

1 Supplementary Information of The “recognition,”
2 “belief,” and “action” regarding conspiracy
3 theories: An empirical study using large-scale
4 samples from Japan and the United States

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17 **Appendix A Construction of Outcome Variables**

18 To capture the progression from initial awareness to behavioral actions, we constructed
19 three sequential outcome variables, **Recognition**, **Belief**, and **Action** (Demonstra-
20 tive and Diffusion Actions), for each conspiracy theory. The conspiracy statements
21 used in the survey are listed below, along with the coding process for each outcome
22 stage.

23 **A.1 Conspiracy Statements**

24 Respondents were shown 11 conspiracy theories relevant to their country, adapted
25 from contemporary or historically prominent conspiracy claims.

26 **United States:**

- 27 • **U.consp1:** The idea of man-made global warming is a hoax that was invented to
28 deceive people.
- 29 • **U.consp2:** The truth about the harmful effects of vaccines is being deliberately
30 hidden from the public.
- 31 • **U.consp3:** Regardless of who is officially in charge of governments and other organ-
32 isations, there is a single group of people who secretly control events and rule the
33 world together.
- 34 • **U.consp4:** The 1969 moon landings were faked.
- 35 • **U.consp5:** Humanoid reptiles are becoming leaders of various countries and
36 controlling humanity.
- 37 • **U.consp6:** Democratic Party members are involved in organizes criminal activities.
- 38 • **U.consp7:** Coronavirus is a myth created by some powerful forces, and the virus
39 does not really exist.
- 40 • **U.consp8:** Human have made contact with aliens and this fact has been deliber-
41 ately hidden from the public.
- 42 • **U.consp9:** The US Government knowingly helped to make the 9/11 terrorist
43 attacks happen in America on 11 September, 2001.
- 44 • **U.consp10:** There was electoral fraud by the Biden camp in the 2020 U.S.
45 presidential election.
- 46 • **U.consp11:** The government is spraying harmful substances from the sky (chem-
47 trails).

48 **Japan:**

- 49 • **J.consp1:** The idea of man-made global warming is a hoax that was invented to
50 deceive people.
- 51 • **J.consp2:** The truth about the harmful effects of vaccines is being deliberately
52 hidden from the public.
- 53 • **J.consp3:** Regardless of who is officially in charge of governments and other organ-
54 isations, there is a single group of people who secretly control events and rule the
55 world together.
- 56 • **J.consp4:** Foreign residents in Japan are manipulating politicians and the media.
- 57 • **J.consp5:** The major earthquakes that have occurred in Japan so far are artificial
58 earthquakes.
- 59 • **J.consp6:** Humanoid reptiles are becoming leaders of various countries and
60 controlling humanity.
- 61 • **J.consp7:** Coronavirus is a myth created by some powerful forces, and the virus
62 does not really exist.
- 63 • **J.consp8:** Human have made contact with aliens and this fact has been deliberately
64 hidden from the public.
- 65 • **J.consp9:** The US Government knowingly helped to make the 9/11 terrorist attacks
66 happen in America on 11 September, 2001.
- 67 • **J.consp10:** There was electoral fraud by the Biden camp in the 2020 U.S.
68 presidential election.
- 69 • **J.consp11:** The government is spraying harmful substances from the sky (chem-
70 trails).

71 **A.2 Recognition**

72 For each of the 11 conspiracy statements, respondents were asked:

73 “Have you seen or heard the following information?” 1. Have seen or heard 2. Don’t know

74 If they answered “Have seen or heard” the variable **Recognition** was coded as 1 for
75 that particular conspiracy.

76 **A.3 Belief**

77 Respondents who recognized each conspiracy were subsequently asked:

78 “What do you think about the truthfulness of the following information?” 1. I believe it is
79 true 2. I don’t know 3. I believe it is false”

80 We then constructed a binary variable **Belief**, coded as 1 if the respondent selected
81 “I believe it is true.”

82 **A.4 Action**

83 Respondents who expressed belief in at least one conspiracy theory were further
84 asked whether they had engaged in any of the following actions related to that belief
85 (multiple selections allowed):

- 86 1. I have had an argument with family friends, or acquaintances about this informa-
87 tion.
- 88 2. I have attended a gathering related to this information (offline : street demonstra-
89 tions, offline meating, etc.).
- 90 3. I have attended a gathering related to this information (online: social media
91 communities, online meetings, etc.).
- 92 4. I have contacted someone involved regarding this information.
- 93 5. I have disseminated this information (offline: street advocacy, leaflet distribution
94 ,etc.).
- 95 6. I have disseminated this information (online: on X, Facebook, Instagram (including
96 just repost or share), online forums, etc.).
- 97 7. I have talked to family, friends, or acquaintances about this information.

98 For analytical purposes, these responses were aggregated into two distinct outcome
99 variables:

- 100 • **Demonstrative Action** was coded as 1 if the respondent selected at least one of
101 items 1 through 4.
- 102 • **Diffusion Action** was coded as 1 if the respondent selected at least one of items
103 5 through 7.

104 **Appendix B Construction of Explanatory Variables**

105 This section details the construction of each explanatory variable summarized in
106 Table ???. Unless otherwise noted, variables were similarly measured in both Japan and

¹⁰⁷ the U.S. The coding rules and normalization schemes are described below. The dis-
¹⁰⁸ tributions of the explanatory variables obtained from the survey responses are shown
¹⁰⁹ in Figures S3 - S8 for the U.S. and Japan, respectively.

¹¹⁰ **B.1 Urbanization**

¹¹¹ United States: Respondents indicated their place of residence among six options:

- ¹¹² 1. In a large city (over 250,000)
- ¹¹³ 2. In a suburb near a large city
- ¹¹⁴ 3. In a medium-sized city (50,000–250,000)
- ¹¹⁵ 4. In a small city or town (under 50,000)
- ¹¹⁶ 5. On a farm
- ¹¹⁷ 6. In open country but not on a farm

¹¹⁸ Japan: Respondents indicated their place of residence among four options:

- ¹¹⁹ 1. Tokyo's 23 wards or a government-designated city
- ¹²⁰ 2. A prefectural capital (excluding category 1)
- ¹²¹ 3. Other Cities
- ¹²² 4. Towns or Villages

¹²³ We coded **Urbanization** = 1 if category 1 was selected, and 0 otherwise.

¹²⁴ **B.2 Educational Attainment**

¹²⁵ We asked respondents for their highest level of school from which they graduated,
¹²⁶ selected from:

- ¹²⁷ 1. Graduate School
- ¹²⁸ 2. University
- ¹²⁹ 3. Junior College / Technical College
- ¹³⁰ 4. Vocational / Specialized School
- ¹³¹ 5. High School
- ¹³² 6. Middle School
- ¹³³ 7. Unknown

¹³⁴ **Bachelor's degree** was coded as 1 if respondents chose at least a university-level
¹³⁵ education (categories 1 or 2), while **Postgraduate Degree** was coded as 1 if respon-
¹³⁶ dents chose graduate-level education (category 1.) Parental educational attainment
¹³⁷ was also collected.

¹³⁸ **B.3 Household Income**

¹³⁹ We obtained information on total household income, using country-specific bracketed
¹⁴⁰ categories. In the United States, income was reported across 18 brackets, ranging
¹⁴¹ from "Under \$1,000" to "\$170,000 or over." In Japan, income was reported in 17
¹⁴² brackets, from "No income (0 JPY)" to "Over 20 million JPY." Each income bracket
¹⁴³ was converted to its midpoint (e.g., \$1,000–\$4,999 was assigned a value of \$3,000), and

¹⁴⁴ subsequently normalized so that \$100,000 in the U.S. and 10 million JPY in Japan
¹⁴⁵ both corresponded to 1.

¹⁴⁶ **B.4 Employment Status**

¹⁴⁷ Respondents reported their current work status from following 13 categories:

- ¹⁴⁸ 1. Executives / Directors
- ¹⁴⁹ 2. Full-time Employee (Senior Manager and above)
- ¹⁵⁰ 3. Full-time Employee (Manager)
- ¹⁵¹ 4. Full-time Employee (Assistant Manager/Supervisor)
- ¹⁵² 5. Full-time Employee (General Staff)
- ¹⁵³ 6. Self-employed / Business Owner
- ¹⁵⁴ 7. Family Worker
- ¹⁵⁵ 8. Temporary / Contract Employee
- ¹⁵⁶ 9. Part-time / Temporary (including Student Part-time)
- ¹⁵⁷ 10. Freelancer
- ¹⁵⁸ 11. Unemployed (including Homemakers)
- ¹⁵⁹ 12. Retired (Pensioner)
- ¹⁶⁰ 13. Student

¹⁶¹ **Permanent Employee** was coded as 1 for respondents selecting categories 2 to 5,
¹⁶² and **Student** was coded as 1 for those selecting category 13.

¹⁶³ **B.5 Company Size**

¹⁶⁴ Respondents were asked about the size of their working firm:

- ¹⁶⁵ 1. 1 – 4 employees
- ¹⁶⁶ 2. 5 - 9 employees
- ¹⁶⁷ 3. 10 - 29 employees
- ¹⁶⁸ 4. 30 - 99 employees
- ¹⁶⁹ 5. 100 - 299 employees
- ¹⁷⁰ 6. 300 - 499 employees
- ¹⁷¹ 7. 500 - 999 employees
- ¹⁷² 8. 1,000 employees or more

¹⁷³ We created three binary variables: **Small Company** = 1 if the respondent selected
¹⁷⁴ categories 3 or 4 (10–99 employees), **Medium-sized Company** = 1 if the respondent
¹⁷⁵ selected categories 5, 6, or 7 (100–999 employees), and **Large Company** = 1 if
¹⁷⁶ category 8 was selected (1,000 or more employees).

¹⁷⁷ **B.6 Political Orientation**

¹⁷⁸ We constructed two continuous indices, **Political Polarization** and **Conservative**
¹⁷⁹ **Orientation**, based on respondents' policy preferences.

¹⁸⁰ United States: Respondents rated ten policy issues (e.g., constitutional revision,
¹⁸¹ social security, same-sex marriage, nuclear power plants, immigration, etc.) on 7-point
¹⁸² scales based on [1], as below:

- 183 1. Abortion should be legalized
- 184 2. Same-sex marriage should be legalized
- 185 3. Prayer in schools should be mandatory
- 186 4. The death penalty should be implemented
- 187 5. The right to bear arms should be guaranteed
- 188 6. Military spending should be increased
- 189 7. Marijuana should be legalized
- 190 8. Immigration should be restricted
- 191 9. The government should reduce the income gap
- 192 10. The rich should be taxed more

193 Japan: Respondents similarly rated ten policy issues (e.g., constitutional revision,
 194 social security, same-sex marriage, nuclear power plants, immigration, etc.) on 7-point
 195 scales based on [2], as below:

- 196 1. Article 9 of the Constitution should be amended
- 197 2. Social security spending should be increased
- 198 3. Married couples should be allowed to have separate surnames
- 199 4. Environmental protection should be prioritized over economic growth
- 200 5. Nuclear power plants should be immediately abolished
- 201 6. The government should guarantee a certain level of employment and income
- 202 7. Schools should teach children patriotism
- 203 8. An increase in foreign immigrants is bad for Japan
- 204 9. The Liberal Democratic Party is trying to return Japan to the dark pre-war era
- 205 10. Same-sex marriage should be recognized

206 We aggregated each respondent's left-right positioning on the 7-point scale. **Con-**
 207 **servative Orientation** was coded as a binary variable, where respondents selecting
 208 positions closer to the conservative end of the scale were coded as 1, and those select-
 209 ing positions closer to the liberal end were coded as 0. **Political Polarization** was
 210 computed by rescaling the left-right scale from -1 (most liberal) to +1 (most conser-
 211 vative), and taking the absolute value of each respondent's position, so that higher
 212 values indicate stronger ideological leaning toward either pole. The final index was
 213 normalized to range from 0 (most moderate) to 1 (most extreme).

214 **B.7 Trust in Government and Scientists**

215 Respondents rated their trust in the government and in scientists on a 7-point scale.
 216 For each target, responses were recoded into a binary variable, where responses indi-
 217 cating trust were coded as 1. This recoding allows for a simplified measure of trust
 218 orientation, distinguishing between trust and distrust.

219 **B.8 Religiosity**

220 We measured belief in the afterlife, heaven, hell, religious miracles, the spiritual power
 221 of ancestors, and God, based on ISSP 2018 [3]. Each item was recoded into a binary
 222 variable, where belief was coded as 1 and non-belief as 0. The **Religiosity** score was

²²³ computed as the sum of these binary responses, normalized to range from 0 (no belief)
²²⁴ to 1 (belief in all).

²²⁵ **B.9 Media Usage Habits**

²²⁶ We asked about average daily usage of seven types of media:

- ²²⁷ 1. Social media (e.g., X, Instagram, Facebook)
- ²²⁸ 2. Video platforms (e.g., YouTube, Netflix)
- ²²⁹ 3. Television and newspapers (including online editions)
- ²³⁰ 4. Radio and magazines (including online editions)
- ²³¹ 5. Online news websites
- ²³² 6. Messaging apps (e.g., LINE, Messenger, WhatsApp)
- ²³³ 7. Personal websites and blogs

²³⁴ For each medium, respondents reported their average usage time separately for week-
²³⁵ days and weekends, using a 10-point scale ranging from “0 minutes” to “5 hours or
²³⁶ more.” We computed the midpoint of each bracket to obtain a numeric estimate
²³⁷ of usage time and then calculated the average daily usage. Each medium was then
²³⁸ recoded as a binary variable, where each media usage = 1 if the average daily usage
²³⁹ exceeded 30 minutes.

²⁴⁰ **B.10 Cultural Capital (at Age 15)**

²⁴¹ Following SSM2015 [4], we asked whether the respondent’s household had each of
²⁴² six items, a child’s own room, study desk, piano, literary collections/encyclopedias, a
²⁴³ computer/word processor, or art/antique items, at age 15. Each “yes” response was
²⁴⁴ assigned 1 point, and the total (0–6) was normalized to a 0 – 1 range (with 6 points
²⁴⁵ = 1).

²⁴⁶ **B.11 Economic Capital (at Age 15)**

²⁴⁷ Following [5], we asked whether the respondent’s household had each of twelve items,
²⁴⁸ privately-owned home, a bath, a sofa set, a television, a radio, a DVD player, a refrig-
²⁴⁹ erator, a microwave, a telephone, a camera, an air conditioner, or a car, at age 15.
²⁵⁰ Each “yes” response was assigned 1 point, and the total (0–12) was normalized to a 0
²⁵¹ – 1 range (with 12 points = 1).

²⁵² **B.12 Having Books**

²⁵³ Respondents reported the approximate number of books in their household at age 15,
²⁵⁴ and currently in their home. Possible responses ranged from “10 or fewer” to “501 or
²⁵⁵ more,” in seven ordered categories based on SSM2015 [4]. We assigned the midpoint
²⁵⁶ of each category, then normalized so that 100 books = 1.

²⁵⁷ **B.13 Reading Books**

²⁵⁸ Respondents reported how many books they read in a year on a 6-point scale. Possible
²⁵⁹ responses ranged from “Does not read books at all” to “More than 21 books,” in six

260 ordered categories based on SSM2015 [4] and GSS2022 [6]. We assigned the midpoint
261 of each category, then normalized so that 10 books = 1.

262 B.14 Number of Friends

263 We asked: “If you divide the people you know into ‘friends’ and ‘acquaintances,’ how
264 many would you consider ‘friends’?” We took the numeric answer and normalized it
265 so that 100 friends = 1.

266 B.15 Social Class

267 Respondents self-reported their perceived social class on a 9-point scale:

- 268 1. Upper Class – Upper
- 269 2. Upper Class – Middle
- 270 3. Upper Class – Lower
- 271 4. Middle Class – Upper
- 272 5. Middle Class – Middle
- 273 6. Middle Class – Lower
- 274 7. Lower Class – Upper
- 275 8. Lower Class – Middle
- 276 9. Lower Class – Lower

277 We constructed binary indicators for both current social class and social class at age
278 15. Specifically, respondents who identified with any of the “Upper Class” categories
279 (points 1–3) were classified as **Upper**, while those selecting any of the “Lower Class”
280 categories (points 7–9) were classified as **Lower**. These classifications were applied
281 both to respondents’ current social class and their perceived social class at age 15.
282 Based on these classifications, we defined **Upward Social Mobility** as a binary
283 variable, coded as 1 if the respondent’s current perceived social class was higher than
284 their perceived social class at age 15.

285 Appendix C Model Validation and Posterior 286 Predictive Checks

287 C.1 Posterior Predictive Checks

288 To evaluate the adequacy of our multivariate Bernoulli model, we conducted posterior
289 predictive checks (PPCs) for the four outcome variables: Recognition, Belief, Demon-
290 strative Action, and Diffusion Action. First, we examined how closely the model’s
291 predicted probabilities matched the proportions observed in the actual data. This
292 allowed us to verify whether the model was capturing the correct rate of occurrence
293 for each outcome. In addition, we compared summary statistics, such as the over-
294 all mean of each outcome, computed from the model’s predictive distribution against
295 those calculated directly from the observed data.

296 Figures S31 and S32 illustrate these checks for the U.S. and Japan, respectively.
297 Figures (a), (c), (e), and (g) in each figure compare the observed frequencies with the

model's predicted frequencies, showing strong alignment across outcomes. Figures (b), (d), (f), and (h) compare summary statistics for the observed data versus samples from the posterior predictive distribution. The close agreement in each case indicates that the model is not systematically under- or overestimating event probabilities, thereby supporting our modeling assumptions.

C.2 Convergence Diagnostics

All Markov chain Monte Carlo simulations achieved acceptable levels of convergence, with $\hat{R} \leq 1.01$ for all parameters in the U.S. models and $\hat{R} \leq 1.03$ in the Japan models. In particular, for Japan, only the Intercept and Belief coefficients in the Demonstrative and Diffusion outcomes slightly exceeded 1.01, while all other parameters were below this threshold. Because the parameters with higher \hat{R} values do not directly affect our primary interpretations, this minor deviation does not compromise the reliability of our inferences. Moreover, we observed no divergent transitions, suggesting that the Hamiltonian Monte Carlo sampler was well-tuned. For detailed convergence metrics and the exact parameter estimates, refer to Tables S7 - S14.

C.3 Robustness Checks of Model Variations

We assessed the robustness of our model through a series of sensitivity analyses by comparing it to several model variants. Specifically, we examined the following variations:

- **Prior distributions:** We replaced our baseline priors with $\mathcal{N}(0, 1)$ (A-1) or $\mathcal{N}(0, 10)$ (A-2).
- **Iteration settings:** We varied the total iterations and warmup steps to 1,000 iterations with 500 warmup steps (B-1) or 4,000 iterations with 2,000 warmup steps (B-2).
- **Adapt delta parameter:** We tested `adapt_delta` values of 0.90 (C-1) and 0.99 (C-2) in the Hamiltonian Monte Carlo algorithm.

These sensitivity analyses allowed us to examine the stability of our model under different settings and assess the impact of hyperparameter variations on model performance.

Tables S15 and S16 summarize the results using the leave-one-out (LOO) information criterion (LOOIC). For the U.S. data, our model has an $\widehat{\text{elpd}}_{\text{LOO}}$ (estimated log predictive density under LOO-CV) of -21557.3 (SE = 76.0), and all alternative models differ by less than 3.0 units, well within the standard error range (75.9–76.2). A similar pattern is observed for Japan, where our model has an $\widehat{\text{elpd}}_{\text{LOO}}$ of -20221.1 (SE = 104.0). Alternative specifications yield values between -20219.1 and -20221.1, which are well within the standard error range (104.0), indicating no statistically meaningful improvement in predictive accuracy.

In all cases, the relative magnitudes and significance of the regression coefficients remain effectively unchanged, indicating that neither the choice of prior distributions nor the adjustment of sampling parameters substantially alters the model's inferences.

338 Therefore, these verifications confirm that our findings are robust to reasonable varia-
 339 tions in priors, iteration settings, and `adapt_delta` values, underscoring the stability
 340 of the proposed framework.

341 Appendix D Alternative Model Specifications and 342 Robustness Analyses

343 To further validate the robustness of our findings, we employed alternative modeling
 344 approaches to evaluate whether the relationships identified in our main analysis remain
 345 stable across different statistical frameworks. Specifically, we reanalyzed the data
 346 using two different statistical frameworks; Structural Equation Modeling (SEM) and
 347 Sequential Generalized Linear Models (Sequential GLM.) These alternative models
 348 complement our main Bayesian framework by evaluating whether the results obtained
 349 through different methodologies are consistent.

350 D.1 Two Statistical Frameworks

351 Structural Equation Modeling (SEM)

352 SEM is a multivariate statistical technique that allows for the simultaneous estima-
 353 tion of multiple regression equations while explicitly modeling indirect effects. Unlike
 354 our Bayesian hierarchical model, which estimates all stages jointly under a probabilis-
 355 tic framework, SEM provides a path analysis structure where the relationships among
 356 recognition, belief, and actions can be analyzed with direct and indirect pathways
 357 explicitly specified. The SEM was defined as follows:

$$\begin{aligned} \text{Recognition} &\sim \alpha_r + \boldsymbol{\beta}_r \mathbf{X}, \\ \text{Belief} &\sim \alpha_b + \beta_{b1} \text{Recognition} + \boldsymbol{\beta}_{b2} \mathbf{X}, \\ \text{Demonstrative Action} &\sim \alpha_m + \beta_{m1} \text{Belief} + \boldsymbol{\beta}_{m2} \mathbf{X}, \\ \text{Diffusion Action} &\sim \alpha_f + \beta_{f1} \text{Belief} + \boldsymbol{\beta}_{f2} \mathbf{X}. \end{aligned}$$

358 wherr, \mathbf{X} represents the set of explanatory variables, while α and $\boldsymbol{\beta}$ denote the esti-
 359 mated parameters. The key distinction between SEM and our main Bayesian model
 360 is that SEM explicitly estimates mediation effects rather than relying on hierarchical
 361 dependencies. We estimated the model using the Weighted Least Squares Mean and
 362 Variance adjusted (WLSMV) estimator to handle categorical responses.

363 Sequential Generalized Linear Models (Sequential GLM)

364 Sequential GLM provides a more conventional approach to modeling the sequential
 365 process of conspiracy theory engagement. This method involves estimating sepa-
 366 rate logistic regression models for each stage, treating earlier stages as explanatory
 367 variables for later ones. The stepwise GLM model was specified as follows:

$$\begin{aligned} \text{Recognition} &\sim \text{logit}(\alpha_r + \boldsymbol{\beta}_r \mathbf{X}), \\ \text{Belief} &\sim \text{logit}(\alpha_b + \beta_{b1} \text{Recognition} + \boldsymbol{\beta}_{b2} \mathbf{X}), \\ \text{Demonstrative Action} &\sim \text{logit}(\alpha_m + \beta_{m1} \text{Belief} + \boldsymbol{\beta}_{m2} \mathbf{X}), \end{aligned}$$

$$\text{Diffusion Action} \sim \text{logit}(\alpha_f + \beta_{f1}\text{Belief} + \boldsymbol{\beta}_{f2}\mathbf{X}).$$

368 Each equation was estimated separately using a binomial logistic regression model
 369 with a logit link function.

370 D.2 Results

371 Structural Equation Modeling (SEM).

372 The SEM results exhibit a moderate level of agreement with our Bayesian hier-
 373 archical model. In the U.S. sample, SEM estimates closely align with those from the
 374 Bayesian model for recognition, belief, and diffusion action, maintaining similar pat-
 375 terns in the direction of coefficients (refer to Figure S33.) However, discrepancies
 376 emerge at the demonstrative action stage, where some variables display trends that
 377 diverge from the Bayesian estimates. For instance, while religiosity is estimated to have
 378 a positive effect on demonstrative action in the Bayesian model, the SEM approach
 379 suggests a negative influence. These inconsistencies may result from high correlations
 380 between outcome variables or the inherent challenges of modeling categorical media-
 381 tors within the SEM framework. In the Japanese sample, the SEM results generally
 382 align with the Bayesian estimates in terms of coefficient signs at each stage (refer to
 383 Figure S35.) However, due to the lower number of respondents at each stage, none
 384 of the estimates achieve statistical significance. This suggests that SEM may strug-
 385 gle to produce stable estimates in the later stages, likely due to smaller sample sizes
 386 in these outcome categories. Overall, while SEM captures core trends identified in
 387 our Bayesian model, its limitations in estimating demonstrative and diffusion action
 388 effects highlight potential estimation instability caused by high correlations among
 389 outcome variables and the difficulties of modeling categorical mediation.

390 Sequential Generalized Linear Models (Sequential GLM).

391 In contrast to the SEM results, the Sequential GLM approach exhibits strong con-
 392 sistency with our Bayesian model, reinforcing the robustness of our findings. In the
 393 U.S. sample, Sequential GLM estimates closely mirror those of the Bayesian model,
 394 exhibiting nearly identical coefficient magnitudes and directional effects across all four
 395 stages (refer to Figure S34.) The Japanese estimates show slightly greater variabil-
 396 ity, likely due to the smaller proportion of respondents engaging in later-stage actions
 397 (refer to Figure S36.) Nonetheless, the overall pattern of positive and negative rela-
 398 tionships remains consistent with the Bayesian model. Although some coefficients lose
 399 significance due to reduced sample sizes in demonstrative and diffusion actions, their
 400 estimated directions align well with the Bayesian framework.

401 The alternative model analyses provided complementary insights. The SEM results
 402 aligned with our Bayesian hierarchical model in the early stages, such as recognition
 403 and belief formation, capturing similar trends in coefficient directions. However, in
 404 the later stages, particularly demonstrative and diffusion actions, the estimates dif-
 405 fered, likely due to high correlations among outcome variables and the complexities
 406 of modeling categorical mediation. In contrast, the Sequential GLM approach closely
 407 matched our Bayesian framework, showing consistent coefficient magnitudes and direc-
 408 tional effects across all stages. These results collectively strengthen the validity of our

409 Bayesian hierarchical model and its ability to represent the processes of conspiracy
410 theory recognition, belief formation, and subsequent actions.

411 Appendix E Complete Separation for Hierarchical 412 Bayesian Framework

413 In our hierarchical Bayesian framework, we observe exceptionally large coefficients for
414 **Recognition** when predicting **Belief**. For example, **Belief_Recognition** takes on a
415 posterior median of approximately 33.904 in Table S8. Such extreme values character-
416 ize “complete separation” in logistic-regression models, where one or more predictors
417 perfectly (or nearly perfectly) distinguish outcome classes [7]. In this study, Recog-
418 nition serves as a nearly perfect discriminator between those who do and do not endorse
419 belief in conspiracy theories, leading to an exceptionally large coefficient in the Belief
420 model. Although coefficients do not strictly diverge to infinity under Bayesian estima-
421 tion, the posterior median may still grow to a very large value, effectively reflecting
422 the near-deterministic role of the predictor [8].

423 A key concern is whether such separation in one parameter necessarily compro-
424 mises the interpretation or stability of other parameter estimates. In the present
425 model, even though the Belief_Recognition coefficient (and similarly structured
426 parameters from preceding stages) is large, the remaining coefficients do not exhibit
427 unusual distortion or inflated posterior intervals (see Appendix C). This observation is
428 consistent with the notion that if the separating predictor is not highly correlated with
429 other variables, complete separation in a single parameter need not induce systemic
430 bias or instability in the rest of the model [9, 10].

431 In summary, our findings indicate that one variable of complete or quasi-complete
432 separation does not invalidate the entire model. In particular, the separating param-
433 eter is not strongly correlated with other variables, and diagnostic checks such
434 as posterior correlations and effective sample sizes reveal no anomalous behavior.
435 Accordingly, the interpretive and inferential integrity of other covariates remains
436 intact.

437 Appendix F Modeling Conspiracy Engagement 438 Intensity by Hierarchical Zero-inflated 439 Binomial Model

440 The primary analyses in this study employed a hierarchical Bayesian Bernoulli model
441 to capture the sequential nature of conspiracy theory engagement across recognition,
442 belief, demonstrative action, and diffusion action. While this approach effectively mod-
443 els each stage as a binary outcome, an alternative perspective considers the intensity
444 of engagement, namely, the number of conspiracy theories an individual recognizes,
445 believes in, or acts upon. To ensure the robustness of our findings, we construct a
446 hierarchical Bayesian model that treats each stage’s outcome as a count variable, cap-
447 turing the number of conspiracy theories an individual engages with at each stage.
448 Specifically, the dependent variables now range from 0 to 11 (the total number of con-
449 spiracy statements in the survey). Given the over-dispersed and zero-inflated nature

450 of the data (many respondents report zero engagement), we adopt a statistical model
451 that accommodates these characteristics.

