**Online Appendix**

**Appendix 1. Measurement of covariates**

***Sex*:** 0: male (66.28%), 1: female (33.72%).

***Age (years)***: mean = 51.67, SD = 12.72, range: 20–69.

***Education***: Education was measured on a three-point scale (mean = 1.46, SD = 0.79, range: 0–2). 0: high school or lower (18.59%), 1: technical school, vocational school, or 2-year college (16.79%), 2: 4-year college degree or above (64.62%).

***Political interest***: Political interest was measured on a four-point scale (mean = 0.68, SD = 0.26, range: 0–1).

***Cabinet approval***: Approval of the Cabinet was measured on a four-point scale (mean = 0.48, SD = 0.36, range: 0–1).

***Feeling thermometer***: Feeling thermometer scores for each political party were measured with a single item on an 11-point scale: “We would like to know your feelings toward the following political parties. A rating of 10 means that you feel most favorably toward the party listed below. A rating of 0 means that you feel most unfavorably toward the party. You would give the political party a rating of 5 if your feelings for it were neutral.” The responses were rescaled to range from 0 to 1.

 ***LDP***: mean = 0.50, SD = 0.31.

 ***DPJ***: mean = 0.30, SD = 0.25.

 ***Komeito***: mean = 0.29, SD = 0.24.

 ***JCP***: mean = 0.32, SD = 0.29.

***Ideology (right)***: Ideology was measured with a single item on an 11-point scale: “Terms such as ‘left’ and ‘right’ are used to express one’s political standpoint. When 0 denotes the furthest left and 10 denotes the furthest right, where would you position yourself? Please choose a number from 0 to 10.” The responses were rescaled to range from 0 to 1 (mean = 0.57, SD = 0.20, range: 0–1).

***Ideological party positioning***: Ideological party positioning was measured with a single item on an 11-point scale; “When 0 denotes the most left and 10 denotes the most right, where would you position the ideological positioning of the following political parties?” The responses were rescaled to range from 0 to 1.

***LDP***: mean = 0.77, SD = 0.22.

 ***DPJ***: mean = 0.42, SD = 0.22.

 ***Komeito***: mean = 0.58, SD = 0.24.

 ***JCP***: mean = 0.19, SD = 0.24.

***Media exposure***: Media exposure was measured on a nine-point scale ranging from “0: Never” to “1: Everyday” for each of the six TV networks and five national newspapers: NHK, NNN, ANN, JNN, TXN, FNN, *Yomiuri Shimbun*, *Asahi Shimbun*, *Mainichi Shimbun*, *Sankei Shimbun*, and *Nikkei Shimbun*. The order of presentation was randomized for each media type. The responses were rescaled to range from 0 to 1.

***NHK***: mean = 0.68, SD = 0.38.

***NNN*** (Nippon News Network): mean = 0.56, SD = 0.34.

***ANN*** (All-Nippon News Network): mean = 0.54, SD = 0.34.

***JNN*** (Japan News Network): mean = 0.53, SD = 0.33.

***TXN*** (TX Network): mean = 0.41, SD = 0.35.

***FNN*** (Fuji News Network): mean = 0.51, SD = 0.34.

***Yomiuri Shimbun***: mean = 0.22, SD = 0.37.

***Asahi Shimbun***: mean = 0.24, SD = 0.39.

***Mainichi Shimbun***: mean = 0.09, SD = 0.24.

***Sankei Shimbun***: mean = 0.11, SD = 0.27.

***Nikkei Shimbun***: mean = 0.28, SD = 0.40.

**Appendix 2. Covariate balance**

Tables A2 and A3 show the sample statistics from the pretreatment survey across the entire sample and across the subsample of valid participants who completed responses, respectively. As shown in Table A2, none of the covariates show imbalance in the entire sample (*N* = 1,800).

This is also the case with valid participants who completed responses (*N* = 780) (Table A3). These balance checks indicate that the overall covariate balance was maintained, except for the frequency of reading *Asahi Shimbun*.

**Appendix 3. Multiple imputation**

Stata’s *mi* command was employed to implement multiple imputation of the missing values of the feeling thermometer scores of each party. The proportion of missing values ranged from 9.35% (LDP) to 10.76% (Komeito and JCP). To impute missing values, all the covariates without missing values were used: i.e., sex, age, education, political interest, cabinet approval, and media exposure. To produce multiple imputed datasets, predictive mean matching was employed and 20 sets of imputed data were generated with the aim of reducing the sampling error due to the imputation. Descriptive statistics of imputed datasets and observed datasets were comparable, suggesting that the imputation was successful. We then classified the participants into supporters of incumbent and opposition parties and estimated an ordinary least squares regression model using the multiple imputed datasets (Table A4). Note that the number of observations in Table A4 was 909 because 225 participants could be classified as either incumbent or opposition supporters even after the imputation.

