

Can Partisan News Shift Political Preference and Voting Behavior? An Experimental Evidence from Taiwan's General Elections 2016*

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Abstract

We conduct a field experiment to investigate the effects of partisan news on the 2016 Taiwan Presidential and Legislative Elections. Subjects are divided into four groups: rightist (KMT), leftist (DPP), new third-party and control, and provided with distinct partisan news articles. To ensure readership of assigned newspapers, subjects join multiple experimental sessions in which they are asked to solve quiz questions about the news articles and rewarded according to their quiz scores. We measure the effects of partisan news by comparing the reported vote choices in the 2016 Elections with subjects' initial political preferences. We find that the leftist news articles have significantly increased the support for the DPP candidate *Tsai* by reinforcing the existing preferences. The articles about the third-parties have

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changed subjects' voting intentions to support the new party GSD. We also find that the estimated baseline and reinforcement treatment effects are driven by undecided subjects or swing voters.

JEL Codes: D72, L82; C92, C93

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1 Introduction

Levendusky (2013) points out that we have much more diverse media outlets in U.S. than forty years ago, but that most media sources provide partisan (ideologically biased) information nowadays since partisan articles and programs gain in popularity easily. Then how does biased media affect electoral competition and political decision-making? According to the rational learning model of media effects, advocated mainly by economists, voters are rational Bayesian updaters, hence are able to extract correct information even from slanted sources while filtering out extreme opinion and biased endorsement. A conclusion from this may be that the size of media effect should not be very large especially during a short campaign period as the amount of new information is relatively small.¹

Early studies of media found relatively minor effects on people's voting intentions (Lazarsfeld et al. 1944, Berelson et al. 1954). A main finding was that media was more likely to reinforce the existing opinions of its audience than it was to change such opinions (Klapper 1960). Recent studies, with improved research designs and empirical strategies, were able to better identify the effects of media on vote choices/voting intentions (DellaVigna and Kaplan 2007, Gerber et al. 2009, Chiang and Knight 2011, Enikolopov et al. 2011, Martin and Yurukoglu 2017), on voter turnout (Gentzkow 2006, George and Waldfogel 2006, Gentzkow et al. 2011), or on voter responsiveness (Ferraz and Finan 2008). In line with these studies, we conduct a field

¹Theories of media agenda setting, priming, and framing, put forth by communications researchers, claim that media can manipulate voters and actively exploit their cognitive mistakes. Stromberg (2015), while trying to explain the mechanism of priming and framing by a memory-based model of e.g., Mullainathan (2002), concludes that agenda setting, priming and framing are unlikely to make voters act against their own interest or welfare unless they exhibit significant irrationality. For a survey about these theories of communications research, see Scheufele and Tewksbury (2007).

experiment to identify causal influence of Taiwanese newspapers on Taiwan’s General Elections in 2016 that included both presidential and party votes.

Our experimental design closely follows that of Gerber et al. (2009). They randomly assigned subjects in northeastern Virginia to two treatment groups that were given free subscriptions to the *Washington Post* or the *Washington Times*, or to a control group that didn’t receive either newspapers. In the follow-up survey, they asked the subjects about their turnout and voting decisions in the November 2005 Virginia gubernatorial elections. They found that subscriptions to the *Washington Post* increased the probability of voting for the Democratic candidate by 11 percentage points.² We also employ a similar experimental setup to study the effects of partisan news on the 2016 Taiwan General Elections, but with an improved design that provides further incentives for newspaper readership and more intensive treatment intervention.

We’ve recruited subjects to be randomly assigned to right-leaning newspapers (the *United Daily*, the *China Times*, etc.), left-leaning newspaper (the *Liberty Times*), or *Storm Media* and other internet news whose position is further left to that of the *Liberty Times*. In the January 2016 Elections, the rightist newspapers supported the *Kuo-Ming Tang* (KMT) and the presidential candidate *Eric Chu*; the leftist newspaper supported the *Democratic Progressive Party* (DPP) and the candidate *Ing-wen Tsai*; and the *Storm Media* and internet news supported some new minor parties such as the *Green Party & Social Democratic Party* (GSD), the *New Power Party* (NPP), etc.³ Hence, we name our treatment groups as KMT, DPP, and Third-Party Treatment according to each group of assigned newspapers of different partisan ideologies. We also have a control group who is assigned to read articles unrelated with political issues.

A shortcoming of Gerber et al. (2009) is that they can’t be sure whether the newspapers were actually read by the intended subject groups. Their analysis about survey data (Table 2, p.44) suggests less than full readership of those in the treatment groups, and some of their subjects were even confused with whether they indeed received the assigned newspaper or not. Our subjects are invited to join some sessions similar to those in laboratory ex-

²Although the *Washington Times* also increased the support for the Democratic candidate by about seven percentage points, this effect was not significant at 5% level.