452 This alternative specification allows us to capture a different dimension of conspir-
453 acy theory engagement. While the existing model identifies factors influencing whether
454 individuals engage with conspiracy theories at all, this approach enables us to analyze
455 the extent of their involvement. By analyzing the number of conspiracy theories an
456 individual recognizes, believes in, or acts upon, we can uncover patterns that pertain
457 to the strength of engagement, providing complementary insights into the dynamics
458 of conspiracy belief and behavior.

459 F.1 Model Specification

460 The hierarchical model is specified as follows:

$$\begin{aligned} R_c &\sim \text{Zero-Inflated Binomial}(n = 11, p = \text{logit}^{-1}(\alpha_1 + \beta_1 \mathbf{X})) \\ B_c &\sim \text{Zero-Inflated Binomial}(n = 11, p = \text{logit}^{-1}(\alpha_2 + \beta_{21} R_c + \beta_2 \mathbf{X})) \\ M_c &\sim \text{Zero-Inflated Binomial}(n = 11, p = \text{logit}^{-1}(\alpha_3 + \beta_{31} B_c + \beta_3 \mathbf{X})) \\ D_c &\sim \text{Zero-Inflated Binomial}(n = 11, p = \text{logit}^{-1}(\alpha_4 + \beta_{32} B_c + \beta_4 \mathbf{X})) \end{aligned}$$

461 where R_c represents the number of recognized conspiracy theories, B_c represents the
462 number of conspiracy theories believed, conditioned on R_c , B_c represents the number
463 of demonstrative actions influenced by B_c , and F_c represents the number of diffusion
464 action, which is also dependent on B_c . The vector X includes explanatory variables
465 shared across all models, same as the hierarchical Bernoulli model, while α and β
466 are coefficients to be estimated. The model is estimated using a hierarchical Bayesian
467 framework with Hamiltonian Monte Carlo sampling implemented in `brms` package in
468 R.

469 This model employs a Zero-Inflated Binomial (ZIB) distribution, which extends
470 the standard binomial model by accounting for an excess number of zeros. This char-
471 acteristic is particularly useful in cases where a substantial proportion of respondents
472 report no engagement at all (i.e., they recognize, believe in, or act upon zero conspir-
473 acy theories). The ZIB model combines two components: (1) a binomial process that
474 governs the probability of recognizing, believing in, or engaging with a certain number
475 of conspiracy theories, and (2) a separate zero-inflation process that explicitly models
476 the probability of observing an excess number of zeros. This approach ensures that
477 we can accurately capture both the presence and intensity of conspiracy engagement
478 while addressing potential overdispersion in the data.

479 F.2 Results

480 Figures S37 and S38 present the estimated effects of explanatory variables on the four
481 stages of conspiracy theory engagement, Recognition, Belief, Demonstrative Action,
482 and Diffusion Action, using the hierarchical zero-inflated binomial model, detailed
483 convergence diagnostics and exact parameter estimates are provided in Tables S17 -
484 S24. Overall, the results obtained from the hierarchical zero-inflated binomial model

485 closely mirror those from the simpler binary-outcome specification, thereby reinforcing
486 our main conclusions. When we shift from a binary perspective, engaging in con-
487 spiracy theories or not, to a framework that considers how many conspiracy theories
488 individuals recognize, believe, or act upon, many of the same predictors emerge, but
489 certain social and political factors exhibit weaker coefficients and a more balanced dis-
490 tribution of effects. One example is religiosity. While it remains positively associated
491 with conspiracy theory engagement in both models, its impact is noticeably dimin-
492 ished in the zero-inflated binomial results, particularly among Japanese respondents.
493 A similar pattern emerges for traditional media consumption. In the binary-outcome
494 framework, television and newspaper usage strongly predicts lower conspiracy engage-
495 ment in Japan. However, under the zero-inflated binomial framework, the protective
496 effect of these legacy outlets becomes less pronounced for Japanese respondents, while
497 in the U.S. there is even a partial reversal for certain channels.

498 **Appendix G Applying Item Response Theory to** 499 **Survey Data**

500 Item Response Theory (IRT) is a family of psychometric models used to examine how
501 individual latent traits relate to survey items [11]. Unlike traditional approaches, IRT
502 allows for a probabilistic estimation of how likely individuals with varying degrees of
503 conspiratorial thinking are to endorse specific conspiracy beliefs. This approach not
504 only quantifies individual differences but also characterizes the properties of the con-
505 spiracy narratives themselves, including their discriminability and difficulty in belief
506 adoption.

507 In this section, we apply the Graded Response Model (GRM) [12], a variant of IRT
508 suited for ordered categorical responses, to analyze survey data on conspiracy beliefs.
509 We conceptualize conspiratorial thinking as a latent trait and examine how individ-
510 uals progress through different levels of conspiracy engagement, ranging from mere
511 recognition of a conspiracy theory to belief, and demonstrative and diffusion actions.
512 By estimating discrimination and threshold parameters for each conspiracy belief
513 (U.consp and J.consp), we aim to identify which conspiracy theories are more readily
514 accepted and which require a higher level of conspiratorial thinking for endorsement.

515 **G.1 Method**

516 To systematically capture the progression from recognition to actions, we classified
517 individual responses into five ordered categories:

- 518 • P1: Does not recognize the conspiracy.
- 519 • P2: Recognizes the conspiracy but does not believe it.
- 520 • P3: Recognizes and believes in it, but does not take action.
- 521 • P4: Recognizes, believes, and engages in one type of action (either Demonstrative
522 or Diffusion).
- 523 • P5: Recognizes, believes, and engages in both types of actions (Demonstrative and
524 Diffusion).

525 This five-stage categorization allows us to quantify the escalation of conspiracy
526 endorsement and examine how belief may transition into action.

527 To analyze the progression, we applied a one-dimensional Graded Response Model
528 (GRM), a widely used IRT model for ordered categorical responses. In this frame-
529 work, conspiracy belief intensity is treated as a continuous latent trait, allowing
530 us to estimate how different conspiracy theories discriminate between individuals
531 at varying levels of belief intensity. Formally, for each conspiracy item i , the prob-
532 ability that an individual with latent trait θ selects response category k (where
533 $k = P1, P2, P3, P4, P5$) or higher is given by the cumulative logistic function:

$$P(Y_i \geq k | \theta) = \frac{1}{1 + e^{-a_i(\theta - b_{ik})}} \quad (\text{G1})$$

534 where:

- 535 • $P(Y_i \geq k | \theta)$ is the probability of endorsing category k or higher.
- 536 • a_i is the discrimination parameter, indicating how well the item differentiates
537 between respondents with different levels of conspiratorial thinking.
- 538 • b_{ik} is the threshold parameter, representing the level of the latent trait required to
539 endorse category k .
- 540 • θ is the individual's latent conspiratorial thinking tendency.

541 The discrimination parameter a_i determines how sharply an item differentiates
542 between individuals with different levels of conspiracy endorsement. Higher values of
543 a_i suggest that even small differences in latent conspiratorial thinking (θ) lead to sub-
544 stantial increases in engagement probability. Meanwhile, the threshold parameters b_{ik}
545 indicate the minimum level of conspiratorial inclination required to transition between
546 different response categories. We estimated the parameters a_i and b_{ik} for each con-
547 spiracy belief item using maximum likelihood estimation (MLE) via the `mirt` package
548 (v1.44.0) in R.

549 G.2 Results

550 Tables S25 (U.S.) and S26 (Japan) present the estimated discrimination (a_i) and
551 threshold ($b_{i1}, b_{i2}, b_{i3}, b_{i4}$) parameters for each conspiracy item. Figures S39 and
552 S40 further illustrate these findings through Test Information Curves and Item
553 Characteristic Curves, highlighting the distribution and informativeness of each item.

554 Finding in the U.S.

555 In the U.S., certain conspiracy theories, such as U.consp9 (9/11 attacks) and U.consp3
556 (single secret group), exhibit high discrimination values a , meaning they sharply dis-
557tinguish between individuals based on their level of conspiratorial thinking. That is,
558 for respondents near the threshold, a small rise in their latent trait θ dramatically
559 increases the chance they will go from mere recognition to belief or from belief to
560 action. In contrast, U.consp10 (2020 election fraud) and U.consp7 (COVID-19 myth)
561 have lower discrimination values, suggesting that belief in these narratives develops
562 more gradually.

563 Threshold values b reveal that some conspiracy theories, like U.consp2 (vaccine
 564 conspiracies) have low b_2 values, meaning they are more widely recognized and require
 565 only a modest level of conspiratorial thinking for belief. On the other hand, extreme
 566 theories such as U.consp5 (reptilian humanoids) and U.consp7 (COVID-19 denial)
 567 have higher b_3 values, indicating that only individuals with strong conspiratorial
 568 tendencies move beyond belief to active participation.

569 **Finding in Japan**

570 In Japan, J.consp3 (single group secretly rules the world), J.consp6 (reptilian
 571 humanoids), and J.consp11 (chemtrails) show high discrimination (a values are large),
 572 meaning small increases in conspiratorial thinking significantly raise the likelihood of
 573 endorsement. Conversely, J.consp8 (alien contact) has lower discrimination. Threshold
 574 values indicate that J.consp2 (vaccines) has a low b_2 values, meaning even individuals
 575 with moderate conspiratorial thinking are likely to enter the believe stage (P3). In
 576 contrast, J.consp6 (reptilian humanoids), J.consp7 (COVID-19 myth), and J.consp8
 577 (alien contact) require a much stronger conspiratorial inclination before individuals
 578 progress from belief to action.

579 Across both countries, vaccine conspiracies (U.consp2 and J.consp2) and climate
 580 change denial (U.consp1 and J.consp1) have lower recognition thresholds (b_1 values are
 581 small), making them more widely accepted. In contrast, extreme theories like reptil-
 582 ian humanoids (U.consp5 and J.consp6), COVID-19 denial (U.consp7 and J.consp7),
 583 and alien contact (U.consp8 and J.consp8) require a higher level of conspiratorial
 584 thinking for active endorsement. These findings suggest that conspiracy beliefs exist
 585 on a spectrum, with some theories being broadly accepted while others remain highly
 586 exclusive, appealing only to those with strong conspiratorial inclinations.

Table S1: Gender and age distribution of the sample in Japan

	Male	Female	Others	Total
20s	1,180	1,205	14	2,399
30s	1,375	1,425	8	2,808
40s	1,844	1,935	15	3,794
50s	2,018	2,119	19	4,156
60s	1,698	1,826	12	3,536
Total	8,115	8,510	68	16,693

Table S2: Gender and age distribution of the sample in the U.S.

	Male	Female	Others	Total
20s	1,028	1,262	34	2,324
30s	1,190	1,322	21	2,533
40s	1,188	1,381	12	2,581
50s	1,388	1,522	5	2,915
60s	1,497	1,720	8	3,225
Total	6,291	7,207	80	13,578

	I have had an argument with family friends, or acquaintances about this information.	I have attended a gathering related to this information (offline : street demonstrations, offline meeting, etc.).	I have attended a gathering related to this information (online: social media communities, online meetings, etc.).	I have contacted someone involved regarding this information.
U.consp1	671 (4.94%)	196 (1.44%)	175 (1.29%)	80 (0.59%)
U.consp2	1,446 (10.65%)	313 (2.31%)	320 (2.36%)	148 (1.09%)
U.consp3	1,212 (8.93%)	275 (2.03%)	297 (2.19%)	123 (0.91%)
U.consp4	622 (4.58%)	138 (1.02%)	152 (1.12%)	60 (0.44%)
U.consp5	350 (2.58%)	143 (1.05%)	125 (0.92%)	45 (0.33%)
U.consp6	1,024 (7.54%)	227 (1.67%)	238 (1.75%)	102 (0.75%)
U.consp7	651 (4.79%)	169 (1.24%)	168 (1.24%)	74 (0.54%)
U.consp8	1,130 (8.32%)	250 (1.84%)	265 (1.95%)	113 (0.83%)
U.consp9	929 (6.84%)	240 (1.77%)	240 (1.77%)	104 (0.77%)
U.consp10	1,175 (8.65%)	254 (1.87%)	267 (1.97%)	115 (0.85%)
U.consp11	904 (6.66%)	232 (1.71%)	253 (1.86%)	105 (0.77%)

Table S3: Percentage of respondents in the U.S. selecting each option of demonstrative actions.

	I have disseminated this information (offline: street advocacy, leaflet distribution, etc.).	I have disseminated this information (online: on X, Facebook, Instagram (including just repost or share), online forums, etc.).	I have talked to family, friends, or acquaintances about this information.
U.consp1	141 (1.04%)	225 (1.66%)	708 (5.21%)
U.consp2	226 (1.66%)	446 (3.28%)	1,631 (12.01%)
U.consp3	193 (1.42%)	389 (2.86%)	1,329 (9.79%)
U.consp4	100 (0.74%)	185 (1.36%)	573 (4.22%)
U.consp5	78 (0.57%)	106 (0.78%)	211 (1.55%)
U.consp6	170 (1.25%)	363 (2.67%)	1,226 (9.03%)
U.consp7	122 (0.90%)	160 (1.18%)	468 (3.45%)
U.consp8	174 (1.28%)	361 (2.66%)	1,408 (10.37%)
U.consp9	168 (1.24%)	279 (2.05%)	860 (6.33%)
U.consp10	190 (1.40%)	361 (2.66%)	1,467 (10.80%)
U.consp11	164 (1.21%)	300 (2.21%)	983 (7.24%)

Table S4: Percentage of respondents in the U.S. selecting each option of diffusion actions.

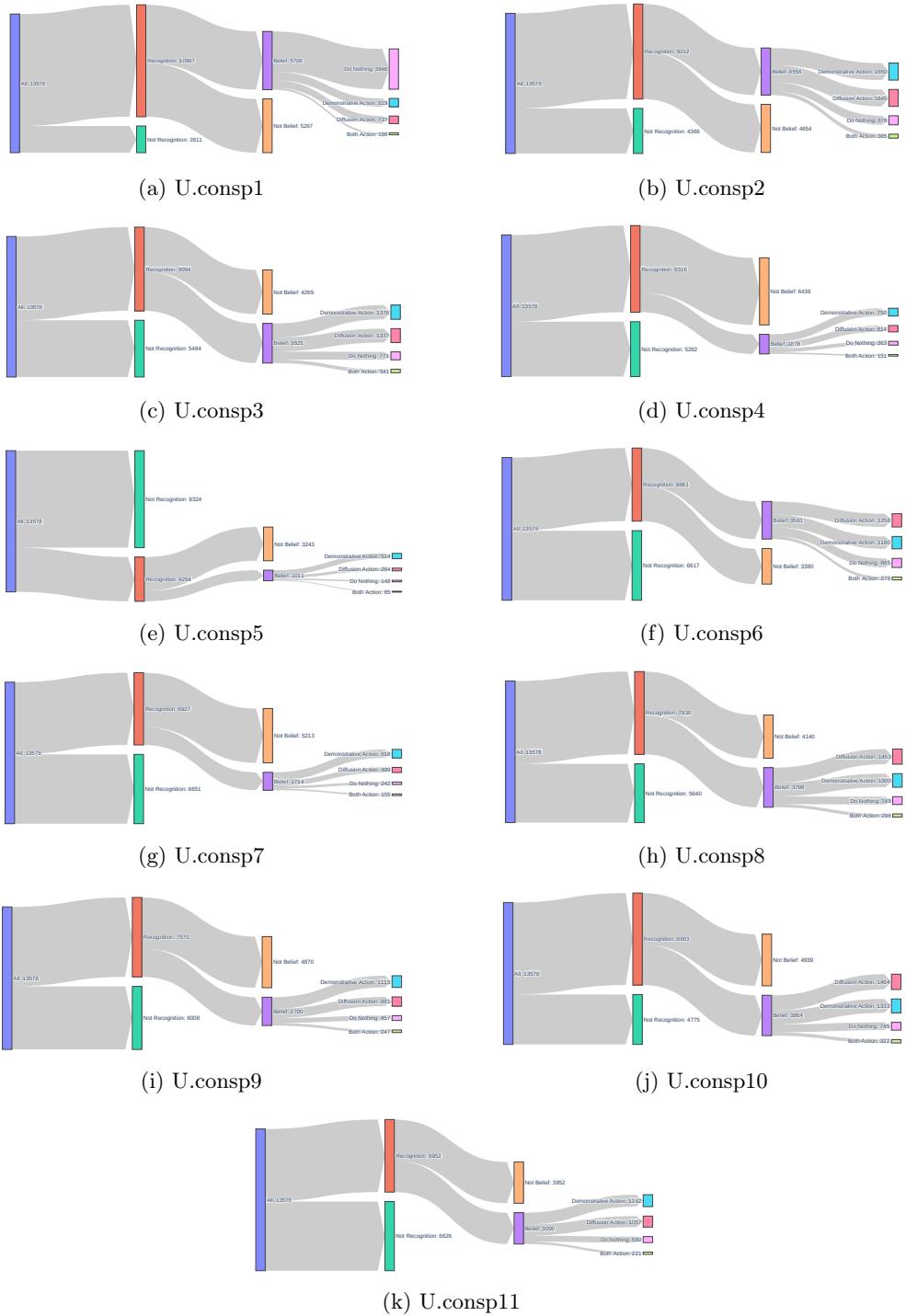


Fig. S1: Sankey diagrams showing the sequential stages of conspiracy theory engagement for each of the 11 conspiracy theories investigated in the U.S. Each pair of diagrams visualizes the number of respondents who reported recognizing, believing, and acting upon a particular conspiracy theory.

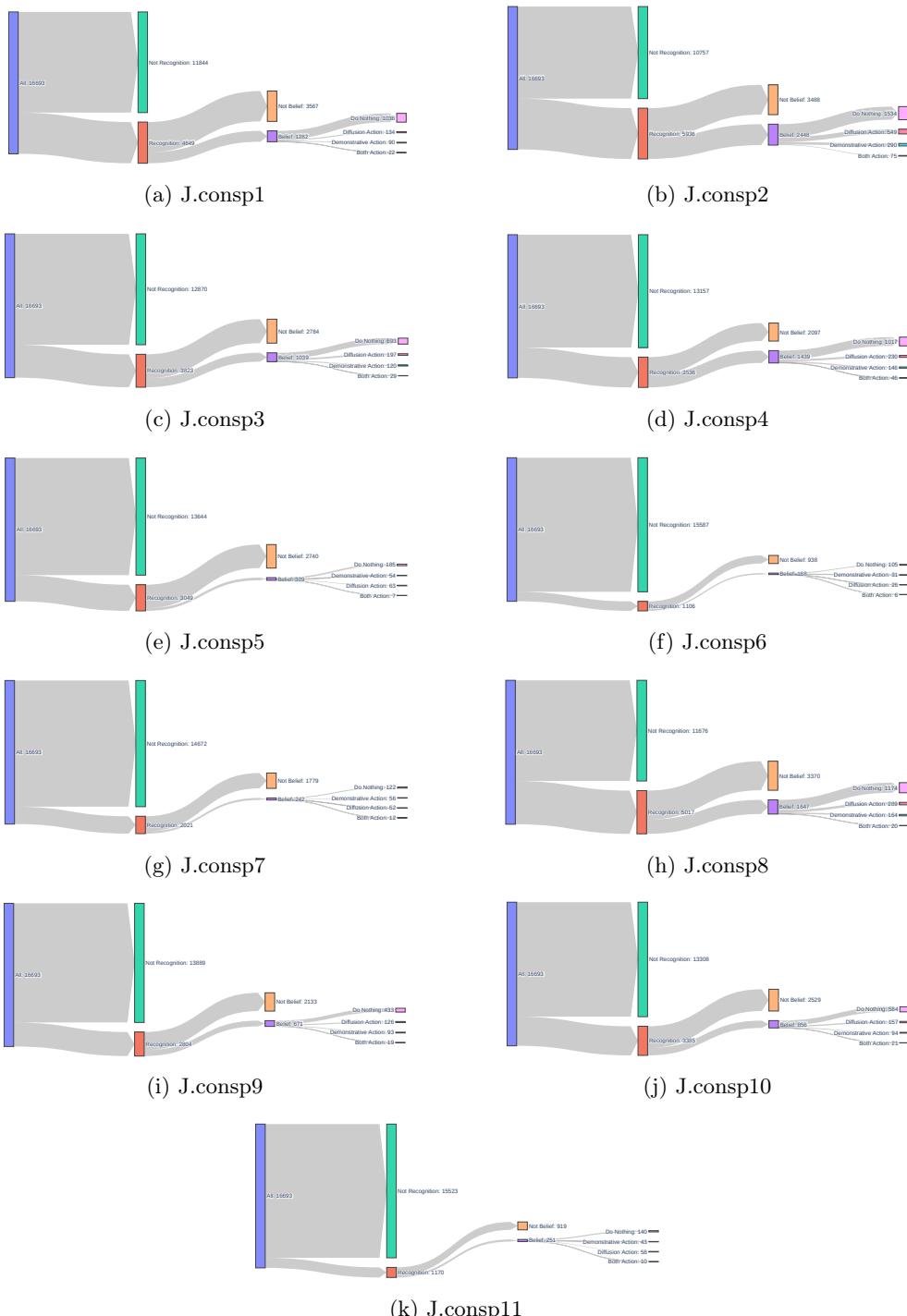


Fig. S2: Sankey diagrams showing the sequential stages of conspiracy theory engagement for each of the 11 conspiracy theories investigated in Japan. Each pair of diagrams visualizes the number of respondents who reported recognizing, believing, and acting upon a particular conspiracy theory.

	I have had an argument with family friends, or acquaintances about this information.	I have attended a gathering related to this information (offline : street demonstrations, offline meeting, etc.).	I have attended a gathering related to this information (online: social media communities, online meetings, etc.).	I have contacted someone involved regarding this information.
J.consp1	51 (0.31%)	34 (0.20%)	33 (0.20%)	8 (0.05%)
J.consp2	239 (1.43%)	60 (0.36%)	83 (0.50%)	24 (0.14%)
J.consp3	69 (0.41%)	46 (0.28%)	52 (0.31%)	8 (0.05%)
J.consp4	94 (0.56%)	35 (0.21%)	69 (0.41%)	20 (0.12%)
J.consp5	25 (0.15%)	21 (0.13%)	18 (0.11%)	2 (0.01%)
J.consp6	18 (0.11%)	17 (0.10%)	8 (0.05%)	1 (0.01%)
J.consp7	36 (0.22%)	22 (0.13%)	18 (0.11%)	7 (0.04%)
J.consp8	98 (0.59%)	50 (0.30%)	43 (0.26%)	11 (0.07%)
J.consp9	53 (0.32%)	37 (0.22%)	30 (0.18%)	5 (0.03%)
J.consp10	41 (0.25%)	44 (0.26%)	42 (0.25%)	9 (0.05%)
J.consp11	26 (0.16%)	20 (0.12%)	15 (0.09%)	4 (0.02%)

Table S5: Percentage of respondents in Japan selecting each option of demonstrative actions.

	I have disseminated this information (offline: street advocacy, leaflet distribution, etc.).	I have disseminated this information (online: on X, Facebook, Instagram (including just repost or share), online forums, etc.).	I have talked to family, friends, or acquaintances about this information.
J.consp1	11 (0.07%)	28 (0.17%)	131 (0.78%)
J.consp2	21 (0.13%)	57 (0.34%)	575 (3.44%)
J.consp3	13 (0.08%)	31 (0.19%)	198 (1.19%)
J.consp4	17 (0.10%)	57 (0.34%)	228 (1.37%)
J.consp5	4 (0.02%)	15 (0.09%)	59 (0.35%)
J.consp6	5 (0.03%)	6 (0.04%)	28 (0.17%)
J.consp7	5 (0.03%)	16 (0.10%)	51 (0.31%)
J.consp8	8 (0.05%)	26 (0.16%)	284 (1.70%)
J.consp9	10 (0.06%)	32 (0.19%)	113 (0.68%)
J.consp10	13 (0.08%)	38 (0.23%)	141 (0.84%)
J.consp11	5 (0.03%)	19 (0.11%)	54 (0.32%)

Table S6: Percentage of respondents in Japan selecting each option of diffusion actions.

Fig. S3: Distributions of demographic and political attributes in the U.S. sample.

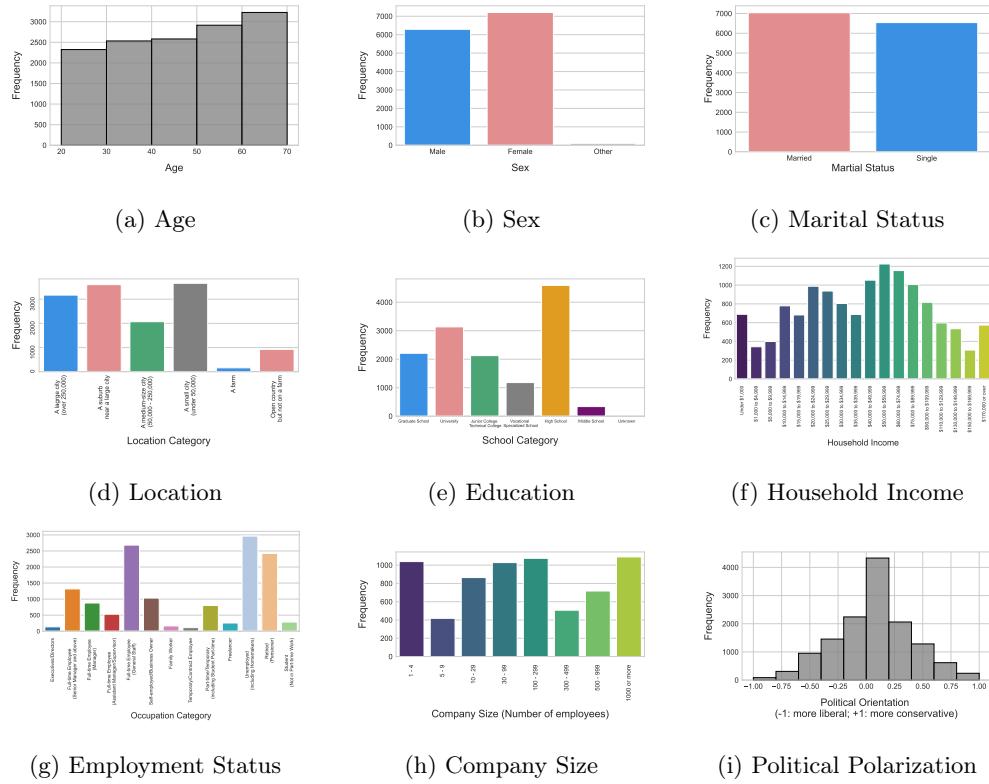


Fig. S4: Distributions of trust, religiosity, and media usage in the U.S. sample.

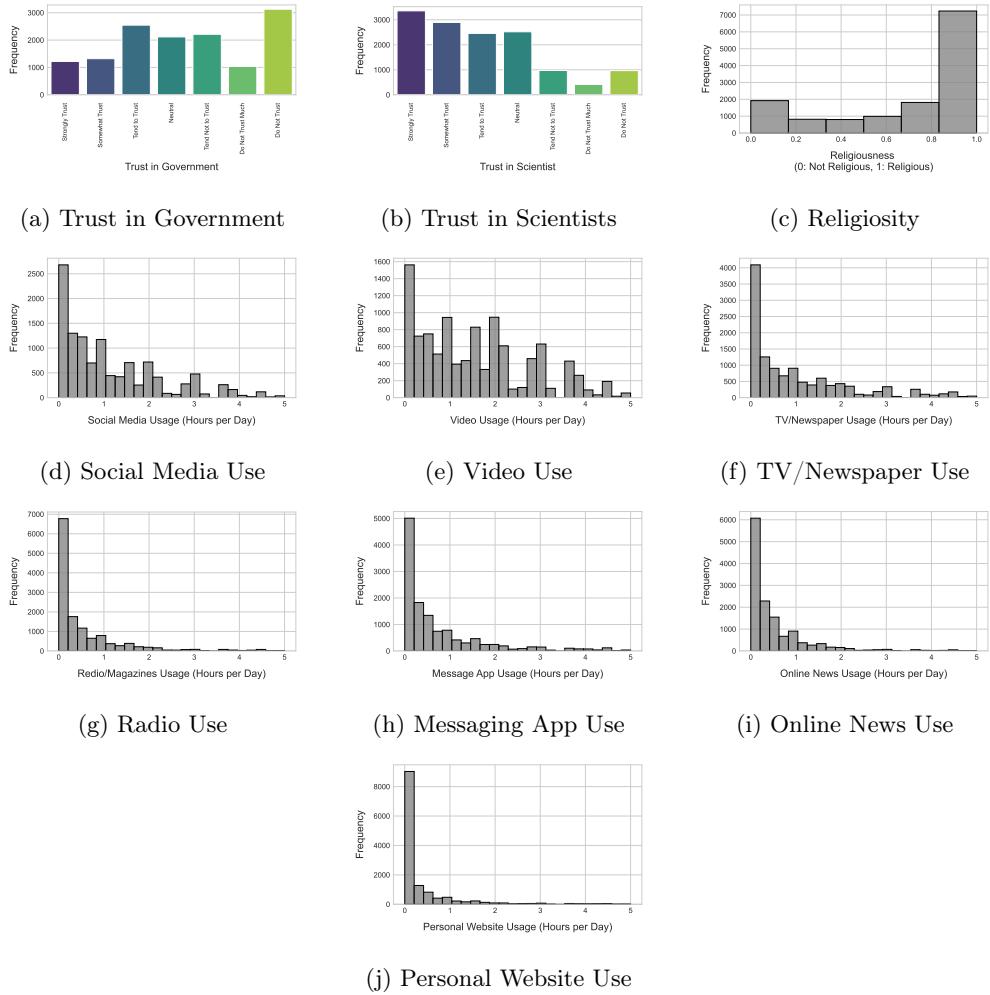


Fig. S5: Distributions of social capital attributes in the U.S. sample.