**Table A1. Logistic regression predicting sample attrition**



**Table A2. Covariate balance among the entire sample of the pretreatment survey (*N* = 1,800)**

|  |  |  |
| --- | --- | --- |
|  | Experimental condition | *p*-value |
|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Chi-squaredtest | One-wayANOVA |
| Sex (% female) | 42.22 | 41.78 | 43.56 | 48.00 | 52.44 | 43.11 | 47.56 | 46.22 | 0.29 |  |
| Age (years) | 49.58 | 48.36 | 48.92 | 49.58 | 47.78 | 49.02 | 49.25 | 48.90 |  | 0.87 |
| Education (0–2) | 1.46 | 1.32 | 1.36 | 1.45 | 1.43 | 1.37 | 1.36 | 1.38 |  | 0.57 |

**Table A3. Covariate balance among the subsample of valid participants with completed responses (*N* = 780)**

|  |  |  |
| --- | --- | --- |
|  | Experimental condition | *p*-value |
|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Chi-squaredtest | One-wayANOVA |
| Sex (% female) | 33.98 | 33.33 | 34.34 | 36.00 | 32.56 | 36.61 | 32.26 | 30.00 | 0.98 |  |
| Age (years) | 52.25 | 49.23 | 52.30 | 53.13 | 52.00 | 50.38 | 51.54 | 52.35 |  | 0.49 |
| Education (0–2) | 1.50 | 1.34 | 1.51 | 1.45 | 1.55 | 1.46 | 1.45 | 1.41 |  | 0.78 |
| Political interest (0–1) | 0.70 | 0.66 | 0.70 | 0.67 | 0.68 | 0.70 | 0.69 | 0.66 |  | 0.85 |
| Cabinet approval (0–1) | 0.47 | 0.48 | 0.54 | 0.47 | 0.50 | 0.48 | 0.45 | 0.44 |  | 0.68 |
| Feeling thermometer (LDP) (0–1) | 0.47 | 0.51 | 0.55 | 0.50 | 0.50 | 0.51 | 0.47 | 0.45 |  | 0.51 |
| Feeling thermometer (DPJ) (0–1) | 0.30 | 0.28 | 0.32 | 0.31 | 0.29 | 0.31 | 0.31 | 0.29 |  | 0.97 |
| Feeling thermometer (Komeito) (0–1) | 0.32 | 0.29 | 0.33 | 0.26 | 0.28 | 0.30 | 0.26 | 0.27 |  | 0.33 |
| Feeling thermometer (JCP) (0–1) | 0.30 | 0.31 | 0.28 | 0.34 | 0.31 | 0.33 | 0.33 | 0.36 |  | 0.60 |
| Ideology (Conservative) (0–1) | 0.56 | 0.61 | 0.59 | 0.54 | 0.59 | 0.57 | 0.55 | 0.58 |  | 0.32 |
| Ideological position (LDP) (0–1) | 0.74 | 0.77 | 0.75 | 0.75 | 0.81 | 0.77 | 0.80 | 0.79 |  | 0.36 |
| Ideological position(DPJ) (0–1) | 0.42 | 0.38 | 0.40 | 0.44 | 0.39 | 0.44 | 0.43 | 0.43 |  | 0.53 |
| Ideological position (Komeito) (0–1) | 0.58 | 0.57 | 0.56 | 0.55 | 0.57 | 0.59 | 0.59 | 0.61 |  | 0.80 |
| Ideological position (JCP) (0–1) | 0.21 | 0.16 | 0.18 | 0.22 | 0.15 | 0.23 | 0.17 | 0.17 |  | 0.27 |
| Media exposure (NHK) (0–1) | 0.68 | 0.65 | 0.63 | 0.67 | 0.67 | 0.65 | 0.73 | 0.74 |  | 0.45 |
| Media exposure (NNN) (0–1) | 0.52 | 0.56 | 0.55 | 0.61 | 0.48 | 0.60 | 0.60 | 0.56 |  | 0.12 |
| Media exposure (ANN) (0–1) | 0.51 | 0.52 | 0.53 | 0.55 | 0.52 | 0.54 | 0.60 | 0.58 |  | 0.62 |
| Media exposure (JNN) (0–1) | 0.48 | 0.52 | 0.53 | 0.55 | 0.50 | 0.52 | 0.57 | 0.55 |  | 0.71 |
| Media exposure (TXN) (0–1) | 0.39 | 0.46 | 0.41 | 0.39 | 0.41 | 0.39 | 0.40 | 0.44 |  | 0.79 |

**Table A3. (*continued*)**

|  |  |  |
| --- | --- | --- |
|  | Experimental condition | *p*-value |
|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Chi-squaredtest | One-wayANOVA |
| Media exposure (FNN) (0–1) | 0.45 | 0.53 | 0.51 | 0.56 | 0.43 | 0.52 | 0.53 | 0.54 |  | 0.13 |
| Media exposure (Yomiuri) (0–1) | 0.24 | 0.19 | 0.22 | 0.22 | 0.28 | 0.19 | 0.16 | 0.26 |  | 0.42 |
| Media exposure (Asahi) (0–1) | 0.22 | 0.18 | 0.19 | 0.21 | 0.35 | 0.20 | 0.27 | 0.30 |  | 0.04 |
| Media exposure (Mainichi) (0–1) | 0.07 | 0.07 | 0.09 | 0.11 | 0.12 | 0.08 | 0.12 | 0.09 |  | 0.74 |
| Media exposure (Sankei) (0–1) | 0.13 | 0.12 | 0.10 | 0.12 | 0.15 | 0.09 | 0.07 | 0.12 |  | 0.63 |
| Media exposure (Nikkei) (0–1) | 0.26 | 0.23 | 0.35 | 0.25 | 0.31 | 0.26 | 0.30 | 0.30 |  | 0.51 |

**Table A4. Treatment effect of party and leader cues on policy approval rate using multiple-imputation analysis**

