Supplementary Information of The "recognition", "belief", and "action" regarding conspiracy theories: An empirical study using large-scale samples from the United States and Japan

Appendix A Construction of Outcome Variables

To systematically capture the progression from initial awareness to behavioral action, we constructed three sequential outcome variables for each conspiracy theory: Recognition, Belief, and Action (Demonstrative and Diffusion Actions). The conspiracy statements used in the survey are listed below, along with the coding process for each outcome stage.

A.1 Conspiracy Statements

Respondents were presented with 11 conspiracy theories relevant to their country, adapted from contemporary or historically prominent conspiracy claims.
United States:

- **U.consp1**: The idea of man-made global warming is a hoax that was invented to deceive people.
- **U.consp2**: The truth about the harmful effects of vaccines is being deliberately hidden from the public.
- **U.consp3**: Regardless of who is officially in charge of governments and other organisations, there is a single group of people who secretly control events and rule the world together.
- **U.consp4**: The 1969 moon landings were faked.
- **U.consp5**: Humanoid reptiles are becoming leaders of various countries and controlling humanity.
- **U.consp6**: Democratic Party members are involved in organizes criminal activities.
- **U.consp7**: Coronavirus is a myth created by some powerful forces, and the virus does not really exist.
- **U.consp8**: Human have made contact with aliens and this fact has been deliberately hidden from the public.
- **U.consp9**: The US Government knowingly helped to make the 9/11 terrorist attacks happen in America on 11 September, 2001.

- **U.consp10**: There was electoral fraud by the Biden camp in the 2020 U.S. presidential election.
- **U.consp11**: The government is spraying harmful substances from the sky (chemtrails).

Japan:

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

A.2 Recognition

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

> "Have you seen or heard the following information?" 1. Have seen or heard 2. Don't know

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

A.3 Belief

Respondents who recognized each conspiracy were subsequently asked:

> "What do you think about the truthfulness of the following information?" 1. I believe it is true 2. I don't know 3. I believe it is false"

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

A.4 Action

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

1. I have had an argument with family friends, or acquaintances about this information.
2. I have attended a gathering related to this information (offline : street demonstrations, offline meating, etc.).
3. I have attended a gathering related to this information (online: social media communities, online meetings, etc.).
4. I have contacted someone involved regarding this information.
5. I have disseminated this information (offline: street advocacy, leaflet distribution ,etc.).
6. I have disseminated this information (online: on X, Facebook, Instagram (including just repost or share), online forums, etc.).
7. I have talked to family, friends, or acquaintances about this information.

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

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

Appendix B Construction of Explanatory Variables

This section details the construction of the explanatory variables summarized in Table 1. Unless otherwise noted, te variables were measured consistently across the U.S. and Japan. The coding rules and normalization procedures applied to each variable are detailed below. The distributions of the explanatory variables, obtained from the survey responses are shown in Figures S3 - S8 for the U.S. and Japan, respectively.

B.1 Urbanization

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

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

Japan: Respondents indicated their place of residence from four options:

1. Tokyo's 23 wards or a government-designated city

2. A prefectural capital (excluding category 1)
3. Other Cities
4. Towns or Villages

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

B.2 Educational Attainment

We asked respondents to select the highest level of schooling they completed:

1. Graduate School
2. University
3. Junior College / Technical College
4. Vocational / Specialized School
5. High School
6. Middle School
7. Unknown

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

B.3 Household Income

We obtained information on total household income, using country-specific bracketed categories. In the United States, income was reported in 18 brackets, ranging from "Under $1,000" to "$170,000 or over." In Japan, income was reported in 17 brackets, rangin from "No income (0 JPY)" to "Over 20 million JPY." Each income bracket was converted to its midpoint (e.g., $1,000-$4,999 was assigned a value of $3,000), and subsequently normalized so that $100,000 in the U.S. and 10 million JPY in Japan were both corresponded to 1.

B.4 Employment Status

Respondents reported their current employment status from the following 13 categories:

1. Executives / Directors
2. Full-time Employee (Senior Manager and above)
3. Full-time Employee (Manager)
4. Full-time Employee (Assistant Manager/Supervisor)
5. Full-time Employee (General Staff)
6. Self-employed / Business Owner
7. Family Worker
8. Temporary / Contract Employee
9. Part-time / Temporary (including Student Part-time)
10. Freelancer
11. Unemployed (including Homemakers)
12. Retired (Pensioner)

13. Student

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

B.5 Company Size

Respondents were asked about the size of their working firm:

1. 1 – 4 employees
2. 5 - 9 employees
3. 10 - 29 employees
4. 30 - 99 employees
5. 100 - 299 employees
6. 300 - 499 employees
7. 500 - 999 employees
8. 1,000 employees or more

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

B.6 Political Orientation

We constructed two continuous indices, **Political Polarization** and **Conservative Orientation**, based on respondents' political preferences.
United States: Respondents rated ten policy issues (e.g., constitutional amendment, social security, same-sex marriage, nuclear power plants, immigration, etc.) on 7-point scales based on [1], as shown below:

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

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

1. Article 9 of the Constitution should be amended
2. Social security spending should be increased
3. Married couples should be allowed to have separate surnames

4. Environmental protection should be prioritized over economic growth
5. Nuclear power plants should be immediately abolished
6. The government should guarantee a certain level of employment and income
7. Schools should teach children patriotism
8. An increase in foreign immigrants is bad for Japan
9. The Liberal Democratic Party is trying to return Japan to the dark pre-war era
10. Same-sex marriage should be recognized

We aggregated each respondent's left-right positioning on the 7-point scale. **Conservative Orientation** was coded as a binary variable, with respondents who selected positions closer to the conservative end of the scale were coded as 1, and those selected positions closer to the liberal end were coded as 0. **Political Polarization** was computed by rescaling the left-right scale from -1 (most liberal) to +1 (most conservative), and taking the absolute value of each respondent's position, so that higher values indicate a stronger ideological leaning toward one pole. The final index was normalized to range from 0 (most moderate) to 1 (most extreme).

B.7 Trust in Government and Scientists

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

B.8 Religiosity

We measured belief in the afterlife, heaven, hell, religious miracles, the spiritual power of ancestors, and God, based on ISSP 2018 [3]. Each item was recoded into a binary variable, where belief was coded as 1 and non-belief coded as 0. The **Religiosity** score was calculated as the sum of these binary responses, normalized to range from 0 (no belief) to 1 (belief in all).

B.9 Media Usage Habits

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

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

For each medium, respondents reported their average usage time separately for weekdays and weekends, using a 10-point scale ranging from "0 minutes" to "5 hours or more." We calculated the midpoint of each bracket to obtain a numerical estimate of usage time and then calculated the average daily usage. Each medium was then

recoded as a binary variable, with each media usage = 1 if the average daily usage exceeded 30 minutes.

B.10 Cultural Capital (at Age 15)

Following SSM2015 [4], we asked whether the respondent's household had each of six items at age 15: a child's own room, a study desk, a piano, literary collections/encyclopedias, a computer/word processor, or art/antiques. Each "yes" response was assigned 1 point, and the total (0-6) was normalized to a range of 0 - 1 (with 6 points = 1).

B.11 Economic Capital (at Age 15)

Following [5], we asked whether the respondent's household had each of the following twelve items at age 15: a privately-owned home, a bathroom, a sofa set, a television, a radio, a DVD player, a refrigerator, a microwave, a telephone, a camera, an air conditioner, or a car. Each "yes" response was assigned 1 point, and the total (0-12) was normalized to a range of 0-1 range (with 12 points = 1).

B.12 Having Books

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

B.13 Reading Books

Respondents reported on a 6-point scale how many books they read in a year. Possible responses ranged from "Does not read books at all" to "More than 21 books," in six ordered categories based on SSM2015 [4] and GSS2022 [6]. We assigned the midpoint of each category, then normalized so that 10 books = 1.

B.14 Number of Friends

We asked: "If you divide the people you know into 'friends' and 'acquaintances,' how many would you consider 'friends'?" We took the numeric answer and normalized it so that 100 friends = 1.

B.15 Social Class

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

1. Upper Class – Upper
2. Upper Class – Middle
3. Upper Class – Lower
4. Middle Class – Upper
5. Middle Class – Middle
6. Middle Class – Lower

7. Lower Class – Upper
8. Lower Class – Middle
9. Lower Class – Lower

We constructed binary indicators for both current social class and social class at age 15. Specifically, respondents who identified with any of the "Upper Class" categories (items 1-3) were classified as **Upper**, while those selecting any of the "Lower Class" categories (items 7-9) were classified as **Lower**. These classifications were applied to both the respondents' current perceived social class and their perceived social class at age 15. Based on these classifications, we defined **Upward Social Mobility** as a binary variable, coded as 1 if the respondent's current perceived social class was higher than their perceived social class at age 15.

Appendix C Model Validation and Posterior Predictive Checks

C.1 Posterior Predictive Checks

To evaluate the adequacy of our multivariate Bernoulli model, we conducted posterior predictive checks (PPCs) on the four outcome variables: Recognition, Belief, Demonstrative Action, and Diffusion Action. First, we examined the alignment between the model's predicted probabilities and the observed proportions in the empirical data, ensuring that the model accurately captured the rate of occurrence for each outcome. In addition, we compared summary statistics, such as the overall mean of each outcome, between the posterior predictive distribution and the observed data to further evaluate model performance.

Figures S31 and S32 illustrate these checks for the U.S. and Japan, respectively. Figures (a), (c), (e), and (g) compare the observed frequencies with the those predicted frequencies, showing strong alignment across outcomes. Figures (b), (d), (f), and (h) compare summary statistics for the observed data with samples from the posterior predictive distribution. These results confirm that the model does not systematically underestimate or overestimate event probabilities, thereby supporting the validity of our modeling assumptions.

C.2 Convergence Diagnosis

All Markov chain Monte Carlo simulations achieved acceptable levels of convergence, with Gelman-Rubin statistics ($\hat{R}$) meeting standard thresholds. For the U.S. models, all parameters achieved $\hat{R} \leq 1.01$. For the Japan models, $\hat{R} \leq 1.03$, with only the Intercept and Belief coefficients in the Demonstrative and Diffusion outcome models slightly exceeding 1.01. 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 did not observe any divergent transitions, suggesting that the Hamiltonian Monte Carlo sampler was well calibrated. For detailed summaries of the convergence metrics and exact parameter estimates, see Tables S7 - S14.

C.3 Robustness Checks of Model Variants

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 variants:

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

These sensitivity analyses allowed us to examine the stability of our model under different settings and to 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), assessing model fit and predictive performance. For the U.S. data, our primary model achieves a $\widehat{\text{elpd}}_{\text{LOO}}$ (estimated log predictive density under LOO-CV) of -21557.3 (SE = 76.0). All alternative models differ by less than 3.0 units, and are 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). The alternative specifications produce values ranging from -20219.1 to -20221.1, which are well within the standard error range (104.0), indicating no statistically meaningful improvement in predictive accuracy across model variations.

Moreover, in all cases, the relative magnitude and significance of the regression coefficients remain effectively unchanged, demonstrating that variations in prior distributions, iteration settings, and `adapt_delta` values do not substantially alter the model's inferences. These robustness checks confirm that our results are robust to reasonable variations, reinforcing the stability of the proposed framework.

Appendix D Alternative Model Specifications and Robustness Analyses

To further validate the robustness of our findings, we employed alternative modeling approaches to evaluate whether the relationships identified in our main analysis remained consistent across different statistical frameworks. Specifically, we reanalyzed the data using two different statistical frameworks: Structural Equation Modeling (SEM) and Sequential Generalized Linear Models (Sequential GLM). These alternative models serve as a complementary validation of our primary Bayesian hierarchical framework by evaluating whether the results obtained by different methodologies are consistent.

D.1 Two Statistical Frameworks

Structural Equation Modeling (SEM) SEM is a multivariate statistical technique that allows for the simultaneous estimation of multiple regression equations while explicitly modeling direct and indirect effects. Unlike our Bayesian hierarchical model, which estimates all stages jointly under a probabilistic framework, SEM provides a path analysis structure where the relationships between recognition, belief, and action can be analyzed with direct and indirect pathways explicitly specified. The SEM is defined as follows:

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

where, $\boldsymbol{X}$ represents the set of explanatory variables, while α and $\boldsymbol{\beta}$ denote the estimated parameters. The key distinction between SEM and our main Bayesian hierarchical model is that SEM explicitly estimates mediation effects rather than relying on hierarchical dependencies. We estimated the model using the weighted least squares mean and variance adjusted (WLSMV) estimator to handle categorical responses.

Sequential Generalized Linear Models (Sequential GLM)

Sequential GLM provides a more conventional approach to modeling the stepwise process of conspiracy theory engagement. This method involves estimating separate logistic regression models for each stage, treating earlier stages as explanatory variables for subsequent ones. The stepwise GLM model is specified as follows:

$$\begin{aligned}
\text{Recognition} &\sim \text{logit}(\alpha_r + \boldsymbol{\beta_r X}), \\
\text{Belief} &\sim \text{logit}(\alpha_b + \beta_{b1}\text{Recognition} + \boldsymbol{\beta_{b2} X}), \\
\text{Demonstrative Action} &\sim \text{logit}(\alpha_m + \beta_{m1}\text{Belief} + \boldsymbol{\beta_{m2} X}), \\
\text{Diffusion Action} &\sim \text{logit}(\alpha_f + \beta_{f1}\text{Belief} + \boldsymbol{\beta_{f2} X}).
\end{aligned}$$

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

D.2 Results

Structural Equation Modeling (SEM).