³There was a third presidential candidate *James Soong* from the (center-right) *People First Party* (PFP), but the *Storm Media* and internet news that were included in our treated media didn’t support this candidate.

periments in which they are asked to solve quiz questions about the articles from their assigned newspapers and rewarded according to the obtained quiz scores. During one and a half months period before the Elections, the subjects receive articles every week, and are asked to join three on-site and two online quiz sessions as well as the Final Survey session to report their turnout and voting decisions in the Elections.⁴ This we believe is worked as further incentives for newspaper readership, and as such, strengthens intent to treat (ITT) effect.⁵ Moreover, since our mostly student (85%) subjects who are pretty much occupied with assigned newspapers and final exams have read articles that they might not read without monetary incentives, the media influence we measure is closer to the average treatment effect (ATE).⁶

Our results about presidential voting show that the KMT Treatment increases the support for the rightist candidate *Chu* while the DPP Treatment decreases it. Although the individual KMT and DPP coefficients are not significant, relative to the Control group, the difference between KMT and DPP groups in the likelihood of supporting *Chu* is significant. Similarly, our KMT and Third-Party Treatments decrease the support for the leftist candidate *Tsai* while the DPP Treatment increases it, and the differences between KMT and DPP coefficients, and between DPP and Third coefficients are again significant. Beyond these baseline treatment effects, we also examine the effects of whether the assigned treatment is consistent with one's own ideology, and find that our treatments have strong effects of reinforcing the existing preferences (especially *Tsai* supporters exposed to the DPP Treatment). Furthermore, when we conduct the same analysis within a subsample of subjects who revealed their preferred candidate, but haven't yet decided

⁴The subjects also receive a show-up payment for participation in each on-site session, including the Initial and Final Survey sessions, and a special bonus for participation in multiple sessions. In the Initial Survey, we introduce the subjects to our experimental designs and let them reveal their preferences about presidential candidates and political parties.

⁵Most of our subjects get correct 80-90% of the quiz questions (Table 4), which we understand as an evidence that our payment scheme that is typical in lab experiments works well as an incentives to read news articles.

⁶Subjects may try to find more news information from sources other than the treated articles, and this can lead to over- or under-estimation of treatment effects, depending on the direction of their confirmation bias (more on this in later sections). Physical constraints on subjects' time can reduce this possibility. However, we should also admit that attaining perfect ATE is impossible unless we have control over the entire subjects' time during a treatment period.

whom to vote initially, the results show that all major findings about the baseline and reinforcement effects are driven by these *undecided* or *swing* voters.

The observed reinforcement effect may not be surprising, given the previous findings of Lazarsfeld et al. (1944) or Berelson et al. (1954) and the fact that the main competitors *Tsai* and *Chu* for presidential office are from the two major parties in Taiwan whose ideological positions are well known. Meanwhile, our analysis about party voting shows that the Third-Party Treatment significantly increases the support for the new third-parties, especially GSD, and further analysis without those who have originally preferred the new parties reveals that the observed treatment effects are in the nature of changing initial voting intentions/vote choices. An explanation is that our treated articles provide an opportunity for the subjects to learn the propaganda of the minor parties that are new in the Taiwanese political scene.⁷ Overall, our subjects can be viewed as rational sophisticated voters who may be affected only moderately by well-known information, but can also be affected to the point of changing their voting intentions facing novel information, which is reminiscent of the findings of Chiang and Knight (2011) about unexpected endorsement.

A main drawback of our study is a small sample size. While we maintain the intensity of treatments through repeated interactions with subjects, we have to sacrifice the sample size. Fortunately, a tighter control over them leads to a low attrition rate - 190 out of 212 subjects still remain in our Final Survey (vs. 1,081 out of 3,347 in Gerber et al. 2009). Besides our findings about many subtle ways in which media can affect voters, the persuasive effects of our media treatments, measured as persuasion rates (DellaVigna and Kaplan 2007, DellaVigna and Gentzkow 2010), are comparable to (and sometimes surprisingly higher than) those of the previous research. For example, the persuasion rate among those exposed to the DPP Treatment is 43 percent of the subjects not already supporting the candidate *Tsai*, and the same rate of the Third Treatment is 41 percent of the subjects not initially supporting GSD (see Table 20 for the entire estimates). We thus contribute to the literature of partisan media effects by examining the 2016 Taiwan Elections and try to complement the literature focused mainly on U.S. politics.

⁷The new (leftist) third parties such as GSD and NPP became popular after the Sun Flower Movement in 2014 which was a protest movement driven by a coalition of students and civic groups against a trade agreement with China that was promoted by KMT, the ruling party at that time.