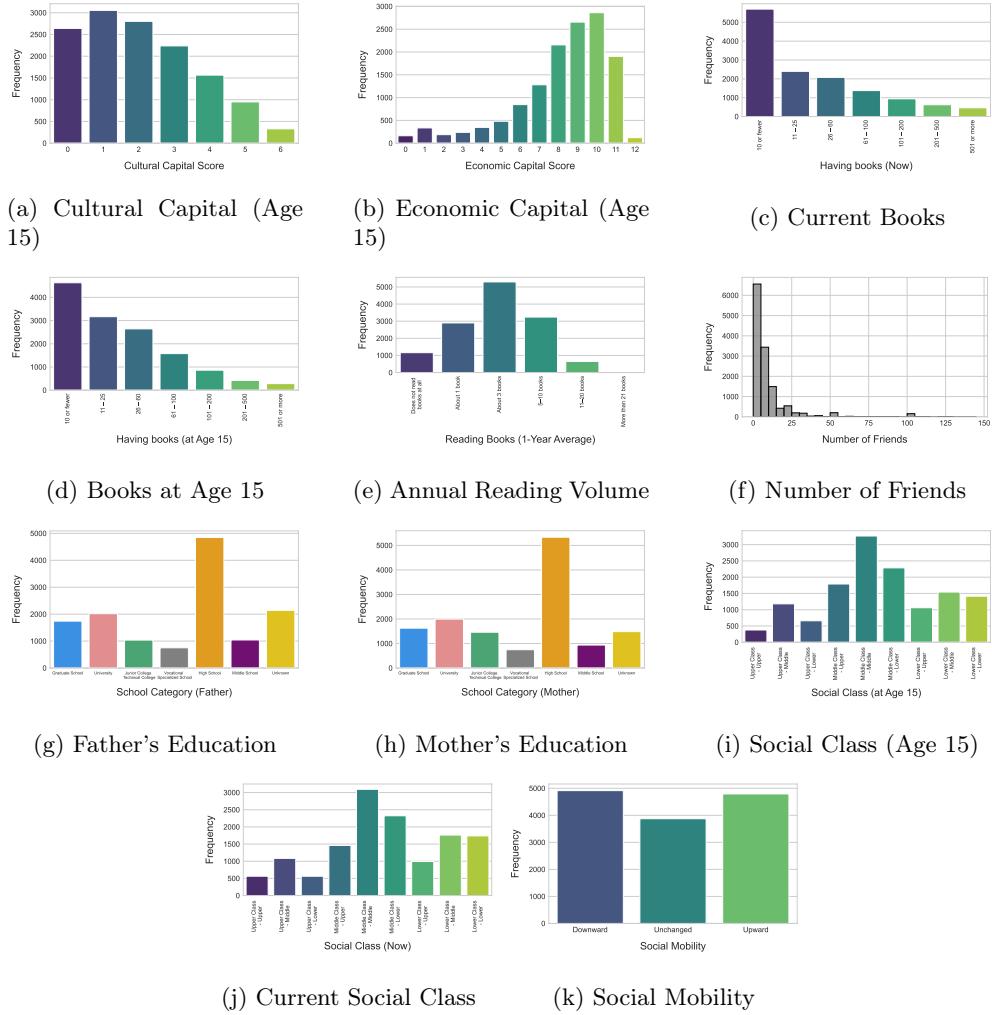


Fig. S6: Distributions of demographic and political attributes in the Japanese sample.

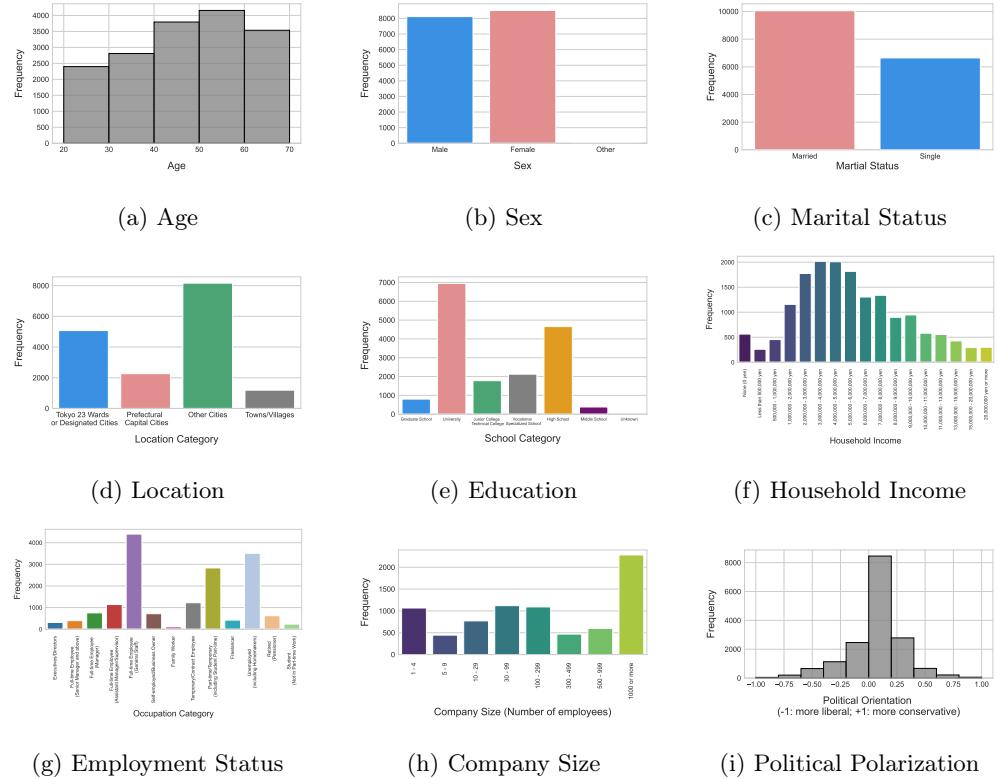


Fig. S7: Distributions of trust, religiosity, and media usage in the Japanese sample.

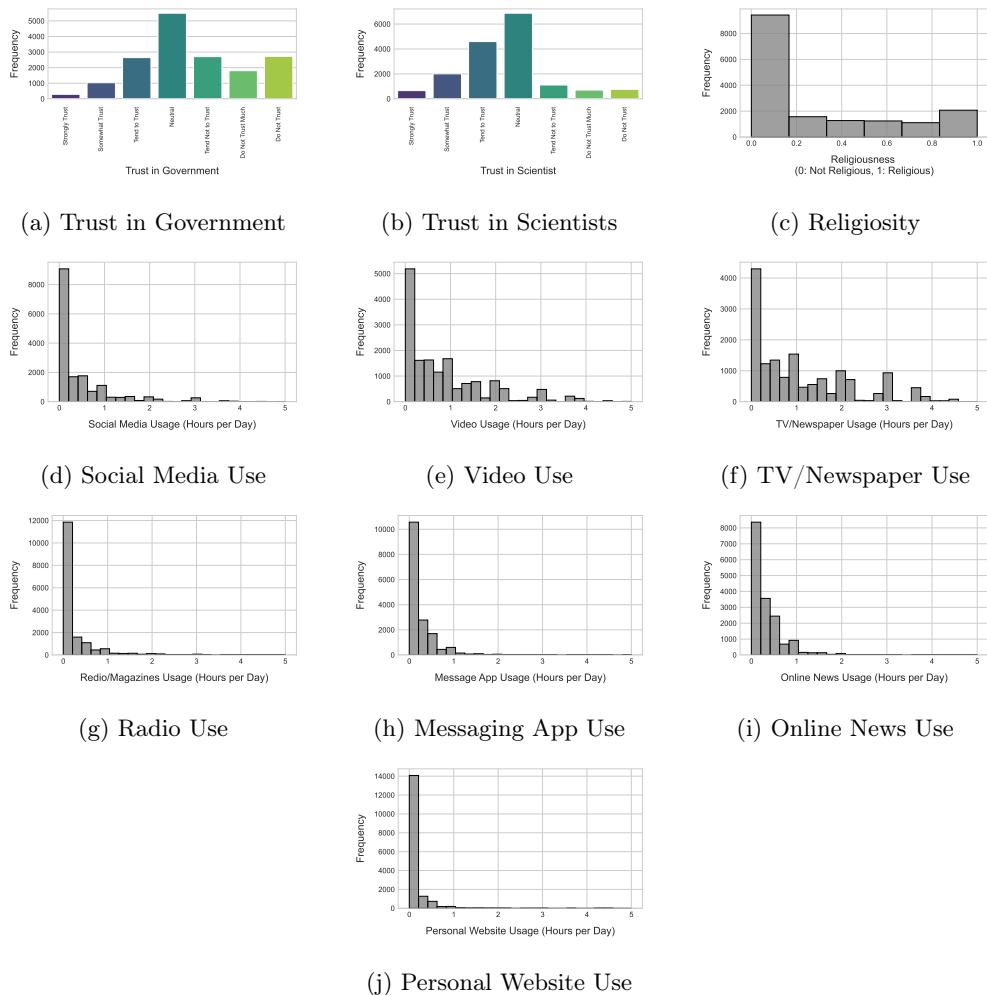
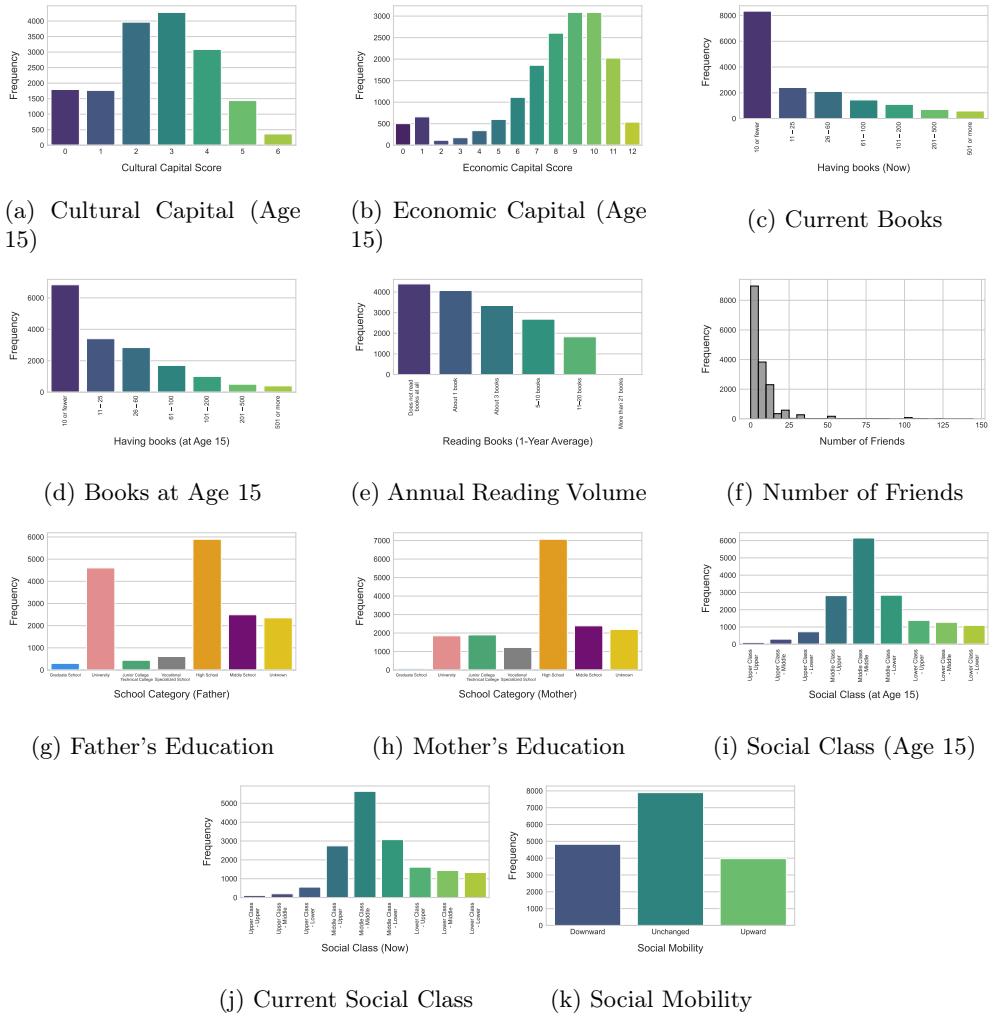
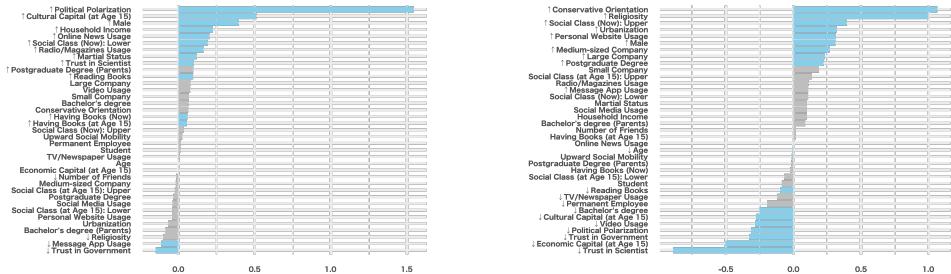
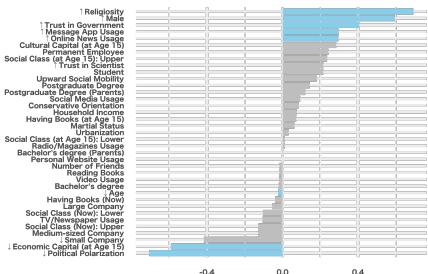


Fig. S8: Distributions of social capital attributes in the Japanese sample.



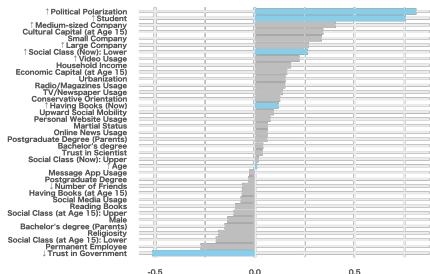


(a) Effects of explanatory variables on conspiracy theory **Recognition** of U.consp1



(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of U.consp1

(b) Effects of explanatory variables on conspiracy theory **Belief** of U.consp1



(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of U.consp1

Fig. S9: Effects of explanatory variables on conspiracy theory engagement for U.consp1 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the U.S.

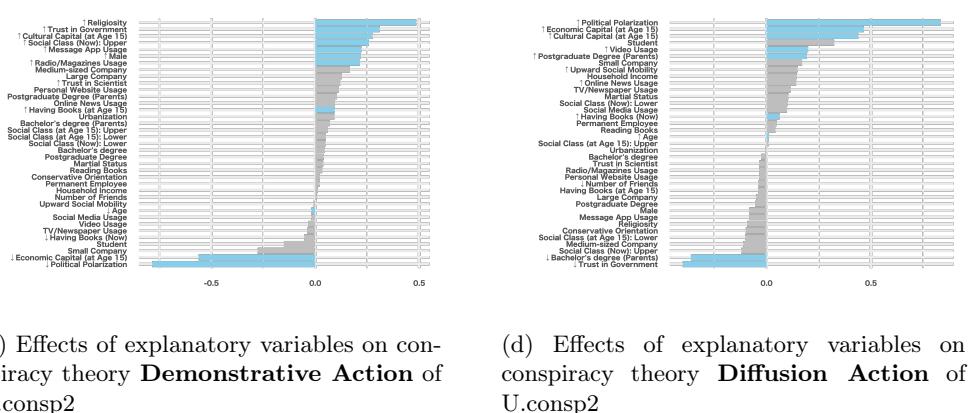
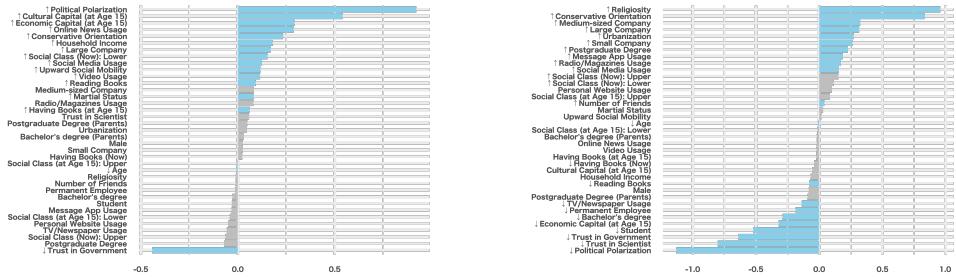
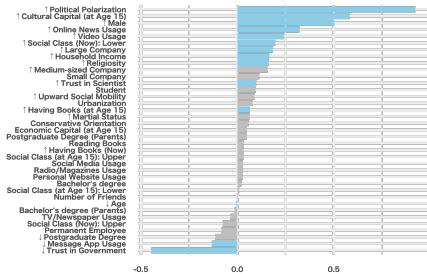
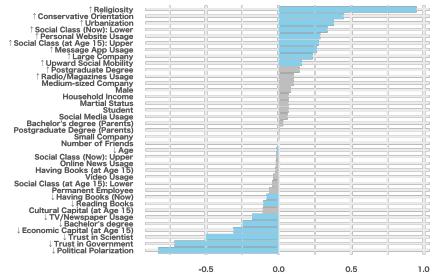


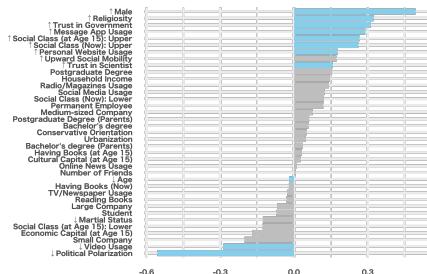
Fig. S10: Effects of explanatory variables on conspiracy theory engagement for U.consp2 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the U.S.



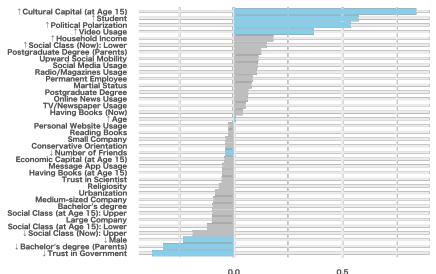
(a) Effects of explanatory variables on conspiracy theory **Recognition** of U.consp3



(b) Effects of explanatory variables on conspiracy theory **Belief** of U.consp3

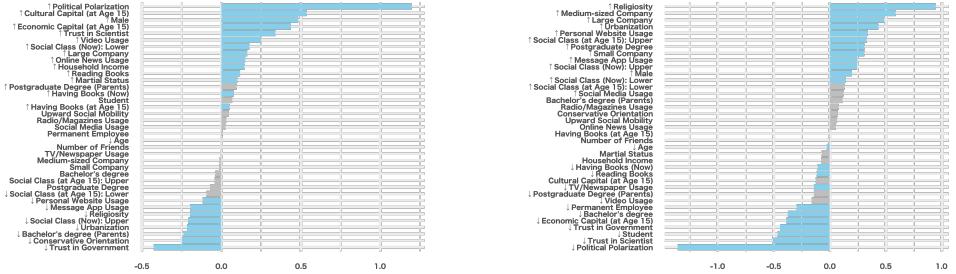


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of U.consp3



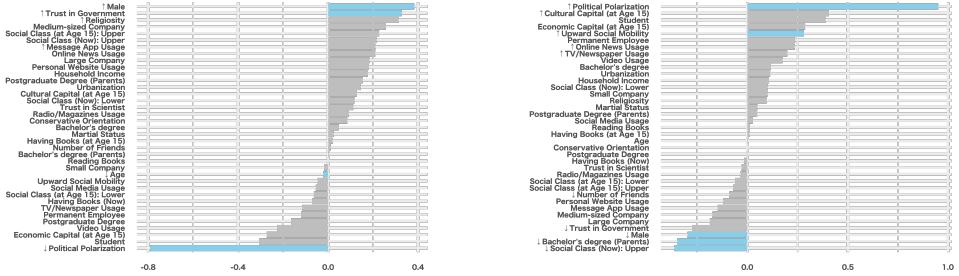
(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of U.consp3

Fig. S11: Effects of explanatory variables on conspiracy theory engagement for U.consp3 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the U.S.



(a) Effects of explanatory variables on conspiracy theory **Recognition** of U.consp4

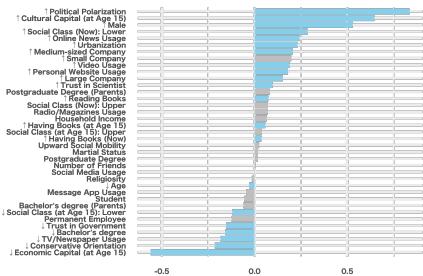
(b) Effects of explanatory variables on conspiracy theory **Belief** of U.consp4



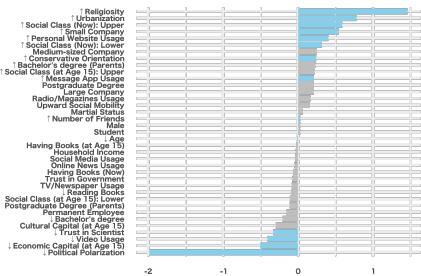
(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of U.consp4

(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of U.consp4

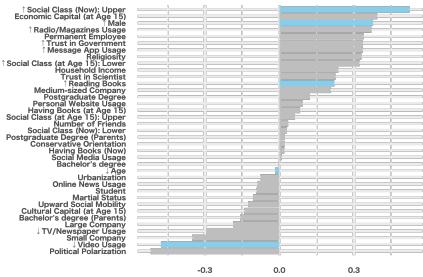
Fig. S12: Effects of explanatory variables on conspiracy theory engagement for U.consp4 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the U.S.



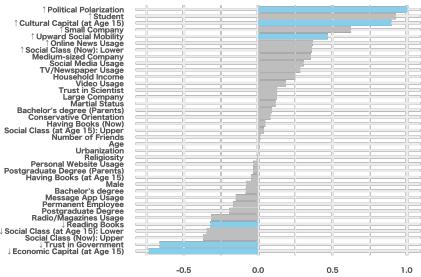
(a) Effects of explanatory variables on conspiracy theory **Recognition** of U.consp5



(b) Effects of explanatory variables on conspiracy theory **Belief** of U.consp5

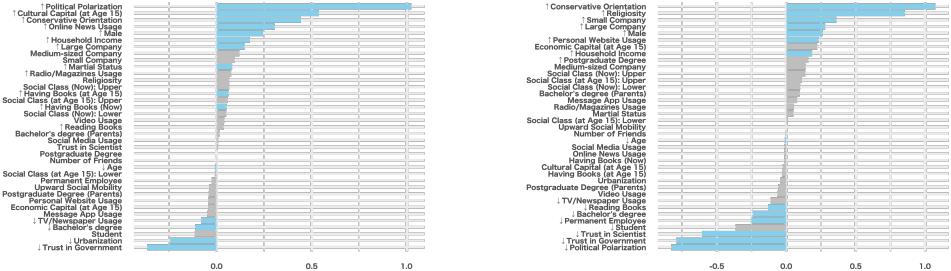


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of U.consp5



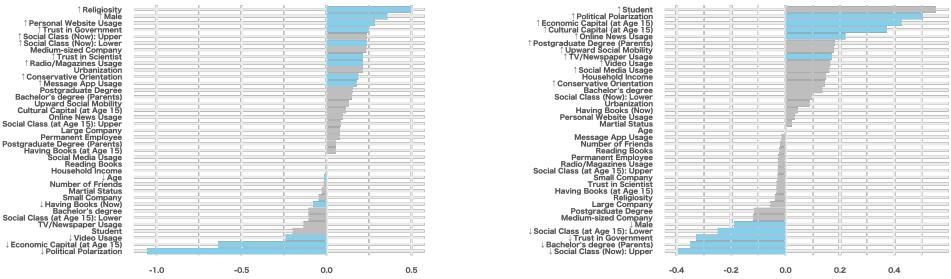
(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of U.consp5

Fig. S13: Effects of explanatory variables on conspiracy theory engagement for U.consp5 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the U.S.



(a) Effects of explanatory variables on conspiracy theory **Recognition** of U.consp6

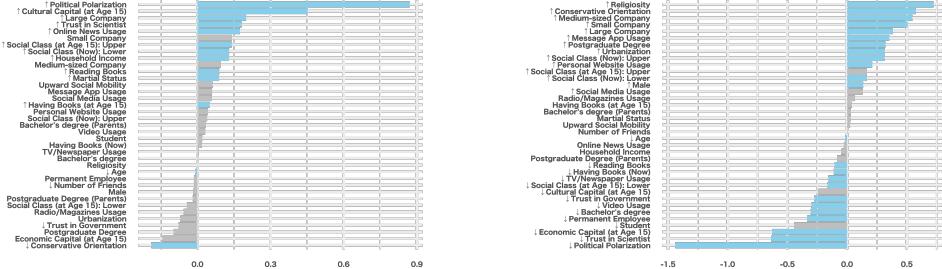
(b) Effects of explanatory variables on conspiracy theory **Belief** of U.consp6



(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of U.consp6

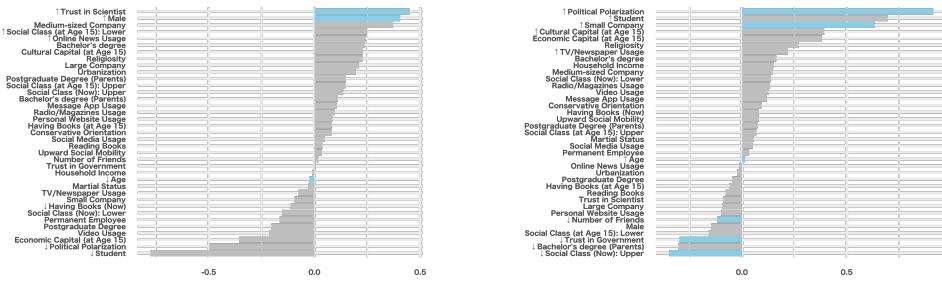
(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of U.consp6

Fig. S14: Effects of explanatory variables on conspiracy theory engagement for U.consp6 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the U.S.



(a) Effects of explanatory variables on conspiracy theory **Recognition** of U.consp7

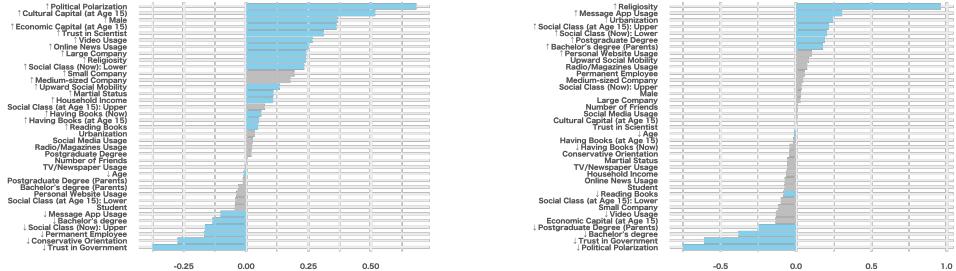
(b) Effects of explanatory variables on conspiracy theory **Belief** of U.consp7



(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of U.consp7

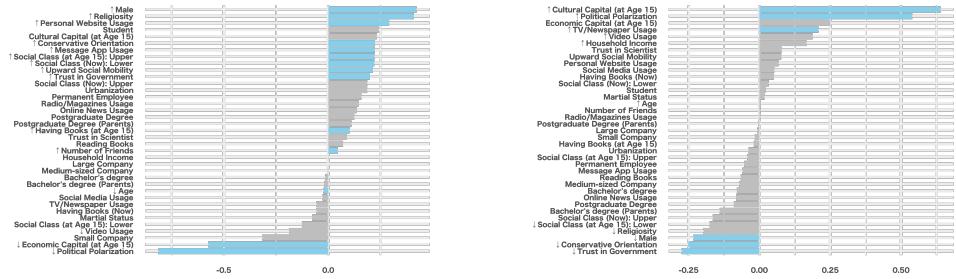
(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of U.consp7

Fig. S15: Effects of explanatory variables on conspiracy theory engagement for U.consp7 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the U.S.