The SEM results exhibit a moderate level of agreement with our Bayesian hierarchical model. In the U.S. sample, the SEM estimates closely match those from the Bayesian model for recognition, belief, and diffusion action, maintaining similar coefficient directions (see Figure S33). However, discrepancies emerge at the demonstrative action stage, where some variables display trends that diverge from the Bayesian estimates. For example, while religiosity is estimated to have a positive effect on demonstrative action in the Bayesian model, the SEM approach suggests a negative

influence. These inconsistencies may be due to high correlations between the outcome variables or to the inherent challenges of modeling categorical mediators within the SEM framework. In the Japanese sample, the SEM results generally align with the Bayesian estimates in terms of the signs of the coefficients at each stage (see Figure S35). However, due to the smaller number of respondents at each stage, none of the estimates achieve statistical significance. This suggests that SEM may struggle to produce stable estimates in the later stages, likely due to the limited smaller sample sizes in these outcome categories. Overall, while SEM captures the core trends identified in our Bayesian model, its limitations in estimating demonstrative and diffusion actions highlight potential instability in estimation, caused by high correlations among outcome variables and the difficulty of modeling categorical mediation.

Sequential Generalized Linear Models (Sequential GLM).

In contrast to the SEM results, the Sequential GLM approach exhibits strong consistency with our Bayesian hierarchical model, reinforcing the robustness of our findings. In the U.S. sample, Sequential GLM estimates closely mirror those from the Bayesian model, exhibiting nearly identical coefficient magnitudes and directional effects across all four stages (Figure S34). In the Japanese sample, estimates show somewhat greater variability, likely due to the smaller proportion of respondents engaged in later-stage actions (Figure S36). Nevertheless, the overall pattern of positive and negative relationships remains consistent with the Bayesian model. Although some coefficients lose statistical significance due to reduced sample sizes in demonstrative and diffusion action stages, their estimated directions remain align well with the Bayesian framework

The alternative model analyses provided complementary insights. The SEM results aligned with our Bayesian hierarchical model in the early stages, such as recognition and belief formation, capturing similar trends in coefficient directions. However, in the later stages, particularly demonstrative and diffusion actions, the estimates differed, likely due to high correlations among the outcome variables and the complexity of modeling categorical mediation. In contrast, the Sequential GLM approach closely matched our Bayesian framework, showing consistent coefficient magnitudes and directional effects across all stages. These results collectively strengthen the validity of our Bayesian hierarchical model and its ability to represent the processes of conspiracy theory recognition, belief formation, and subsequent actions.

Appendix E Complete Separation for Hierarchical Bayesian Framework

In our hierarchical Bayesian framework, we observe exceptionally large coefficients for **Recognition** when predicting **Belief**. For example, the posterior median of the **Belief_Recognition** coefficient reaches approximately 33.904 in Table S8. Such extreme values characterize "complete separation" in logistic regression models, where one or more predictors perfectly (or nearly perfectly) distinguish outcome classes [7]. In this study, Recognition serves as a nearly perfect discriminator between those who hold conspiracy beliefs and those who do not, leading to an exceptionally large coefficient in the Belief model. Although Bayesian estimation prevents coefficients

from diverging to infinity, the posterior median may still grow to a very large value, effectively reflecting the near-deterministic role of the predictor [8].

A key concern is whether such complete separation in one parameter necessarily undermines the interpretation or stability of other parameter estimates. In our model, even though the Belief_Recognition coefficient (along with similarly structured parameters from preceding stages) is notably large, other coefficients remain stable, exhibiting neither unusual distortions nor inflated posterior intervals, see Appendix C. This observation is consistent with the notion that if the separating predictor is not highly correlated with other variables, complete separation in a single parameter does not induce systemic bias or instability in the rest of the model [9, 10].

In summary, our findings indicate that a variable of complete or quasi-complete separation does not invalidate the entire model. In particular, the separating parameter is not strongly correlated with other variables, and diagnostic checks such as posterior correlations and effective sample sizes reveal no anomalous behavior. Accordingly, the interpretability and inferential validity of other covariates remain robust.

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

The primary analyses in this study employed a hierarchical Bayesian Bernoulli model to capture the sequential progression of conspiracy theory engagement across recognition, belief, demonstrative action, and diffusion action. While this framework effectively models each stage as a binary outcome, it does not account for the intensity of engagement, namely, the number of conspiracy theories an individual recognizes, believes in, or acts upon. To ensure the robustness of our findings, we develop an alternative hierarchical Bayesian model that treats the outcome of each stage as a count variable, capturing the number of conspiracy theories an individual engages with at each stage. Specifically, the dependent variables now range from 0 to 11 (the total number of conspiracy statements in the survey). Given the over-dispersed and zero-inflated nature of the data, where many respondents report zero engagement, we adopt a Zero-Inflated Binomial model that accounts for these characteristics.

This alternative specification allows us to capture an additional dimension of conspiracy theory engagement. While the existing model identifies factors that influence whether individuals engage with conspiracy theories at all, this approach enables us to analyze the extent of their engagement. By analyzing the number of conspiracy theories an individual recognizes, believes in, or acts upon, we can uncover patterns related to the level of engagement, providing complementary insights into the dynamics underlying conspiracy beliefs and behaviors.

F.1 Model Specification

The hierarchical model is specified as follows:

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

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

This model employs a Zero-Inflated Binomial (ZIB) distribution, which extends the standard binomial model by accounting for an excess number of zeros. This characteristic is particularly useful in cases where a substantial proportion of respondents report no engagement at all (i.e., they recognize, believe in, or act on zero conspiracy theories). The ZIB model combines two components: (1) a binomial process that governs the probability of recognizing, believing in, or acting on a given number of conspiracy theories, and (2) a separate zero-inflation process that explicitly models the probability of observing an excess number of zeros. This approach ensures that we can accurately capture both the presence and intensity of conspiracy engagement while addressing potential overdispersion in the data.

F.2 Results

Figures S37 and S38 present the estimated effects of the explanatory variables across on the four stages of conspiracy theory engagement, Recognition, Belief, Demonstrative Action, and Diffusion Action, using the hierarchical zero-inflated binomial model. Detailed convergence diagnostics and exact parameter estimates are provided in Tables S17 - S24. Overall, the results obtained from the hierarchical zero-inflated binomial model closely align with those obtained from the simpler binary outcome specification, thereby reinforcing our main findings. However, by shifting from a binary perspective of whether individuals engage in conspiracy theories or not, to a count based framework that captures the level of engagement, some differences in the relative strength of certain predictors emerge. For example, religiosity remains positively associated with conspiracy theory engagement under both models, but its effect is noticeably attenuated under the zero-inflated binomial framework, particularly among Japanese respondents. A similar pattern is observed for traditional media consumption. In the binary model, television and newspaper consumption strongly predict lower engagement with conspiracy theories in Japan. Under the zero-inflated binomial

framework, however, this protective effect becomes less pronounced in Japan, while in the U.S., there is even a partial reversal for certain channels.

Appendix G Applying Item Response Theory to Survey Data

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

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

G.1 Method

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

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

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

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

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

where:

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

The discrimination parameter a_i determines how sharply an item discriminates between individuals with different levels of conspiracy endorsement. Higher values of a_i suggest that even small differences in latent conspiratorial thinking (θ) lead to substantial increases in the probability of involvement. Meanwhile, the threshold parameters b_{ik} indicate the minimum level of conspiratorial inclination required to transition between different response categories. We estimated the parameters a_i and b_{ik} for each conspiracy belief item using maximum likelihood estimation (MLE) via the `mirt` package (v1.44.0) in R.

G.2 Results

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

Finding in the U.S.

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

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

Finding in Japan

In Japan, J.consp3 (single group secretly ruling the world), J.consp6 (reptilian humanoids), and J.consp11 (chemtrails) have high discrimination (a values are large), meaning that small increases in conspiratorial thinking significantly raise the likelihood of endorsement. Conversely, J.consp8 (alien contact) has lower discrimination.

Threshold values indicate that J.consp2 (vaccines) has a low b_2 values, meaning that even individuals with moderate conspiratorial thinking are likely to enter the belief stage (P3). In contrast, J.consp6 (reptilian humanoids), J.consp7 (COVID-19 myth), and J.consp8 (alien contact) require a much stronger conspiratorial inclination before individuals progress from belief to action (P4).

In both countries, vaccine conspiracies (U.consp2 and J.consp2) and climate change denial (U.consp1 and J.consp1) have lower recognition thresholds (b_1 values are small), making them more widely accepted. In contrast, extreme theories such as reptilian humanoids (U.consp5 and J.consp6), COVID-19 denial (U.consp7 and J.consp7), and alien contact (U.consp8 and J.consp8) require a higher level of conspiratorial thinking for active endorsement. These results suggest that conspiracy beliefs exist on a spectrum, with some theories being widely accepted while others remain highly exclusive, appealing only to those with strong conspiratorial tendencies.

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 meating, 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%)

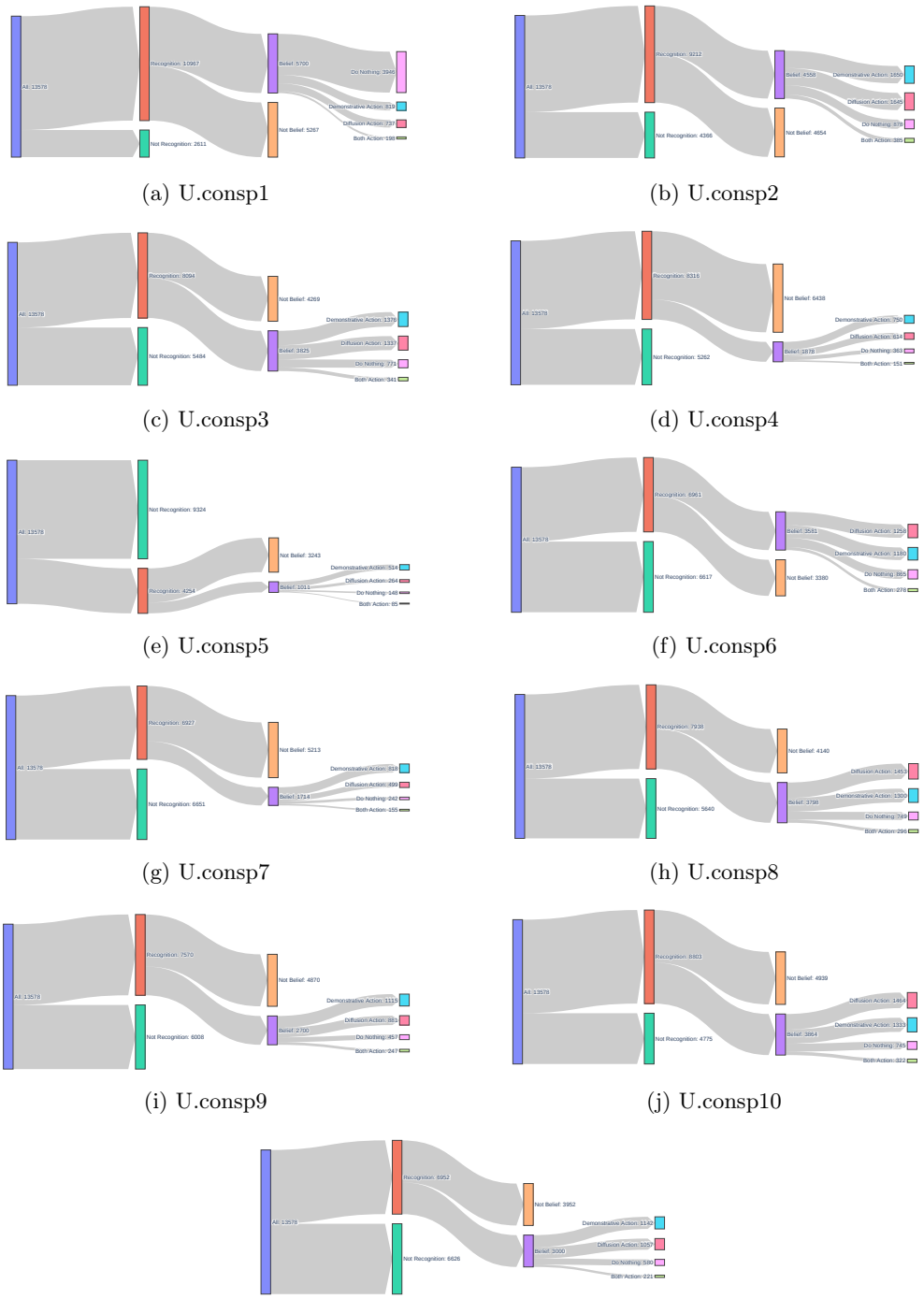
Table S3: Percentage of respondents in the U.S. selecting each option of demonstrative actions.

	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.

	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 meating, 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.