The paper proceeds as follows. Section 2 describes the experiments in more detail. Section 3 presents the experimental results, including the *re-inforcement* and *persuasion* effects of our treatments. Finally, Section 4 discusses and concludes the paper.

1.1 Backgrounds of Taiwanese Political Parties and the 2016 Elections

After being defeated in the 1949 Chinese Civil war, Chiang Kai-Shek and Kuo-Ming Tang (KMT) fled to Taiwan and relocated Republic of China there. Since then KMT was the only ruling party in the island till 1986, when the Democratic Progressive Party (DPP) was founded. In the past 25 years, DPP and KMT have been the two major parties in Taiwan’s political arena, and have won the presidential elections twice each since 1996. The situation is similar in the Legislative Yuan after 1991, where the national legislators are elected using a mixed electoral (single-district two-votes) system. In addition to KMT and DPP, there are several small parties who may also launch their own candidates, but they usually occupy at most 10% of the seats in every election.

The 2016 presidential election has three contestants, Ing-Wen Tsai from DPP, Eric (Li-Lun) Chu from KMT, and James Soong from PFP. The general public opinion and the polls before the election showed Tsai and DPP would win by a great margin, and the outcome was consistent with the prediction.⁸ In addition, for, there are two news parties founded only in 2015, New Power Party(NPP) and Green Party-Social-Democratic Party (GSD), entered the game of legislators’ election. NPP and GSD were nicknamed “The Third Way”, and NPP has won enough party and candidate votes to have their own party legislators.⁹

⁸Tsai defeated Chu by a landslide (56 vs. 31%) with Soong having won a small share (13%). The vote shares for KMT and DPP were 44% and 27%, respectively. https://en.wikipedia.org/wiki/2016_Taiwan_presidential_election

⁹34 out of 113 seats in the Legislative Yuan were filled from closed-list proportional representation (PR) via national party votes in the 2016 Elections. A mixed electoral system for the legislative election required voters to vote for a political party as well as for a candidate from their local constituency. NPP won 6.11% of total votes and 2 seats in the PR block while GSD won only 2.53% and failed to secure any seats (there’s a 5% cap for the PR part). https://en.wikipedia.org/wiki/2016_Taiwan_legislative_election

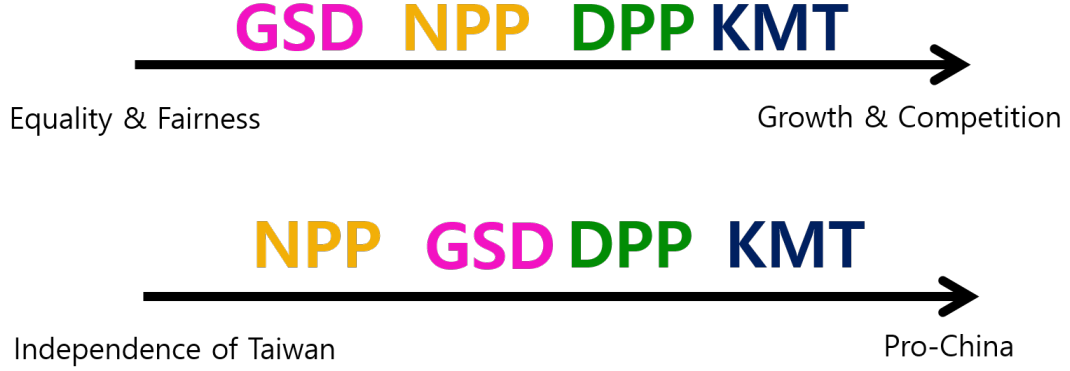


Figure 1: Ideological Positions of Taiwanese Parties

As to the policy spectrum, KMT has been seen pro-China in political standing, and center to the right in economic policy, while DPP emphasizes relative independence of Taiwan and is positioned center to the left. The two third parties, emerging from the 2014 Sun Flower Movement, are inclined to independent Taiwan in national identity and far more left in economic policy than DPP. The policy spectrum of the four parties can be seen in figure 1.¹⁰

2 Experimental Design

2.1 Experiment Schedule

We recruited our subjects mostly from the National Taiwan University (NTU) and surrounding university area, but prevented from participation those who were not eligible for voting (less than 20 in Taiwan). We conducted the Initial Survey in November 2015. 224 subjects were brought to NTU to complete the survey but only 212 expressed an intention to participate in the

