 | 667.31 | 382.52 | 494.77 |
| **Prob > chi2** | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Pseudo R2** | 0.1375 | 0.106 | 0.3008 | 0.2841 | 0.2158 | 0.2109 |
| **Log likelihood** | -149.73579 | -772.62056 | -687.43766 | -840.59367 | -695.01247 | -925.45951 |
| *Logistic model for strong doubters/doubters in three countries, goodness-of-fit test* |
| **Number of groups** | 10 | 10 | 10 | 10 | 10 | 10 |
| **Hosmer–Lemeshow chi2(8)** | 15.57 | 8.54 | 8.58 | 6.97 | 12.54 | 13.41 |
| **Prob > chi2** | 0.0489 | 0.3826 | 0.3793 | 0.5396 | 0.1288 | 0.0985 |

**Supplementary Material: Text and Tables**

1. **Social Credit Survey (2018)**

For the social credit system, we conducted a nationwide online survey between February and April 2018 in cooperation with a Berlin-based survey company. The survey company collaborates with Chinese companies that operate websites and apps. The survey was conducted online through desktops and mobile applications. The participants came from a river panel user base of more than 350,000 Chinese users who use a variety of more than 40,000 different apps and mobile websites. These apps and mobile websites include different types of games, apps, and websites, such as Design Home (an app to simulate home decoration), TV Smiles (an app for quizzes and prizes to win), Coin Dozer (a gaming app), and Line (a messaging app with 220 million active users). The survey was displayed on offer walls, pages shown on the apps, and websites to provide users with a list of actions or opportunities they can take as rewards. Users were offered small monetary or non-monetary rewards, including access to premium content (e.g., news articles), virtual rewards (e.g., extra lives in games), gift cards, vouchers, charitable donations, and PayPal cash. The survey is a blind opt-in: Online users were offered to take part in a survey, but they did not know the topic of the survey. The conversion rate – that is, the percentage of people who finished the survey after

starting it – was 64%. Questionnaires were deemed invalid if respondents completed them in a very short period of time with straight-lined (i.e., several consecutive identical answers on the Likert-type scale) or inconsistent responses. The exclusion of these questionnaires gave us a total sample size of 2,209 citizens. The sampling process accounted for China’s Internet-connected population distributions regarding age, gender, and region. Quotas were created based on age (14–65), gender, and region by drawing from the most recent statistics available from the International Data Base of the Pew Global Attitudes Survey (2015), US Census Bureau (2016), and Statista (2016). The data was adjusted for demographic groups’ Internet penetration based on data from Pew Global Attitudes Survey (2015), and quotas were created for the three regions (East, West, and Central) from Statista (2016). To obtain results that are representative of the census, the collected data was weighted by age, gender, and region with a maximum weight of 2.0. It was especially difficult to get a response from older citizens from the Western region, and citizens in this category were given a weight of 2.06. Taking into account an estimate of the design effect based on the weights distribution, the overall margin of error for estimates is 2.22%. Table A1 in the Supplemental Appendix outlines our sampling method in greater detail.

The questionnaire consisted of six parts, including sections on demographics, online habits, SCSs (participation, received scores, received benefits and sanctions, believed functions), questions on personal relations, online privacy, and questions on political attitudes. The questions included mixed-question types: rating-scale questions (Likert-type-scale and semantic differential), multiple choice (dichotomous questions, as well as “select one” and “select all that apply”), and open-ended questions. Survey respondents could select and report on different commercial pilots (Sesame Credit, Tencent Credit), as well as local government pilots. Here, a branching logic was developed for certain question combinations. Tables A2 and A3 in the Supplemental Appendix provide an overview of the respondents’ main characteristics (unweighted and weighted results) and summary statistics. Based on weighted figures, 39% of the respondents are female and 61% are male, 55% of respondents are aged 14–30, 42% are aged 31–50, and 3% are 51 and above. A total of 20% of the respondents are from Western China, 35% from Central, and 45% from Eastern

China. The vast majority of respondents (84%) reside in urban areas, not rural areas, which is related to the Internet penetration rate being higher in urban areas and respondents having been recruited online through websites and mobile phone apps. In all, 1,572 ( 31%) respondents indicate their monthly net income per person is below 1,000 RMB, 46% of respondents have a monthly net income per person of between 1,000 and 4,000 RMB, 14% of respondents reported monthly income above 4,000 RMB, while 9% did not want to disclose their income. A total of 1% of respondents had no formal education, 14% received some high school or secondary school education, 14% completed high school or equivalent, while 71% have a university degree or equivalent. Some 68% of respondents were employed, 7% were not employed, 12% in school, university or training, 7% self-employed, and 6% in another category (e.g., retired, disabled).

**2. Facial Recognition Survey (2019)**

## For facial recognition, between August and September 2019, we conducted an online survey in China, Germany, the UK, and the US through a Berlin-based survey firm. As the agency cooperates with app and mobile website providers in each of the four countries, the survey was administered online through mobile applications. As a sampling method, we used “river sampling,” also referred to as intercept sampling or real‐time sampling (Lehdonvirta, Oksanen, Räsänen, & Blank, 2021), drawing participants from a base of between 1 million and 3 million unique users.