(a) Effects of explanatory variables on conspiracy theory **Recognition** of U.consp8

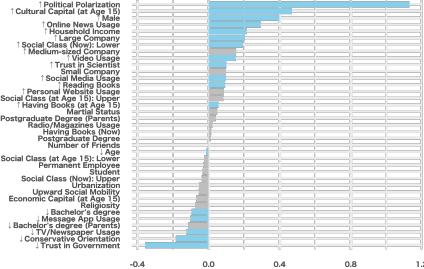
(b) Effects of explanatory variables on conspiracy theory **Belief** of U.consp8



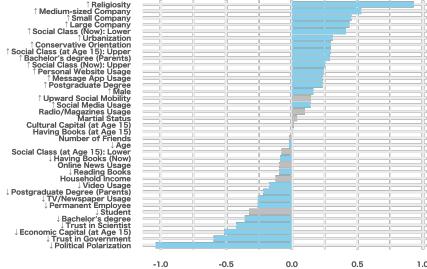
(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of U.consp8

(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of U.consp8

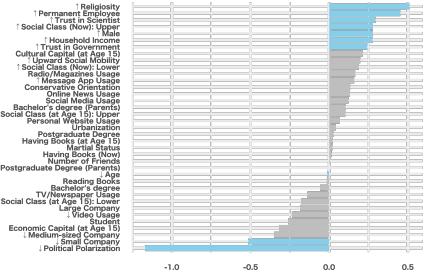
Fig. S16: Effects of explanatory variables on conspiracy theory engagement for U.consp8 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the U.S.



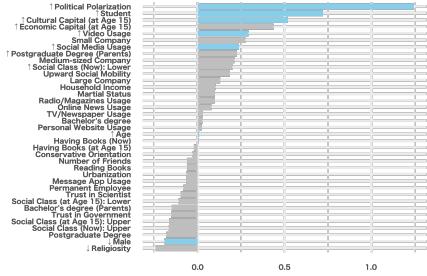
(a) Effects of explanatory variables on conspiracy theory **Recognition** of U.consp9



(b) Effects of explanatory variables on conspiracy theory **Belief** of U.consp9

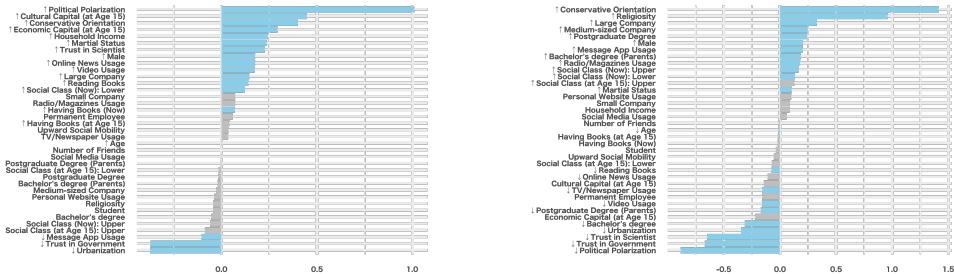


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of U.consp9

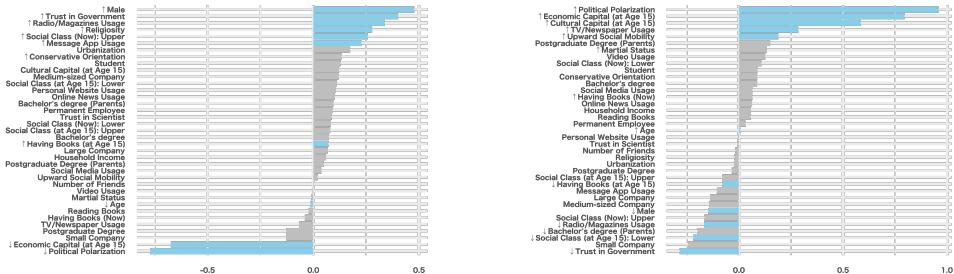


(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of U.consp9

Fig. S17: Effects of explanatory variables on conspiracy theory engagement for U.consp9 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the U.S.

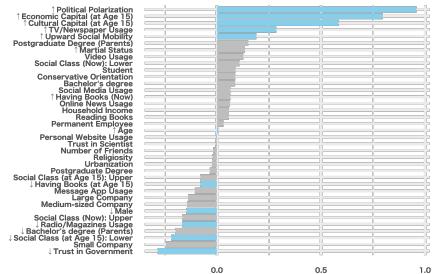


(a) Effects of explanatory variables on conspiracy theory **Recognition** of U.consp10



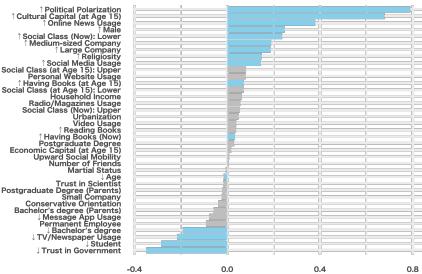
(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of U.consp10

(b) Effects of explanatory variables on conspiracy theory **Belief** of U.consp10

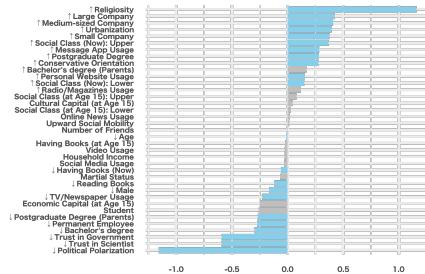


(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of U.consp10

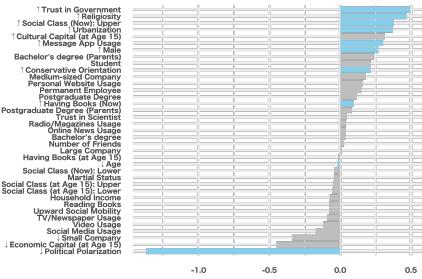
Fig. S18: Effects of explanatory variables on conspiracy theory engagement for U.consp10 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the U.S.



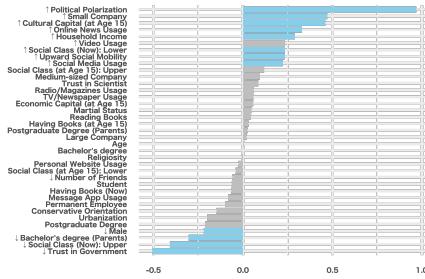
(a) Effects of explanatory variables on conspiracy theory **Recognition** of U.consp11



(b) Effects of explanatory variables on conspiracy theory **Belief** of U.consp11



(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of U.consp11



(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of U.consp11

Fig. S19: Effects of explanatory variables on conspiracy theory engagement for U.consp11 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the U.S.

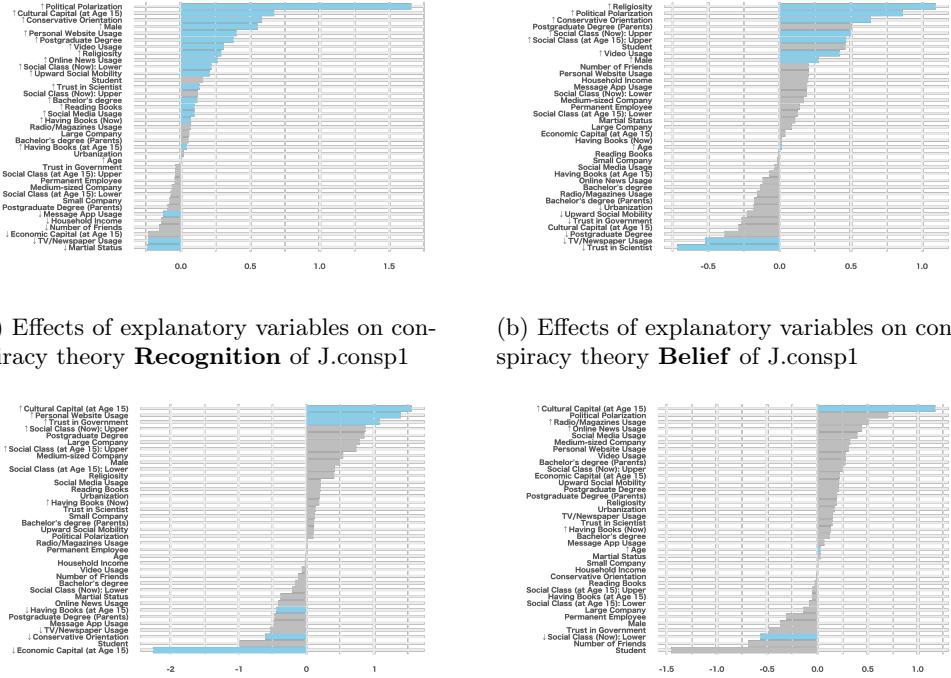
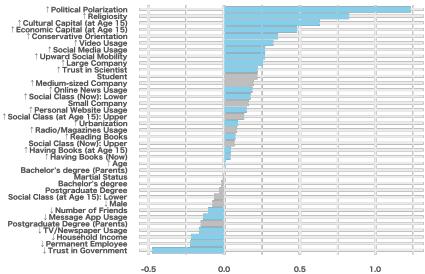
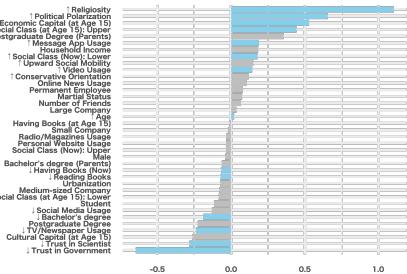


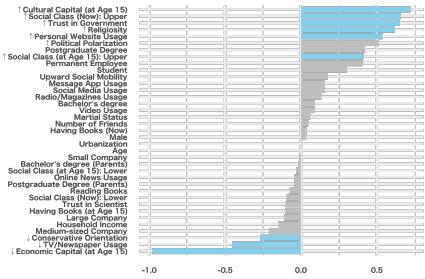
Fig. S20: Effects of explanatory variables on conspiracy theory engagement for J.consp1 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the Japan



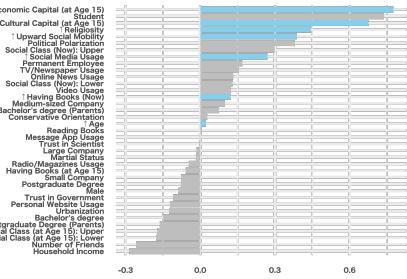
(a) Effects of explanatory variables on conspiracy theory **Recognition** of J.consp2



(b) Effects of explanatory variables on conspiracy theory **Belief** of J.consp2

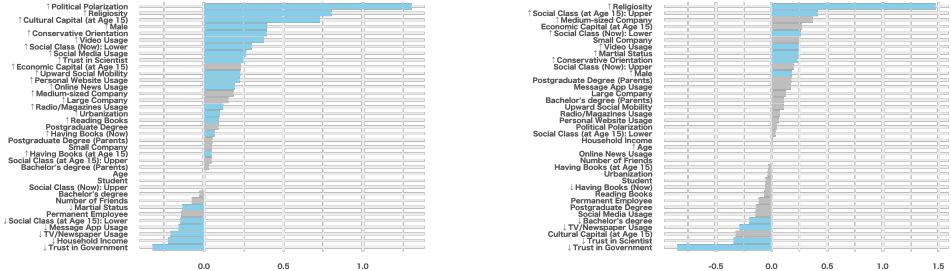


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of J.consp2



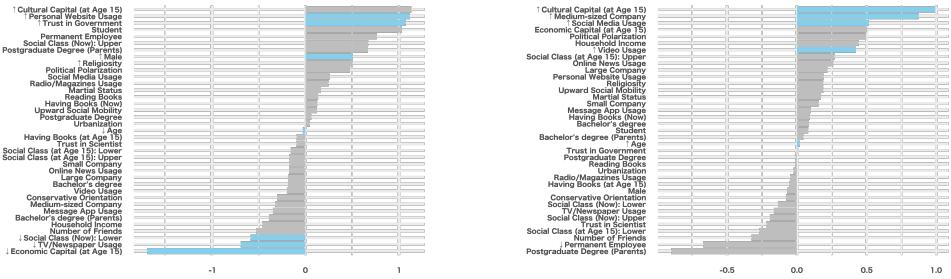
(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of J.consp2

Fig. S21: Effects of explanatory variables on conspiracy theory engagement for J.consp2 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the Japan



(a) Effects of explanatory variables on conspiracy theory **Recognition** of J.consp3

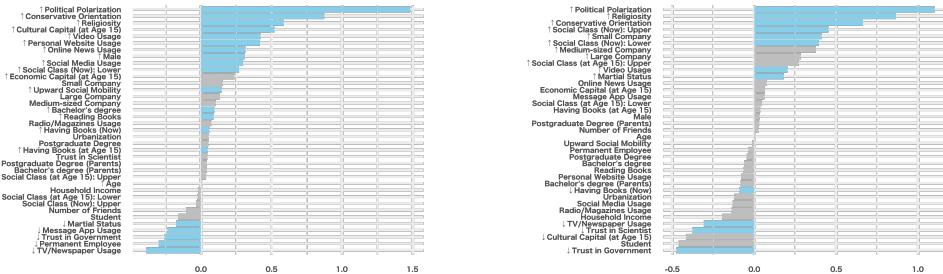
(b) Effects of explanatory variables on conspiracy theory **Belief** of J.consp3



(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of J.consp3

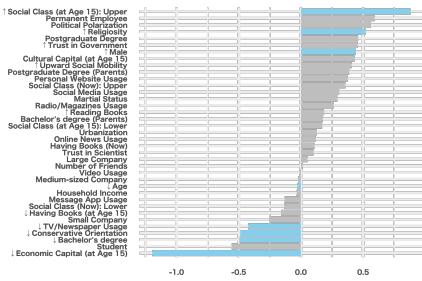
(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of J.consp3

Fig. S22: Effects of explanatory variables on conspiracy theory engagement for J.consp3 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the Japan

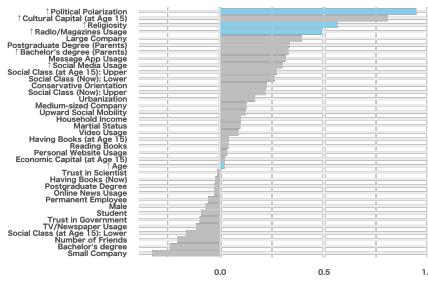


(a) Effects of explanatory variables on conspiracy theory **Recognition** of J.consp4

(b) Effects of explanatory variables on conspiracy theory **Belief** of J.consp4

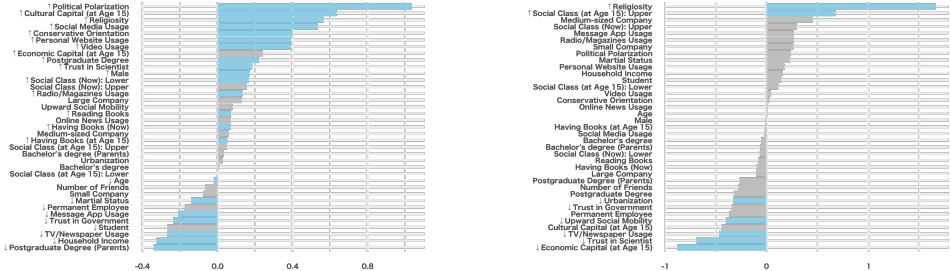


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of J.consp4



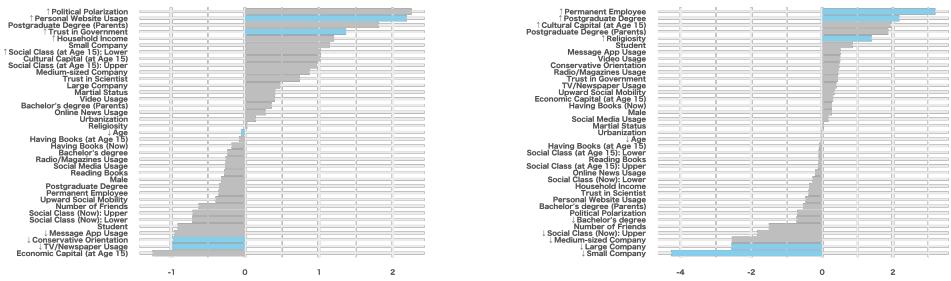
(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of J.consp4

Fig. S23: Effects of explanatory variables on conspiracy theory engagement for J.consp4 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the Japan



(a) Effects of explanatory variables on conspiracy theory **Recognition** of J.consp5

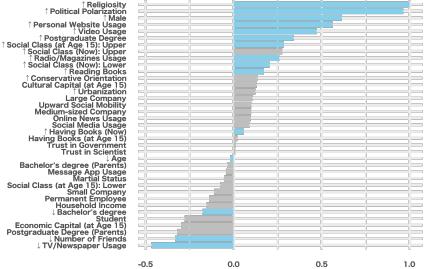
(b) Effects of explanatory variables on conspiracy theory **Belief** of J.consp5



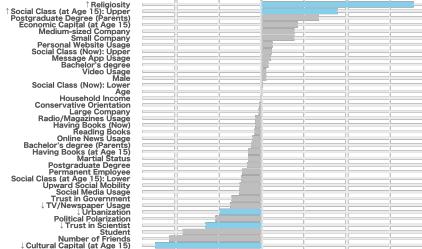
(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of J.consp5

(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of J.consp5

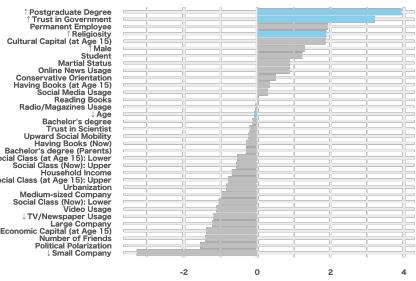
Fig. S24: Effects of explanatory variables on conspiracy theory engagement for J.consp5 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the Japan



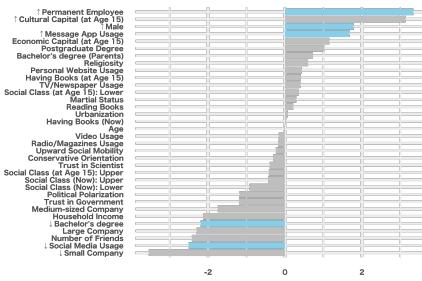
(a) Effects of explanatory variables on conspiracy theory **Recognition** of J.consp6



(b) Effects of explanatory variables on conspiracy theory **Belief** of J.consp6

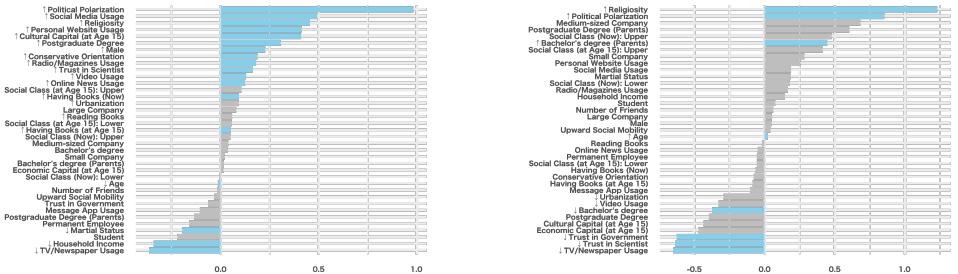


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of J.consp6



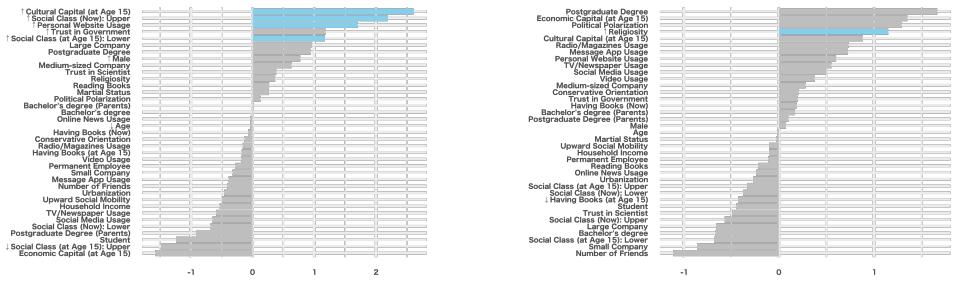
(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of J.consp6

Fig. S25: Effects of explanatory variables on conspiracy theory engagement for J.consp6 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the Japan



(a) Effects of explanatory variables on conspiracy theory **Recognition** of J.consp7

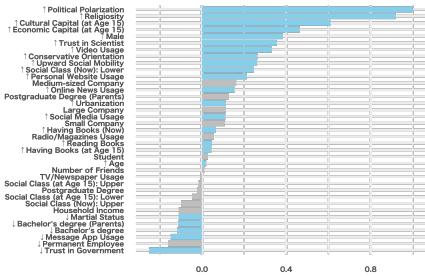
(b) Effects of explanatory variables on conspiracy theory **Belief** of J.consp7



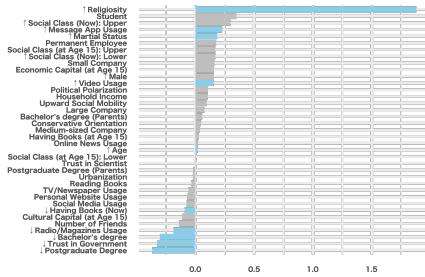
(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of J.consp7

(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of J.consp7

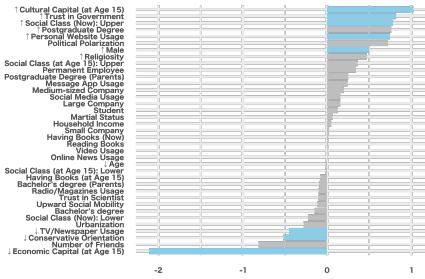
Fig. S26: Effects of explanatory variables on conspiracy theory engagement for J.consp7 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the Japan



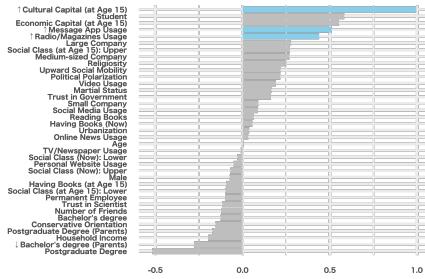
(a) Effects of explanatory variables on conspiracy theory **Recognition** of J.consp8



(b) Effects of explanatory variables on conspiracy theory **Belief** of J.consp8

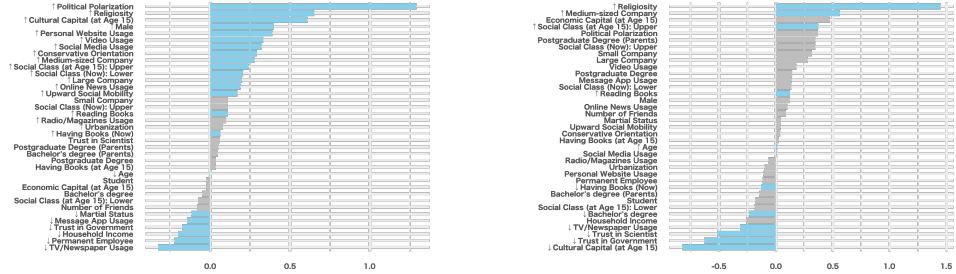


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of J.consp8

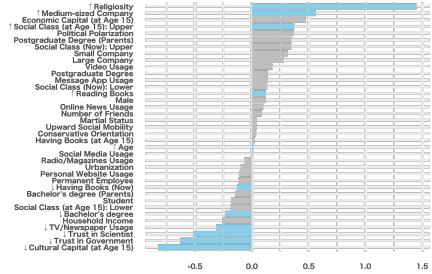


(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of J.consp8

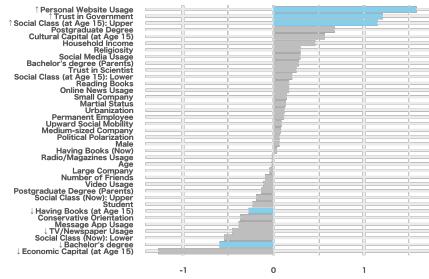
Fig. S27: Effects of explanatory variables on conspiracy theory engagement for J.consp8 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the Japan



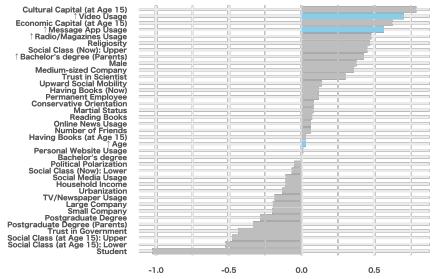
(a) Effects of explanatory variables on conspiracy theory **Recognition** of J.consp9



(b) Effects of explanatory variables on conspiracy theory **Belief** of J.consp9

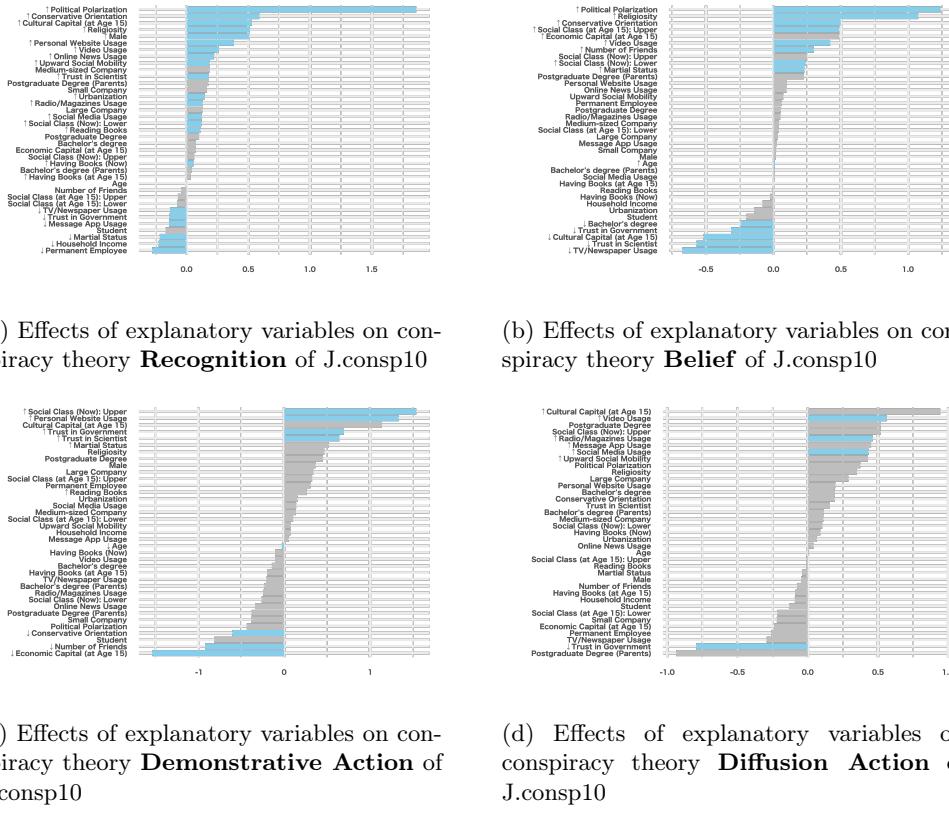


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of J.consp9



(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of J.consp9

Fig. S28: Effects of explanatory variables on conspiracy theory engagement for J.consp9 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the Japan



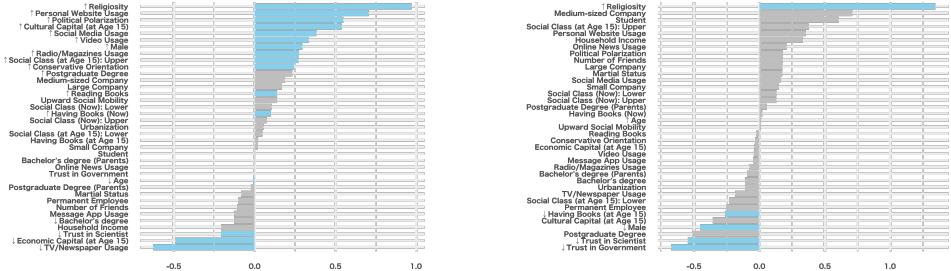
(a) Effects of explanatory variables on conspiracy theory **Recognition** of J.consp10