¹⁰According to Wikipedia, KMT is positioned center-right; DPP, center to center-left; NPP, Green Party and Social Democratic Party, both center-left. https://en.wikipedia.org/wiki/List_of_political_parties_in_Taiwan

subsequent experiment.¹¹ The Initial Survey included questions regarding subjects’ background information, political preferences, media consumption behavior, confidence on their beliefs, and political knowledge.¹²

Table 1: Number of Subjects in Each Treatment Group (by Block)

	Control	KMT	DPP	Third	Total
# from DPP Block	44	42	44	43	173
# from KMT Block	9	10	10	10	39
# of subjects	53	52	54	53	212

The subjects who decided to join the experiment were randomly assigned to one of four treatments: the KMT, DPP, Third-Party, or Control group. For this purpose, we employed block randomization in which we first divided the subjects into two blocks of “KMT” and “DPP” according to their party preferences in the Initial Survey. Although the number of subjects who reported to support KMT in the Initial Survey was relatively small, we also assigned to the KMT block those subjects who identified themselves as preferring the parties ideologically close to KMT, and all other subjects, to the DPP block.¹³ Within each block, we randomly allocated the subjects into four treatment groups and Table 1 shows the resulting allocation of the subjects.

Table 2 shows sample statistics from the Initial Survey, broken down by treatment group. Our sample consists mostly of students (86%) and is much more likely to prefer candidates/parties with liberal ideology than the general electorate.¹⁴ The lowest p-value for a test of independence across (treatment) groups was 0.214 (for age being less than 21). Using the treatment assignment as the dependent variable in a multinomial logit model, we obtained the p-values for the significance of the preference for presidential candidates as $p = 0.923$ and of the preference for political parties as $p = 0.784$.

¹¹Initial Survey was a part of an introductory meeting in which we also explained to the recruited subjects the details of the following experiment and they had a chance to consider whether to participate or not. The demographic information of those who joined the survey (and decided to continue to the experiment) can be found in Table 2.

¹²The complete survey questions can be found in the online appendix.

¹³Specifically, subjects preferring KMT, People First Party or New Party were assigned to the KMT block while all others, to the DPP block.

¹⁴For the outcomes of the 2016 Elections, refer to the previous section about the background of Taiwanese politics and elections.

Table 2: Summary Statistics from Initial Survey

	Control	KMT	DPP	Thrid	All	p-value
	(1)	(2)	(3)	(4)	(5)	(6)
% male	39.62	44.23	53.70	41.51	44.81	0.467
% student	88.68	90.83	81.48	83.02	85.85	0.489
% NTU	58.49	63.46	68.52	64.15	63.68	0.760
% age>25	22.64	19.23	24.07	28.30	23.58	0.745
% age<21	33.96	28.85	31.48	16.98	27.83	0.214
% from Taipei	54.72	42.31	59.26	56.60	53.30	0.312
% support Chu	7.55	13.46	7.41	11.32	9.91	0.703
% support Tsai	83.02	80.77	85.19	81.13	82.55	0.994
% support KMT	15.09	15.38	18.52	16.98	16.51	0.970
% support DPP	35.85	21.15	33.33	24.53	28.77	0.441
% support GSD	26.42	21.15	18.52	20.75	21.70	0.844
% support NPP	11.32	23.08	16.67	16.98	16.98	0.544
# of subjects	53	52	54	53	212	

Note. (i) p-values for chi-squared tests of independence between treatments are reported in column 6.
(ii) The 7th through 12th rows are based on the preferences for presidential candidates and political parties reported in the Initial Survey.
(iii) Multinomial logit models predicting assignment to treatment using initial preference for presidential candidates and for political parties yield chi-squared test values of 1.96 ($d.f. = 6$, $p = 0.923$) and 8.02 ($d.f. = 12$, $p = 0.784$), respectively.

During one and a half month before the Elections, we had three on-site sessions and two online sessions, each of the latter between the adjacent on-site sessions. The timeline of the experiment including all on-site and online quiz sessions is depicted in Figure 2. In each on-site session, subjects were asked to come to a classroom in NTU and to take a quiz about ten articles selected specifically for each treatment group and sent in advance.¹⁵ For each article, we prepared three multiple-choice comprehension questions (hence 30 questions in total) which couldn't be answered without actually reading the articles thoroughly. After they answered all comprehension questions, we collected the article copies and asked subjects to answer ten more questions testing their memory of the articles. The on-site sessions also included a survey that was similar to the initial one. In the online sessions, the subjects

¹⁵The treatment articles were also printed out and distributed in the on-site quiz sessions.