This allowed for both first-time and regular survey-takers to participate. From a network of more than 40,000 participating apps and mobile websites, our survey included respondents through more than 100 apps comprising different formats and topics such as shopping (e.g., Amazon), photo-sharing (e.g., Instagram), lifestyle (e.g., DesignHome), and messaging (e.g., Line). Offer walls provided participants the options to receive small financial and non-monetary rewards as an incentive to take part in our survey, such as premium content, extra features, vouchers, and PayPal cash. Users did not know the topic of the questionnaire before opting in to participate, thereby minimizing topical self-selection (Lehdonvirta et al., 2021). Instead, each participant underwent pre-screening before being directed to a survey that they were a match for. The conversion rate of users who fully finished the survey was 70% (China), 73% (Germany), 69% (UK), and 67% (US), respectively. Several consecutive identical answer choices or disproportionately short periods of time for completion of a questionnaire prompted invalidation. This method provided us with a sample size of 6,633 citizens.

The survey is a non-probability online survey that uses quota sampling. Sampling quotas were created from the most recent population statistics available from the Barro Lee 2017 Census Population Data (Barro & Lee, 2017) and adjusted for the Internet penetration data according to information from the Pew Research Center for China (Pew Research Center, 2017), and regional population statistics from Statista (2016). Thus, the findings of this online survey resemble the Internet-connected population in each country – meaning slightly younger and maybe more technology-affine than the overall population. The quotas used for sampling and weighting were set on age (18-65) and gender. For China, respondents were also sampled according to region. These regional samples included quotas for the three main regions of China: Central, (37%) Western (21%), and Eastern (42%). After collecting the necessary number of respondents to meet the quotas for each sub-population, a weight was allocated to correct any minor discrepancies between the collected sample and the quotas used.[[1]](#footnote-1) The maximum weight allocated was 1.8, and the overall margin of error for estimates is 2.4% for China.

**3. COVID-19 Contact Tracing App Survey (2020)**

For COVID-19 tracking apps, in June 2020, we conducted a cross-national online survey in China, Germany, and the US through a Berlin-based survey firm. As the agency cooperates with app and mobile website providers in each of the three countries, the survey was administered online through mobile applications. As a sampling method, we used river sampling, also referred to as intercept sampling or real‐time sampling, drawing participants from a base of between 1 million and 3 million unique users (Lehdonvirta et al. 2021).[[2]](#footnote-2) This allowed for both first-time and regular survey-takers to participate. From a network of more than 40,000 participating apps and mobile websites, our survey included respondents through more than 100 apps comprising different formats and topics such as shopping (e.g., Amazon), photo-sharing (e.g., Instagram), lifestyle (e.g., DesignHome), and messaging (e.g., Line). Offer walls provided participants the options to receive small financial and non-monetary rewards as an incentive to take part in our survey, such as premium content, extra features, vouchers, and PayPal cash. Users did not know the topic of the questionnaire before opting in to participate. Instead, each participant underwent pre-screening before being directed to a survey that they were a match for. A sample of at least 2,000 was generated in each country, considering a pre-defined distribution of age and gender within the population. Respondents were also required to opt in twice to participate in the research. As a first step, participants had to agree to the screening of the survey, and secondly, once the survey had been shown, participants saw a screen that further informed them about the survey and that it would be used for research purposes. Participants were asked to confirm that they understood the information before proceeding with the survey. In addition, questionnaires were deemed invalid if respondents completed them in a very short period of time, with straight-lined responses (i.e., several consecutive identical answers on the Likert-Scale), or with inconsistent responses. The exclusion of these questionnaires provided us with a total sample size of 6,464 from China (n=2,201), Germany (n=2,083), and the US (n=2,180).

Participants were sampled based on age (18–65), gender and region. As this was an online survey, all participants constitute a national representative group of the Internet-connected population – meaning slightly younger and maybe more technology-affine than the overall population. In China, the target variables for weighting were age, gender, education, and region (Central, East, West). Based on the distribution of weights and the size of the sample, the design effects (DF) and margins of error (MOE, at a confidence level of 95%) were calculated for China (DF: 1, MOE: 2.1%).

The questionnaire consisted of six parts, including sections on personal experiences and perceptions of the COVID-19 pandemic, demographics (11 questions), exposure to and experiences with COVID-19 tracing apps (4 questions), acceptance and perceptions of COVID-19 tracing apps (4 questions), regulatory measures regarding digital tracing (8 questions), political context (4 questions), and socio-demographics (5 questions). Table A1 summarizes the respondents’ (i.e., unweighted) main characteristics: 49% of respondents are female and 51% are male; 36% of respondents are aged 14–30, 44% are aged 31–50, and 20% are 51 and above. Some 63% of respondents are resident in urban areas as opposed to 37% residing in rural areas. With regard to levels of education, 31% of respondents have a high level of education level (i.e., a university degree), 53% have reached a medium level of education (i.e., completed high school or equivalent), and 14% have a low level of education, having received only some form of high school or secondary education.