(b) Effects of explanatory variables on conspiracy theory **Belief** of J.consp10

(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of J.consp10

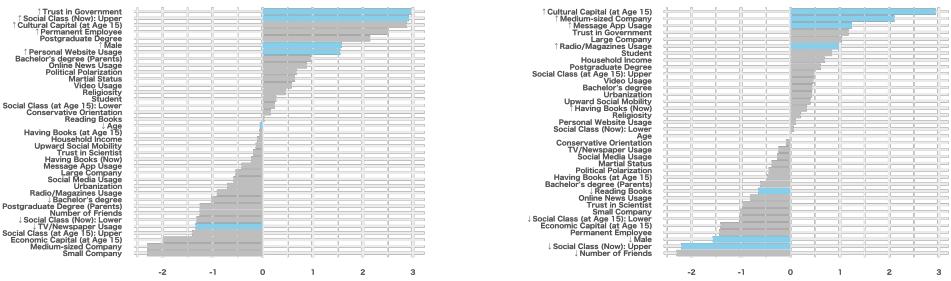
(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of J.consp10

Fig. S29: Effects of explanatory variables on conspiracy theory engagement for J.consp10 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the Japan



(a) Effects of explanatory variables on conspiracy theory **Recognition** of J.consp11

(b) Effects of explanatory variables on conspiracy theory **Belief** of J.consp11



(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of J.consp11

(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of J.consp11

Fig. S30: Effects of explanatory variables on conspiracy theory engagement for J.consp11 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the Japan

Parameter	Estimate	SE	l95CI	u95CI	Rhat	Bulk_ESS	Tail_ESS
↑Recognition_Intercept	0.568	0.169	0.231	0.893	1.000	3576.245	3192.681
↓Recognition_Age	-0.010	0.003	-0.015	-0.005	1.000	3314.355	3094.210
↑Recognition_Male	0.209	0.063	0.084	0.329	1.000	2816.409	2920.354
Recognition_Martial Status	0.077	0.064	-0.047	0.202	1.002	2482.106	2544.359
Recognition_Urbanization	-0.150	0.102	-0.350	0.050	1.001	2732.452	2439.183
↓Recognition_Bachelor's degree	-0.223	0.078	-0.376	-0.070	1.002	2025.222	2669.524
Recognition_Postgraduate Degree	0.116	0.099	-0.077	0.306	1.003	1925.445	3018.712
↑Recognition_Household Income	0.180	0.089	0.012	0.359	1.002	2420.396	2410.745
Recognition_Student	-0.269	0.191	-0.645	0.106	1.000	2361.834	2300.197
Recognition_Permanent Employee	0.130	0.130	-0.130	0.381	1.009	773.978	992.227
↑Recognition_Large Company	0.190	0.113	-0.026	0.423	1.007	770.807	1140.160
Recognition_Medium-sized Company	-0.072	0.155	-0.368	0.229	1.007	730.847	1127.701
Recognition_Small Company	-0.120	0.171	-0.444	0.231	1.007	755.379	1068.614
↑Recognition_Political Polarization	0.855	0.143	0.583	1.139	1.002	2847.015	2736.658
↑Recognition_Conservative Orientation	0.363	0.066	0.239	0.493	1.002	2236.976	2414.628
↓Recognition_Trust in Government	-0.560	0.073	-0.705	-0.417	1.002	2337.023	2561.828
↑Recognition_Trust in Scientist	0.460	0.073	0.319	0.607	1.001	2099.177	2461.371
↑Recognition_Religiosity	0.561	0.083	0.397	0.719	1.001	2590.370	2632.995
Recognition_Social Media Usage	0.039	0.069	-0.098	0.175	1.000	2803.035	2992.640
↑Recognition_Video Usage	0.258	0.073	0.117	0.402	1.001	3039.727	3040.513
Recognition_TV/Newspaper Usage	0.001	0.069	-0.137	0.136	1.001	2669.054	2581.651
Recognition_Radio/Magazines Usage	0.019	0.078	-0.130	0.173	1.000	2547.790	2719.361
↑Recognition_Online News Usage	0.306	0.079	0.148	0.462	1.002	2198.847	2271.952
Recognition_Message App Usage	-0.048	0.069	-0.183	0.086	1.000	2329.912	2827.424
Recognition_Personal Website Usage	0.017	0.084	-0.149	0.182	1.002	2312.752	2394.367
↑Recognition_Cultural Capital (at Age 15)	0.798	0.139	0.534	1.075	1.001	2329.794	2661.557
Recognition_Economic Capital (at Age 15)	0.213	0.153	-0.081	0.521	1.002	2226.210	2642.665
↑Recognition_Having Books (at Age 15)	0.069	0.036	0.002	0.141	1.001	3252.110	3023.272
Recognition_Having Books (Now)	0.018	0.030	-0.040	0.078	1.002	2229.153	2901.500
↑Recognition_Reading Books	0.103	0.039	0.028	0.179	1.001	2123.963	2800.791
Recognition_Number of Friends	-0.003	0.008	-0.017	0.014	1.000	3416.697	2297.781
Recognition_Bachelor's degree (Parents)	-0.040	0.104	-0.241	0.171	1.004	1419.185	2006.519
Recognition_Postgraduate Degree (Parents)	0.079	0.087	-0.096	0.242	1.002	1588.734	2399.570
Recognition_Social Class (Now): Upper	-0.089	0.097	-0.278	0.102	1.001	2034.591	2812.190
↑Recognition_Social Class (Now): Lower	0.379	0.080	0.224	0.541	1.007	1638.249	2302.957
Recognition_Social Class (at Age 15): Upper	0.026	0.097	-0.172	0.211	1.000	2103.621	2622.455
↓Recognition_Social Class (at Age 15): Lower	-0.268	0.078	-0.422	-0.112	1.003	1962.358	2279.366
↑Recognition_Upward Social Mobility	0.420	0.079	0.267	0.577	1.003	1944.309	2160.081

Table S7: Parameter Estimates for Recognition in the U.S. This table presents the Bayesian estimation results for each parameter. The Parameter column indicates the variable name, Estimate shows the median of the posterior distribution (Posterior Median), SE is the standard error, and l95CI and u95CI indicate the lower and upper bounds of the 95% credible interval. Rhat is the convergence diagnostic, with values close to 1 indicating good convergence. Bulk_ESS and Tail_ESS represent the effective sample size for bulk and tail portions of the posterior distribution. Furthermore, parameters marked with ↑ indicate significant positive effects ($P(\beta > 0) > 0.95$), while ↓ indicates significant negative effects ($P(\beta < 0) > 0.95$).

Parameter	Estimate	SE	l95CI	u95CI	Rhat	Bulk_ESS	Tail_ESS
↓Belief_Intercept	-32.917	21.866	-90.820	-8.740	1.005	929.096	830.963
↑Belief_Recognition	33.904	21.863	9.772	91.763	1.005	930.631	830.963
↓Belief_Age	-0.025	0.002	-0.029	-0.021	1.001	4000.815	3545.915
↑Belief_Male	0.155	0.047	0.061	0.247	1.001	2788.198	2268.128
↑Belief_Martial Status	0.121	0.047	0.029	0.215	1.001	3001.442	2704.731
↑Belief_Urbanization	0.180	0.078	0.025	0.334	1.000	2552.435	2975.930
↓Belief_Bachelor's degree	-0.331	0.058	-0.443	-0.217	1.001	2328.044	2507.574
Belief_Postgraduate Degree	0.112	0.074	-0.030	0.259	1.001	2367.940	2662.345
Belief_Household Income	-0.011	0.065	-0.134	0.112	1.002	2672.614	2724.295
↓Belief_Student	-0.306	0.157	-0.622	-0.005	1.003	2975.414	2586.989
↓Belief_Permanent Employee	-0.193	0.096	-0.382	-0.008	1.003	745.641	1568.548
↑Belief_Large Company	0.466	0.089	0.292	0.640	1.003	802.526	1432.249
↑Belief_Medium-sized Company	0.391	0.116	0.161	0.619	1.003	750.233	1357.105
↑Belief_Small Company	0.216	0.129	-0.027	0.474	1.003	861.035	1671.914
↓Belief_Political Polarization	-0.739	0.097	-0.924	-0.546	1.001	2216.792	2875.328
↑Belief_Conservative Orientation	0.945	0.053	0.844	1.046	1.001	2729.449	2629.283
↓Belief_Trust in Government	-0.828	0.051	-0.929	-0.728	1.001	2119.274	2614.281
↓Belief_Trust in Scientist	-0.379	0.055	-0.486	-0.272	1.001	1870.494	2189.879
↑Belief_Religiosity	1.135	0.067	1.004	1.263	1.002	2542.787	2672.448
↑Belief_Social Media Usage	0.132	0.052	0.026	0.233	1.000	2359.275	2616.645
Belief_Video Usage	0.031	0.063	-0.093	0.155	1.001	2244.997	2170.012
↓Belief_TV/Newspaper Usage	-0.177	0.051	-0.275	-0.077	1.000	2447.952	2728.990
↑Belief_Radio/Magazines Usage	0.174	0.056	0.068	0.286	1.000	2204.615	2383.052
Belief_Online News Usage	0.017	0.054	-0.088	0.120	1.001	2566.896	2864.649
↑Belief_Message App Usage	0.235	0.052	0.135	0.339	1.000	2261.568	2338.790
↑Belief_Personal Website Usage	0.183	0.064	0.060	0.310	1.000	2476.272	2542.034
Belief_Cultural Capital (at Age 15)	-0.079	0.102	-0.278	0.118	1.000	2532.132	2971.576
↓Belief_Economic Capital (at Age 15)	-0.272	0.133	-0.530	-0.012	1.001	2009.132	2446.036
Belief_Having Books (at Age 15)	-0.028	0.023	-0.074	0.017	1.001	2798.878	2597.851
Belief_Having Books (Now)	-0.024	0.020	-0.063	0.016	1.002	2140.185	2371.698
↓Belief_Reading Books	-0.100	0.027	-0.151	-0.047	1.001	2441.622	2770.011
↑Belief_Number of Friends	0.039	0.026	0.000	0.098	1.001	2787.716	2319.929
↑Belief_Bachelor's degree (Parents)	0.166	0.075	0.020	0.311	1.001	1866.835	2524.409
↓Belief_Postgraduate Degree (Parents)	-0.118	0.061	-0.238	0.000	1.001	2076.854	2363.992
↑Belief_Social Class (Now): Upper	0.158	0.076	0.008	0.304	1.001	2210.637	2833.652
↑Belief_Social Class (Now): Lower	0.266	0.059	0.149	0.380	1.003	1884.023	2478.839
↑Belief_Social Class (at Age 15): Upper	0.214	0.073	0.074	0.361	1.000	2406.881	2383.286
↓Belief_Social Class (at Age 15): Lower	-0.103	0.061	-0.221	0.019	1.001	1994.292	2363.382
↓Belief_Upward Social Mobility	0.147	0.061	0.028	0.266	1.004	1676.784	2295.280

Table S8: Parameter Estimates for Belief in the U.S. This table presents the Bayesian estimation results for each parameter. The Parameter column indicates the variable name, Estimate shows the median of the posterior distribution (Posterior Median), SE is the standard error, and l95CI and u95CI indicate the lower and upper bounds of the 95% credible interval. Rhat is the convergence diagnostic, with values close to 1 indicating good convergence. Bulk_ESS and Tail_ESS represent the effective sample size for bulk and tail portions of the posterior distribution. Furthermore, parameters marked with ↑ indicate significant positive effects ($P(\beta > 0) > 0.95$), while ↓ indicates significant negative effects ($P(\beta < 0) > 0.95$).

Parameter	Estimate	SE	l95CI	u95CI	Rhat	Bulk_ESS	Tail_ESS
↓Demonstrative_Intercept	-16.142	8.362	-38.207	-8.337	1.007	811.448	503.903
↑Demonstrative_Belief	16.164	8.361	8.387	38.245	1.007	816.043	506.584
↓Demonstrative_Age	-0.020	0.002	-0.024	-0.016	1.000	4155.574	3220.119
↑Demonstrative_Male	0.387	0.051	0.291	0.491	1.002	2172.517	2499.730
Demonstrative_Martial Status	0.054	0.051	-0.047	0.154	1.001	2442.034	2775.139
↑Demonstrative_Urbanization	0.192	0.083	0.029	0.357	1.003	3013.215	2740.929
Demonstrative_Bachelor's degree	0.050	0.063	-0.072	0.176	1.001	2440.954	2618.358
Demonstrative_Postgraduate Degree	0.032	0.085	-0.138	0.193	1.001	2413.705	2766.460
Demonstrative_Household Income	0.048	0.070	-0.092	0.186	1.003	2206.891	2526.496
Demonstrative_Student	-0.023	0.174	-0.369	0.310	1.001	2512.635	2793.957
Demonstrative_Permanent Employee	0.004	0.089	-0.167	0.179	1.004	1316.580	2008.275
↑Demonstrative_Large Company	0.148	0.081	-0.012	0.305	1.003	1315.901	1677.984
↑Demonstrative_Medium-sized Company	0.293	0.110	0.076	0.504	1.003	1256.087	1603.771
Demonstrative_Small Company	-0.139	0.126	-0.389	0.107	1.004	1353.383	1685.308
↓Demonstrative_Political Polarization	-0.995	0.115	-1.232	-0.772	1.001	2957.784	2679.693
↑Demonstrative_Conservative Orientation	0.218	0.053	0.114	0.320	1.000	2394.665	2625.973
↑Demonstrative_Trust in Government	0.197	0.061	0.078	0.316	1.001	2493.631	2579.887
Demonstrative_Trust in Scientist	0.044	0.052	-0.058	0.144	1.001	2476.635	2925.406
↑Demonstrative_Religiosity	0.504	0.079	0.351	0.655	1.002	2490.258	2947.654
Demonstrative_Social Media Usage	0.012	0.057	-0.101	0.127	1.001	2470.592	2853.165
↓Demonstrative_Video Usage	-0.140	0.069	-0.272	-0.005	1.000	2544.065	2673.724
Demonstrative_TV/Newspaper Usage	-0.062	0.055	-0.171	0.046	1.000	2534.084	2659.234
↑Demonstrative_Radio/Magazines Usage	0.144	0.060	0.020	0.260	1.001	1996.083	2682.203
↑Demonstrative_Online News Usage	0.138	0.057	0.028	0.248	1.000	2399.862	2810.976
↑Demonstrative_Message App Usage	0.351	0.053	0.246	0.455	1.002	1991.056	2525.252
↑Demonstrative_Personal Website Usage	0.185	0.062	0.065	0.308	1.001	2784.401	2542.935
↑Demonstrative_Cultural Capital (at Age 15)	0.301	0.107	0.088	0.515	1.000	2051.427	2448.080
↓Demonstrative_Economic Capital (at Age 15)	-0.972	0.140	-1.244	-0.691	1.000	2121.927	2888.410
↑Demonstrative_Having Books (at Age 15)	0.083	0.025	0.034	0.132	1.000	2557.351	2680.038
Demonstrative_Having Books (Now)	-0.034	0.024	-0.081	0.011	1.001	2426.391	2525.753
Demonstrative_Reading Books	-0.013	0.031	-0.074	0.048	1.000	2427.776	2683.342
Demonstrative_Number of Friends	0.010	0.010	-0.006	0.034	1.002	2866.350	1489.997
Demonstrative_Bachelor's degree (Parents)	0.050	0.082	-0.111	0.211	1.003	1783.703	2479.966
Demonstrative_Postgraduate Degree (Parents)	0.069	0.066	-0.066	0.199	1.006	1700.083	2236.733
↑Demonstrative_Social Class (Now): Upper	0.259	0.082	0.100	0.420	1.000	1871.016	2404.066
↑Demonstrative_Social Class (Now): Lower	0.144	0.062	0.019	0.263	1.001	1808.833	2585.225
↑Demonstrative_Social Class (at Age 15): Upper	0.260	0.076	0.112	0.416	1.002	1927.394	2519.637
↓Demonstrative_Social Class (at Age 15): Lower	-0.134	0.062	-0.257	-0.013	1.002	1757.297	2697.573
↑Demonstrative_Upward Social Mobility	0.194	0.066	0.064	0.324	1.001	1675.502	2224.236

Table S9: Parameter Estimates for Demonstrative Action in the U.S. This table presents the Bayesian estimation results for each parameter. The Parameter column indicates the variable name, Estimate shows the median of the posterior distribution (Posterior Median), SE is the standard error, and l95CI and u95CI indicate the lower and upper bounds of the 95% credible interval. Rhat is the convergence diagnostic, with values close to 1 indicating good convergence. Bulk_ESS and Tail_ESS represent the effective sample size for bulk and tail portions of the posterior distribution. Furthermore, parameters marked with ↑ indicate significant positive effects ($P(\beta > 0) > 0.95$), while ↓ indicates significant negative effects ($P(\beta < 0) > 0.95$).

Parameter	Estimate	SE	l95CI	u95CI	Rhat	Bulk_ESS	Tail_ESS
↓Diffusion_Intercept	-17.979	11.954	-47.693	-9.347	1.006	676.914	301.740
↑Diffusion_Belief	17.227	11.954	8.668	46.978	1.006	684.884	302.054
Diffusion_Age	0.002	0.002	-0.002	0.006	1.001	4343.991	2956.489
↓Diffusion_Male	-0.102	0.049	-0.196	-0.008	1.000	3128.501	2833.523
↑Diffusion_Martial Status	0.123	0.050	0.025	0.221	1.001	2610.635	2398.175
Diffusion_Urbanization	-0.022	0.080	-0.174	0.139	1.002	2611.473	2738.139
Diffusion_Bachelor's degree	0.068	0.064	-0.053	0.191	1.001	1777.737	2510.715
↓Diffusion_Postgraduate Degree	-0.189	0.081	-0.345	-0.031	1.001	1761.889	2403.239
↑Diffusion_Household Income	0.232	0.066	0.101	0.361	1.003	2135.852	2364.750
Diffusion_Student	0.002	0.176	-0.338	0.346	1.001	3092.793	2944.528
Diffusion_Permanent Employee	-0.118	0.085	-0.284	0.049	1.003	1141.498	1875.726
Diffusion_Large Company	0.055	0.081	-0.097	0.219	1.002	1225.380	2028.005
Diffusion_Medium-sized Company	0.037	0.110	-0.177	0.261	1.002	1056.907	2111.305
Diffusion_Small Company	0.039	0.123	-0.196	0.286	1.003	1258.783	2195.919
↑Diffusion_Political Polarization	0.689	0.113	0.469	0.903	1.001	3026.938	2883.502
Diffusion_Conservative Orientation	0.018	0.050	-0.081	0.116	1.004	2422.368	2158.793
↓Diffusion_Trust in Government	-0.361	0.058	-0.474	-0.246	1.000	2390.485	2613.478
Diffusion_Trust in Scientist	0.081	0.054	-0.021	0.183	1.000	2694.549	2775.170
Diffusion_Religiosity	-0.072	0.073	-0.215	0.069	1.000	2912.694	3041.125
Diffusion_Social Media Usage	0.082	0.056	-0.026	0.196	1.003	2556.788	2633.632
↑Diffusion_Video Usage	0.228	0.066	0.099	0.356	1.001	2846.591	2836.451
↑Diffusion_TV/Newspaper Usage	0.109	0.053	0.006	0.210	1.000	2460.701	2424.017
Diffusion_Radio/Magazines Usage	0.090	0.059	-0.023	0.205	1.001	2569.698	2559.083
↑Diffusion_Online News Usage	0.134	0.058	0.023	0.248	1.000	2344.528	2645.915
Diffusion_Message App Usage	0.055	0.053	-0.048	0.161	1.001	2645.843	2855.272
Diffusion_Personal Website Usage	-0.035	0.062	-0.156	0.087	1.001	2478.436	2094.843
↑Diffusion_Cultural Capital (at Age 15)	0.469	0.106	0.258	0.687	1.001	1721.882	2030.326
↑Diffusion_Economic Capital (at Age 15)	0.241	0.132	-0.016	0.493	1.001	1701.834	2564.668
↓Diffusion_Having Books (at Age 15)	-0.048	0.025	-0.097	-0.001	1.000	2694.720	2757.490
↑Diffusion_Having Books (Now)	0.042	0.023	-0.004	0.088	1.000	2383.557	2336.501
↑Diffusion_Reading Books	0.050	0.030	-0.009	0.109	1.003	3039.869	2141.003
Diffusion_Number of Friends	-0.002	0.007	-0.016	0.012	1.001	3997.577	2442.663
↓Diffusion_Bachelor's degree (Parents)	-0.258	0.080	-0.412	-0.100	1.001	1906.096	2170.002
↑Diffusion_Postgraduate Degree (Parents)	0.196	0.065	0.070	0.320	1.002	2015.169	2215.117
↓Diffusion_Social Class (Now): Upper	-0.194	0.075	-0.337	-0.047	1.001	1485.322	2549.661
↑Diffusion_Social Class (Now): Lower	0.142	0.061	0.021	0.260	1.001	1654.527	2186.394
Diffusion_Social Class (at Age 15): Upper	0.045	0.072	-0.100	0.188	1.000	1961.738	2694.318
↓Diffusion_Social Class (at Age 15): Lower	-0.206	0.061	-0.325	-0.086	1.002	1559.966	2161.420
↑Diffusion_Upward Social Mobility	0.138	0.062	0.016	0.255	1.000	1382.405	2597.898

Table S10: Parameter Estimates for Diffusion Action in the U.S. This table presents the Bayesian estimation results for each parameter. The Parameter column indicates the variable name, Estimate shows the median of the posterior distribution (Posterior Median), SE is the standard error, and l95CI and u95CI indicate the lower and upper bounds of the 95% credible interval. Rhat is the convergence diagnostic, with values close to 1 indicating good convergence. Bulk_ESS and Tail_ESS represent the effective sample size for bulk and tail portions of the posterior distribution. Furthermore, parameters marked with ↑ indicate significant positive effects ($P(\beta > 0) > 0.95$), while ↓ indicates significant negative effects ($P(\beta < 0) > 0.95$).

Parameter	Estimate	SE	l95CI	u95CI	Rhat	Bulk_ESS	Tail_ESS
↓Recognition_Intercept	-1.570	0.085	-1.737	-1.405	1.000	5923.549	3234.015
↑Recognition_Age	0.007	0.002	0.004	0.010	1.001	4764.792	3152.670
↑Recognition_Male	0.141	0.040	0.065	0.220	1.002	3678.996	2955.651
↓Recognition_Martial Status	-0.091	0.040	-0.166	-0.013	1.001	3968.860	3062.067
↑Recognition_Urbanization	0.066	0.037	-0.005	0.137	1.003	5711.737	2671.463
Recognition_Bachelor's degree	-0.005	0.039	-0.081	0.072	1.000	3739.788	2689.816
Recognition_Postgraduate Degree	0.045	0.085	-0.118	0.214	1.000	4470.299	3307.577
↓Recognition_Household Income	-0.196	0.071	-0.339	-0.059	1.000	3283.060	2653.698
Recognition_Student	0.090	0.145	-0.197	0.373	1.000	4531.214	2982.051
↓Recognition_Permanent Employee	-0.141	0.084	-0.303	0.024	1.001	1195.497	2256.443
Recognition_Large Company	0.083	0.079	-0.071	0.236	1.002	1378.171	2342.584
Recognition_Medium-sized Company	0.143	0.101	-0.056	0.338	1.001	1218.441	2161.436
Recognition_Small Company	0.050	0.102	-0.149	0.253	1.001	1329.280	2109.475
↑Recognition_Political Polarization	1.688	0.105	1.483	1.899	1.000	4230.281	3141.313
↑Recognition_Conservative Orientation	0.413	0.040	0.334	0.490	1.002	5231.794	3288.648
↓Recognition_Trust in Government	-0.314	0.046	-0.408	-0.224	1.001	3095.893	3164.056
↑Recognition_Trust in Scientist	0.356	0.040	0.277	0.436	1.003	3189.026	2828.770
↑Recognition_Religiosity	0.873	0.053	0.769	0.976	1.002	4792.071	3232.809
↑Recognition_Social Media Usage	0.197	0.040	0.117	0.276	1.001	3550.645	3164.018
↑Recognition_Video Usage	0.301	0.036	0.231	0.372	1.002	4224.211	3055.313
↓Recognition_TV/Newspaper Usage	-0.116	0.036	-0.185	-0.045	1.001	3855.158	3060.384
↑Recognition_Radio/Magazines Usage	0.122	0.047	0.032	0.212	1.001	4393.889	3479.699
↑Recognition_Online News Usage	0.177	0.042	0.094	0.258	1.001	4152.966	3159.375
↓Recognition_Message App Usage	-0.147	0.049	-0.243	-0.052	1.002	4073.275	2866.843
↑Recognition_Personal Website Usage	0.208	0.072	0.066	0.345	1.001	4889.222	3077.393
↑Recognition_Cultural Capital (at Age 15)	0.665	0.096	0.478	0.857	1.001	2475.783	3034.640
↑Recognition_Economic Capital (at Age 15)	0.290	0.099	0.099	0.486	1.000	2522.285	2653.809
↑Recognition_Having Books (at Age 15)	0.037	0.019	0.001	0.074	1.000	3800.273	2697.459
↑Recognition_Having Books (Now)	0.033	0.017	0.001	0.066	1.001	3609.730	3270.050
↑Recognition_Reading Books	0.074	0.021	0.033	0.115	1.000	4182.916	3085.494
Recognition_Number of Friends	0.010	0.033	-0.053	0.077	1.001	3948.961	2562.515
Recognition_Bachelor's degree (Parents)	-0.041	0.040	-0.120	0.034	1.001	3714.148	3011.393
Recognition_Postgraduate Degree (Parents)	0.049	0.127	-0.204	0.297	1.000	3808.331	2765.689
Recognition_Social Class (Now): Upper	0.012	0.085	-0.158	0.181	1.001	3348.636	2996.649
↑Recognition_Social Class (Now): Lower	0.239	0.048	0.142	0.336	1.001	2839.186	2750.732
↑Recognition_Social Class (at Age 15): Upper	0.131	0.076	-0.014	0.287	1.003	3926.015	3000.186
↓Recognition_Social Class (at Age 15): Lower	-0.132	0.050	-0.230	-0.035	1.001	2488.697	2584.987
↑Recognition_Upward Social Mobility	0.359	0.047	0.268	0.453	1.003	2304.914	2658.996

Table S11: Parameter Estimates for Recognition in Japan. This table presents the Bayesian estimation results for each parameter. The Parameter column indicates the variable name, Estimate shows the median of the posterior distribution (Posterior Median), SE is the standard error, and l95CI and u95CI indicate the lower and upper bounds of the 95% credible interval. Rhat is the convergence diagnostic, with values close to 1 indicating good convergence. Bulk_ESS and Tail_ESS represent the effective sample size for bulk and tail portions of the posterior distribution. Furthermore, parameters marked with ↑ indicate significant positive effects ($P(\beta > 0) > 0.95$), while ↓ indicates significant negative effects ($P(\beta < 0) > 0.95$).