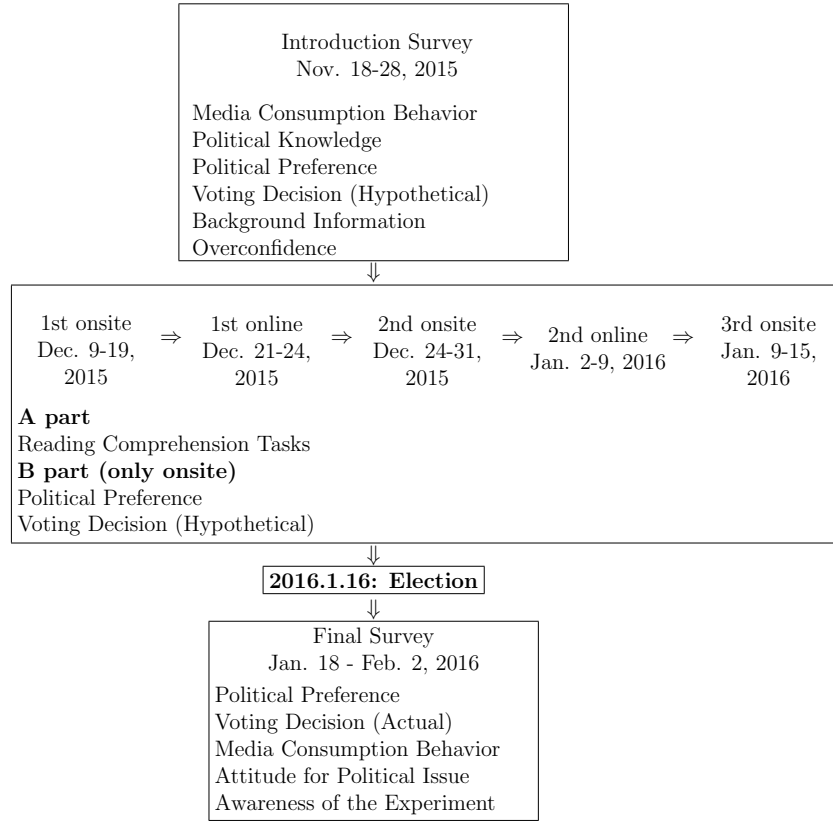


Figure 2: Schedule of Experiment

in each treatment group were given only ten multiple-choice comprehension questions from five articles, two for each article, without including any survey.

After the Elections, we brought back the subjects to join the Final Survey in which they were asked to report, among other things, their real voting decisions in the Elections.¹⁶ In case one has abstained, we asked him/her to answer the questions about hypothetical voting decisions, “if you participated in the Elections, which candidate/party would you vote?” Those subjects who couldn’t attend the final session were allowed to complete the Final Survey online. More than 95% of the subjects finished the survey within two weeks after the Elections. Table 3 shows sample statistics from this Final Survey, again by treatment group. Note that the preferences for candidates

¹⁶The Final Survey also included most questions that were asked in the Initial Survey and the follow-up surveys in the on-site sessions.

Table 3: Summary Statistics from Final Survey

	Control	KMT	DPP	Thrid	All	p-value
	(1)	(2)	(3)	(4)	(5)	(6)
% male	38.00	43.75	51.02	41.86	43.68	0.618
% student	90.00	91.67	81.63	81.40	86.32	0.317
% NTU	58.00	66.67	69.39	60.47	63.68	0.623
% age>25	24.00	20.83	20.41	23.26	22.21	0.967
% age<21	36.00	29.17	32.65	20.93	30.00	0.437
% from Taipei	54.00	43.75	59.18	55.81	53.16	0.465
% voted Chu	6.00	14.58	8.16	13.95	10.53	0.482
% voted Tsai	84.00	79.17	85.71	76.74	81.58	0.961
% voted KMT	14.00	14.58	16.33	18.60	15.79	0.946
% voted DPP	34.00	20.83	36.73	23.26	28.95	0.386
% voted GSD	28.00	20.83	16.33	20.93	21.58	0.659
% voted NPP	12.00	22.92	16.33	18.60	17.37	0.626
% turnout	88.00	89.58	93.88	93.02	91.05	0.709
# of subjects	50	48	49	43	190	

Note. (i) p-values for chi-squared tests of independence between treatments are reported in column 6.
(ii) The 7th through 12th rows are based on the reported voting decisions for presidential and party ballots in the 2016 Elections (in case one abstains, it's hypothetical voting decisions, assuming one turns out to vote, which was also asked in the Final Survey).
(iii) Turnout in the 13th row is based on self-reported participation (or not) in the 2016 Elections.
(iv) Multinomial logit models predicting assignment to treatment using initial preference for presidential candidates and for political parties yield chi-squared test values of 3.51 (*d.f.* = 6, $p = 0.743$) and 8.20 (*d.f.* = 12, $p = 0.769$), respectively.

and parties in Table 3 reflects those reported in the Initial Survey, and simply shows the balancedness of the sample included in the final analysis.