**Table S.1 SCS – Socio-demographic characteristics of strong doubters and doubters in China**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | **Strong doubters** | **“Doubters”** | **Total** |
| **Age** | 14–30 | 54% (n=16) | 60% (n=266) | 55% (n=1217) |
|   | 31–50 | 33% (n=10) | 37% (n=163) | 42% (n=923) |
|   | 51–65 | 13% (n=4) | 4% (n=17) | 3% (n=69) |
| **Income** | Less than 1,000 | 27% (n=8) | 48% (n=215) | 32% (n=699) |
|   | 1,000–4,000 | 24% (n=7) | 28% (n=127) | 45% (n=1,005) |
|   | More than 4,000 | 9% (n=3) | 6% (n=26) | 13% (n=295) |
|  | Prefer not to say | 39% (n=12) | 17% (n=77) | 9% (n=210) |
| **Gender** | Female | 42% (n=12) | 40% (n=178) | 39% (n=851) |
|   | Male | 58% (n=17) | 60% (n=267) | 61% (n=1,358) |
| **Education** | No | 4% (n=1) | 4% (n=17) | 1% (n=28) |
|   | Low | 38% (n=10) | 28% (n=117) | 14% (n=302) |
|   | Medium | 7% (n=2) | 17% (n=70) | 15% (n=319) |
|  | High | 51% (n=13) | 50% (n=207) | 70% (n=1,487) |
| **Employment** | Employed | 57% (n=17) | 62% (n=277) | 77% (n=1,697) |
|  | Student | 12% (n=4) | 15% (n=68) | 13% (n=276) |
|  | Not employed | 25% (n=7) | 19% (n=83) | 8% (n=187) |
|  | None | 5% (n=2) | 4% (n=17) | 2% (n=49) |
| **Location** | Rural | 28% (n=8) | 27% (n=120) | 17% (n=370) |
|   | Urban | 72% (n=21) | 73% (n=325) | 83% (n=1,840) |
| **Region** | West | 26% (n=8) | 27% (n=121) | 29% (n=639) |
|   | Central | 34% (n=10) | 34% (n=151) | 32% (n=710) |
|   | East | 40% (n=12) | 38% (n=168) | 39% (n=853) |
| **Total** |  | 1% (n=30) | 21% (n=445) | n= 2,209 |

**Table S.2 FRT – Socio-demographic characteristics of strong doubters and doubters in China**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **Strong doubters** | **Doubters** | **Neutral respondents** | **Total** |
| **Age** | 18–35 | 57% (n=80) | 67% (n=373) | 70% (n=293) | 68% (n=1,121) |
|  | 36–50 | 28% (n=39) | 26% (n=146) | 26% (n=107) | 27% (n=443) |
|  | 51–65 | 15% (n=21) | 7% (n=39) | 4% (n=17) | 5% (n=87) |
|  |  |  |  |  |  |
| **Gender** | Female | 33% (n=46) | 45% (n=250) | 49% (n=204) | 46% (n=759) |
|  | Male | 67% (n=95) | 55% (n=307) | 51% (n=213) | 54% (n=892) |
|  |  |  |  |  |  |
| **Education** | No/Low | 10% (n=13) | 8% (n=46) | 8% (n=33) | 7% (n=108) |
|  | Medium | 55% (n=77) | 59% (n=331) | 61% (n=254) | 56% (n=930) |
|  | High  | 36% (n=50) | 32% (n=181) | 31% (n=131) | 37% (n=613) |
|  |  |  |  |  |  |
| **Income**  | <1,000 | 16% (n=22) | 19% (n=106) | 20% (n=83) | 14% (n=236) |
|  | 1,000–4,000 | 29% (n=40) | 24% (n=132) | 22% (n=92) | 22% (n=364) |
|  | >4,000 | 45% (n=63) | 43% (n=239) | 42% (n=177) | 53% (n=873) |
|  | Prefer not to say | 11% (n=15) | 14% (n=80) | 16% (n=65) | 11% (n=178) |
|  |  |  |  |  |  |
| **Ethnicity** | Ethnic Minority | 7% (n=10) | 9% (n=49) | 9% (n=38) | 7% (n=116) |
|  | Ethnic Majority | 86% (n=121) | 83% (n=462) | 82% (n=341) | 86% (n=1,424) |
|  | Don’t know  | 6% (n=9) | 8% (n=47) | 9% (n=38) | 7% (n=111) |
|  |  |  |  |  |  |
| **Employment** | Employed | 79% (n=112) | 70% (n=393) | 67% (n=281) | 72% (n=1,188) |
| Student | 8% (n=11) | 15% (n=83) | 17% (n=72) | 16% (n=258) |
| Not employed | 10% (n=14) | 9% (n=51) | 9% (n=38) | 7% (n=123) |
| None | 3% (n=5) | 6% (n=31) | 6% (n=26) | 5% (n=82) |
|  |  |  |  |  |  |
| **Location** | Rural | 35% (n=50) | 34% (n=188) | 33% (n=139) | 31% (n=517) |
|  | City | 65% (n=91) | 66% (n=369) | 67% (n=278) | 69% (n=1,134) |
|  |  |  |  |  |  |
| **Major cities** | Major/Medium | 46% (n=65) | 43% (n=239) | 42% (n=175) | 50% (n=834) |
|  | Others  | 54% (n=76) | 57% (n=318) | 58% (n=252) | 50% (n=817) |
|  |  |  |  |  |  |
| **Region** | Central | 33% (n=46) | 39% (n=217) | 41% (n=171) | 37% (n=611) |
|  | Eastern | 37% (n=53)  | 38% (n=211) | 38% (n=158) | 42% (n=693) |
|  | Western  | 30% (n=42) | 23% (n=130) | 21% (n=87) | 21% (n=347) |
|  |  |  |  |  |  |
| **Total** |  | 9% (n=141) | 34% (n=558) | 25% (n=417) | n=1,651 |