Parameter	Estimate	SE	l95CI	u95CI	Rhat	Bulk_ESS	Tail_ESS
↓Belief_Intercept	-17.696	9.015	-42.688	-9.757	1.003	658.152	267.152
↑Belief_Recognition	16.093	9.014	8.167	40.959	1.003	656.854	267.575
↑Belief_Age	0.017	0.002	0.013	0.022	1.001	4782.720	3824.853
↑Belief_Male	0.217	0.055	0.108	0.320	1.003	3347.530	2914.863
↑Belief_Martial Status	0.107	0.053	0.005	0.210	1.001	3823.846	2772.045
Belief_Urbanization	-0.022	0.049	-0.120	0.075	1.001	5283.153	3029.608
↓Belief_Bachelor's degree	-0.231	0.052	-0.333	-0.129	1.000	4205.983	2902.226
↓Belief_Postgraduate Degree	-0.291	0.113	-0.512	-0.072	1.001	3689.714	2804.856
Belief_Household Income	0.015	0.099	-0.180	0.210	1.002	3978.190	3110.912
Belief_Student	0.015	0.202	-0.387	0.417	1.001	3785.983	2782.400
Belief_Permanent Employee	-0.058	0.113	-0.273	0.164	1.002	1184.369	2103.303
Belief_Large Company	0.162	0.104	-0.043	0.366	1.003	1120.102	2030.097
↑Belief_Medium-sized Company	0.272	0.136	0.004	0.533	1.003	1223.967	2156.146
Belief_Small Company	0.212	0.137	-0.052	0.478	1.003	1170.333	2301.050
↑Belief_Political Polarization	1.149	0.120	0.912	1.388	1.001	4416.537	3087.503
↑Belief_Conservative Orientation	0.449	0.052	0.348	0.552	1.000	3359.208	2730.739
↓Belief_Trust in Government	-0.391	0.063	-0.514	-0.270	1.000	3656.088	3197.025
↓Belief_Trust in Scientist	-0.143	0.052	-0.243	-0.039	1.000	3278.440	2928.852
↑Belief_Religiosity	1.308	0.069	1.177	1.442	1.000	4038.230	2946.322
Belief_Social Media Usage	-0.033	0.051	-0.132	0.071	1.001	3775.724	2844.673
↑Belief_Video Usage	0.188	0.050	0.092	0.287	1.000	4928.703	3002.422
↓Belief_TV/Newspaper Usage	-0.282	0.049	-0.378	-0.187	1.001	4298.243	3164.622
↓Belief_Radio/Magazines Usage	-0.103	0.061	-0.220	0.016	1.001	3757.613	2898.666
↑Belief_Online News Usage	0.149	0.056	0.038	0.262	1.001	4059.133	2469.808
Belief_Message App Usage	0.101	0.063	-0.023	0.221	1.000	3925.663	3031.929
Belief_Personal Website Usage	0.096	0.088	-0.079	0.266	1.001	4963.078	3526.365
Belief_Cultural Capital (at Age 15)	0.008	0.132	-0.250	0.260	1.001	3444.238	3145.271
Belief_Economic Capital (at Age 15)	0.162	0.143	-0.116	0.441	1.001	3663.545	3253.843
Belief_Having Books (at Age 15)	0.031	0.023	-0.017	0.076	1.000	4109.148	3205.973
↓Belief_Having Books (Now)	-0.062	0.021	-0.102	-0.021	1.000	3136.946	2853.653
Belief_Reading Books	-0.020	0.028	-0.077	0.034	1.001	4051.410	3106.082
Belief_Number of Friends	-0.007	0.044	-0.097	0.074	1.001	3915.788	2691.845
Belief_Bachelor's degree (Parents)	0.022	0.054	-0.084	0.124	1.000	3854.125	2872.491
Belief_Postgraduate Degree (Parents)	0.155	0.162	-0.176	0.481	1.000	4282.438	2811.696
Belief_Social Class (Now): Upper	0.142	0.110	-0.083	0.358	1.001	3553.547	2965.209
↑Belief_Social Class (Now): Lower	0.249	0.060	0.133	0.371	1.003	3058.640	3168.078
↑Belief_Social Class (at Age 15): Upper	0.379	0.096	0.192	0.559	1.001	3442.712	2963.698
Belief_Social Class (at Age 15): Lower	-0.039	0.066	-0.169	0.087	1.001	3049.406	2990.552
↑Belief_Upward Social Mobility	0.122	0.064	-0.003	0.248	1.000	2812.114	2465.954

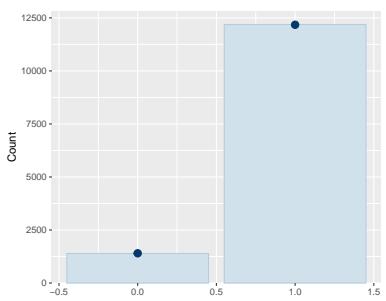
Table S12: Parameter Estimates for Belief in Japan. This table presents the Bayesian estimation results for each parameter. The Parameter column indicates the variable name, Estimate shows the median of the posterior distribution (Posterior Median), SE is the standard error, and l95CI and u95CI indicate the lower and upper bounds of the 95% credible interval. Rhat is the convergence diagnostic, with values close to 1 indicating good convergence. Bulk_ESS and Tail_ESS represent the effective sample size for bulk and tail portions of the posterior distribution. Furthermore, parameters marked with ↑ indicate significant positive effects ($P(\beta > 0) > 0.95$), while ↓ indicates significant negative effects ($P(\beta < 0) > 0.95$).

Parameter	Estimate	SE	l95CI	u95CI	Rhat	Bulk_ESS	Tail_ESS
↓Demonstrative_Intercept	-17.391	13.277	-65.844	-8.596	1.025	246.225	97.437
↑Demonstrative_Belief	16.257	13.275	7.499	64.658	1.025	246.412	98.483
↓Demonstrative_Age	-0.011	0.004	-0.020	-0.002	1.001	3795.163	3401.368
Demonstrative_Male	0.135	0.114	-0.091	0.362	1.000	3431.113	2928.676
Demonstrative_Martial Status	0.147	0.111	-0.072	0.364	1.001	3958.242	3054.849
Demonstrative_Urbanization	0.045	0.100	-0.155	0.240	1.001	4414.357	3048.693
Demonstrative_Bachelor's degree	-0.038	0.110	-0.254	0.181	1.002	4066.081	2681.684
↑Demonstrative_Postgraduate Degree	0.673	0.206	0.259	1.078	1.000	4477.754	3142.373
Demonstrative_Household Income	0.092	0.181	-0.256	0.440	1.000	3371.903	3329.454
Demonstrative_Student	-0.149	0.390	-0.937	0.590	1.001	3782.940	3270.695
Demonstrative_Permanent Employee	0.253	0.221	-0.177	0.690	1.001	1044.413	1827.843
Demonstrative_Large Company	0.080	0.204	-0.334	0.464	1.002	1030.418	1658.666
Demonstrative_Medium-sized Company	0.089	0.257	-0.419	0.582	1.001	1030.979	1759.998
Demonstrative_Small Company	-0.150	0.265	-0.681	0.361	1.001	1047.795	1718.999
Demonstrative_Political Polarization	0.184	0.250	-0.307	0.658	1.002	3853.987	3130.191
↓Demonstrative_Conservative Orientation	-0.439	0.108	-0.650	-0.229	1.001	3908.672	2861.432
↑Demonstrative_Trust in Government	0.620	0.121	0.387	0.861	1.001	3641.390	3265.940
Demonstrative_Trust in Scientist	-0.047	0.104	-0.253	0.157	1.000	3356.634	3407.000
↑Demonstrative_Religiosity	0.657	0.129	0.410	0.906	1.001	3734.337	2674.438
↑Demonstrative_Social Media Usage	0.260	0.106	0.056	0.473	1.002	4300.940	3147.911
Demonstrative_Video Usage	0.020	0.108	-0.199	0.233	1.003	4760.170	3016.973
↓Demonstrative_TV/Newspaper Usage	-0.561	0.099	-0.759	-0.367	1.000	4465.149	3014.021
↑Demonstrative_Radio/Magazines Usage	0.289	0.121	0.051	0.526	1.000	3882.358	3165.494
Demonstrative_Online News Usage	-0.089	0.118	-0.323	0.138	1.001	3266.076	2919.954
Demonstrative_Message App Usage	0.188	0.127	-0.062	0.441	1.001	3753.448	2850.587
↑Demonstrative_Personal Website Usage	0.482	0.160	0.171	0.796	1.000	3683.438	3119.948
Demonstrative_Cultural Capital (at Age 15)	0.308	0.279	-0.225	0.843	1.001	2632.350	2899.798
↓Demonstrative_Economic Capital (at Age 15)	-1.481	0.283	-2.036	-0.946	1.001	2971.675	2781.735
↓Demonstrative_Having Books (at Age 15)	-0.143	0.054	-0.250	-0.042	1.000	4509.380	2803.669
Demonstrative_Having Books (Now)	0.033	0.044	-0.057	0.120	1.000	3166.277	2885.899
Demonstrative_Reading Books	0.016	0.059	-0.100	0.131	1.000	3737.515	2943.017
Demonstrative_Number of Friends	-0.011	0.125	-0.281	0.206	1.002	3873.008	2896.012
Demonstrative_Bachelor's degree (Parents)	0.077	0.110	-0.141	0.291	1.000	4737.715	3210.255
Demonstrative_Postgraduate Degree (Parents)	-0.072	0.302	-0.680	0.504	1.001	3819.737	3135.320
↑Demonstrative_Social Class (Now): Upper	0.703	0.185	0.350	1.069	1.002	3115.368	2643.158
Demonstrative_Social Class (Now): Lower	-0.039	0.130	-0.294	0.219	1.001	3552.083	2917.098
↑Demonstrative_Social Class (at Age 15): Upper	0.483	0.165	0.160	0.807	1.002	3091.731	2870.666
Demonstrative_Social Class (at Age 15): Lower	-0.159	0.136	-0.425	0.118	1.001	3711.369	2899.696
Demonstrative_Upward Social Mobility	0.138	0.127	-0.114	0.387	1.002	3298.914	2982.657

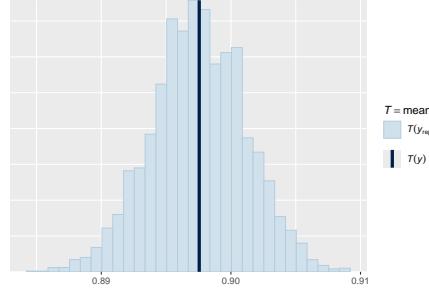
Table S13: Parameter Estimates for Demonstrative Action in Japan. This table presents the Bayesian estimation results for each parameter. The Parameter column indicates the variable name, Estimate shows the median of the posterior distribution (Posterior Median), SE is the standard error, and l95CI and u95CI indicate the lower and upper bounds of the 95% credible interval. Rhat is the convergence diagnostic, with values close to 1 indicating good convergence. Bulk_ESS and Tail_ESS represent the effective sample size for bulk and tail portions of the posterior distribution. Furthermore, parameters marked with ↑ indicate significant positive effects ($P(\beta > 0) > 0.95$), while ↓ indicates significant negative effects ($P(\beta < 0) > 0.95$).

Parameter	Estimate	SE	l95CI	u95CI	Rhat	Bulk_ESS	Tail_ESS
↓Diffusion_Intercept	-18.239	10.873	-53.100	-10.392	1.023	172.467	55.020
↑Diffusion_Belief	15.366	10.875	7.621	49.893	1.024	173.014	54.809
↑Diffusion_Age	0.015	0.004	0.008	0.023	1.001	4040.166	3143.916
Diffusion_Male	-0.093	0.096	-0.281	0.095	1.001	3592.914	3247.631
Diffusion_Martial Status	0.038	0.090	-0.137	0.210	1.000	4065.109	3031.657
Diffusion_Urbanization	-0.066	0.084	-0.231	0.096	1.000	4718.752	2996.121
Diffusion_Bachelor's degree	-0.072	0.090	-0.250	0.109	1.000	4603.901	3148.781
Diffusion_Postgraduate Degree	-0.342	0.214	-0.766	0.061	1.000	4949.204	2842.591
Diffusion_Household Income	0.018	0.155	-0.294	0.321	1.000	3701.374	3114.419
Diffusion_Student	0.375	0.365	-0.350	1.065	1.000	3190.151	2558.986
Diffusion_Permanent Employee	-0.080	0.179	-0.430	0.272	1.002	951.046	1782.351
Diffusion_Large Company	0.117	0.159	-0.199	0.421	1.003	1110.354	2077.422
Diffusion_Medium-sized Company	0.109	0.212	-0.308	0.520	1.002	1013.691	1597.159
Diffusion_Small Company	-0.077	0.218	-0.516	0.344	1.003	1038.371	1560.871
↑Diffusion_Political Polarization	0.564	0.196	0.185	0.961	1.000	4891.897	2926.492
Diffusion_Conservative Orientation	-0.024	0.086	-0.193	0.142	1.000	3417.436	3037.635
Diffusion_Trust in Government	-0.121	0.107	-0.334	0.093	1.001	3002.178	2484.583
Diffusion_Trust in Scientist	0.053	0.084	-0.113	0.218	1.001	3279.898	3011.661
↑Diffusion_Religiosity	0.331	0.110	0.116	0.549	1.000	4468.362	2908.991
↑Diffusion_Social Media Usage	0.306	0.088	0.128	0.475	1.000	3439.064	3331.192
Diffusion_Video Usage	0.114	0.084	-0.048	0.282	1.000	4079.179	2945.980
Diffusion_TV/Newspaper Usage	0.024	0.083	-0.136	0.182	1.002	4012.460	2968.934
↑Diffusion_Radio/Magazines Usage	0.259	0.096	0.068	0.443	1.001	4065.437	2916.050
Diffusion_Online News Usage	0.085	0.091	-0.093	0.267	1.001	3739.414	3107.220
Diffusion_Message App Usage	0.115	0.102	-0.086	0.320	1.002	3904.301	2885.165
Diffusion_Personal Website Usage	0.102	0.136	-0.160	0.370	1.000	4277.747	3091.977
↑Diffusion_Cultural Capital (at Age 15)	0.685	0.223	0.252	1.135	1.000	2770.716	2822.105
↑Diffusion_Economic Capital (at Age 15)	0.466	0.259	-0.027	0.981	1.000	2888.407	2755.285
Diffusion_Having Books (at Age 15)	-0.045	0.038	-0.119	0.030	1.000	3995.213	3182.102
↑Diffusion_Having Books (Now)	0.059	0.034	-0.007	0.126	1.000	3735.997	3264.562
Diffusion_Reading Books	0.031	0.047	-0.058	0.125	1.001	4034.428	3148.366
Diffusion_Number of Friends	-0.111	0.146	-0.436	0.138	1.002	4117.285	2175.212
Diffusion_Bachelor's degree (Parents)	-0.036	0.093	-0.217	0.142	1.000	3693.547	2814.862
Diffusion_Postgraduate Degree (Parents)	0.003	0.268	-0.538	0.515	1.000	3922.230	3134.197
↑Diffusion_Social Class (Now): Upper	0.413	0.173	0.076	0.761	1.000	3247.305	2933.707
Diffusion_Social Class (Now): Lower	0.126	0.103	-0.074	0.324	1.000	4030.911	3108.224
Diffusion_Social Class (at Age 15): Upper	0.043	0.146	-0.249	0.330	1.000	3496.135	3088.279
↓Diffusion_Social Class (at Age 15): Lower	-0.190	0.112	-0.404	0.022	1.000	4009.919	3129.762
↑Diffusion_Upward Social Mobility	0.302	0.107	0.091	0.512	1.000	3454.448	3352.790

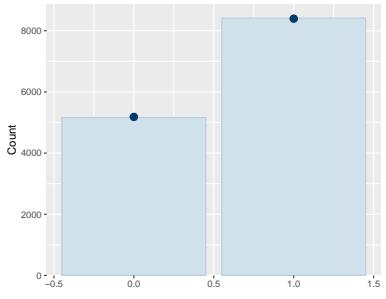
Table S14: Parameter Estimates for Diffusion Action in Japan. This table presents the Bayesian estimation results for each parameter. The Parameter column indicates the variable name, Estimate shows the median of the posterior distribution (Posterior Median), SE is the standard error, and l95CI and u95CI indicate the lower and upper bounds of the 95% credible interval. Rhat is the convergence diagnostic, with values close to 1 indicating good convergence. Bulk_ESS and Tail_ESS represent the effective sample size for bulk and tail portions of the posterior distribution. Furthermore, parameters marked with ↑ indicate significant positive effects ($P(\beta > 0) > 0.95$), while ↓ indicates significant negative effects ($P(\beta < 0) > 0.95$).



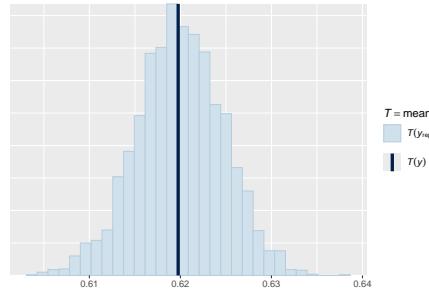
(a) Bars plot for Recognition.



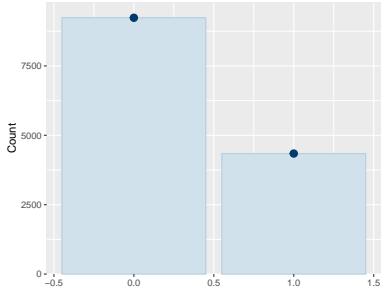
(b) Summary statistic check for Recognition.



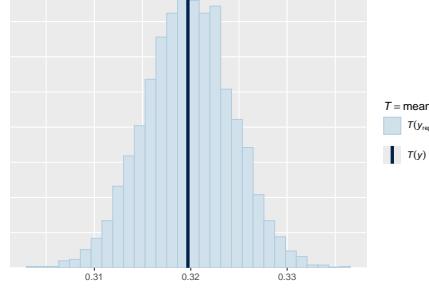
(c) Bars plot for Belief.



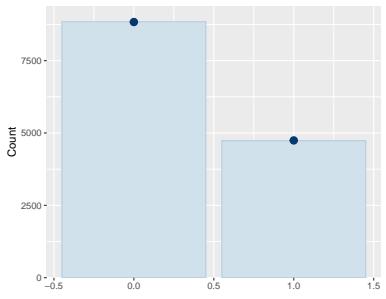
(d) Summary statistic check for Belief.



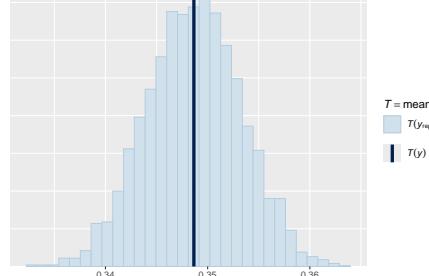
(e) Bars plot for Demonstrative Action.



(f) Summary statistic check for Demonstrative Action.



(g) Bars plot for Diffusion Action.



(h) Summary statistic check for Diffusion Action.

Fig. S31: Posterior predictive checks for⁵⁷ the four Bernoulli outcomes (Recognition, Belief, Demonstrative Action, Diffusion Action) in the U.S. Subfigures (a, c, e, g) show the comparison of observed vs. predicted frequencies, and (b, d, f, h) show the comparison of summary statistics. The close alignment between observed and predicted values suggests that the model adequately captures the data-generating process for each outcome.

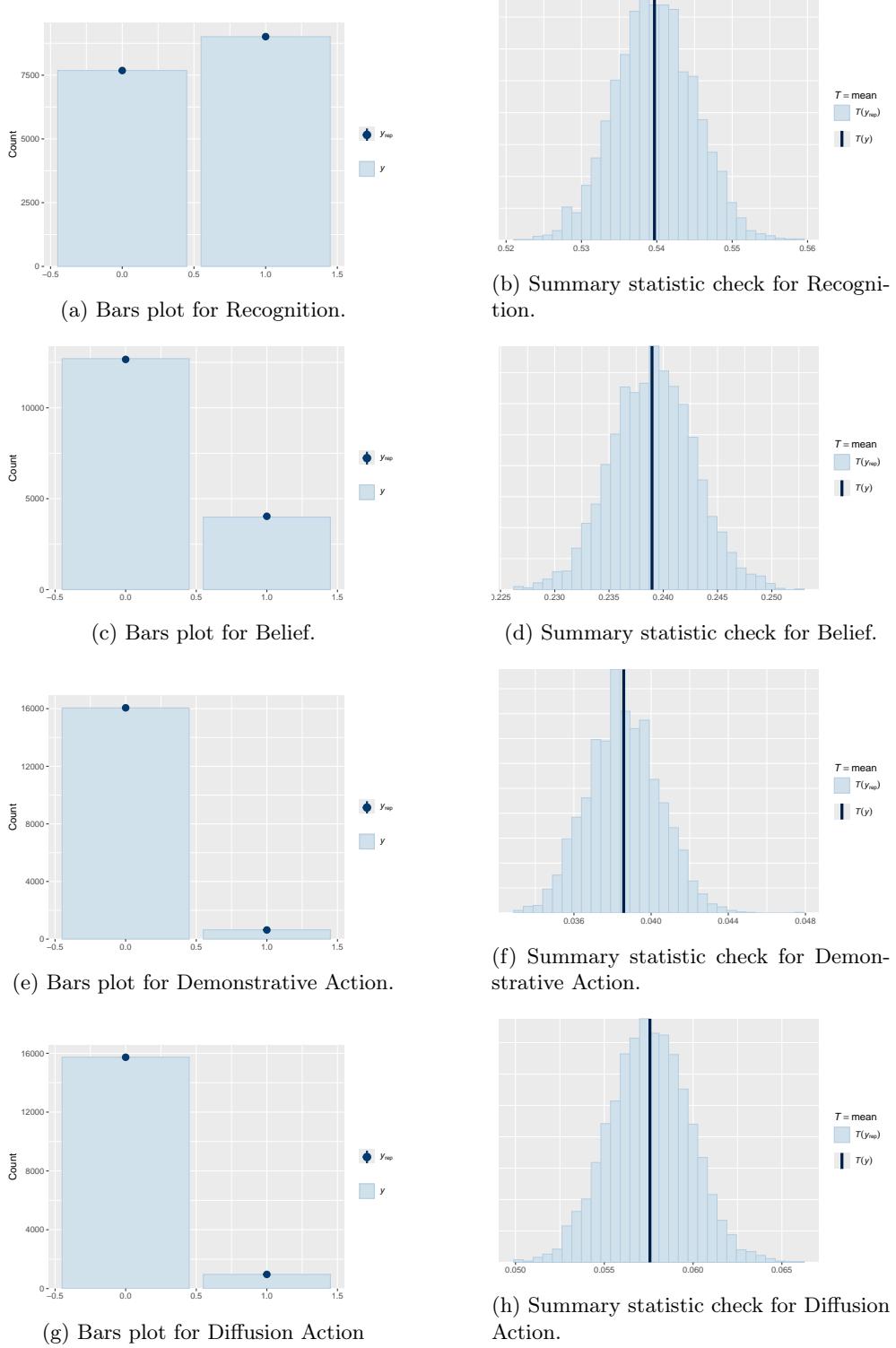


Fig. S32: Posterior predictive checks for the four Bernoulli outcomes (Recognition, Belief, Demonstrative Action, Diffusion Action) in Japan. Subfigures (a, c, e, g) show the comparison of observed vs. predicted frequencies, and (b, d, f, h) show the comparison of summary statistics. The close alignment between observed and predicted values suggests that the model adequately captures the data-generating process for each outcome. ⁵⁸

Table S15: LOO comparison of each model for the U.S. $\widehat{\text{elpd}}_{\text{LOO}}$ is estimated log predictive density, where higher (less negative) values indicate better predictive performance p_{LOO} is effective number of parameters, reflecting model complexity. $\text{SE}(\widehat{\text{elpd}}_{\text{LOO}})$ and $\text{SE}(p_{\text{LOO}})$ are Standard error of $\widehat{\text{elpd}}_{\text{LOO}}$ and p_{LOO} , reflecting uncertainty in the predictive performance.

Model	$\widehat{\text{elpd}}_{\text{LOO}}$	$\text{SE}(\widehat{\text{elpd}}_{\text{LOO}})$	p_{LOO}	$\text{SE}(p_{\text{LOO}})$
Our Model	-21557.3	76.0	156.7	4.9
A-1 Changed priors: $\mathcal{N}(0, 1)$	-21557.3	76.0	156.7	4.9
A-2 Changed priors: $\mathcal{N}(0, 10)$	-21557.3	76.0	156.7	4.9
B-1 Changed iteration: Iter 1000, Warmup 500	-21556.5	75.9	155.9	3.7
B-2 Changed iteration: Iter 4000, Warmup 2000	-21557.4	76.0	156.8	4.5
C-1 Changed <code>adapt_delta</code> : 0.90	-21560.1	76.2	159.5	7.3
C-2 Changed <code>adapt_delta</code> : 0.99	-21557.2	76.0	156.5	5.0

Table S16: LOO comparison of each model for the Japan. $\widehat{\text{elpd}}_{\text{LOO}}$ is estimated log predictive density, where higher (less negative) values indicate better predictive performance p_{LOO} is effective number of parameters, reflecting model complexity. $\text{SE}(\widehat{\text{elpd}}_{\text{LOO}})$ and $\text{SE}(p_{\text{LOO}})$ are Standard error of $\widehat{\text{elpd}}_{\text{LOO}}$ and p_{LOO} , reflecting uncertainty in the predictive performance.

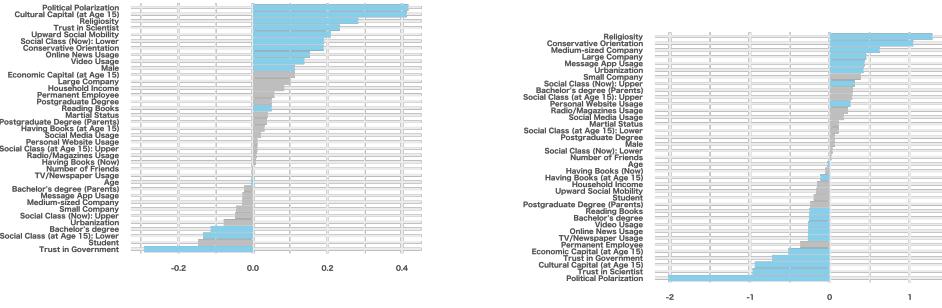
Model	$\widehat{\text{elpd}}_{\text{LOO}}$	$\text{SE}(\widehat{\text{elpd}}_{\text{LOO}})$	p_{LOO}	$\text{SE}(p_{\text{LOO}})$
Our Model	-20221.1	104.0	156.7	4.4
A-1 Changed priors: $\mathcal{N}(0, 1)$	-20221.1	104.0	156.7	4.4
A-2 Changed priors: $\mathcal{N}(0, 10)$	-20221.1	104.0	156.7	4.4
B-1 Changed iteration: Iter 1000, Warmup 500	-20219.3	104.0	154.9	3.4
B-2 Changed iteration: Iter 4000, Warmup 2000	-20220.2	104.0	155.7	3.8
C-1 Changed <code>adapt_delta</code> : 0.90	-20219.5	104.0	155.1	3.7
C-2 Changed <code>adapt_delta</code> : 0.99	-20219.1	104.0	154.2	3.2

Parameter	Estimate	SE	l95CI	u95CI	Rhat	Bulk_ESS	Tail_ESS
↑Recognition_Intercept	0.472	0.006	0.460	0.483	1.000	19223.399	7138.054
↓Recognition_Age	-0.096	0.007	-0.110	-0.082	1.001	13214.522	7878.475
↑Recognition_Male	0.136	0.006	0.124	0.148	1.000	18134.030	7975.715
↑Recognition_Martial Status	0.035	0.006	0.022	0.047	1.001	18186.749	7156.113
Recognition_Urbanization	-0.006	0.006	-0.018	0.005	1.000	17578.414	7301.039
Recognition_Bachelor's degree	-0.007	0.007	-0.021	0.008	1.000	13206.218	8017.958
↓Recognition_Postgraduate Degree	-0.021	0.007	-0.035	-0.007	1.000	13491.916	8053.224
↑Recognition_Household Income	0.057	0.007	0.042	0.071	1.000	14888.120	7067.371
Recognition_Student	0.004	0.006	-0.008	0.016	1.000	19762.233	7855.888
↓Recognition_Permanent Employee	-0.033	0.012	-0.056	-0.010	1.000	6246.732	7408.713
↑Recognition_Large Company	0.056	0.009	0.038	0.075	1.000	6110.246	7640.441
↑Recognition_Medium-sized Company	0.045	0.011	0.023	0.066	1.000	5738.740	6656.068
↑Recognition_Small Company	0.031	0.009	0.014	0.048	1.001	6119.525	7544.297
↑Recognition_Political Polarization	0.198	0.006	0.186	0.211	1.000	18638.441	7816.753
↓Recognition_Conservative Orientation	-0.041	0.006	-0.053	-0.029	1.000	16570.851	7586.730
↓Recognition_Trust in Government	-0.101	0.007	-0.114	-0.088	1.000	15154.392	8194.159
↑Recognition_Trust in Scientist	0.019	0.007	0.006	0.032	1.000	14469.807	7658.788
↓Recognition_Religiosity	-0.047	0.006	-0.059	-0.035	1.000	15650.257	7543.459
↑Recognition_Social Media Usage	0.018	0.006	0.006	0.031	1.000	17378.708	7442.547
↑Recognition_Video Usage	0.030	0.006	0.018	0.042	1.000	16420.242	7470.057
↓Recognition_TV/Newspaper Usage	-0.030	0.007	-0.043	-0.017	1.000	16298.674	7347.923
↑Recognition_Radio/Magazines Usage	0.024	0.007	0.010	0.037	1.000	14391.035	7964.854
↑Recognition_Online News Usage	0.096	0.007	0.083	0.110	1.000	15666.084	7759.122
↓Recognition_Message App Usage	-0.035	0.007	-0.048	-0.022	1.000	15232.581	7881.278
Recognition_Personal Website Usage	0.002	0.007	-0.011	0.015	1.000	17087.310	7377.072
↑Recognition_Cultural Capital (at Age 15)	0.106	0.007	0.092	0.120	1.000	11940.229	8067.971
Recognition_Economic Capital (at Age 15)	0.001	0.007	-0.013	0.015	1.001	11363.001	6961.936
↑Recognition_Having Books (at Age 15)	0.049	0.007	0.036	0.062	1.000	17801.836	8005.383
↑Recognition_Having Books (Now)	0.054	0.007	0.041	0.068	1.001	14636.136	8277.565
↑Recognition_Reading Books	0.054	0.006	0.041	0.067	1.000	15846.229	8218.564
Recognition_Number of Friends	0.002	0.006	-0.009	0.013	1.000	20724.252	7194.157
↓Recognition_Bachelor's degree (Parents)	-0.015	0.008	-0.030	-0.001	1.000	12320.948	8064.479
Recognition_Postgraduate Degree (Parents)	0.007	0.008	-0.008	0.022	1.000	12705.196	8278.446
Recognition_Social Class (Now): Upper	-0.005	0.007	-0.019	0.009	1.001	12794.833	7441.712
↑Recognition_Social Class (Now): Lower	0.049	0.007	0.035	0.063	1.000	13265.452	8244.122
↑Recognition_Social Class (at Age 15): Upper	0.012	0.007	-0.002	0.025	1.000	13742.886	8241.763
↑Recognition_Social Class (at Age 15): Lower	0.013	0.007	-0.001	0.027	1.000	11425.068	7842.879
↓Recognition_Upward Social Mobility	-0.025	0.008	-0.040	-0.010	1.000	11171.119	8263.380

Table S17: Parameter Estimates for Recognition by **Hierarchical Zero-Inflated Binomial Model** in the U.S. This table presents the Bayesian estimation results for each parameter. The Parameter column indicates the variable name, Estimate shows the median of the posterior distribution (Posterior Median), SE is the standard error, and l95CI and u95CI indicate the lower and upper bounds of the 95% credible interval. Rhat is the convergence diagnostic, with values close to 1 indicating good convergence. Bulk_ESS and Tail_ESS represent the effective sample size for bulk and tail portions of the posterior distribution. Furthermore, parameters marked with ↑ indicate significant positive effects ($P(\beta > 0) > 0.95$), while ↓ indicates significant negative effects ($P(\beta < 0) > 0.95$).