The payoff consists of an NT\$100 show-up fee for the Initial Survey and each on-site session (an NT\$200 show-up fee for the Final Survey), NT\$5 for each correct answer to a quiz question, and a bonus payment for participation in multiple sessions.¹⁷ Table 4 summarizes all sessions and the (average) payoffs thereof.

¹⁷US\$1 is worth NT\$30-NT\$32 depending on the current exchange rates. The bonus is given to encourage the subjects to participate in as much sessions as possible; NT\$200 for participation in all on-site and online sessions, NT\$100 for participation in at least two on-site sessions, and NT\$50 for participation in the third on-site session. Also note that we set a significantly higher show-up payment for the Final Survey.

Table 4: Session Summary

	# Articles	# Subjects	Show-up [§]	# Correct	# Questions	Avg. Payoff [§]
Initial Survey	n/a	224	100	n/a	n/a	100
On-site 1	10	191	100	33.82 (2.99)	40	269.20
Online 1	5	186	none	9.01 (1.14)	10	43.85
On-site 2	10	187	100	34.63 (3.02)	40	273.15
Online 2	5	179	none	9.13 (1.14)	10	43.70
On-site 3	10	182	150	34.71 (3.28)	40	323.55
Final Survey	n/a	191	200	n/a	n/a	384.29*
NT\$200 bonus for attending all on-site and online sessions.						
NT\$100 bonus for attending at least two on-site sessions.						

Note. The numbers in parentheses are standard deviations.

[§] Show-up and average payoffs are in NT dollars.

* The payment from Final Survey includes bonus.

✓ 164 subjects attended all (on-site and online) sessions including survey sessions.

2.2 Treatment Articles

Table 5: Treatment Articles

	Article Contents	News Sources
Control Group	Sports, Science, Entertainment	Apple Daily, Storm Media
KMT Treatment	Pro-KMT Articles	United Daily, China Times, Central News Agency
DPP Treatment	Pro-DPP Articles	Liberty Times
Third-Party Treatment	Pro-Third-Party Articles	Storm Media, other internet sources

We assigned four sets of treatment articles: pro-KMT articles for the KMT group, pro-DPP articles for the DPP group, pro-third-party articles for the Third-Party group, and some articles unrelated with politics for the Control group. Table 5 shows the details of our four treatments.

We selected a different set of news articles for each treatment group and the main news sources were newspapers and internet media. Specifically, for the KMT treatment, we selected articles mainly from United Daily and

China Times, and also a few from China News Agency, all of which were favorable to the previous KMT government. For the DPP treatment, we selected all articles from Liberty Times. For the Third-Party treatment, we selected articles from various sources: online news media such as Storm Media and Nownews, and major newspapers excluding China Times and United Daily, since the information about the new third parties was spread throughout a wide range of sources. These articles have usually promoted policies or candidates whose ideology was close to the newspaper to which those articles belonged, or contained negative advertising of the ideologically opposite candidates and their camps. For the Control group, articles were selected mainly from Apple Daily, which is thought to be neither “pro-KMT” nor “pro-DPP”; the articles were about sports, science, or entertainment with no political contents.

In the on-site sessions, each subject was given ten articles for reading; nine of them were treatment-specific articles while there was also an article that was common to all treatment groups. In each (on-site) session a common article was chosen from BBC, and the chosen article was about foreign politics and totally unrelated with the Taiwanese Elections. The purpose of adding a common article was to see whether there was any difference between the credibility scores of treatment and common articles.¹⁸ As for the online sessions, we sent five articles to each subject, and all of them were treatment-specific.

We tried to balance the contents, intensity and length of the assigned articles across the treatment groups. During the campaign, politicians or parties raised some policy issues or were engaged in negative advertising on the opposite candidates. In order to avoid possible asymmetric effects across treatments from random flow of issues, we have chosen important issues first, and then articles about those issues for each treatment group.

Table 6 lists the chosen issues and the number of articles for each issue in each treatment. The issues in the above table were either raised by more than two candidates or parties, or were covered by most newspapers. We have chosen policy issues (social welfare, public housing, labor, education, etc.), candidates’ personal issues (*e.g.* appropriation of military housing by Chu’s vice president partner Wang), and the TV debates among the candidates.¹⁹ We avoided articles raising multiple issues at the same time. Especially in

¹⁸Besides the quiz questions, we asked subjects to give a credibility score to each article on a 1-8 scale. **Analysis about credibility scores follow in appendix?**

¹⁹Since there’s no presidential candidate representing major third parties and joining

Table 6: News Issues in the Treatments

News Issues	KMT	DPP	Third
China Related Economic Issue	6	6	4
Congress Reformation	4	4	3
Labor	4	4	5
Energy and Environment	1	1	2
Education	1	1	1
Social Welfare and Equity Issues	3	3	1
Presidential Debates in TV	6	6	0
Positive Ad. or Introduction	3	3	14
Negative Advertising	5	5	3
Editorial	4	4	4

KMT and DPP treatments, if we have chosen for a treatment an article about negative advertising of the opposite candidate, we also included an article about counterattack in the other treatment. We have included the same number of editorials for each treatment.