**Table S.3 FRT – Socio-demographic characteristics of strong doubters and doubters in Germany**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **Strong doubters** | **Doubters** | **Neutral respondents** | **Total** |
| **Age** | 18–35 | 35% (n=187) | 37% (n=394) | 39% (n=207) | 35% (n=584) |
|  | 36–50 | 42% (n=222) | 38% (n=399) | 34% (n=176) | 38% (n=638) |
|  | 51–65 | 23% (n=125) | 25% (n=267) | 27% (n=142) | 27% (n=456) |
|  |  |  |  |  |  |
| **Gender** | Female | 53% (n=283) | 54% (n=574) | 56% (n=292) | 50% (n=834) |
|  | Male | 47% (n=251) | 46% (n=485) | 44% (n=234) | 50% (n=843) |
|  |  |  |  |  |  |
| **Education** | No/Low | 21% (n=111) | 14% (n=146) | 7% (n=35) | 11% (n=190) |
|  | Medium | 58% (n=307) | 69% (n=728) | 80% (n=421) | 72% (n=1,201) |
|  | High  | 22% (n=116) | 17% (n=185) | 13% (n=70) | 17% (n=287) |
|  |  |  |  |  |  |
| **Income**  | <1,000 | 7% (n=40) | 9% (n=99) | 11% (n=59) | 9% (n=148) |
|  | 1,000–4,000 | 39% (n=206) | 42% (n=446) | 46% (n=240) | 44% (n=730) |
|  | >4,000 | 44% (n=235) | 36% (n=382) | 28% (n=147) | 36% (n=600) |
|  | Prefer not to say | 10% (n=53) | 13% (n=133) | 15% (n=80) | 12% (n=199) |
|  |  |  |  |  |  |
| **Ethnicity** | Ethnic Minority | 14% (n=74) | 14% (n=146) | 14% (n=71) | 14% (n=227) |
|  | Ethnic Majority | 67% (n=360) | 61% (n=644) | 54% (n=283) | 63% (n=1,060) |
|  | Don’t know  | 19% (n=99) | 26% (n=270) | 33% (n=171) | 23% (n=390) |
|  |  |  |  |  |  |
| **Employment** | Employed | 77% (n=409) | 74% (n=780) | 71% (n=371) | 73% (n=1,229) |
| Student | 5% (n=26) | 7% (n=72) | 9% (n=46) | 7% (n=112) |
| Not employed | 15% (n=79) | 15% (n=164) | 16% (n=85) | 16% (n=275) |
| None | 4% (n=20) | 4% (n=44) | 5% (n=24) | 4% (n=61) |
|  |  |  |  |  |  |
| **Location** | Rural | 25% (n=134) | 30% (n=320) | 35% (n=186) | 32% (n=543) |
|  | City | 75% (n=400) | 70% (n=739) | 66% (n=340) | 68% (n=1,134) |
|  |  |  |  |  |  |
| **Major cities** | Major/Medium | 63% (n=335) | 56% (n=595) | 49% (n=260) | 54% (n=908) |
|  | Others  | 37% (n=199) | 44% (n=464) | 51% (n=265) | 46% (n=769) |
|  |  |  |  |  |  |
| **Region** | East | 10% (n=55) | 11% (n=118) | 12% (n=63) | 11% (n=188) |
|  | West | 80% (n=429)  | 80% (n=849) | 80% (n=421) | 80% (n=1,338) |
|  | Berlin  | 9% (n=51) | 9% (n=92) | 8% (n=42) | 9% (n=151) |
|  |  |  |  |  |  |
| **Party membership** | CDU | 28% (n=152) | 20% (n=214) | 12% (n=62) | 20% (n=343) |
|  | SPD  | 7% (n=36) | 8% (n=84) | 9% (n=48) | 9% (n=153) |
|  | AfD | 8% (n=41) | 9% (n=93) | 10% (n=53) | 9% (n=154) |
|  | FDP | 4% (n=22) | 4% (n=41) | 3% (n=18) | 5% (n=77) |
|  | The Left | 6% (n=34) | 6% (n=64) | 6% (n=30) | 6% (n=100) |
|  | The Greens | 14% (n=73) | 14% (n=151) | 15% (n=78) | 14% (n=242) |
|  | Other party  | 5% (n=25) | 5% (n=56) | 6% (n=32) | 5% (n=88) |
|  | Do not support any party | 28% (n=152) | 34% (n=357) | 39% (n=205) | 31% (n=521) |
|  |  |  |  |  |  |
| **Total** |  | 32% (n=534) | 63% (n=1,059) | 31% (n=525) | n=1,677 |