(a) U.consp1 (b) U.consp2

(c) U.consp3 (d) U.consp4

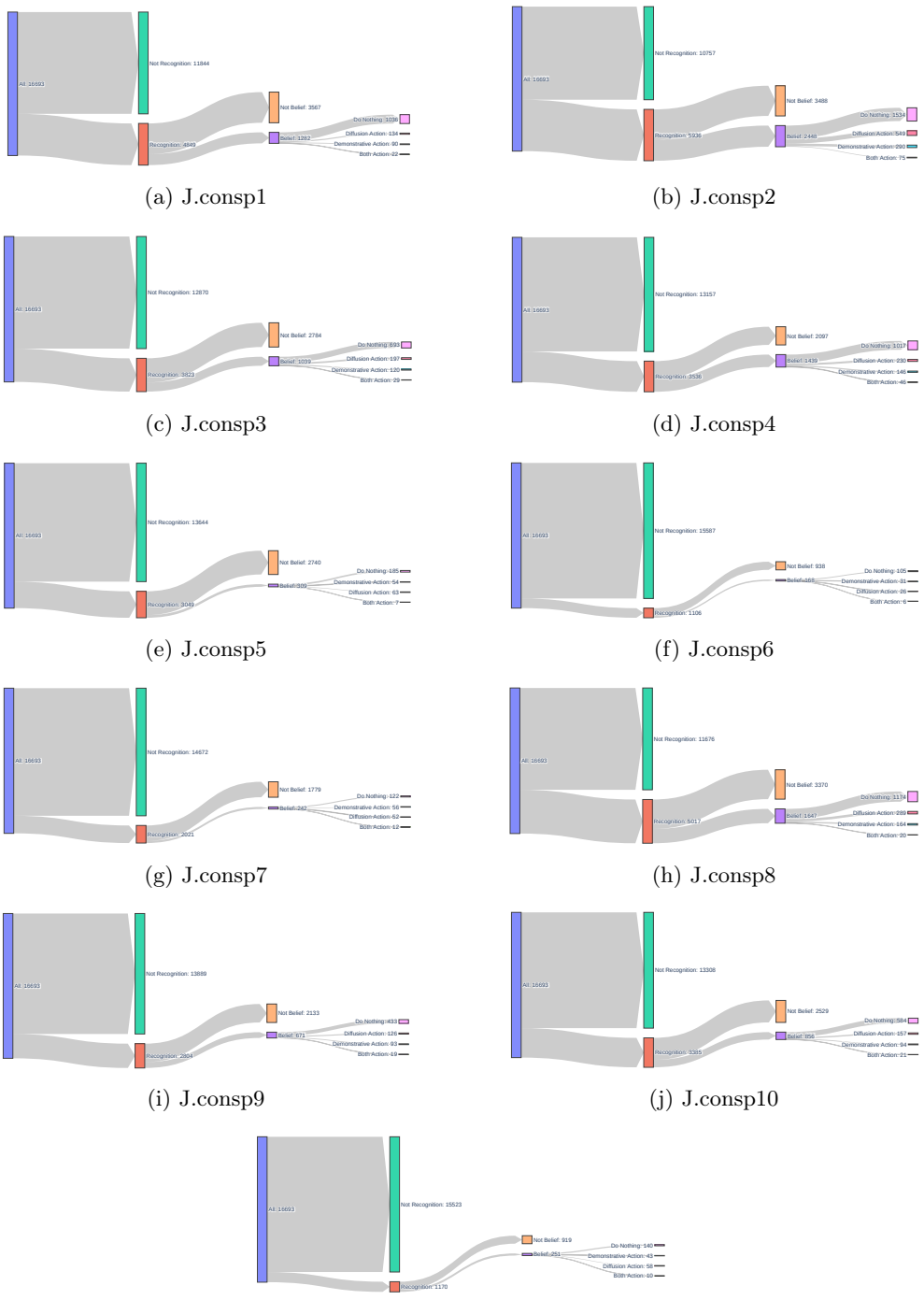
(e) U.consp5 (f) U.consp6

(g) U.consp7 (h) U.consp8

(i) U.consp9 (j) U.consp10

(k) U.consp11

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.



(a) J.consp1 (b) J.consp2

(c) J.consp3 (d) J.consp4

(e) J.consp5 (f) J.consp6

(g) J.consp7 (h) J.consp8

(i) J.consp9 (j) J.consp10

(k) J.consp11

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 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.

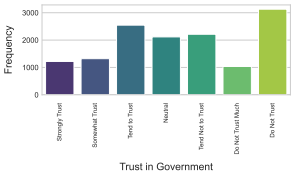
Fig. S3: Distributions of demographic and political attributes in the U.S. sample.

(a) Age (b) Sex (c) Marital Status

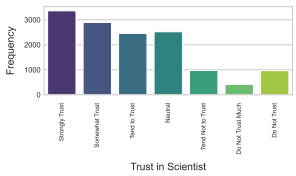
(d) Location (e) Education (f) Household Income

(g) Employment Status (h) Company Size (i) Political Polarization

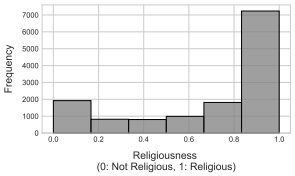
Fig. S4: Distributions of trust, religiosity, and media usage in the U.S. sample.



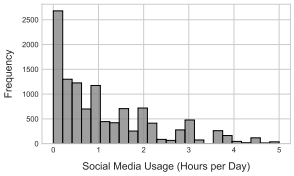
(a) Trust in Government



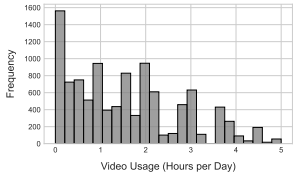
(b) Trust in Scientists



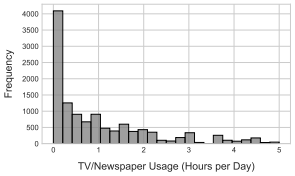
(c) Religiosity



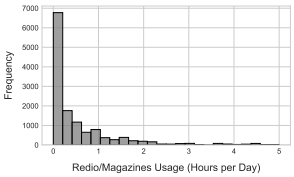
(d) Social Media Use



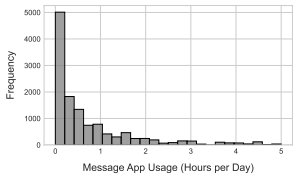
(e) Video Use



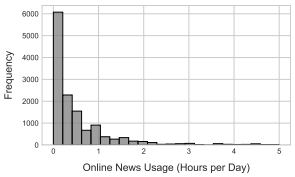
(f) TV/Newspaper Use



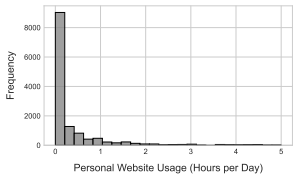
(g) Radio Use



(h) Messaging App Use

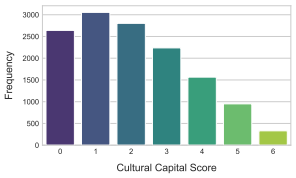


(i) Online News Use

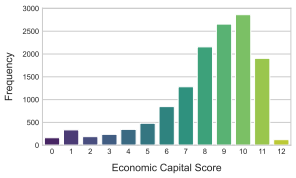


(j) Personal Website Use

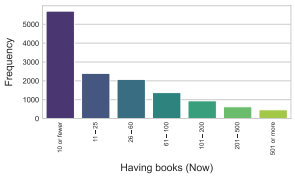
Fig. S5: Distributions of social capital attributes in the U.S. sample.



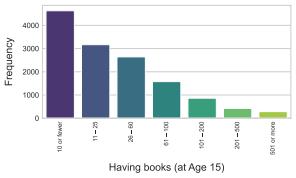
(a) Cultural Capital (Age 15)



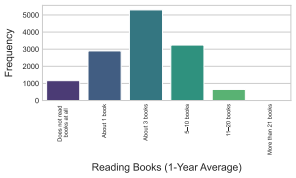
(b) Economic Capital (Age 15)



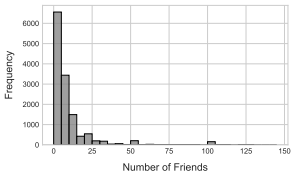
(c) Current Books



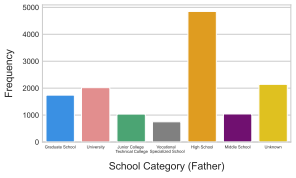
(d) Books at Age 15



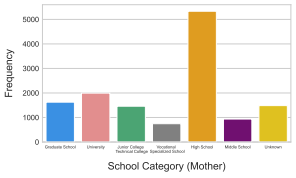
(e) Annual Reading Volume



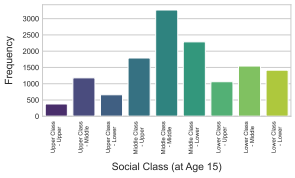
(f) Number of Friends



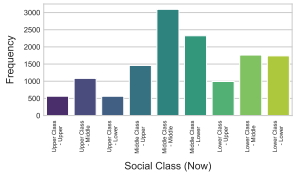
(g) Father's Education



(h) Mother's Education



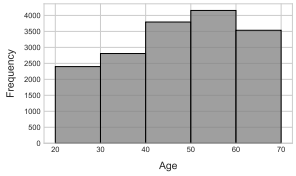
(i) Social Class (Age 15)



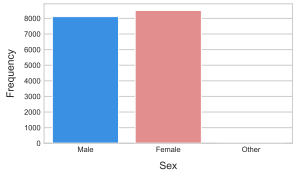
(j) Current Social Class

(k) Social Mobility

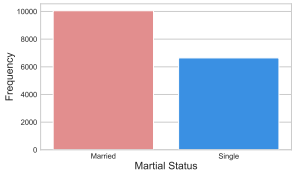
Fig. S6: Distributions of demographic and political attributes in the Japanese sample.



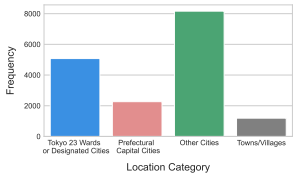
(a) Age



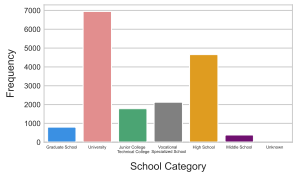
(b) Sex



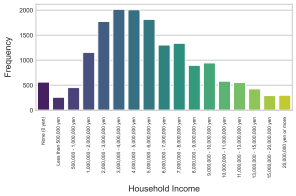
(c) Marital Status



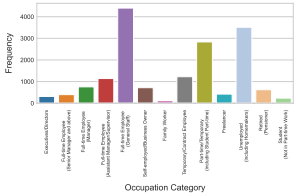
(d) Location



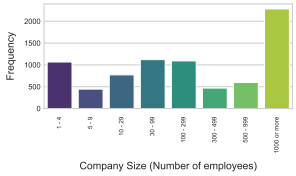
(e) Education



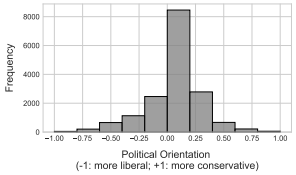
(f) Household Income



(g) Employment Status

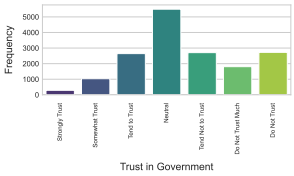


(h) Company Size

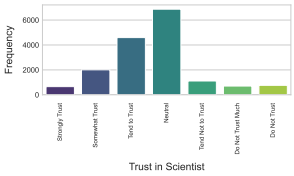


(i) Political Polarization

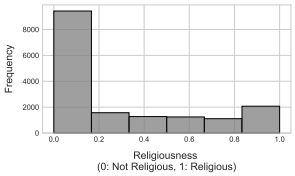
Fig. S7: Distributions of trust, religiosity, and media usage in the Japanese sample.



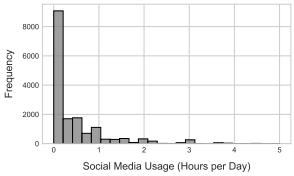
(a) Trust in Government



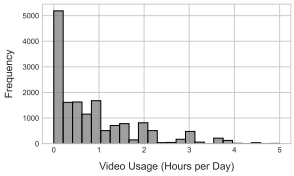
(b) Trust in Scientists



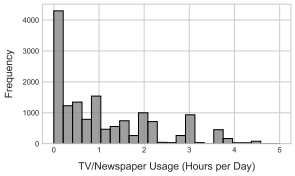
(c) Religiosity



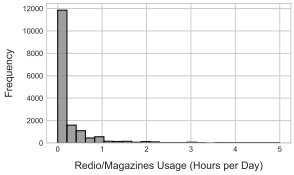
(d) Social Media Use



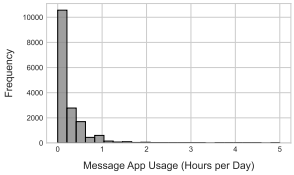
(e) Video Use



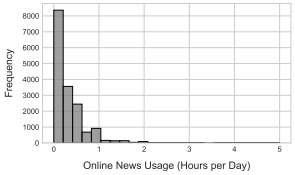
(f) TV/Newspaper Use



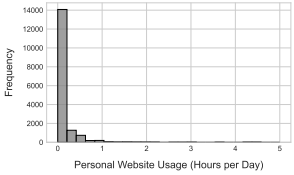
(g) Radio Use



(h) Messaging App Use

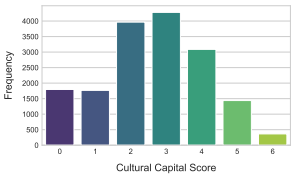


(i) Online News Use

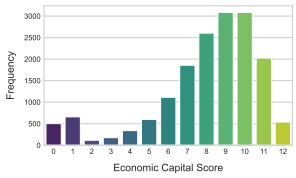


(j) Personal Website Use

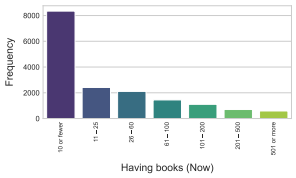
Fig. S8: Distributions of social capital attributes in the Japanese sample.