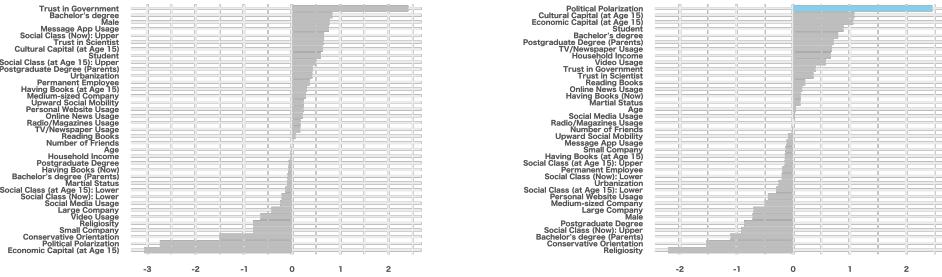
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(a) Effects of explanatory variables on conspiracy theory **Recognition** by the SEM model.

(b) Effects of explanatory variables on conspiracy theory **Belief** by the SEM model.

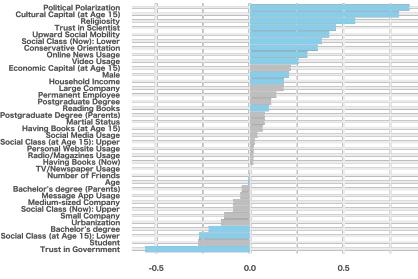


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** by the SEM model.

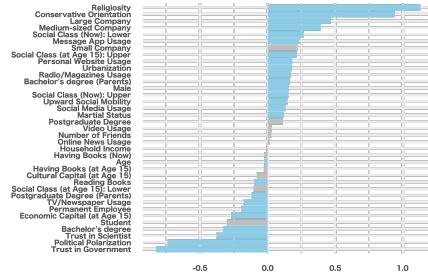
(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** by the SEM model.

Fig. S33: Effects of explanatory variables on conspiracy theory engagement in the U.S. by the SEM model. Each bar represents the estimated effect of an explanatory variable. Bars shown in skyblue denote statistically significant effects with p-values below 0.05, while those in gray represent non-significant effects ($p > 0.05$).

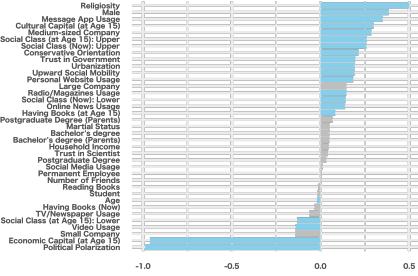
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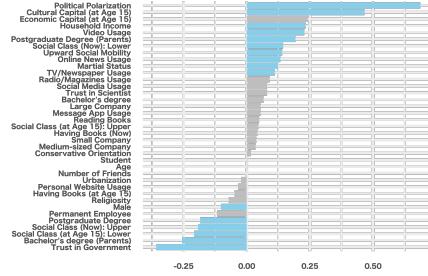
(a) Effects of explanatory variables on conspiracy theory **Recognition** by the Sequential GLM model.



(b) Effects of explanatory variables on conspiracy theory **Belief** by the Sequential GLM model.



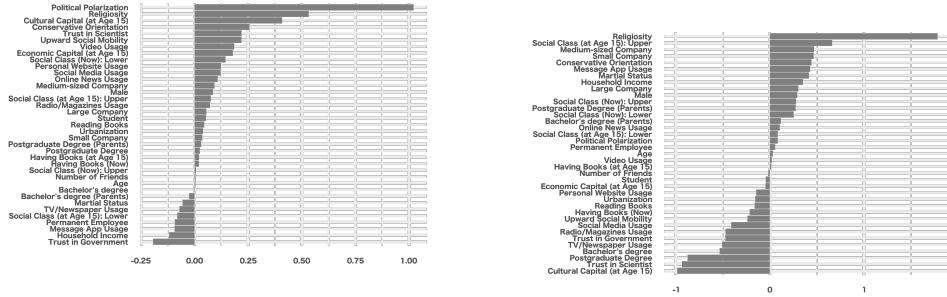
(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** by the Sequential GLM model.



(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** by the Sequential GLM model.

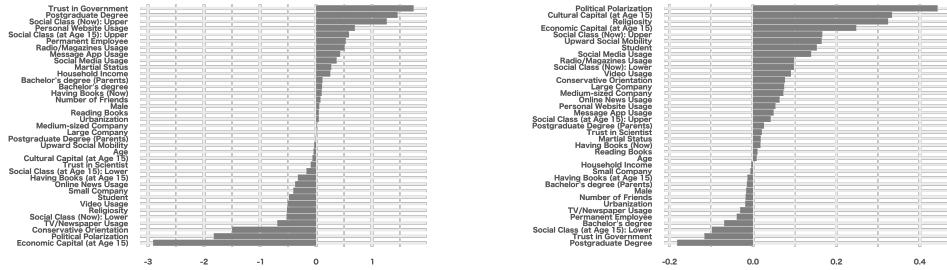
Fig. S34: Effects of explanatory variables on conspiracy theory engagement in the U.S. by the Sequential GLM model. Each bar represents the estimated effect of an explanatory variable. Bars shown in skyblue denote statistically significant effects with p-values below 0.05, while those in gray represent non-significant effects ($p > 0.05$).

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(a) Effects of explanatory variables on conspiracy theory **Recognition** by the SEM model.

(b) Effects of explanatory variables on conspiracy theory **Belief** by the SEM model.

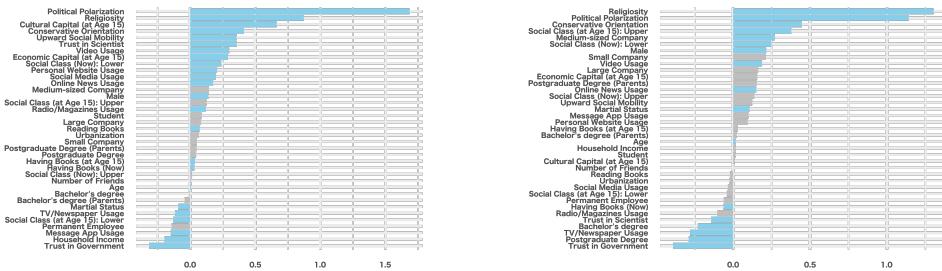


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** by the SEM model.

(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** by the SEM model.

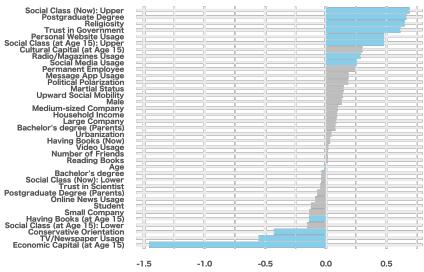
Fig. S35: Effects of explanatory variables on conspiracy theory engagement in Japan by the SEM model. Each bar represents the estimated effect of an explanatory variable. Bars shown in skyblue denote statistically significant effects with p-values below 0.05, while those in gray represent non-significant effects ($p > 0.05$).

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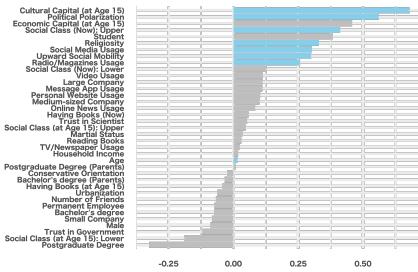


(a) Effects of explanatory variables on conspiracy theory **Recognition** by the Sequential GLM model.

(b) Effects of explanatory variables on conspiracy theory **Belief** by the Sequential GLM model.

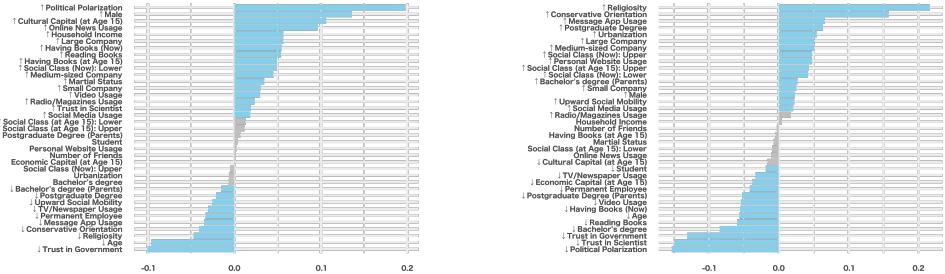


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** by the Sequential GLM model.

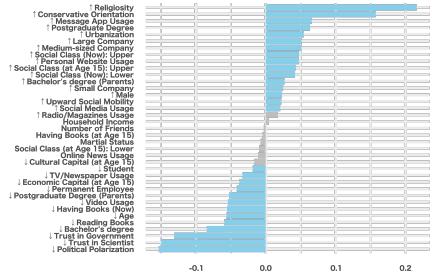


(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** by the Sequential GLM model.

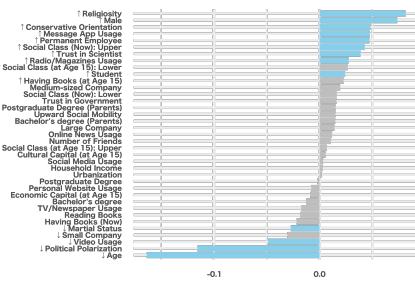
Fig. S36: Effects of explanatory variables on conspiracy theory engagement in Japan by the Sequential GLM model. Each bar represents the estimated effect of an explanatory variable. Bars shown in skyblue denote statistically significant effects with p-values below 0.05, while those in gray represent non-significant effects ($p > 0.05$).



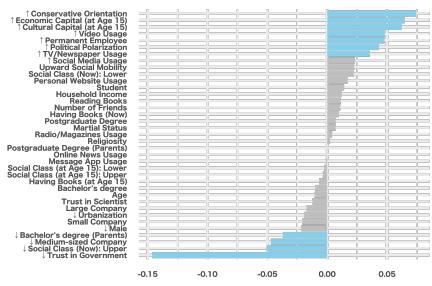
(a) Effects of explanatory variables on conspiracy theory **Recognition** by Hierarchical Zero-Inflated Binomial Model.



(b) Effects of explanatory variables on conspiracy theory **Belief** by Hierarchical Zero-Inflated Binomial Model.

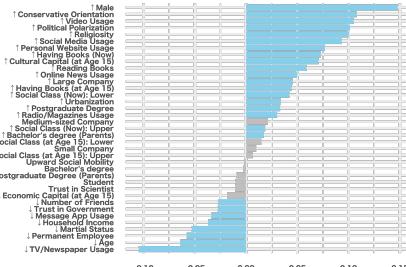


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** by Hierarchical Zero-Inflated Binomial Model.

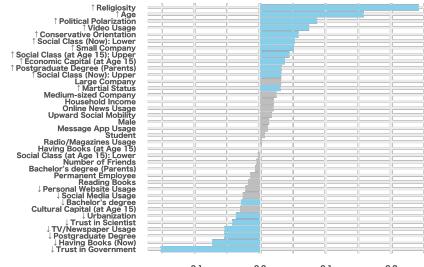


(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** by Hierarchical Zero-Inflated Binomial Model.

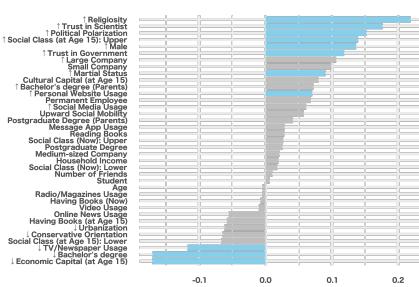
Fig. S37: Effects of explanatory variables on conspiracy theory engagement in the U.S. by Hierarchical Zero-Inflated Binomial Model.



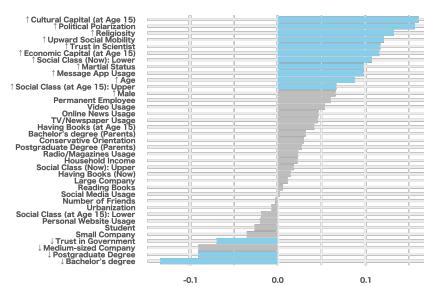
(a) Effects of explanatory variables on conspiracy theory **Recognition** by Hierarchical Zero-Inflated Binomial Model.



(b) Effects of explanatory variables on conspiracy theory **Belief** by Hierarchical Zero-Inflated Binomial Model.



(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** by Hierarchical Zero-Inflated Binomial Model.



(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** by Hierarchical Zero-Inflated Binomial Model.

Fig. S38: Effects of explanatory variables on conspiracy theory engagement in Japan by Hierarchical Zero-Inflated Binomial Model.

Parameter	Estimate	SE	l95CI	u95CI	Rhat	Bulk_ESS	Tail_ESS
↓Belief_Intercept	-2.958	0.023	-3.003	-2.913	1.000	11865.138	7684.515
↑Belief_Recognition	0.285	0.003	0.279	0.290	1.000	14478.328	7542.041
↓Belief_Age	-0.056	0.010	-0.075	-0.037	1.000	12557.875	7677.667
↑Belief_Male	0.023	0.008	0.007	0.039	1.001	15726.469	7879.976
Belief_Martial Status	-0.007	0.008	-0.023	0.009	1.000	17137.862	8001.453
↑Belief_Urbanization	0.054	0.008	0.039	0.069	1.001	19683.782	7436.877
↓Belief_Bachelor's degree	-0.084	0.010	-0.104	-0.064	1.000	12874.695	7828.926
↑Belief_Postgraduate Degree	0.063	0.010	0.044	0.083	1.000	12562.150	8192.098
Belief_Household Income	0.004	0.010	-0.015	0.024	1.001	14219.179	7112.571
↓Belief_Student	-0.019	0.008	-0.035	-0.003	1.000	17553.922	6903.657
↓Belief_Permanent Employee	-0.041	0.014	-0.069	-0.013	1.000	6487.379	8151.067
↑Belief_Large Company	0.051	0.012	0.028	0.074	1.000	6188.712	7337.324
↑Belief_Medium-sized Company	0.051	0.014	0.024	0.078	1.000	5816.347	7532.272
↑Belief_Small Company	0.025	0.011	0.004	0.047	1.000	6732.799	8174.570
↓Belief_Political Polarization	-0.153	0.009	-0.170	-0.136	1.001	17293.509	7680.356
↑Belief_Conservative Orientation	0.157	0.008	0.142	0.173	1.001	14658.092	7008.746
↓Belief_Trust in Government	-0.131	0.010	-0.151	-0.111	1.000	15033.736	8384.088
↓Belief_Trust in Scientist	-0.150	0.008	-0.166	-0.133	1.000	13844.524	7718.980
↑Belief_Religiosity	0.216	0.009	0.198	0.234	1.000	18248.378	7914.407
↑Belief_Social Media Usage	0.021	0.009	0.004	0.038	1.000	15685.348	8046.212
↓Belief_Video Usage	-0.054	0.009	-0.071	-0.037	1.000	17144.337	7740.037
↓Belief_TV/Newspaper Usage	-0.033	0.009	-0.051	-0.015	1.000	16350.504	7781.211
↑Belief_Radio/Magazines Usage	0.017	0.009	-0.001	0.036	1.001	13937.182	8140.697
Belief_Online News Usage	-0.011	0.009	-0.029	0.007	1.000	15111.206	7378.913
↑Belief_Message App Usage	0.066	0.009	0.048	0.083	1.000	15112.647	7530.237
↑Belief_Personal Website Usage	0.047	0.008	0.031	0.064	1.001	16833.678	7292.396
↓Belief_Cultural Capital (at Age 15)	-0.016	0.010	-0.035	0.003	1.000	12849.679	8138.872
↓Belief_Economic Capital (at Age 15)	-0.038	0.009	-0.056	-0.019	1.000	12929.743	7780.720
Belief_Having Books (at Age 15)	-0.004	0.009	-0.021	0.013	1.000	16208.546	7713.180
↓Belief_Having Books (Now)	-0.055	0.010	-0.074	-0.036	1.000	13844.024	8516.232
↓Belief_Reading Books	-0.059	0.009	-0.077	-0.042	1.001	15640.367	8064.367
Belief_Number of Friends	-0.003	0.006	-0.016	0.009	1.000	16327.446	6324.614
↑Belief_Bachelor's degree (Parents)	0.027	0.010	0.008	0.047	1.000	11208.617	7789.947
↓Belief_Postgraduate Degree (Parents)	-0.052	0.010	-0.073	-0.032	1.000	11477.731	7710.223
↑Belief_Social Class (Now): Upper	0.048	0.009	0.029	0.066	1.000	12129.954	8602.092
↑Belief_Social Class (Now): Lower	0.042	0.009	0.024	0.060	1.000	11271.894	8112.675
↑Belief_Social Class (at Age 15): Upper	0.043	0.009	0.026	0.060	1.000	13715.942	7396.693
Belief_Social Class (at Age 15): Lower	-0.009	0.009	-0.028	0.009	1.000	12101.600	8219.672
↑Belief_Upward Social Mobility	0.022	0.010	0.002	0.042	1.000	10429.781	7998.580

Table S18: Parameter Estimates for Belief by **Hierarchical Zero-Inflated Binomial Model** in the U.S. This table presents the Bayesian estimation results for each parameter. The Parameter column indicates the variable name, Estimate shows the median of the posterior distribution (Posterior Median), SE is the standard error, and l95CI and u95CI indicate the lower and upper bounds of the 95% credible interval. Rhat is the convergence diagnostic, with values close to 1 indicating good convergence. Bulk_ESS and Tail_ESS represent the effective sample size for bulk and tail portions of the posterior distribution. Furthermore, parameters marked with ↑ indicate significant positive effects ($P(\beta > 0) > 0.95$), while ↓ indicates significant negative effects ($P(\beta < 0) > 0.95$).

Parameter	Estimate	SE	l95CI	u95CI	Rhat	Bulk_ESS	Tail_ESS
↓Demonstrative_Intercept	-3.638	0.027	-3.690	-3.586	1.001	8908.059	7348.838
↑Demonstrative_Belief	0.506	0.005	0.496	0.515	1.001	10511.649	7926.870
↓Demonstrative_Age	-0.163	0.015	-0.193	-0.134	1.000	12356.287	8062.839
↑Demonstrative_Male	0.073	0.013	0.049	0.098	1.001	15121.213	7686.046
↓Demonstrative_Martial Status	-0.027	0.013	-0.052	-0.002	1.000	14429.913	7199.211
Demonstrative_Urbanization	0.002	0.012	-0.020	0.025	1.002	15732.415	7849.922
Demonstrative_Bachelor's degree	-0.013	0.015	-0.043	0.017	1.000	11600.619	8225.055
Demonstrative_Postgraduate Degree	-0.002	0.014	-0.030	0.025	1.000	11466.866	8610.780
Demonstrative_Household Income	0.003	0.014	-0.024	0.030	1.000	15824.922	8159.891
↑Demonstrative_Student	0.024	0.012	0.001	0.047	1.001	17535.527	7499.239
↑Demonstrative_Permanent Employee	0.047	0.022	0.005	0.091	1.000	6204.392	7352.259
Demonstrative_Large Company	0.014	0.018	-0.022	0.050	1.000	6201.015	7107.980
Demonstrative_Medium-sized Company	0.019	0.021	-0.022	0.059	1.000	5862.976	7381.068
↓Demonstrative_Small Company	-0.031	0.017	-0.065	0.003	1.000	6450.546	7546.354
↓Demonstrative_Political Polarization	-0.115	0.014	-0.143	-0.088	1.000	15806.540	7616.784
↑Demonstrative_Conservative Orientation	0.048	0.012	0.025	0.071	1.001	16057.718	7708.328
Demonstrative_Trust in Government	0.016	0.015	-0.013	0.045	1.000	13426.363	8007.024
↑Demonstrative_Trust in Scientist	0.039	0.013	0.012	0.065	1.000	14755.629	8046.279
↑Demonstrative_Religiosity	0.081	0.014	0.054	0.108	1.001	16100.992	7710.131
Demonstrative_Social Media Usage	0.003	0.014	-0.025	0.031	1.000	14379.824	7412.447
↓Demonstrative_Video Usage	-0.049	0.014	-0.076	-0.022	1.000	16008.167	7949.916
Demonstrative_TV/Newspaper Usage	-0.017	0.014	-0.045	0.010	1.000	13443.475	7656.887
↑Demonstrative_Radio/Magazines Usage	0.028	0.014	0.000	0.055	1.001	14623.368	8100.279
Demonstrative_Online News Usage	0.012	0.014	-0.016	0.040	1.000	14677.879	7792.276
↑Demonstrative_Message App Usage	0.047	0.014	0.020	0.074	1.000	14858.651	8774.492
Demonstrative_Personal Website Usage	-0.008	0.013	-0.032	0.017	1.001	16269.998	7128.956
Demonstrative_Cultural Capital (at Age 15)	0.006	0.014	-0.023	0.034	1.000	11487.463	7807.569
Demonstrative_Economic Capital (at Age 15)	-0.009	0.013	-0.035	0.017	1.000	11583.097	7485.252
↑Demonstrative_Having Books (at Age 15)	0.023	0.012	-0.001	0.047	1.000	14845.926	7617.673
Demonstrative_Having Books (Now)	-0.022	0.015	-0.051	0.008	1.001	15118.420	8508.149
Demonstrative_Reading Books	-0.018	0.014	-0.047	0.010	1.000	15954.765	7423.916
Demonstrative_Number of Friends	0.011	0.007	-0.004	0.024	1.001	17619.265	6407.493
Demonstrative_Bachelor's degree (Parents)	0.015	0.014	-0.013	0.043	1.001	11906.535	7991.339
Demonstrative_Postgraduate Degree (Parents)	0.015	0.015	-0.015	0.045	1.000	11688.130	8294.150
↑Demonstrative_Social Class (Now): Upper	0.043	0.014	0.016	0.070	1.000	11213.345	7977.374
Demonstrative_Social Class (Now): Lower	0.016	0.015	-0.013	0.045	1.000	12900.443	7450.915
Demonstrative_Social Class (at Age 15): Upper	0.007	0.013	-0.018	0.032	1.000	12893.502	8412.415
↑Demonstrative_Social Class (at Age 15): Lower	0.027	0.015	-0.002	0.055	1.000	11786.859	8860.473
Demonstrative_Upward Social Mobility	0.015	0.015	-0.015	0.045	1.000	10190.396	8363.550

Table S19: Parameter Estimates for Demonstrative Action by **Hierarchical Zero-Inflated Binomial Model** in the U.S. This table presents the Bayesian estimation results for each parameter. The Parameter column indicates the variable name, Estimate shows the median of the posterior distribution (Posterior Median), SE is the standard error, and l95CI and u95CI indicate the lower and upper bounds of the 95% credible interval. Rhat is the convergence diagnostic, with values close to 1 indicating good convergence. Bulk_ESS and Tail_ESS represent the effective sample size for bulk and tail portions of the posterior distribution. Furthermore, parameters marked with ↑ indicate significant positive effects ($P(\beta > 0) > 0.95$), while ↓ indicates significant negative effects ($P(\beta < 0) > 0.95$).

Parameter	Estimate	SE	l95CI	u95CI	Rhat	Bulk_ESS	Tail_ESS
↓Diffusion_Intercept	-3.359	0.025	-3.407	-3.311	1.001	9310.248	7635.782
↑Diffusion_Belief	0.449	0.005	0.440	0.458	1.001	10712.980	8595.735
Diffusion_Age	-0.010	0.014	-0.039	0.017	1.000	13679.539	7916.694
↓Diffusion_Male	-0.022	0.012	-0.046	0.003	1.000	14899.416	7951.278
Diffusion_Martial Status	0.007	0.012	-0.017	0.031	1.001	15465.358	8111.545
↓Diffusion_Urbanization	-0.019	0.012	-0.042	0.004	1.001	17150.315	6819.988
Diffusion_Bachelor's degree	-0.010	0.014	-0.037	0.018	1.000	12397.883	8271.878
Diffusion_Postgraduate Degree	0.007	0.015	-0.021	0.036	1.000	13887.417	7863.465
Diffusion_Household Income	0.012	0.014	-0.016	0.041	1.000	14034.824	7956.289
Diffusion_Student	0.014	0.012	-0.009	0.037	1.000	17978.141	7623.874
↑Diffusion_Permanent Employee	0.048	0.021	0.006	0.089	1.001	6228.143	7642.584
Diffusion_Large Company	-0.017	0.017	-0.050	0.017	1.001	5926.907	7200.756
↓Diffusion_Medium-sized Company	-0.047	0.021	-0.087	-0.007	1.001	5684.904	7360.974
Diffusion_Small Company	-0.021	0.017	-0.053	0.012	1.001	6618.929	7795.623
↑Diffusion_Political Polarization	0.043	0.012	0.019	0.067	1.000	17492.914	7032.112
↑Diffusion_Conservative Orientation	0.075	0.012	0.050	0.099	1.000	16312.063	7572.338
↓Diffusion_Trust in Government	-0.146	0.015	-0.176	-0.116	1.001	13640.245	7551.333
Diffusion_Trust in Scientist	-0.012	0.012	-0.037	0.012	1.001	14494.764	7479.637
Diffusion_Religiosity	0.002	0.013	-0.024	0.029	1.000	15405.499	7224.709
↑Diffusion_Social Media Usage	0.023	0.013	-0.002	0.049	1.001	17233.135	7973.086
↑Diffusion_Video Usage	0.048	0.013	0.021	0.074	1.000	16208.268	6997.797
↑Diffusion_TV/Newspaper Usage	0.035	0.013	0.010	0.061	1.000	14888.781	8009.055
Diffusion_Radio/Magazines Usage	0.004	0.013	-0.022	0.031	1.001	14090.591	7744.581
Diffusion_Online News Usage	0.000	0.013	-0.026	0.025	1.000	14943.919	7208.966
Diffusion_Message App Usage	-0.001	0.013	-0.027	0.025	1.000	15714.247	8172.706
Diffusion_Personal Website Usage	0.017	0.013	-0.008	0.042	1.000	15877.945	7273.593
↑Diffusion_Cultural Capital (at Age 15)	0.062	0.014	0.034	0.090	1.000	12387.009	7522.691
↑Diffusion_Economic Capital (at Age 15)	0.065	0.015	0.036	0.095	1.000	12554.387	7556.559
Diffusion_Having Books (at Age 15)	-0.007	0.013	-0.032	0.018	1.000	15238.985	7764.673
Diffusion_Having Books (Now)	0.010	0.014	-0.017	0.037	1.000	13984.660	8479.389
Diffusion_Reading Books	0.011	0.013	-0.015	0.037	1.000	15598.180	8357.120
Diffusion_Number of Friends	0.011	0.009	-0.008	0.026	1.001	17238.171	5615.651
↓Diffusion_Bachelor's degree (Parents)	-0.037	0.015	-0.067	-0.007	1.001	12124.248	8328.809
Diffusion_Postgraduate Degree (Parents)	0.000	0.015	-0.030	0.030	1.001	11552.834	7776.400
↓Diffusion_Social Class (Now): Upper	-0.051	0.015	-0.080	-0.022	1.000	13105.019	8136.210
Diffusion_Social Class (Now): Lower	0.022	0.014	-0.006	0.049	1.000	13255.644	7545.845
Diffusion_Social Class (at Age 15): Upper	-0.004	0.013	-0.030	0.022	1.000	14555.902	8492.321
Diffusion_Social Class (at Age 15): Lower	-0.002	0.014	-0.031	0.026	1.000	12357.674	7634.740
Diffusion_Upward Social Mobility	0.023	0.015	-0.007	0.052	1.000	10974.510	7954.909
↑Diffusion_Y21	0.449	0.005	0.440	0.458	1.001	10712.980	8595.735

Table S20: Parameter Estimates for Diffusion Action by **Hierarchical Zero-Inflated Binomial Model** in the U.S. This table presents the Bayesian estimation results for each parameter. The Parameter column indicates the variable name, Estimate shows the median of the posterior distribution (Posterior Median), SE is the standard error, and l95CI and u95CI indicate the lower and upper bounds of the 95% credible interval. Rhat is the convergence diagnostic, with values close to 1 indicating good convergence. Bulk_ESS and Tail_ESS represent the effective sample size for bulk and tail portions of the posterior distribution. Furthermore, parameters marked with ↑ indicate significant positive effects ($P(\beta > 0) > 0.95$), while ↓ indicates significant negative effects ($P(\beta < 0) > 0.95$).