**Table S.4 FRT – Socio-demographic characteristics of strong doubters and doubters in UK**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **Strong doubters** | **Doubters** | **Neutral respondents** | **Total** |
| **Age** | 18–35 | 38% (n=148) | 39% (n=349) | 40% (n=201) | 39% (n=659) |
|  | 36–50 | 31% (n=119) | 32% (n=285) | 33% (n=165) | 33% (n=556) |
|  | 51–65 | 31% (n=119) | 28% (n=252) | 27% (n=133) | 28% (n=470) |
|  |  |  |  |  |  |
| **Gender** | Female | 48% (n=185) | 53% (n=469) | 57% (n=285) | 50% (n=848) |
|  | Male | 52% (n=202) | 47% (n=416) | 43% (n=214) | 50% (n=837) |
|  |  |  |  |  |  |
| **Education** | No/Low | 9% (n=36) | 9% (n=84) | 10% (n=48) | 8% (n=140) |
|  | Medium | 64% (n=247) | 66% (n=583) | 67% (n=336) | 66% (n=1,105) |
|  | High  | 27% (n=104) | 25% (n=218) | 23% (n=114) | 26% (n=440) |
|  |  |  |  |  |  |
| **Income**  | <1,000 | 20% (n=77) | 18% (n=162) | 17% (n=85) | 15% (n=259) |
|  | 1,000–4,000 | 49% (n=189) | 46% (n=412) | 45% (n=222) | 50% (n=841) |
|  | >4,000 | 19% (n=72) | 18% (n=158) | 17% (n=86) | 21% (n=349) |
|  | Prefer not to say | 12% (n=48) | 17% (n=154) | 21% (n=105) | 14% (n=237) |
|  |  |  |  |  |  |
| **Ethnicity** | Ethnic Minority | 18% (n=69) | 17% (n=146) | 16% (n=78) | 15% (n=257) |
|  | Ethnic Majority | 64% (n=247) | 60% (n=532) | 57% (n=284) | 66% (n=1,114) |
|  | Don’t know  | 71% (n=71) | 23% (n=207) | 27% (n=137) | 19% (n=314) |
|  |  |  |  |  |  |
| **Employment** | Employed | 64% (n=247) | 62% (n=546) | 60% (n=299) | 64% (n=1,071) |
| Student | 4% (n=17) | 7% (n=65) | 10% (n=48) | 7% (n=117) |
| Not employed | 27% (n=103) | 26% (n=229) | 25% (n=126) | 25% (n=424) |
| None | 5% (n=20) | 5% (n=46) | 5% (n=26) | 4% (n=73) |
|  |  |  |  |  |  |
| **Location** | Rural | 42% (n=161) | 42% (n=375) | 43% (n=215) | 41% (n=686) |
|  | City | 58% (n=226) | 58% (n=510) | 57% (n=284) | 59% (n=999) |
|  |  |  |  |  |  |
| **Major cities** | Major/Medium | 41% (n=159) | 39% (n=346) | 38% (n=188) | 40% (n=672) |
|  | Others  | 59% (n=228) | 61% (n=539) | 62% (n=311) | 60% (n=1,013) |
|  |  |  |  |  |  |
| **Region** | Scotland | 12% (n=47) | 13% (n=114) | 13% (n=63) | 14% (n=229) |
|  | Northern | 7% (n=29)  | 7% (n=63) | 7% (n=421) | 6% (n=107) |
|  | Wales | 3% (n=11) | 3% (n=23) | 2% (n=42) | 2% (n=40) |
|  | England (without London) | 71% (n=274) | 70% (n=622) | 70% (n=348) | 71% (n=1,191) |
|  | Greater London | 7% (n=25) | 7% (n=64) | 8% (n=39) | 7% (n=119) |
|  |  |  |  |  |  |
| **Party membership** | Conservative | 15% (n=57) | 15% (n=136) | 16% (n=79) | 20% (n=334) |
|  | Labour | 24% (n=94) | 20% (n=177) | 17% (n=82) | 22% (n=372) |
|  | Lib Dem | 9% (n=36) | 7% (n=64) | 6% (n=27) | 7% (n=124) |
|  | SNP | 2% (n=8) | 2% (n=21) | 3% (n=13) | 2% (n=37) |
|  | Other party  | 22% (n=86) | 20% (n=175) | 18% (n=89) | 18% (n=298) |
|  | Do not support any party | 27% (n=106) | 35% (n=313) | 42% (n=207) | 31% (n=520) |
|  |  |  |  |  |  |
| **Total** |  | 23% (n=387) | 53% (n=885) | 30% (n=499) | n=1,685 |
|  |  |  |  |  |  |