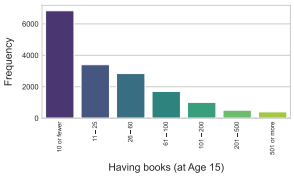
(a) Cultural Capital (Age 15)



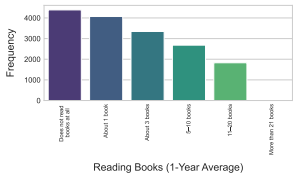
(b) Economic Capital (Age 15)



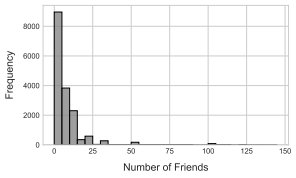
(c) Current Books



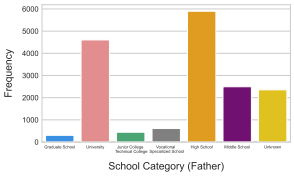
(d) Books at Age 15



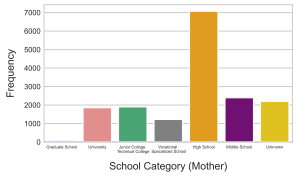
(e) Annual Reading Volume



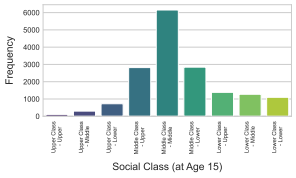
(f) Number of Friends



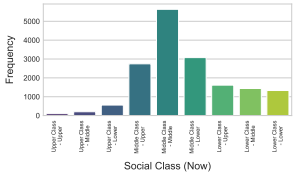
(g) Father's Education



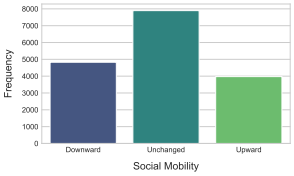
(h) Mother's Education



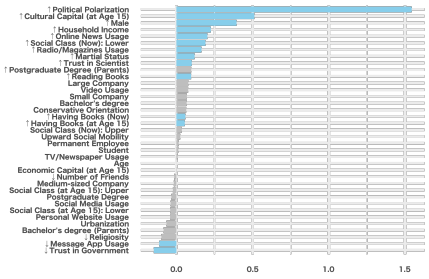
(i) Social Class (Age 15)



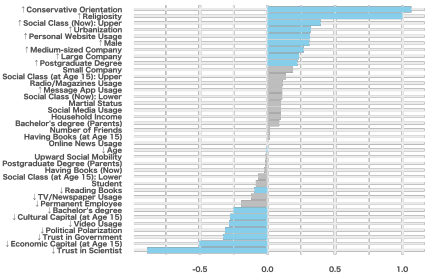
(j) Current Social Class



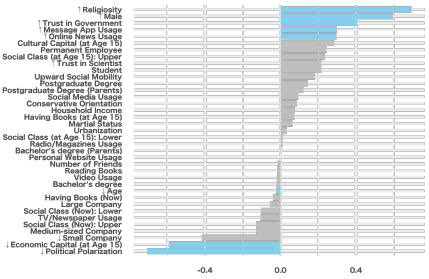
(k) Social Mobility



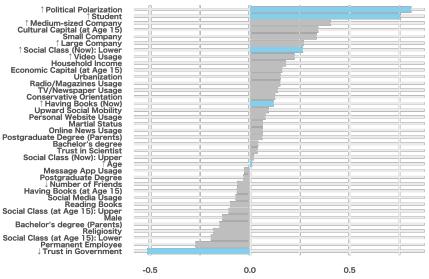
(a) Effects of explanatory variables on conspiracy theory **Recognition** of U.consp1



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

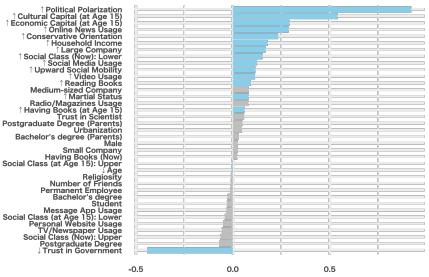


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of U.consp1

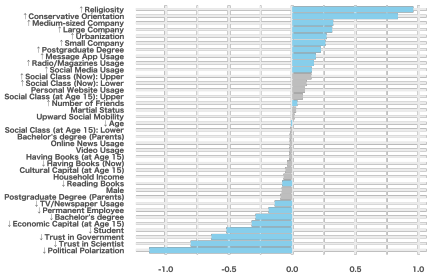


(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of U.consp1

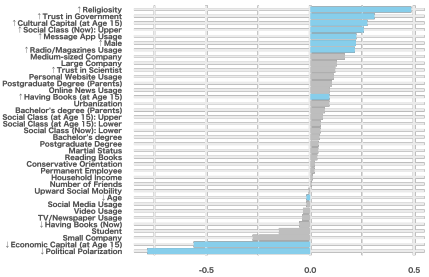
Fig. S9: Effects of explanatory variables on conspiracy theory engagement for U.consp1 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the U.S.



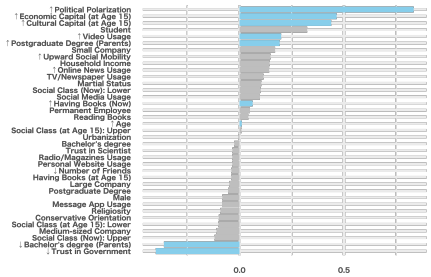
(a) Effects of explanatory variables on conspiracy theory **Recognition** of U.consp2



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

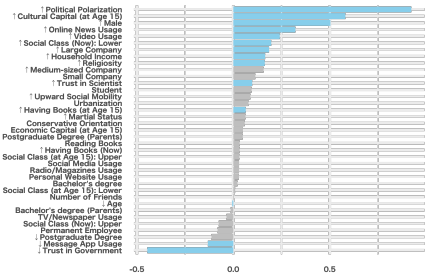


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of U.consp2

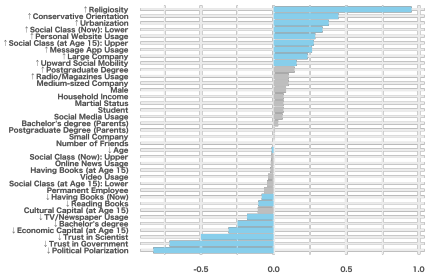


(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of U.consp2

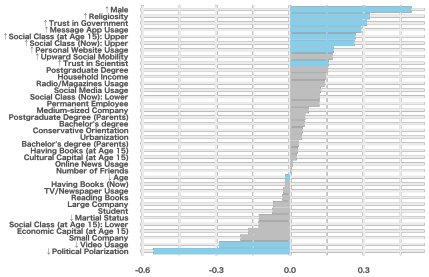
Fig. S10: Effects of explanatory variables on conspiracy theory engagement for U.consp2 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the U.S.



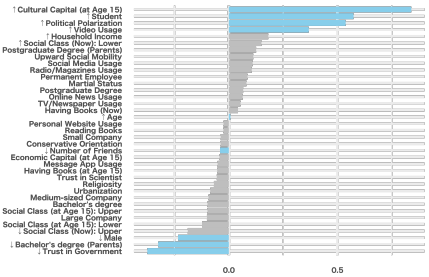
(a) Effects of explanatory variables on conspiracy theory **Recognition** of U.consp3



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

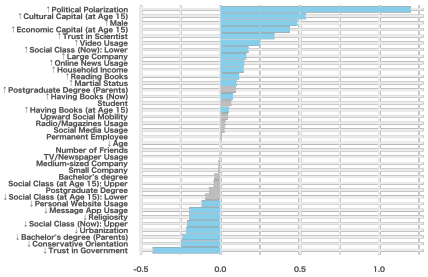


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of U.consp3

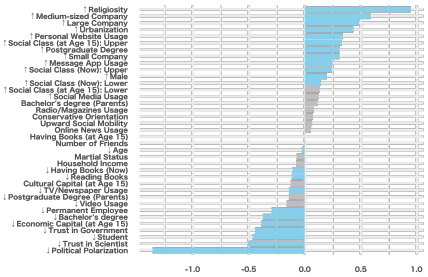


(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of U.consp3

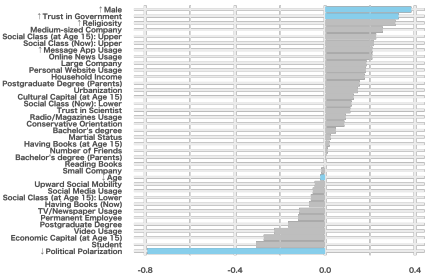
Fig. S11: Effects of explanatory variables on conspiracy theory engagement for U.consp3 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the U.S.



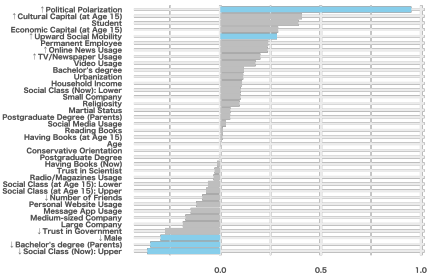
(a) Effects of explanatory variables on conspiracy theory **Recognition** of U.consp4



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

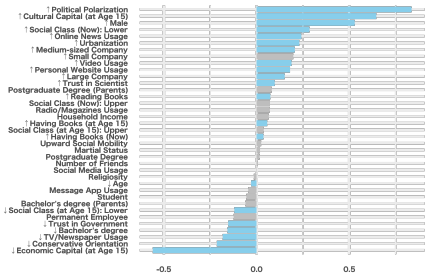


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of U.consp4

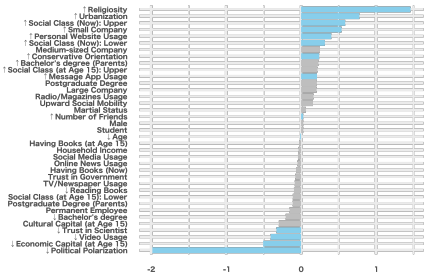


(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of U.consp4

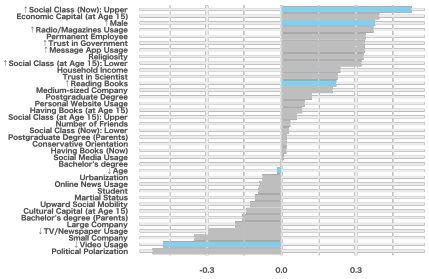
Fig. S12: Effects of explanatory variables on conspiracy theory engagement for U.consp4 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the U.S.



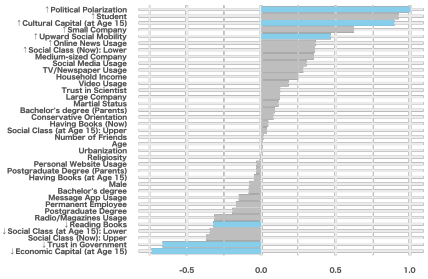
(a) Effects of explanatory variables on conspiracy theory **Recognition** of U.consp5



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

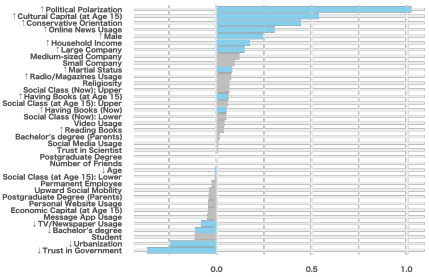


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of U.consp5

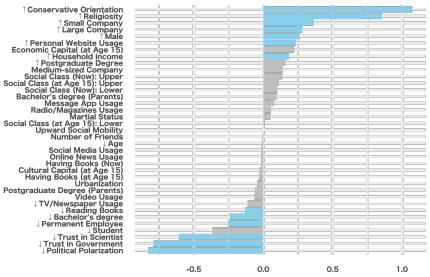


(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of U.consp5

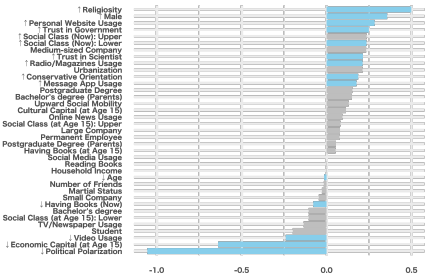
Fig. S13: Effects of explanatory variables on conspiracy theory engagement for U.consp5 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the U.S.



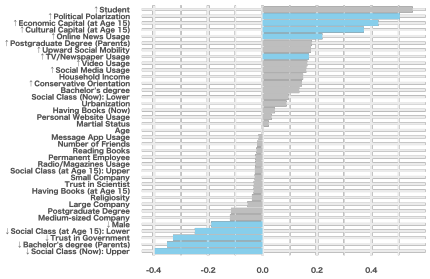
(a) Effects of explanatory variables on conspiracy theory **Recognition** of U.consp6



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

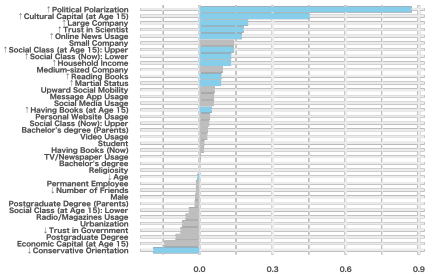


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of U.consp6

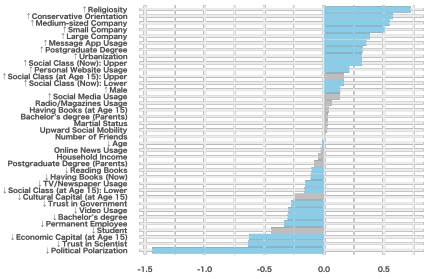


(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of U.consp6

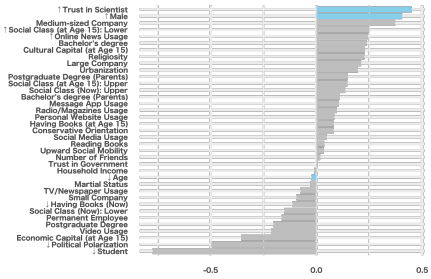
Fig. S14: Effects of explanatory variables on conspiracy theory engagement for U.consp6 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the U.S.