Parameter	Estimate	SE	l95CI	u95CI	Rhat	Bulk_ESS	Tail_ESS
↓Recognition_Intercept	-0.760	0.008	-0.775	-0.744	1.001	15435.205	7811.411
↓Recognition_Age	-0.064	0.009	-0.083	-0.046	1.000	12956.487	8532.960
↑Recognition_Male	0.148	0.009	0.131	0.165	1.000	14100.807	8323.978
↓Recognition_Martial Status	-0.053	0.008	-0.069	-0.037	1.001	14288.657	7777.508
↑Recognition_Urbanization	0.034	0.007	0.020	0.048	1.000	17244.459	7587.718
Recognition_Bachelor's degree	-0.003	0.008	-0.019	0.013	1.000	15645.760	7470.286
↑Recognition_Postgraduate Degree	0.033	0.007	0.020	0.046	1.001	17236.934	7658.424
↓Recognition_Household Income	-0.037	0.010	-0.057	-0.017	1.000	13583.333	7825.973
Recognition_Student	-0.011	0.007	-0.024	0.003	1.001	20236.425	7255.951
↓Recognition_Permanent Employee	-0.058	0.017	-0.091	-0.024	1.000	4719.750	6792.694
↑Recognition_Large Company	0.046	0.013	0.021	0.071	1.001	4658.271	6509.486
Recognition_Medium-sized Company	0.021	0.014	-0.005	0.049	1.000	4734.802	6870.708
Recognition_Small Company	0.010	0.014	-0.018	0.038	1.000	4566.166	6691.674
↑Recognition_Political Polarization	0.101	0.007	0.088	0.114	1.000	16962.494	7092.677
↑Recognition_Conservative Orientation	0.108	0.007	0.094	0.122	1.001	16439.764	8019.104
↓Recognition_Trust in Government	-0.028	0.008	-0.044	-0.012	1.000	13870.058	8063.756
Recognition_Trust in Scientist	-0.011	0.008	-0.027	0.005	1.000	14614.293	8042.822
↑Recognition_Religiosity	0.100	0.007	0.087	0.114	1.000	16022.017	7886.841
↑Recognition_Social Media Usage	0.093	0.008	0.078	0.109	1.001	17064.353	7562.795
↑Recognition_Video Usage	0.105	0.008	0.089	0.120	1.000	17591.775	7708.467
↓Recognition_TV/Newspaper Usage	-0.105	0.007	-0.119	-0.090	1.001	17007.762	6422.406
↑Recognition_Radio/Magazines Usage	0.030	0.007	0.016	0.044	1.000	17046.110	7638.044
↑Recognition_Online News Usage	0.050	0.007	0.036	0.065	1.000	17192.017	7546.110
↓Recognition_Message App Usage	-0.034	0.008	-0.049	-0.019	1.000	16264.705	8378.168
↑Recognition_Personal Website Usage	0.077	0.007	0.064	0.090	1.000	15314.432	7912.518
↑Recognition_Cultural Capital (at Age 15)	0.071	0.011	0.050	0.091	1.000	10263.581	8012.232
↓Recognition_Economic Capital (at Age 15)	-0.018	0.011	-0.040	0.003	1.000	10492.370	8391.375
↑Recognition_Having Books (at Age 15)	0.044	0.008	0.029	0.059	1.000	14685.063	8103.102
↑Recognition_Having Books (Now)	0.073	0.008	0.057	0.089	1.000	12183.077	7877.878
↑Recognition_Reading Books	0.059	0.008	0.044	0.074	1.000	15395.014	8284.145
↓Recognition_Number of Friends	-0.027	0.012	-0.052	-0.006	1.000	15538.930	7568.948
↑Recognition_Bachelor's degree (Parents)	0.017	0.008	0.002	0.032	1.001	17892.258	7601.803
Recognition_Postgraduate Degree (Parents)	-0.009	0.007	-0.022	0.004	1.000	19604.158	8277.119
↑Recognition_Social Class (Now): Upper	0.019	0.008	0.004	0.033	1.001	15376.645	8174.275
↑Recognition_Social Class (Now): Lower	0.042	0.008	0.026	0.059	1.000	12275.404	8825.543
Recognition_Social Class (at Age 15): Upper	0.007	0.007	-0.008	0.021	1.000	14485.151	7908.020
↑Recognition_Social Class (at Age 15): Lower	0.015	0.009	-0.003	0.032	1.000	12610.860	7711.897
Recognition_Upward Social Mobility	-0.002	0.009	-0.019	0.015	1.001	11480.661	8259.438

Table S21: Parameter Estimates for Recognition by **Hierarchical Zero-Inflated Binomial Model** in Japan. This table presents the Bayesian estimation results for each parameter. The Parameter column indicates the variable name, Estimate shows the median of the posterior distribution (Posterior Median), SE is the standard error, and l95CI and u95CI indicate the lower and upper bounds of the 95% credible interval. Rhat is the convergence diagnostic, with values close to 1 indicating good convergence. Bulk_ESS and Tail_ESS represent the effective sample size for bulk and tail portions of the posterior distribution. Furthermore, parameters marked with ↑ indicate significant positive effects ($P(\beta > 0) > 0.95$), while ↓ indicates significant negative effects ($P(\beta < 0) > 0.95$).

Parameter	Estimate	SE	l95CI	u95CI	Rhat	Bulk_ESS	Tail_ESS
↓Belief_Intercept	-3.880	0.028	-3.934	-3.825	1.000	7830.626	8057.627
↑Belief_Recognition	0.385	0.004	0.377	0.394	1.000	9573.489	8355.763
↑Belief_Age	0.158	0.017	0.124	0.191	1.000	10613.604	7796.266
Belief_Male	0.014	0.016	-0.017	0.045	1.000	12190.777	6848.491
↑Belief_Martial Status	0.031	0.015	0.003	0.060	1.000	13575.203	8519.982
↓Belief_Urbanization	-0.037	0.013	-0.063	-0.011	1.000	16642.344	7180.194
↓Belief_Bachelor's degree	-0.029	0.015	-0.058	0.000	1.000	15859.640	7743.829
↓Belief_Postgraduate Degree	-0.054	0.014	-0.082	-0.026	1.001	15017.468	7930.373
Belief_Household Income	0.021	0.017	-0.013	0.054	1.000	14792.333	8026.410
Belief_Student	0.007	0.015	-0.022	0.035	1.000	15791.523	7314.679
Belief_Permanent Employee	-0.015	0.029	-0.073	0.042	1.000	4660.967	7361.095
Belief_Large Company	0.032	0.022	-0.010	0.075	1.000	4554.048	7291.255
Belief_Medium-sized Company	0.025	0.024	-0.022	0.072	1.000	4412.397	6548.470
↑Belief_Small Company	0.052	0.025	0.003	0.101	1.000	4624.742	7387.522
↑Belief_Political Polarization	0.087	0.012	0.064	0.110	1.000	17106.600	8053.566
↑Belief_Conservative Orientation	0.058	0.013	0.033	0.083	1.000	14133.104	7608.608
↓Belief_Trust in Government	-0.151	0.016	-0.184	-0.119	1.001	13128.189	8122.304
↓Belief_Trust in Scientist	-0.042	0.014	-0.071	-0.014	1.001	12318.753	7706.136
↑Belief_Religiosity	0.242	0.012	0.218	0.265	1.000	14739.015	7098.636
↓Belief_Social Media Usage	-0.026	0.014	-0.054	0.001	1.000	15037.579	7559.398
↑Belief_Video Usage	0.075	0.014	0.046	0.103	1.000	16477.515	8012.416
↓Belief_TV/Newspaper Usage	-0.054	0.013	-0.080	-0.029	1.000	16564.081	7731.502
Belief_Radio/Magazines Usage	0.003	0.013	-0.023	0.029	1.000	14948.339	7581.957
Belief_Online News Usage	0.020	0.013	-0.006	0.047	1.001	15511.093	7982.803
Belief_Message App Usage	0.012	0.014	-0.015	0.040	1.000	14555.925	7877.215
↓Belief_Personal Website Usage	-0.022	0.012	-0.047	0.002	1.001	15729.466	7507.319
Belief_Cultural Capital (at Age 15)	-0.030	0.019	-0.067	0.007	1.000	10732.843	7719.548
↑Belief_Economic Capital (at Age 15)	0.038	0.019	0.001	0.075	1.001	10580.830	7751.442
Belief_Having Books (at Age 15)	0.000	0.014	-0.027	0.028	1.001	14006.622	7925.391
↓Belief_Having Books (Now)	-0.073	0.015	-0.103	-0.043	1.000	11654.943	8246.231
Belief_Reading Books	-0.018	0.014	-0.047	0.009	1.001	17264.568	8010.261
Belief_Number of Friends	-0.005	0.019	-0.044	0.034	1.000	16685.454	6537.666
Belief_Bachelor's degree (Parents)	-0.008	0.014	-0.036	0.021	1.000	14480.502	7604.056
↑Belief_Postgraduate Degree (Parents)	0.033	0.012	0.008	0.056	1.000	15674.873	7605.728
↑Belief_Social Class (Now): Upper	0.032	0.013	0.006	0.058	1.000	13007.892	8226.255
↑Belief_Social Class (Now): Lower	0.053	0.015	0.024	0.083	1.000	11335.671	7895.978
↑Belief_Social Class (at Age 15): Upper	0.045	0.012	0.020	0.069	1.000	15328.451	8124.328
Belief_Social Class (at Age 15): Lower	-0.003	0.015	-0.034	0.027	1.000	11028.154	8628.934
Belief_Upward Social Mobility	0.018	0.015	-0.012	0.048	1.000	10150.726	8260.352

Table S22: Parameter Estimates for Belief by **Hierarchical Zero-Inflated Binomial Model** in Japan. This table presents the Bayesian estimation results for each parameter. The Parameter column indicates the variable name, Estimate shows the median of the posterior distribution (Posterior Median), SE is the standard error, and l95CI and u95CI indicate the lower and upper bounds of the 95% credible interval. Rhat is the convergence diagnostic, with values close to 1 indicating good convergence. Bulk_ESS and Tail_ESS represent the effective sample size for bulk and tail portions of the posterior distribution. Furthermore, parameters marked with ↑ indicate significant positive effects ($P(\beta > 0) > 0.95$), while ↓ indicates significant negative effects ($P(\beta < 0) > 0.95$).

Parameter	Estimate	SE	l95CI	u95CI	Rhat	Bulk_ESS	Tail_ESS
↓Demonstrative_Intercept	-4.826	0.083	-4.989	-4.662	1.000	6704.369	7851.600
↑Demonstrative_Belief	0.628	0.016	0.597	0.660	1.001	8522.635	8260.386
Demonstrative_Age	-0.004	0.046	-0.094	0.085	1.000	10143.221	7855.894
↑Demonstrative_Male	0.137	0.040	0.057	0.218	1.000	12246.521	7055.585
↑Demonstrative_Martial Status	0.090	0.040	0.011	0.169	1.000	13492.024	8258.914
↓Demonstrative_Urbanization	-0.062	0.034	-0.128	0.005	1.001	16604.384	7569.494
↓Demonstrative_Bachelor's degree	-0.170	0.043	-0.256	-0.086	1.000	13251.525	7966.813
Demonstrative_Postgraduate Degree	0.025	0.030	-0.034	0.084	1.000	13709.262	7975.570
Demonstrative_Household Income	0.020	0.041	-0.061	0.100	1.001	12428.572	7741.621
Demonstrative_Student	0.006	0.029	-0.051	0.061	1.000	13223.939	7762.774
Demonstrative_Permanent Employee	0.068	0.077	-0.082	0.223	1.001	4340.128	7124.354
↑Demonstrative_Large Company	0.106	0.062	-0.015	0.227	1.001	4185.540	6447.465
Demonstrative_Medium-sized Company	0.021	0.062	-0.101	0.139	1.001	4086.419	6556.389
Demonstrative_Small Company	0.099	0.066	-0.031	0.228	1.001	4077.504	5498.042
↑Demonstrative_Political Polarization	0.152	0.034	0.084	0.218	1.001	16051.718	7688.756
↓Demonstrative_Conservative Orientation	-0.065	0.036	-0.136	0.006	1.001	14700.252	7932.870
↑Demonstrative_Trust in Government	0.118	0.037	0.045	0.193	1.000	11085.777	7977.527
↑Demonstrative_Trust in Scientist	0.176	0.041	0.097	0.255	1.000	12866.907	8355.152
↑Demonstrative_Religiosity	0.219	0.032	0.157	0.281	1.000	15068.458	8181.077
↑Demonstrative_Social Media Usage	0.061	0.037	-0.011	0.135	1.000	13380.755	8042.649
Demonstrative_Video Usage	-0.010	0.039	-0.087	0.068	1.000	14607.362	8322.093
↓Demonstrative_TV/Newspaper Usage	-0.117	0.035	-0.186	-0.049	1.000	14381.489	8126.770
Demonstrative_Radio/Magazines Usage	-0.005	0.035	-0.074	0.064	1.000	13932.601	7883.423
Demonstrative_Online News Usage	-0.055	0.037	-0.128	0.016	1.001	14004.987	8397.625
Demonstrative_Message App Usage	0.029	0.036	-0.041	0.099	1.001	14267.634	7767.496
↑Demonstrative_Personal Website Usage	0.070	0.029	0.013	0.128	1.000	13184.107	8135.990
Demonstrative_Cultural Capital (at Age 15)	0.080	0.050	-0.020	0.177	1.000	9625.872	8391.539
↓Demonstrative_Economic Capital (at Age 15)	-0.171	0.046	-0.260	-0.081	1.000	9356.306	8391.259
Demonstrative_Having Books (at Age 15)	-0.058	0.038	-0.134	0.017	1.000	14231.626	7542.617
Demonstrative_Having Books (Now)	-0.007	0.040	-0.085	0.070	1.000	10663.080	7870.986
Demonstrative_Reading Books	0.028	0.039	-0.047	0.103	1.000	12681.025	8578.393
Demonstrative_Number of Friends	0.010	0.064	-0.116	0.139	1.001	16378.770	7677.201
↑Demonstrative_Bachelor's degree (Parents)	0.072	0.038	-0.002	0.146	1.001	13671.794	7969.320
Demonstrative_Postgraduate Degree (Parents)	0.042	0.026	-0.010	0.091	1.000	14707.242	8068.733
Demonstrative_Social Class (Now): Upper	0.027	0.027	-0.027	0.081	1.000	11404.239	8819.256
Demonstrative_Social Class (Now): Lower	0.018	0.044	-0.068	0.104	1.000	10956.065	8291.264
↑Demonstrative_Social Class (at Age 15): Upper	0.140	0.029	0.082	0.197	1.000	10403.777	8291.443
Demonstrative_Social Class (at Age 15): Lower	-0.067	0.044	-0.154	0.020	1.000	10694.833	7919.596
Demonstrative_Upward Social Mobility	0.058	0.040	-0.021	0.138	1.000	8789.299	8038.377

Table S23: Parameter Estimates for Demonstrative Action by **Hierarchical Zero-Inflated Binomial Model** in Japan. This table presents the Bayesian estimation results for each parameter. The Parameter column indicates the variable name, Estimate shows the median of the posterior distribution (Posterior Median), SE is the standard error, and l95CI and u95CI indicate the lower and upper bounds of the 95% credible interval. Rhat is the convergence diagnostic, with values close to 1 indicating good convergence. Bulk_ESS and Tail_ESS represent the effective sample size for bulk and tail portions of the posterior distribution. Furthermore, parameters marked with ↑ indicate significant positive effects ($P(\beta > 0) > 0.95$), while ↓ indicates significant negative effects ($P(\beta < 0) > 0.95$).

Parameter	Estimate	SE	l95CI	u95CI	Rhat	Bulk_ESS	Tail_ESS
↓Diffusion_Intercept	-4.795	0.064	-4.921	-4.672	1.000	6980.301	7198.846
↑Diffusion_Belief	0.673	0.013	0.647	0.699	1.000	8331.153	7871.506
↑Diffusion_Age	0.088	0.038	0.013	0.164	1.000	10560.595	7168.136
↑Diffusion_Male	0.066	0.035	-0.002	0.135	1.000	12568.816	8094.769
↑Diffusion_Martial Status	0.098	0.033	0.035	0.163	1.000	14822.667	8286.694
Diffusion_Urbanization	-0.007	0.029	-0.063	0.049	1.000	18229.706	7478.946
↓Diffusion_Bachelor's degree	-0.134	0.034	-0.200	-0.068	1.000	14295.729	7536.013
↓Diffusion_Postgraduate Degree	-0.090	0.032	-0.153	-0.029	1.000	15336.048	7426.031
Diffusion_Household Income	0.023	0.037	-0.050	0.095	1.000	12798.723	7801.290
Diffusion_Student	-0.026	0.033	-0.094	0.037	1.000	14714.090	7130.350
Diffusion_Permanent Employee	0.061	0.065	-0.063	0.188	1.000	4763.467	6248.059
Diffusion_Large Company	0.012	0.049	-0.085	0.106	1.000	4588.394	6201.758
↓Diffusion_Medium-sized Company	-0.090	0.054	-0.199	0.014	1.000	4525.443	6795.575
Diffusion_Small Company	-0.035	0.057	-0.148	0.074	1.000	4612.183	6379.502
↑Diffusion_Political Polarization	0.157	0.025	0.107	0.206	1.000	13251.575	7664.814
Diffusion_Conservative Orientation	0.030	0.029	-0.027	0.088	1.000	15252.312	8094.531
↓Diffusion_Trust in Government	-0.069	0.034	-0.138	-0.002	1.000	13768.887	8575.293
↑Diffusion_Trust in Scientist	0.117	0.033	0.053	0.182	1.000	13447.463	8353.061
↑Diffusion_Religiosity	0.133	0.027	0.079	0.186	1.000	15604.929	7684.508
Diffusion_Social Media Usage	0.003	0.031	-0.058	0.063	1.000	12752.829	7902.828
Diffusion_Video Usage	0.054	0.034	-0.012	0.118	1.000	16514.410	8095.875
Diffusion_TV/Newspaper Usage	0.046	0.030	-0.014	0.105	1.000	14421.758	7573.605
Diffusion_Radio/Magazines Usage	0.023	0.028	-0.032	0.078	1.000	15023.991	7531.058
Diffusion_Online News Usage	0.047	0.029	-0.010	0.104	1.001	15611.266	7845.108
↑Diffusion_Message App Usage	0.098	0.029	0.042	0.153	1.000	14386.782	8068.538
Diffusion_Personal Website Usage	-0.020	0.026	-0.071	0.030	1.000	15314.912	7739.698
↑Diffusion_Cultural Capital (at Age 15)	0.161	0.041	0.081	0.242	1.000	10085.333	8175.397
↑Diffusion_Economic Capital (at Age 15)	0.116	0.046	0.027	0.204	1.000	10506.017	8425.536
Diffusion_Having Books (at Age 15)	0.042	0.028	-0.014	0.097	1.000	13873.743	7765.802
Diffusion_Having Books (Now)	0.015	0.030	-0.043	0.073	1.000	13604.291	8025.289
Diffusion_Reading Books	0.006	0.031	-0.055	0.065	1.000	13836.940	7772.973
Diffusion_Number of Friends	-0.003	0.078	-0.146	0.177	1.001	16191.172	6779.605
Diffusion_Bachelor's degree (Parents)	0.032	0.031	-0.028	0.093	1.000	15112.872	7878.232
Diffusion_Postgraduate Degree (Parents)	0.027	0.026	-0.025	0.078	1.001	13530.482	7756.842
Diffusion_Social Class (Now): Upper	0.018	0.027	-0.034	0.071	1.001	12532.762	8257.456
↑Diffusion_Social Class (Now): Lower	0.107	0.034	0.042	0.173	1.001	11951.424	8480.567
↑Diffusion_Social Class (at Age 15): Upper	0.067	0.027	0.014	0.120	1.000	14529.348	7589.985
Diffusion_Social Class (at Age 15): Lower	-0.019	0.035	-0.089	0.051	1.000	11919.090	8151.043
↑Diffusion_Upward Social Mobility	0.121	0.035	0.053	0.189	1.000	10558.517	8463.867

Table S24: Parameter Estimates for Diffusion Action by **Hierarchical Zero-Inflated Binomial Model** in Japan. This table presents the Bayesian estimation results for each parameter. The Parameter column indicates the variable name, Estimate shows the median of the posterior distribution (Posterior Median), SE is the standard error, and l95CI and u95CI indicate the lower and upper bounds of the 95% credible interval. Rhat is the convergence diagnostic, with values close to 1 indicating good convergence. Bulk_ESS and Tail_ESS represent the effective sample size for bulk and tail portions of the posterior distribution. Furthermore, parameters marked with ↑ indicate significant positive effects ($P(\beta > 0) > 0.95$), while ↓ indicates significant negative effects ($P(\beta < 0) > 0.95$).

Table S25: Estimated Results of Graded Response Model in the U.S.

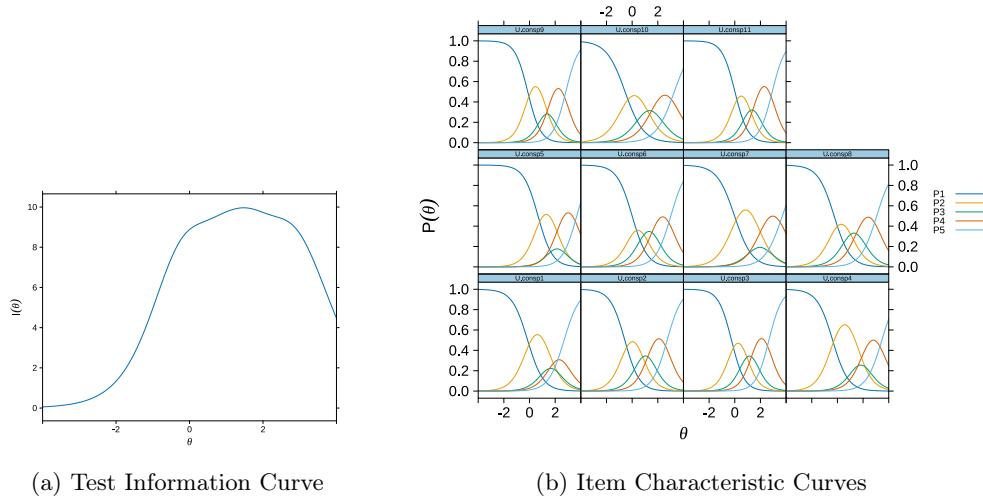
Item	a	b ₁	b ₂	b ₃	b ₄
U.consp1	1.64	-0.15	1.37	1.92	2.70
U.consp2	1.77	-0.57	0.63	1.44	2.73
U.consp3	1.97	-0.26	0.78	1.51	2.66
U.consp4	1.66	-0.37	1.50	2.14	3.46
U.consp5	1.77	0.66	1.95	2.35	3.68
U.consp6	1.69	0.00	0.89	1.74	3.01
U.consp7	1.47	-0.02	1.69	2.22	3.71
U.consp8	1.60	-0.26	0.86	1.73	3.06
U.consp9	2.02	-0.14	1.09	1.66	2.83
U.consp10	1.39	-0.55	0.89	1.83	3.29
U.consp11	1.99	0.01	1.01	1.67	2.92

Note: The categorization means: b₁: Not Recognition → Recognition, b₂: Recognition → Belief (Not Action), b₃: Belief (Not Action) → Belief (Any Action), and b₄: Belief + Any Action (Demonstrative or Diffusion) → Belief + Both Actions (Demonstrative and Diffusion).

Table S26: Estimated Results of Graded Response Model in Japan.

Item	a	b ₁	b ₂	b ₃	b ₄
J.consp1	2.58	1.09	2.09	2.92	3.51
J.consp2	2.06	0.54	1.42	2.63	3.48
J.consp3	3.19	0.89	1.74	2.62	3.25
J.consp4	2.40	1.03	1.71	2.79	3.45
J.consp5	2.96	1.08	2.34	3.04	3.92
J.consp6	3.27	1.68	2.52	3.11	3.76
J.consp7	2.62	1.41	2.55	3.15	3.91
J.consp8	1.92	0.75	1.76	3.12	4.35
J.consp9	2.85	1.16	2.02	2.85	3.59
J.consp10	2.31	1.07	2.02	3.09	3.90
J.consp11	3.60	1.61	2.31	2.93	3.53

Note: The categorization means: b₁: Not Recognition → Recognition, b₂: Recognition → Belief (Not Action), b₃: Belief (Not Action) → Belief (Any Action), and b₄: Belief + Any Action (Demonstrative or Diffusion) → Belief + Both Actions (Demonstrative and Diffusion).



(a) Test Information Curve

(b) Item Characteristic Curves

Fig. S39: Test Information Curve and Item Characteristic Curves in the Item Response Theory (IRT) Model in the U.S. (a) The Test Information Curve shows the amount of information provided by the test across different levels of the latent trait. Higher peaks indicate that the test is most precise in estimating individuals with those trait levels. (b) The Item Characteristic Curves depict the probability of endorsing each item at different levels of the latent trait. The curves illustrate how item responses change as the engagement stage in conspiracy theories.

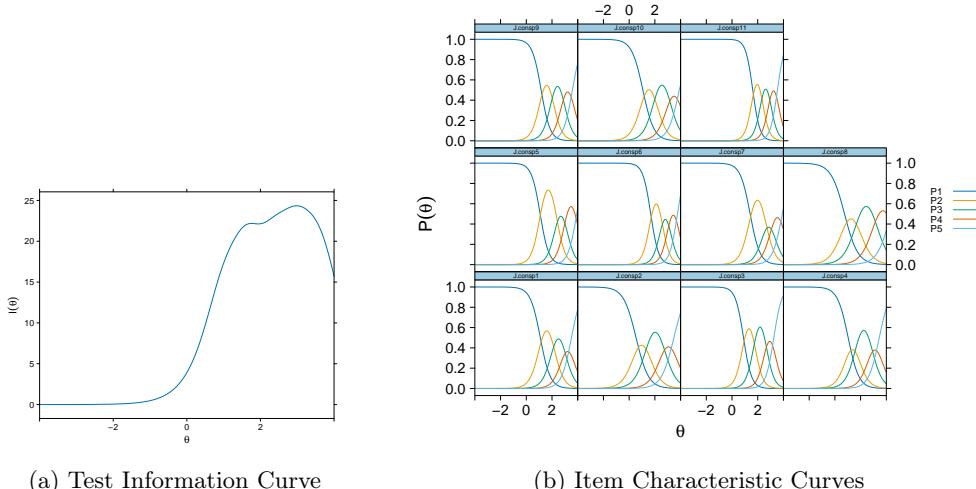


Fig. S40: Test Information Curve and Item Characteristic Curves in the Item Response Theory (IRT) Model in Japan. (a) The Test Information Curve shows the amount of information provided by the test across different levels of the latent trait. Higher peaks indicate that the test is most precise in estimating individuals with those trait levels. (b) The Item Characteristic Curves depict the probability of endorsing each item at different levels of the latent trait. The curves illustrate how item responses change as the engagement stage in conspiracy theories.