**Table S.5 FRT – Socio-demographic characteristics of strong doubters and doubters in US**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **Strong doubters** | **Doubters** | **Neutral respondents** | **Total** |
| **Age** | 18–35 | 40% (n=172) | 42% (n=381) | 44% (n=209) | 40% (n=652) |
|  | 36–50 | 36% (n=153) | 34% (n=302) | 32% (n=149) | 35% (n=566) |
|  | 51–65 | 24% (n=101) | 24% (n=216) | 24% (n=115) | 25% (n=403) |
|  |  |  |  |  |  |
| **Gender** | Female | 47% (n=201) | 52% (n=471) | 57% (n=270) | 50% (n=813) |
|  | Male | 53% (n=226) | 48% (n=428) | 43% (n=203) | 50% (n=807) |
|  |  |  |  |  |  |
| **Education** | No/Low | 5% (n=22) | 5% (n=46) | 5% (n=24) | 5% (n=76) |
|  | Medium | 72% (n=307) | 74% (n=662) | 75% (n=354) | 69% (n=1,121) |
|  | High  | 23% (n=98) | 21% (n=192) | 20% (n=94) | 26% (n=423) |
|  |  |  |  |  |  |
| **Income**  | <1,000 | 20% (n=85) | 19% (n=171) | 18% (n=86) | 17% (n=268) |
|  | 1,000–4,000 | 31% (n=132) | 30% (n=273) | 30% (n=141) | 30% (n=490) |
|  | >4,000 | 32% (n=136) | 32% (n=284) | 31% (n=148) | 37% (n=597) |
|  | Prefer not to say | 17% (n=74) | 19% (n=171) | 21% (n=98) | 16% (n=265) |
|  |  |  |  |  |  |
| **Ethnicity** | Ethnic Minority | 25% (n=105) | 24% (n=212) | 22% (n=106) | 23% (n=370) |
|  | Ethnic Majority | 52% (n=223) | 49% (n=444) | 47% (n=221) | 56% (n=902) |
|  | Don’t know  | 23% (n=99) | 27% (n=244) | 31% (n=145) | 21% (n=347) |
|  |  |  |  |  |  |
| **Employment** | Employed | 65% (n=276) | 59% (n=531) | 54% (n=255) | 62% (n=1,006) |
| Student | 6% (n=27) | 7% (n=64) | 8% (n=37) | 7% (n=108) |
| Not employed | 24% (n=103) | 28% (n=256) | 32% (n=153) | 27% (n=433) |
| None | 5% (n=20) | 5% (n=49) | 6% (n=28) | 5% (n=73) |
|  |  |  |  |  |  |
| **Location** | Rural | 32% (n=138) | 37% (n=333) | 41% (n=195) | 36% (n=585) |
|  | City | 68% (n=289) | 63% (n=567) | 59% (n=278) | 64% (n=1,035) |
|  |  |  |  |  |  |
| **Major cities** | Major/Medium | 53% (n=225) | 51% (n=459) | 49% (n=233) | 53% (n=852) |
|  | Others  | 47% (n=201) | 49% (n=441) | 51% (n=239) | 47% (n=768) |
|  |  |  |  |  |  |
| **Region** | Northeast | 19% (n=79) | 18% (n=166) | 18% (n=87) | 19% (n=306) |
|  | South | 39% (n=166)  | 38% (n=345) | 38% (n=179) | 39% (n=639) |
|  | Midwest | 21% (n=90) | 24% (n=212) | 26% (n=122) | 23% (n=372) |
|  | West | 22% (n=92) | 20% (n=176) | 18% (n=84) | 19% (n=303) |
|  |  |  |  |  |  |
| **Party membership** | Democratic  | 30% (n=129) | 29% (n=258) | 27% (n=128) | 31% (n=497) |
|  | Republican | 23% (n=97) | 23% (n=204) | 23% (n=107) | 25% (n=409) |
|  | Other parties | 19% (n=81) | 17% (n=150) | 15% (n=69) | 15% (n=251) |
|  | Do not support any party | 28% (n=120) | 32% (n=288) | 36% (n=168) | 29% (n=463) |
|  |  |  |  |  |  |
| **Total** |  | 26% (n=427) | 55% (n=900) | 29% (n=473) | n=1,620 |