In the Third-Party treatment, the chosen articles were mainly about two parties: Green Party and Social Democratic Party (GSD) and New Power Party (NPP).²⁰ We tried to include articles also for the Third-Party treatment in each issue category and were able to find appropriate articles in most cases. However, some issues that KMT and DPP frequently debated with each other were not the issue that interested the third parties (*e.g.* Cross-Strait relations between Taiwan and China). In this case, the issue category was filled by other articles promoting the third parties.

We also controlled the time frame for the selection of news articles. Specifically, for the first on-site session, we selected articles only within one month before the first day of the session. For the following (on-site and online) sessions, the time frame was shortened to simulate real news consumption and information updates. For each session, the time period for the choice of news articles was less than two weeks, and most of the articles were collected during the week before a session.

the TV debates, we included more articles about positive advertising of these new parties to compensate the absence of articles for them in the category of TV debates.

²⁰These two parties are the newest parties in Taiwanese politics, emerging after the 2014 Sun Flower Movement, and our subjects as well as general public have relatively high interests in these parties at the time of the 2016 Elections.

3 Experimental Results

3.1 Outcome

We first show the change in the support for the presidential candidates (Table 7) and for political parties (Table 8) that could be attributable to our treatments. Initial support is based on the preferences found in the Initial Survey²¹ while Final support reflects the real voting decisions in the 2016 Elections, as reported in the Final Survey.

In Table 7, we can see that the support for the conservative KMT candidate Chu has increased only in the KMT treatment group while it has decreased or remained the same in the other (treatment/control) groups. The support for the liberal DPP candidate Tsai tended to decrease in all groups, but it has dropped most significantly among the KMT and the Third-Party groups while the drop was only marginal in the DPP group. Although not all treatments succeeded in increasing the support for the candidates they were targeting, these outcomes are broadly in line with our intended treatment effects.

Table 7: Vote for President

	Control		KMT Treatment		DPP Treatment		Third-Party		Total	
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Chu (KMT)	4	4	7	10	4	3	6	6	21	23
% Chu	7.55	8.00	13.46	20.83	7.41	6.12	11.32	13.95	9.91	12.11
Tsai (DPP)	44	37	42	30	46	41	43	27	175	135
% Tsai	83.02	74.00	80.77	62.50	85.19	83.67	81.13	62.79	82.55	71.05
Soong (PFP)	4	7	3	7	4	3	3	6	14	23
% Soong	7.55	14.00	5.77	14.58	7.41	6.12	5.66	13.95	6.60	12.11
Invalid	1	2	0	1	0	2	1	4	2	9
% Invalid	1.89	4.00	0.00	0.00	0.00	2.04	1.89	9.30	0.94	4.74
Total	53	50	52	48	54	49	53	43	212	190

Table 8 shows the similar outcomes for the party votes. The support for KMT has dropped evidently in all groups except for the KMT group which

²¹More precisely, we included in the Initial Survey the questions, saying “If the election were held today, which candidate/political party would you vote for?”, and the data about initial support are based on the subjects’ choices in these questions among three presidential candidates in Table 7 or among 21 political parties, including the major four parties in Table 8.

has induced only a negligible drop. We can also say that the drop in the support for DPP was relatively small in the DPP group, compared especially with the corresponding drops in the KMT and the Thrid-Party groups. Most noticeably, the support for GSD has increased to a much greater extent in the Third-Party group than in the other groups (it has been doubled in the KMT and the DPP groups while tripled in the Third-Party group in percentage terms). This could be explained by the persuasion effect of the Third-Party treatment which will be explored in more detail in the subsequent sections.