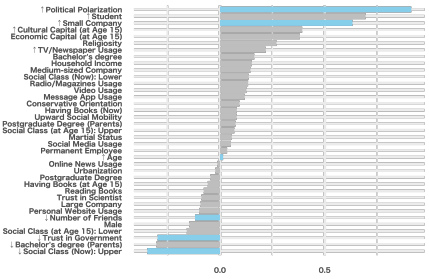
(a) Effects of explanatory variables on conspiracy theory **Recognition** of U.consp7



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

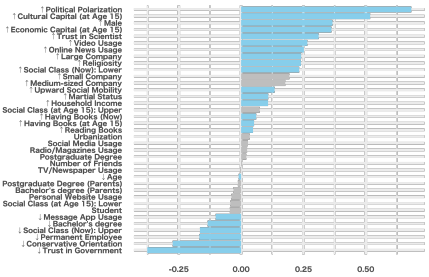


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of U.consp7

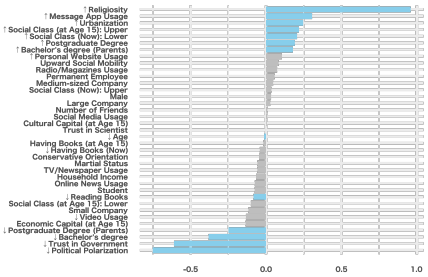


(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of U.consp7

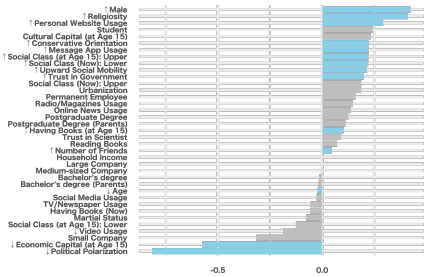
Fig. S15: Effects of explanatory variables on conspiracy theory engagement for U.consp7 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the U.S.



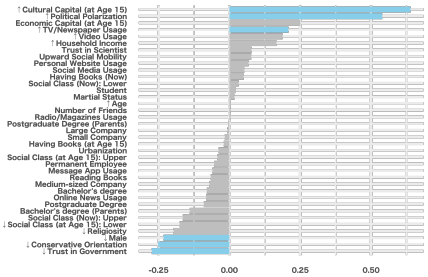
(a) Effects of explanatory variables on conspiracy theory **Recognition** of U.consp8



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

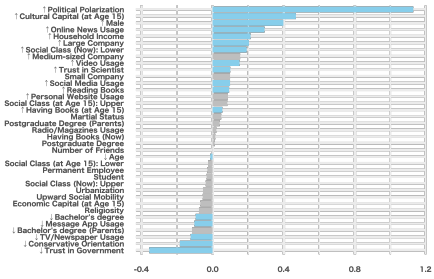


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of U.consp8

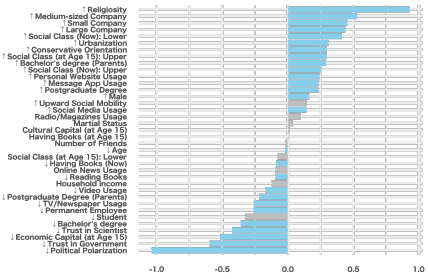


(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of U.consp8

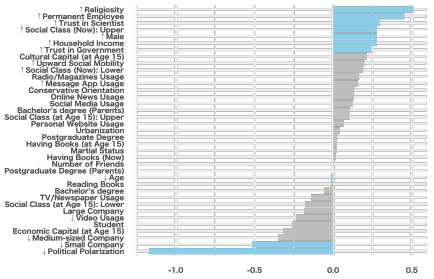
Fig. S16: Effects of explanatory variables on conspiracy theory engagement for U.consp8 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the U.S.



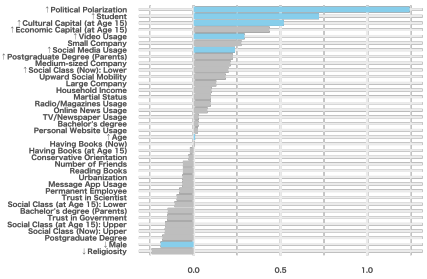
(a) Effects of explanatory variables on conspiracy theory **Recognition** of U.consp9



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

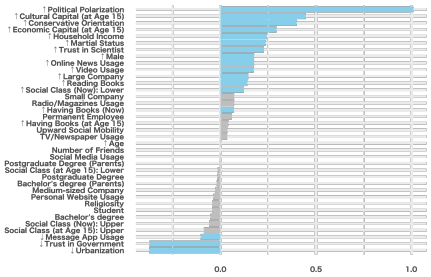


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of U.consp9

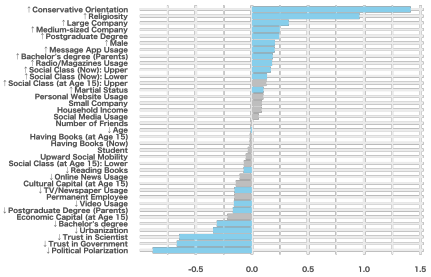


(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of U.consp9

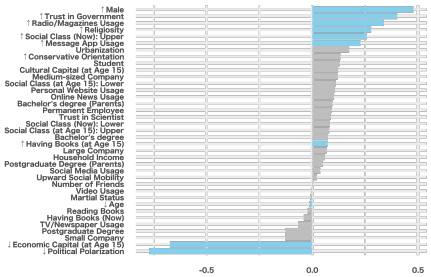
Fig. S17: Effects of explanatory variables on conspiracy theory engagement for U.consp9 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the U.S.



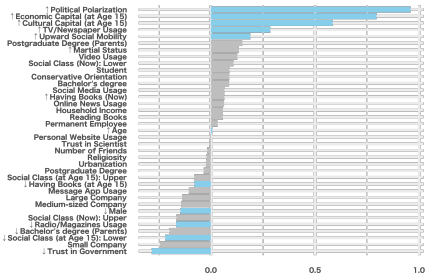
(a) Effects of explanatory variables on conspiracy theory **Recognition** of U.consp10



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

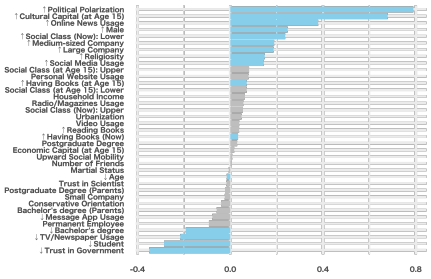


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of U.consp10

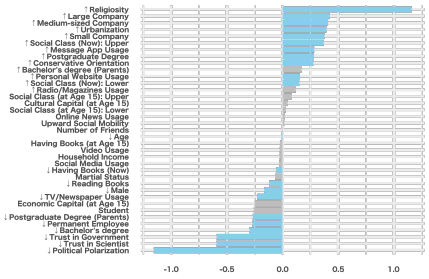


(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of U.consp10

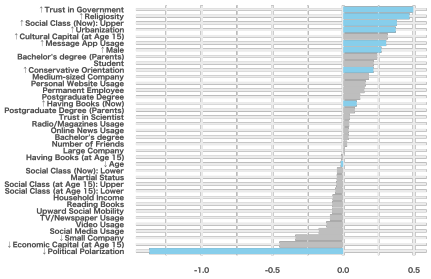
Fig. S18: Effects of explanatory variables on conspiracy theory engagement for U.consp10 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the U.S.



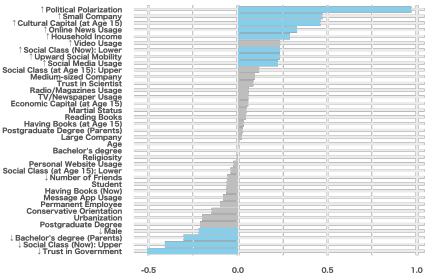
(a) Effects of explanatory variables on conspiracy theory **Recognition** of U.consp11



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

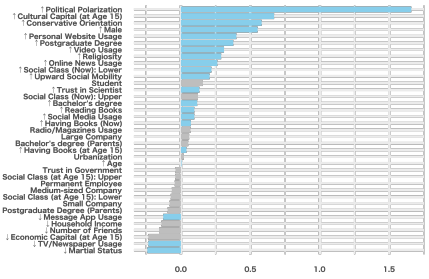


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of U.consp11

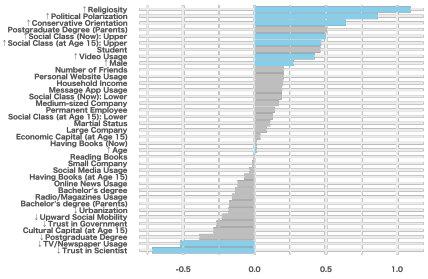


(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of U.consp11

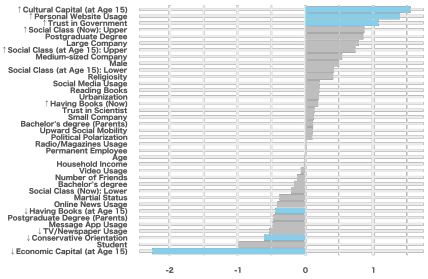
Fig. S19: Effects of explanatory variables on conspiracy theory engagement for U.consp11 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the U.S.



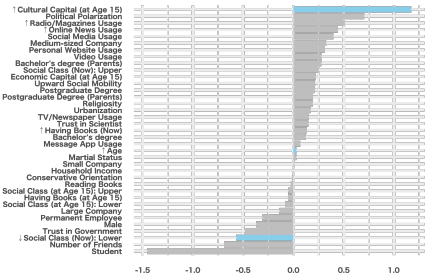
(a) Effects of explanatory variables on conspiracy theory **Recognition** of J.consp1



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

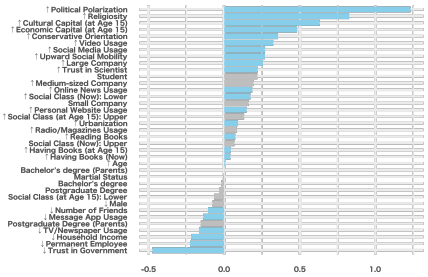


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of J.consp1

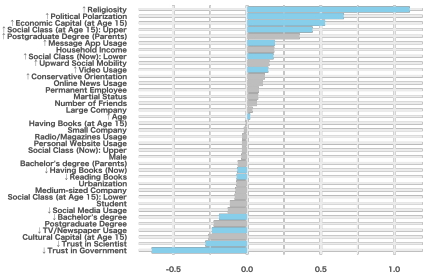


(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of J.consp1

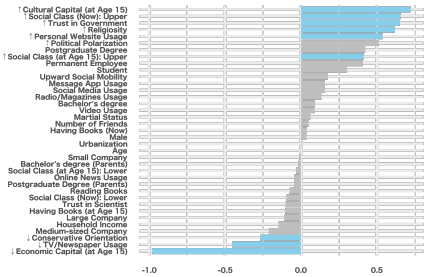
Fig. S20: Effects of explanatory variables on conspiracy theory engagement for J.consp1 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the Japan



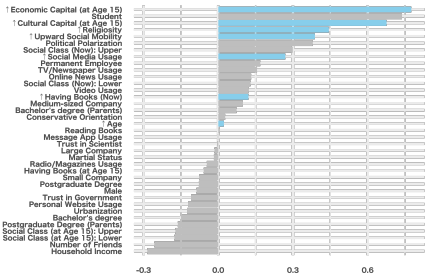
(a) Effects of explanatory variables on conspiracy theory **Recognition** of J.consp2



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

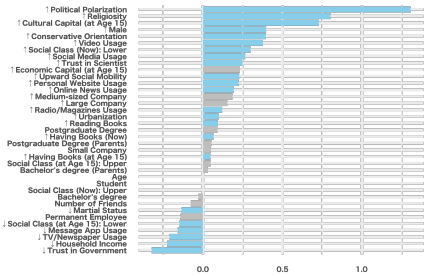


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of J.consp2

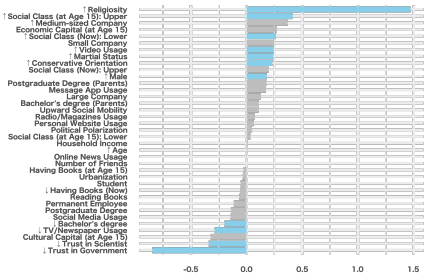


(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of J.consp2

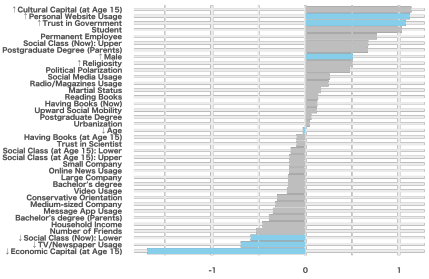
Fig. S21: Effects of explanatory variables on conspiracy theory engagement for J.consp2 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the Japan



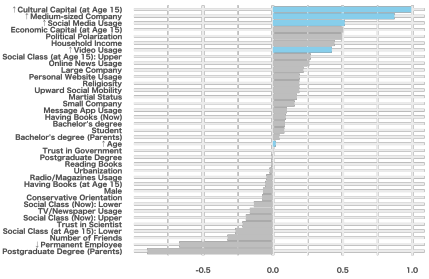
(a) Effects of explanatory variables on conspiracy theory **Recognition** of J.consp3