**Table S.6 CTA – Socio-demographic characteristics of strong doubters and doubters of in China**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **Strong doubters** | **Doubters** | **Neutral respondents** | **Total** |
| **Age** | 18–35 | 73% (n=40) | 74% (n=314) | 74% (n=274) | 66% (n=1,448) |
|  | 36–50 | 19% (n=10) | 20% (n=84) | 20% (n=74) | 28% (n=616) |
|  | 51–65 | 8% (n=4) | 6% (n=27) | 6% (n=22) | 6% (n=137) |
|  |  |  |  |  |  |
| **Gender** | Female | 36% (n=20) | 43% (n=184) | 44% (n=164) | 54% (n=1,189) |
|  | Male | 64% (n=35) | 57% (n=241) | 56% (n=206) | 46% (n=1,012) |
|  |  |  |  |  |  |
| **Education** | No/Low | 15% (n=8) | 8% (n=33) | 7% (n=25) | 5% (n=120) |
|  | Medium | 59% (n=32) | 70% (n=297) | 72% (n=265) | 59% (n=1,309) |
|  | High  | 27% (n=15) | 22% (n=95) | 22% (n=80) | 35% (n=772) |
|  |  |  |  |  |  |
| **Income**  | <1,000 | 34% (n=19) | 19% (n=82) | 17% (n=63) | 13% (n=289) |
|  | 1,000–4,000 | 15% (n=8) | 23% (n=98) | 24% (n=90) | 24% (n=527) |
|  | >4,000 | 34% (n=18) | 39% (n=167) | 40% (n=148) | 53% (n=1,167) |
|  | Prefer not to say | 17% (n=9) | 18% (n=78) | 19% (n=69) | 10% (n=218) |
|  |  |  |  |  |  |
| **Employment** | Employed | 51% (n=28) | 58% (n=247) | 59% (n=219) | 67% (n=1,469) |
| Student | 18% (n=10) | 17% (n=72) | 17% (n=62) | 13% (n=295) |
| Not employed | 20% (n=11) | 20% (n=85) | 20% (n=74) | 17% (n=371) |
| None | 11% (n=6) | 5% (n=22) | 4% (n=16) | 3% (n=65) |
|  |  |  |  |  |  |
| **Household** | Single | 12%(n=7) | 11% (n=48) | 11% (n=41) | 9% (n=206) |
| **Type** | Non-single | 88% (n=48) | 89% (n=377) | 89% (n=329) | 91% (n=1,995) |
|  |  |  |  |  |  |
| **Location** | Rural | 46% (n=25) | 40% (n=169) | 39% (n=144) | 35% (n=776) |
|  | City | 54% (n=30) | 60% (n=256) | 61% (n=226) | 65% (n=1,425) |
|  |  |  |  |  |  |
| **Major cities** | Major/Medium | 36% (n=55) | 38% (n=162) | 38% (n=142) | 47% (n=1,037) |
|  | Others  | 64% (n=35) | 62% (n=263) | 62% (n=228) | 53% (n=1,164) |
|  |  |  |  |  |  |
| **Region** | Central | 38% (n=21) | 39% (n=165) | 39% (n=144) | 37% (n=811) |
|  | Eastern | 41% (n=23) | 38% (n=161) | 37% (n=138) | 42% (n=921) |
| Western | 21% (n=11) | 23% (n=99) | 24% (n=88) | 21% (n=469) |
|  |  |  |  |  |
| **Total** |  | 2% (n=55) | 19% (n=425) | 17% (n=370) | n=2,201 |

**Table S.7 CTA – Socio-demographic characteristics of strong doubters and doubters of in Germany**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **Strong doubters** | **Doubters** | **Neutral respondents** | **Total** |
| **Age** | 18–35 | 40% (n=221) | 38% (n=475) | 37% (n=254) | 35% (n=731) |
|  | 36–50 | 34% (n=192) | 36% (n=451) | 38% (n=259) | 36% (n=742) |
|  | 51–65 | 26% (n=145) | 25% (n=314) | 25% (n=169) | 29% (n=610) |
|  |  |  |  |  |  |
| **Gender** | Female | 45% (n=252) | 50% (n=624) | 44% (n=164) | 50% (n=1,038) |
|  | Male | 55% (n=306) | 50% (n=616) | 56% (n=206) | 50% (n=1,045) |
|  |  |  |  |  |  |
| **Education** | No/Low | 7% (n=40) | 7% (n=91) | 8% (n=51) | 6% (n=120) |
|  | Medium | 75% (n=416) | 74% (n=922) | 74% (n=505) | 72% (n=1,309) |
|  | High  | 18% (n=101) | 18% (n=227) | 18% (n=126) | 22% (n=455) |
|  |  |  |  |  |  |
| **Income**  | <1,000 | 12% (n=66) | 13% (n=159) | 17% (n=63) | 11% (n=239) |
|  | 1,000–4,000 | 47% (n=261) | 46% (n=574) | 24% (n=90) | 47% (n=977) |
|  | >4,000 | 24% (n=136) | 23% (n=290) | 40% (n=148) | 27% (n=567) |
|  | Prefer not to say | 17% (n=557) | 18% (n=218) | 19% (n=69) | 14% (n=300) |
|  |  |  |  |  |  |
| **Employment** | Employed | 73% (n=409) | 71% (n=880) | 69% (n=471) | 71% (n=1,482) |
| Student | 6% (n=36) | 7% (n=82) | 7% (n=47) | 7% (n=146) |
| Not employed | 16% (n=91) | 18% (n=219) | 19% (n=127) | 18% (n=369) |
| None | 4% (n=22) | 5% (n=59) | 6% (n=38) | 4% (n=85) |
|  |  |  |  |  |  |
| **Household** | Single | 28%(n=157) | 27% (n=340) | 27% (n=183) | 26% (n=534) |
| **Type** | Non-single | 72% (n=400) | 73% (n=900) | 73% (n=500) | 74% (n=1,549) |
|  |  |  |  |  |  |
| **Location** | Rural | 39% (n=216) | 37% (n=456) | 39% (n=144) | 37% (n=772) |
|  | City | 61% (n=342) | 63% (n=784) | 61% (n=226) | 63% (n=1,311) |
|  |  |  |  |  |  |
| **Major cities** | Major/Medium | 51% (n=285) | 52% (n=651) | 54% (n=366) | 53% (n=1,106) |
|  | Others  | 49% (n=273) | 48% (n=589) | 46% (n=317) | 47% (n=977) |
|  |  |  |  |  |  |
| **Total** |  | 27% (n=557) | 60% (n=1,240) | 33% (n=683) | n=2,084 |

**Table S.8 CTA – Socio-demographic characteristics of strong doubters and doubters of in US**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **Strong doubters** | **Doubters** | **Neutral respondents** | **Total** |
| **Age** | 18–35 | 35% (n=169) | 41% (n=538) | 44% (n=369) | 40% (n=879) |
|  | 36–50 | 38% (n=185) | 34% (n=450) | 32% (n=265) | 34% (n=732) |
|  | 51–65 | 27% (n=133) | 25% (n=338) | 24% (n=205) | 26% (n=569) |
|  |  |  |  |  |  |
| **Gender** | Female | 52% (n=253) | 52% (n=689) | 52% (n=436) | 50% (n=1,096) |
|  | Male | 48% (n=234) | 48% (n=637) | 48% (n=403) | 50% (n=1,084) |
|  |  |  |  |  |  |
| **Education** | No/Low | 4% (n=20) | 4% (n=54) | 4% (n=35) | 4% (n=81) |
|  | Medium | 70% (n=340) | 76% (n=1,005) | 79% (n=665) | 71% (n=1,551) |
|  | High  | 26% (n=127) | 20% (n=267) | 17% (n=140) | 25% (n=548) |
|  |  |  |  |  |  |
| **Income**  | <1,000 | 14% (n=66) | 16% (n=215) | 18% (n=149) | 17% (n=363) |
|  | 1,000–4,000 | 30% (n=146) | 28% (n=365) | 26% (n=219) | 27% (n=594) |
|  | >4,000 | 36% (n=173) | 34% (n=456) | 34% (n=283) | 38% (n=830) |
|  | Prefer not to say | 21% (n=101) | 22% (n=289) | 22% (n=188) | 18% (n=392) |
|  |  |  |  |  |  |
| **Employment** | Employed | 58% (n=282) | 53% (n=696) | 49% (n=415) | 57% (n=1,235) |
| Student | 3% (n=16) | 6% (n=80) | 8% (n=64) | 6% (n=131) |
| Not employed | 33% (n=159) | 34% (n=452) | 35% (n=293) | 32% (n=690) |
| None | 6% (n=30) | 7% (n=97) | 8% (n=67) | 6% (n=123) |
|  |  |  |  |  |  |
| **Household** | Single | 18%(n=88) | 18% (n=235) | 18% (n=147) | 18% (n=394) |
| **Type** | With others | 82% (n=398) | 82% (n=1,090) | 82% (n=692) | 82% (n=1,785) |
|  |  |  |  |  |  |
| **Location** | Rural | 41% (n=200) | 37% (n=456) | 39% (n=144) | 39% (n=839) |
|  | City | 59% (n=287) | 63% (n=784) | 61% (n=226) | 61% (n=1,340) |
|  |  |  |  |  |  |
| **Major cities** | Major/Medium | 42% (n=204) | 45% (n=602) | 47% (n=398) | 50% (n=1,086) |
| Others  | 58% (n=282) | 55% (n=724) | 53% (n=441) | 50% (n=1,093) |
|  |  |  |  |  |  |
| **Total** |  | 22% (n=486) | 60% (n=1,325) | 38% (n=839) | n=2,180 |

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1. The current sample is not optimal because given the method of river sampling, active and tech-affine citizens are most likely overrepresented in our sample. Post-stratification is a useful tool to improve a sample’s representativeness. However, for questions that we considered to post-stratify, relevant official data is only available at the national level and not concerning geographical, gender, or age distribution. As such, we decided to use weighted data and not to post-stratify. [↑](#footnote-ref-1)
2. River sampling does not include a fixed number of potential survey respondents, as the survey is displayed on offer walls within apps and websites and can, thus, reach millions of users. [↑](#footnote-ref-2)