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

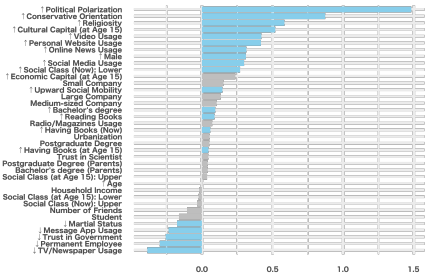


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of J.consp3

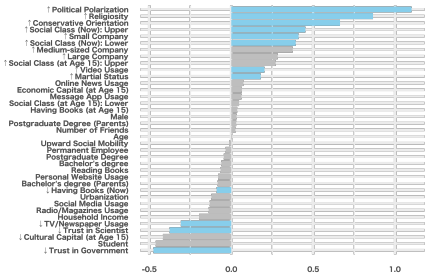


(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of J.consp3

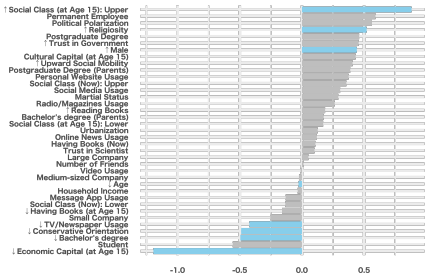
Fig. S22: Effects of explanatory variables on conspiracy theory engagement for J.consp3 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the Japan



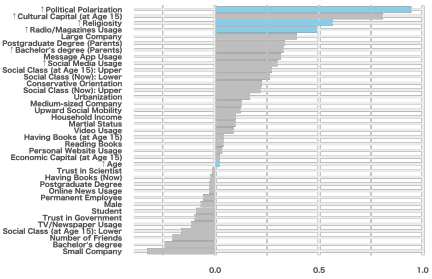
(a) Effects of explanatory variables on conspiracy theory **Recognition** of J.consp4



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

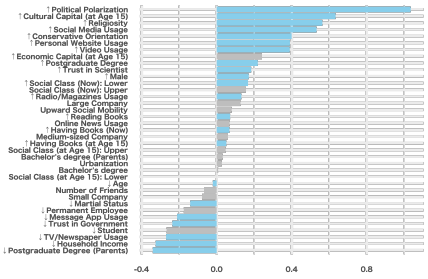


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of J.consp4

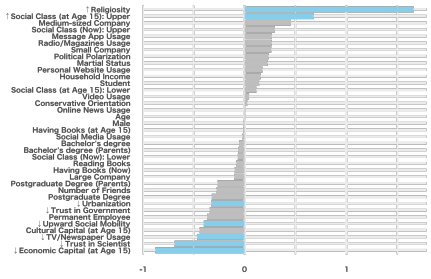


(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of J.consp4

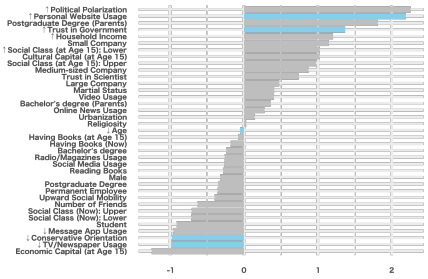
Fig. S23: Effects of explanatory variables on conspiracy theory engagement for J.consp4 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the Japan



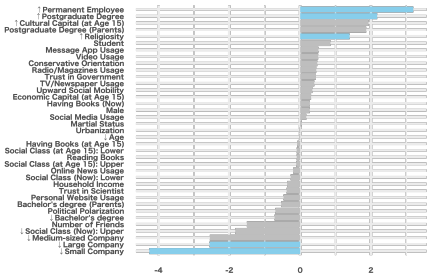
(a) Effects of explanatory variables on conspiracy theory **Recognition** of J.consp5



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

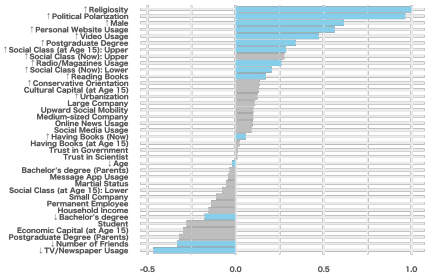


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of J.consp5

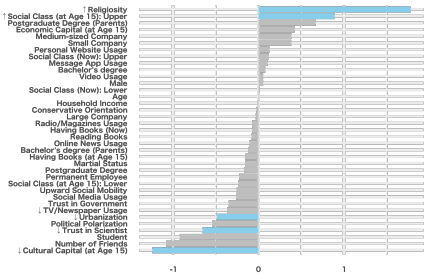


(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of J.consp5

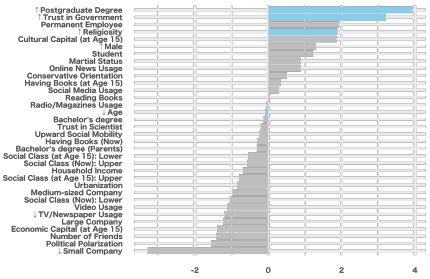
Fig. S24: Effects of explanatory variables on conspiracy theory engagement for J.consp5 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the Japan



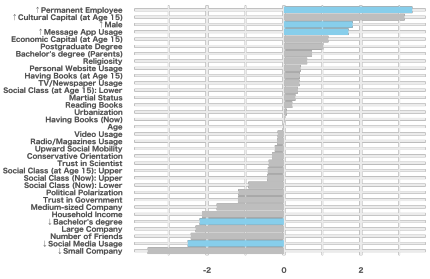
(a) Effects of explanatory variables on conspiracy theory **Recognition** of J.consp6



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

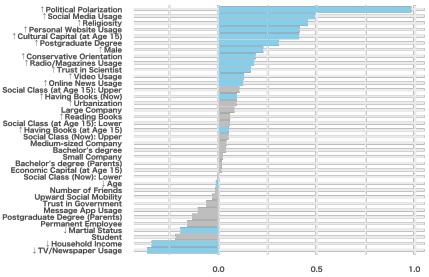


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of J.consp6

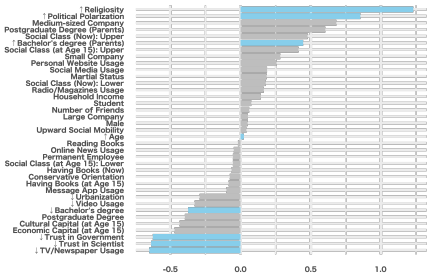


(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of J.consp6

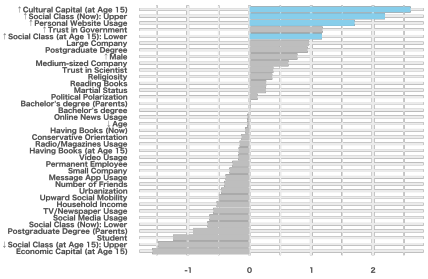
Fig. S25: Effects of explanatory variables on conspiracy theory engagement for J.consp6 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the Japan



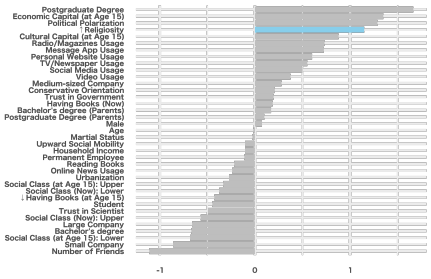
(a) Effects of explanatory variables on conspiracy theory **Recognition** of J.consp7



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

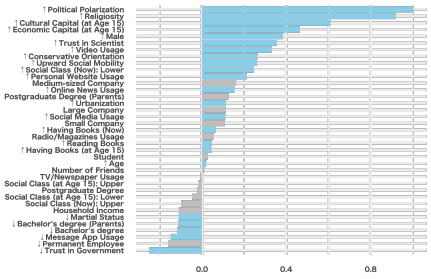


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of J.consp7

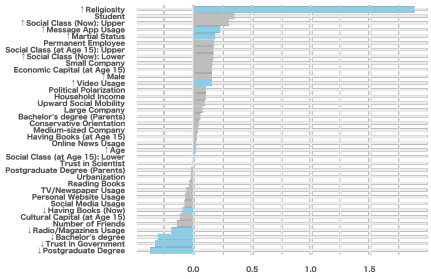


(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of J.consp7

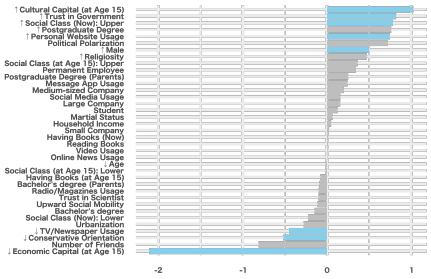
Fig. S26: Effects of explanatory variables on conspiracy theory engagement for J.consp7 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the Japan



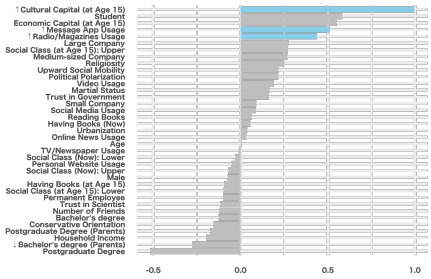
(a) Effects of explanatory variables on conspiracy theory **Recognition** of J.consp8



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

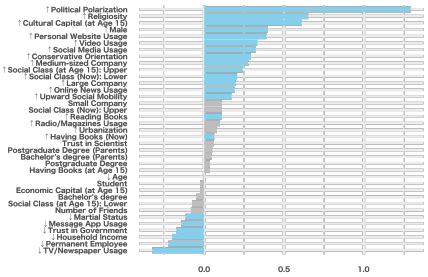


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of J.consp8

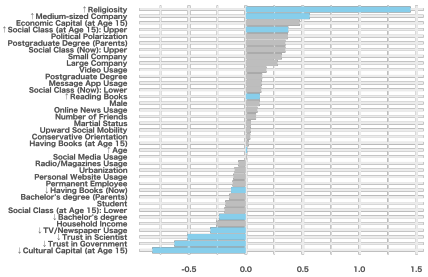


(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of J.consp8

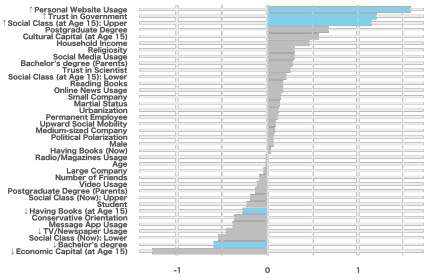
Fig. S27: Effects of explanatory variables on conspiracy theory engagement for J.consp8 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the Japan



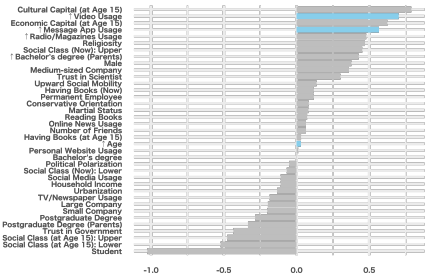
(a) Effects of explanatory variables on conspiracy theory **Recognition** of J.consp9



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

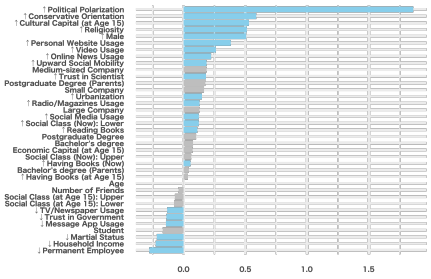


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of J.consp9

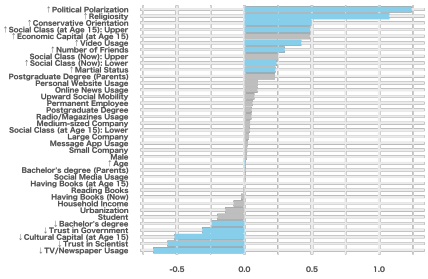


(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of J.consp9

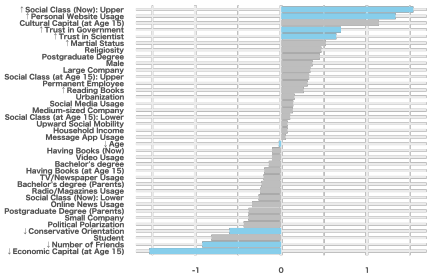
Fig. S28: Effects of explanatory variables on conspiracy theory engagement for J.consp9 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the Japan



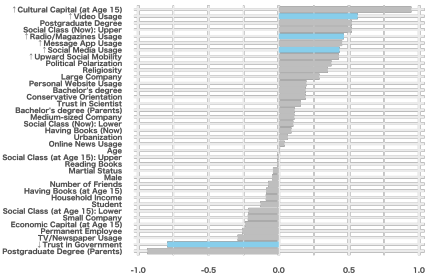
(a) Effects of explanatory variables on conspiracy theory **Recognition** of J.consp10



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

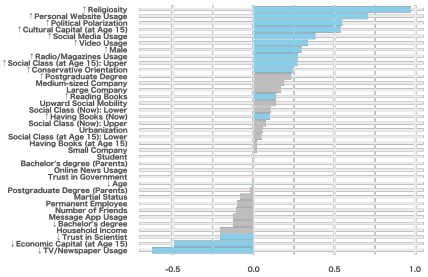


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** of J.consp10

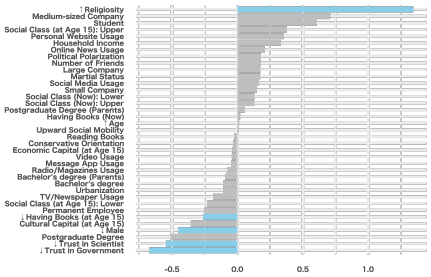


(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** of J.consp10

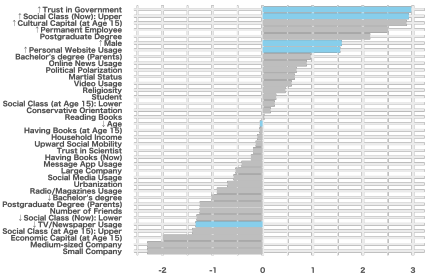
Fig. S29: Effects of explanatory variables on conspiracy theory engagement for J.consp10 (Recognition, Belief, Demonstrative Action, and Diffusion Action) in the Japan



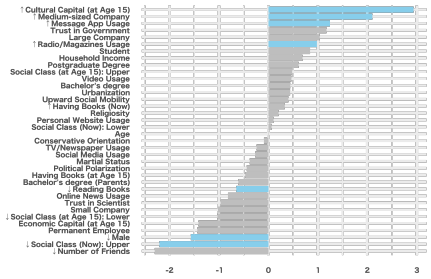
(a) Effects of explanatory variables on conspiracy theory **Recognition** of J.consp11



(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

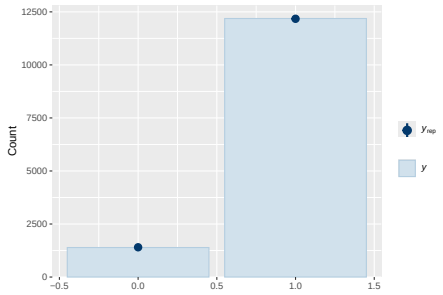
Table S12: Parameter Estimates for Belief in Japan. This table presents the Bayesian estimation results for each parameter. The Parameter column indicates the variable name, Estimate shows the median of the posterior distribution (Posterior Median), SE is the standard error, and l95CI and u95CI indicate 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

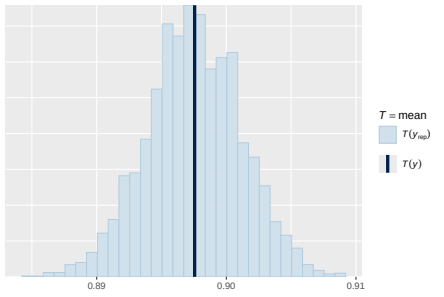
Table S13: Parameter Estimates for Demonstrative Action in Japan. This table presents the Bayesian estimation results for each parameter. The Parameter column indicates the variable name, Estimate shows the median of the posterior distribution (Posterior Median), SE is the standard error, and l95CI and 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

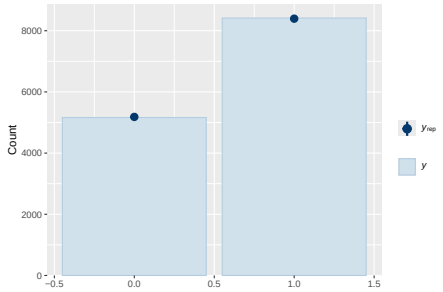
Table S14: Parameter Estimates for Diffusion Action in Japan. This table presents the Bayesian estimation results for each parameter. The Parameter column indicates the variable name, Estimate shows the median of the posterior distribution (Posterior Median), SE is the standard error, and l95CI and u95CI 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 ($P(\beta < 0) > 0.95$).



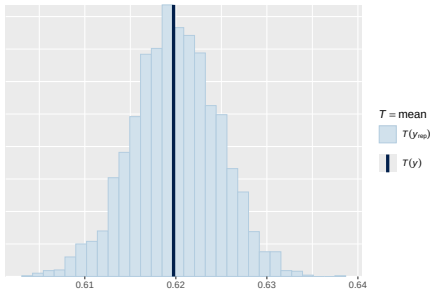
(a) Bars plot for Recognition.



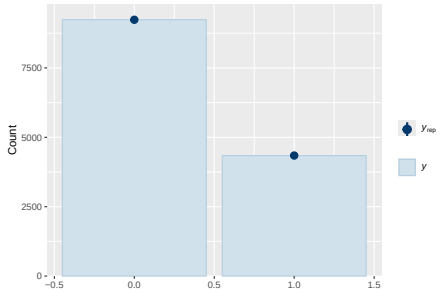
(b) Summary statistic check for Recognition.



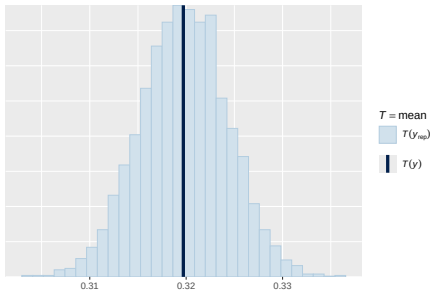
(c) Bars plot for Belief.



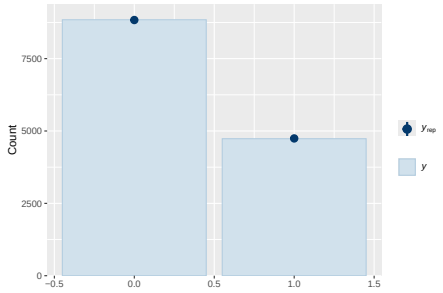
(d) Summary statistic check for Belief.



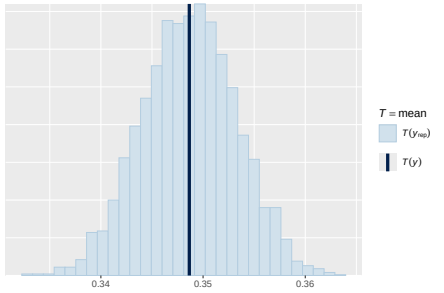
(e) Bars plot for Demonstrative Action.



(f) Summary statistic check for Demonstrative Action.

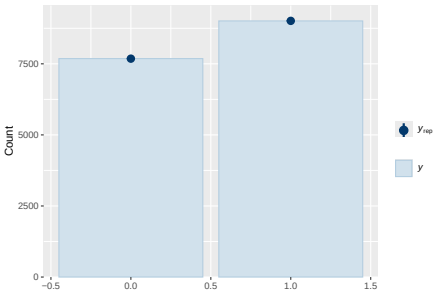


(g) Bars plot for Diffusion Action.

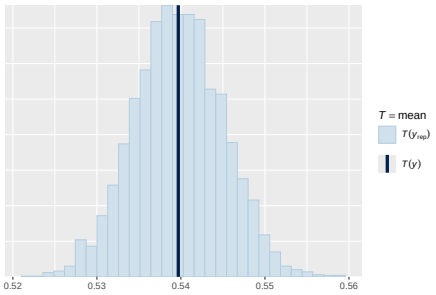


(h) Summary statistic check for Diffusion Action.

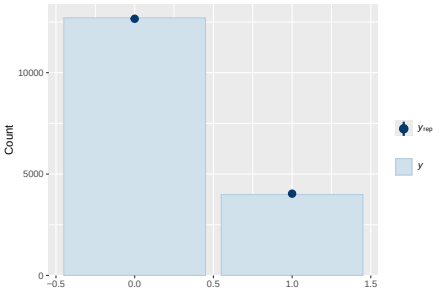
Fig. S31: Posterior predictive checks for the four Bernoulli outcomes (Recognition, Belief, Demonstrative Action, Diffusion Action) in the U.S. Subfigures (a, c, e, g) show the comparison of observed vs. predicted frequencies, and (b, d, f, h) show the comparison of summary statistics. The close alignment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



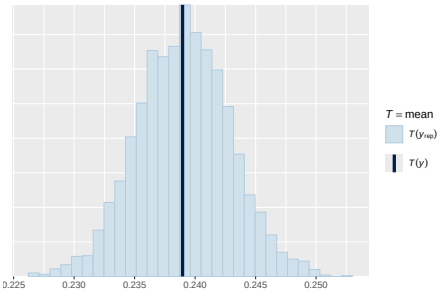
(a) Bars plot for Recognition.



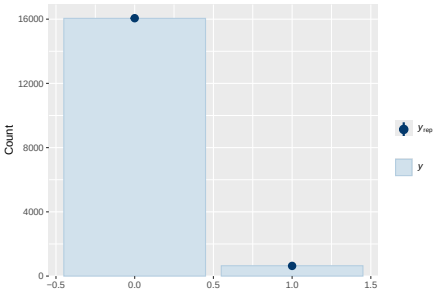
(b) Summary statistic check for Recognition.



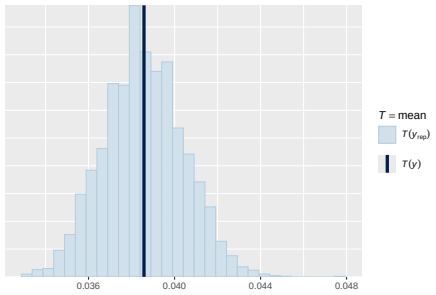
(c) Bars plot for Belief.



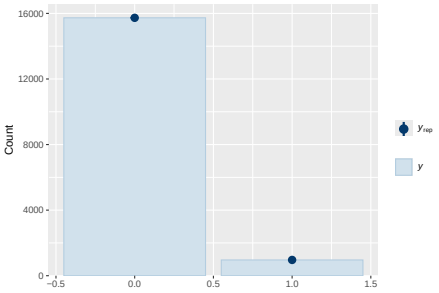
(d) Summary statistic check for Belief.



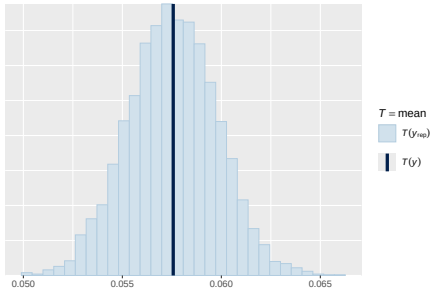
(e) Bars plot for Demonstrative Action.



(f) Summary statistic check for Demonstrative Action.



(g) Bars plot for Diffusion Action



(h) Summary statistic check for Diffusion Action.

Fig. 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.

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. SE($\widehat{\text{elpd}}_{\text{LOO}}$) and SE($p_{\text{LOO}}$) are Standard error of $\widehat{\text{elpd}}_{\text{LOO}}$ and p_{LOO}, reflecting uncertainty in the predictive performance.

Model	$\widehat{\text{elpd}}_{\text{LOO}}$	SE($\widehat{\text{elpd}}_{\text{LOO}}$)	p_{LOO}	SE(p_{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 `adapt_delta`: 0.90	-21560.1	76.2	159.5	7.3
C-2 Changed `adapt_delta`: 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 `adapt_delta`: 0.90	-20219.5	104.0	155.1	3.7
C-2 Changed `adapt_delta`: 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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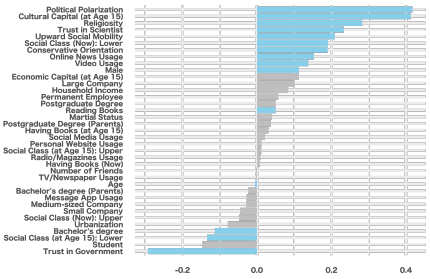
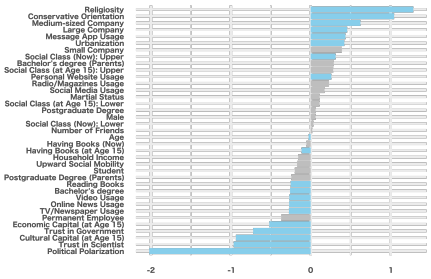
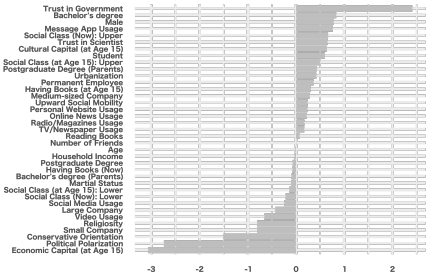


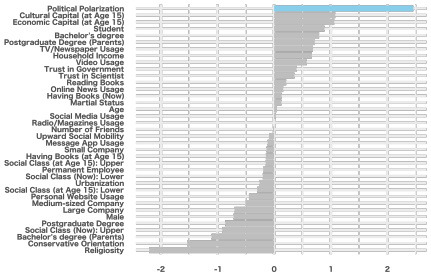
(a) Effects of explanatory variables on conspiracy theory **Recognition** by the SEM model.



(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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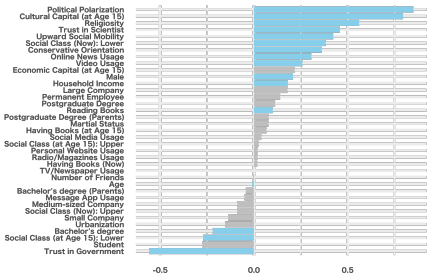
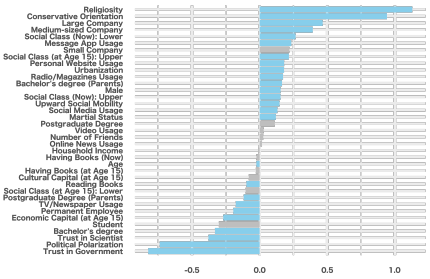
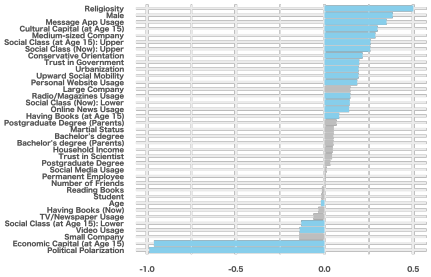


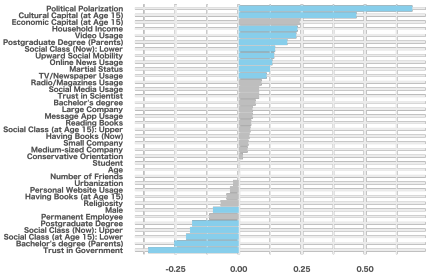
(a) Effects of explanatory variables on conspiracy theory **Recognition** by Sequential GLM model.



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



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



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

Fig. S34: Effects of explanatory variables on conspiracy theory engagement in the U.S. by 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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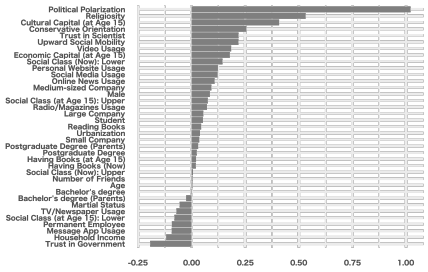
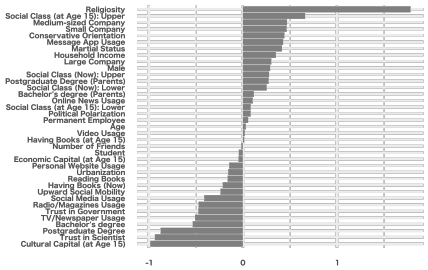
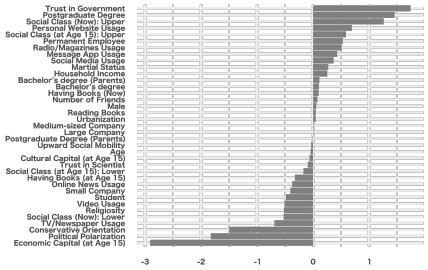


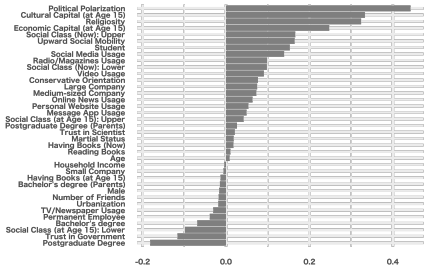
(a) Effects of explanatory variables on conspiracy theory **Recognition** by the SEM model.



(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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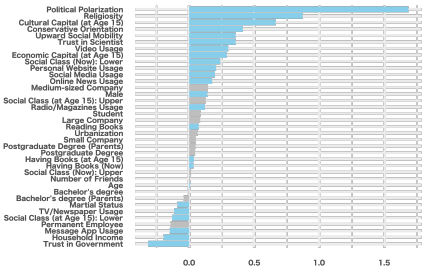
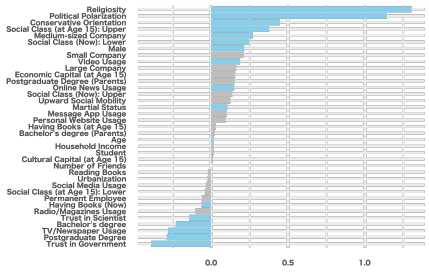
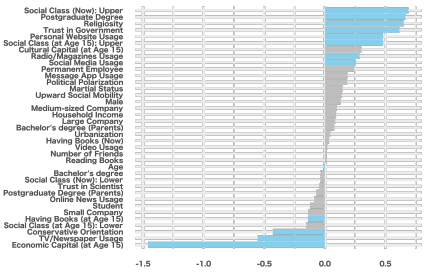


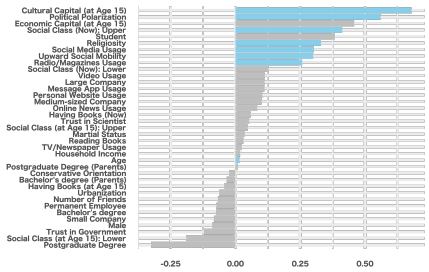
(a) Effects of explanatory variables on conspiracy theory **Recognition** by Sequential GLM model.



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

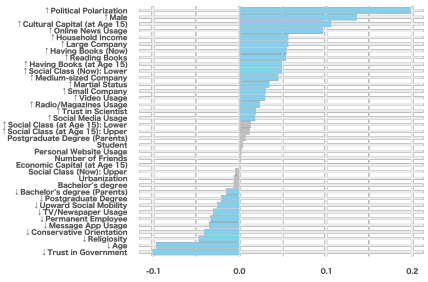


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** by Sequential GLM model.

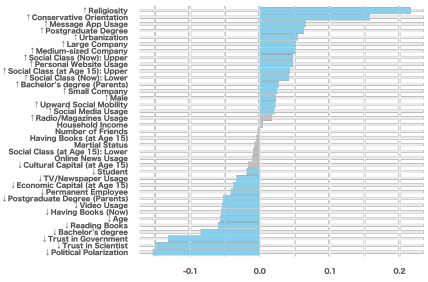


(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** by Sequential GLM model.

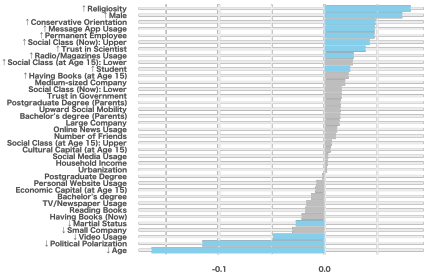
Fig. S36: Effects of explanatory variables on conspiracy theory engagement in Japan by Sequential GLM model. Each bar represents the estimated effect of an explanatory variable. Bars shown in skyblue denote statistically significant effects with p-values below 0.05, while those in gray represent non-significant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



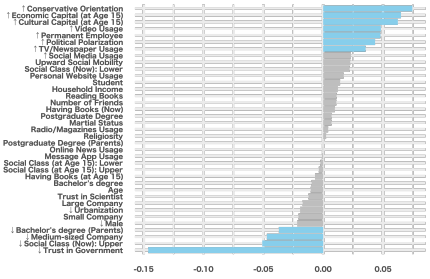
(a) Effects of explanatory variables on conspiracy theory **Recognition** by Hierarchical Zero-Inflated Binomial Model.



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

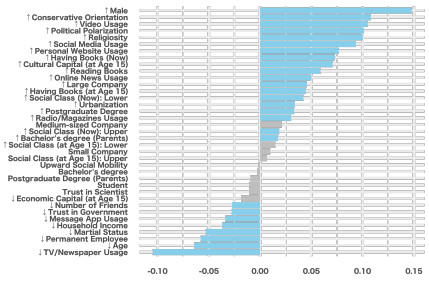


(c) Effects of explanatory variables on conspiracy theory **Demonstrative Action** by Hierarchical Zero-Inflated Binomial Model.

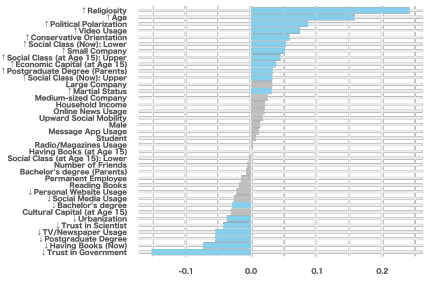


(d) Effects of explanatory variables on conspiracy theory **Diffusion Action** by Hierarchical Zero-Inflated Binomial Model.

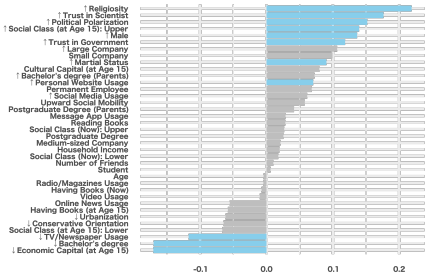
Fig. S37: Effects of explanatory variables on conspiracy theory engagement in the U.S. by Hierarchical Zero-Inflated Binomial Model.



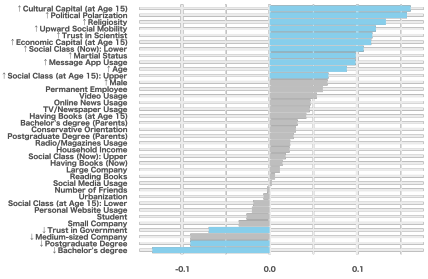
(a) Effects of explanatory variables on conspiracy theory **Recognition** by Hierarchical Zero-Inflated Binomial Model.



(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.

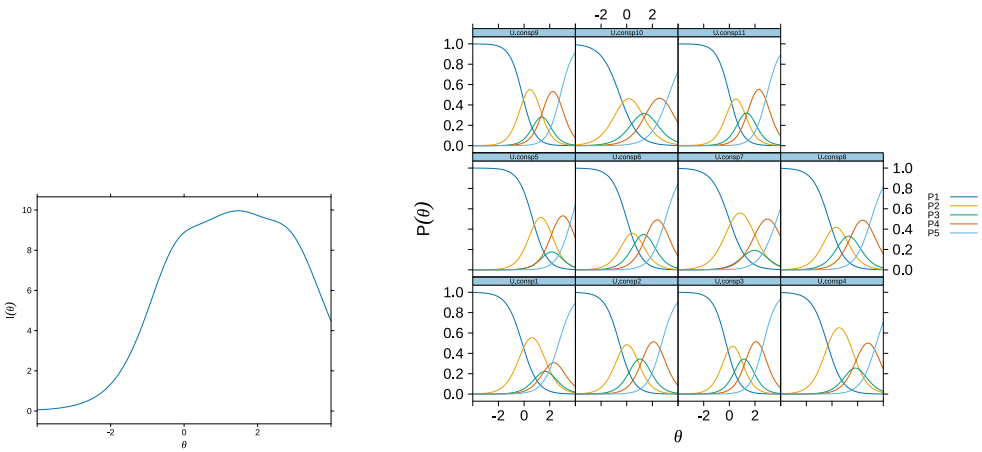
Item	a	b_1	b_2	b_3	b_4
U.consp1	1.64	-0.15	1.37	1.92	2.70
U.consp2	1.77	-0.57	0.63	1.44	2.73
U.consp3	1.97	-0.26	0.78	1.51	2.66
U.consp4	1.66	-0.37	1.50	2.14	3.46
U.consp5	1.77	0.66	1.95	2.35	3.68
U.consp6	1.69	0.00	0.89	1.74	3.01
U.consp7	1.47	-0.02	1.69	2.22	3.71
U.consp8	1.60	-0.26	0.86	1.73	3.06
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: b_1: Not Recognition $\rightarrow$ Recognition, b_2: Recognition $\rightarrow$ Belief (Not Action), b_3: Belief (Not Action) $\rightarrow$ Belief (Any Action), and b_4: Belief + Any Action (Demonstrative or Diffusion) $\rightarrow$ Belief + Both Actions (Demonstrative and Diffusion).

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

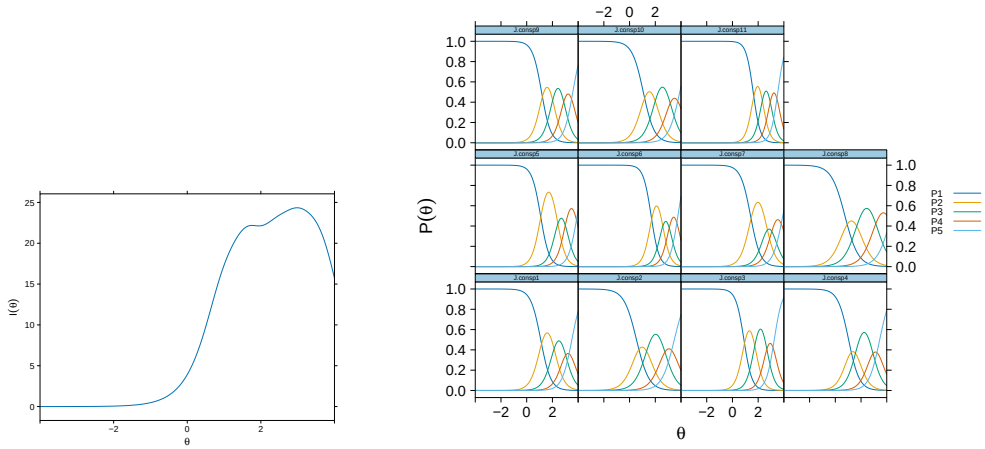
Item	a	b_1	b_2	b_3	b_4
J.consp1	2.58	1.09	2.09	2.92	3.51
J.consp2	2.06	0.54	1.42	2.63	3.48
J.consp3	3.19	0.89	1.74	2.62	3.25
J.consp4	2.40	1.03	1.71	2.79	3.45
J.consp5	2.96	1.08	2.34	3.04	3.92
J.consp6	3.27	1.68	2.52	3.11	3.76
J.consp7	2.62	1.41	2.55	3.15	3.91
J.consp8	1.92	0.75	1.76	3.12	4.35
J.consp9	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: b_1: Not Recognition $\rightarrow$ Recognition, b_2: Recognition $\rightarrow$ Belief (Not Action), b_3: Belief (Not Action) $\rightarrow$ Belief (Any Action), and b_4: Belief + Any Action (Demonstrative or Diffusion) $\rightarrow$ 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.



(a) Test Information Curve (b) Item Characteristic Curves

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.