Table 8: Vote for Parties

	Control		KMT Treatment		DPP Treatment		Third-Party		Total	
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
KMT	8	2	8	7	10	5	9	3	35	17
% KMT	15.09	4.00	15.38	14.58	18.52	10.20	16.98	6.98	16.51	8.95
DPP	19	9	11	7	18	14	13	5	61	35
% DPP	35.85	18.00	21.15	14.58	33.33	28.57	24.53	11.63	28.77	18.42
NPP	6	13	12	7	9	5	9	5	36	30
% NPP	11.32	26.00	23.08	14.58	16.67	10.20	16.98	11.63	16.98	15.79
GSD	14	14	11	20	10	17	11	26	46	77
% GSD	26.42	28.00	21.15	41.67	18.52	34.69	20.75	60.47	21.70	40.53
Others	6	12	10	7	7	8	11	4	34	31
% Others	11.32	24.00	19.23	14.58	12.96	16.33	20.75	9.30	16.04	16.32
Total	53	50	52	48	54	49	53	43	212	190

3.2 Baseline Treatment Effects

We show the effects of partisan news articles on presidential voting (Table 9) and on party voting (Table 10) by linear regression.²² This baseline analysis includes all 190 subjects who participated in the Final Survey.²³

²²The vote choices (dependent variables) used in the analysis of this section and all subsequent sections are based on the actual voting decisions or hypothetical decisions that one would have made if one turned out to vote, both reported in the Final Survey. As the sample size is small, the turnout among our subjects is high (91% overall), and the results (baseline, reinforcement, persuasion and swing voter effects) with only actual voting decisions are basically the same (available upon request), we don't exclude the decisions of the subjects who abstained. The results from alternative probit/logit specifications are similar, including statistical significance (the results are available upon request).

²³The number of subjects who completed the Final Survey was actually 191, but a subject was excluded further from the analysis since s/he participated only in the Initial

According to Table 9, the support for the candidate Chu has been increased by the KMT treatment while it has been decreased by the DPP treatment (column 1). Although these effects are not statistically significant, relative to the control group, the coefficients of the two treatments are significantly different,²⁴ as shown in the bottom panel of column 1, hence we can conclude that the two treatments has worked in the opposite direction in affecting the support for Chu. Similarly, the support for the candidate Tsai has been decreased by both KMT and Third-Party treatments while it has been increased by the DPP treatment (column 2). The reason why the Third-Party treatment has decreased the support for Tsai is because DPP and the third parties were in competition with each other over the support from the electorate with more or less the same leftist ideology in the 2016 Elections. We can also check in the bottom panel of column 2 that the coefficients of KMT and DPP treatments, and the coefficients of DPP and Third-Party treatments are significantly different from each other.

The effects on party voting are relatively weak, as shown by Table 10. Nevertheless, we can see that the KMT treatment has significantly increased the support for the KMT party while the Thrid-Party treatment has significantly increased the support for the GSD party. Also, the DPP treatment has a positive effect while the Third-Party treatment has a negative effect on the support for DPP (although these effects are not significant). Obviously, the two third parties, GSD and NPP, compete with each other, but our Third-Party treatment has worked much more favorably for the former party. Both DPP and Third-Party treatments even (significantly) decreased the support for NPP.

In sum, the signs of the effects are mostly in line with our intended treatment effects while the regression coefficients are often found to be not significant relative to the Control group. This may be explained in part by small sample size and in part by lack of perfect controls over preferences as would be possible only in abstract laboratory experiments. However, we also found an evidence that our treatment effects were weakened by the partisan subjects while swing voters whose preferences were not firmly decided were more responsive to our treatments (and the analysis about decided vs. undecided voters is presented in the subsequent section).

and the Final Survey without attending any intermediate sessions.

²⁴This means that we would have a significant coefficient on the DPP treatment in an alternative specification of the regression model in which the reference group is the KMT treatment group, rather than the control group.

Table 9: Regression Result: Vote for President

VARIABLES	(1) Vote for Chu	(2) Vote for Tsai	(3) Vote for Soong
KMT Treatment	0.079 (0.064)	-0.072 (0.082)	0.010 (0.067)
DPP Treatment	-0.031 (0.046)	0.075 (0.070)	-0.057 (0.056)
Third Treatment	0.006 (0.054)	-0.071 (0.088)	0.014 (0.068)
Constant	0.061 (0.135)	0.524 (0.451)	0.026 (0.178)
Observations	190	190	190
R-squared	0.463	0.366	0.218
KMT=DPP	0.109**	-0.148**	0.067
DPP=Third	-0.037	0.147*	-0.071
KMT=Third	0.072	-0.001	-0.004

Note. (i) Robust standard errors in parentheses: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

(ii) The last three rows for the results of F-Test of equality of coefficients.

(iii) All specifications include: gender, whether they are students/students from NTU, whether they are older than 25, whether the income is higher than 40,000NTD/month, whether they have voted before, and initial political preference.

3.3 Reinforcement and Persuasion Effects

The nature of our treatment effects could be dependent upon subjects' political preferences reported in the Initial Survey. Subjects who initially preferred the conservative candidate Chu may have reacted differently to the same KMT treatment, for example, from those who initially preferred the liberal candidate Tsai.

In this section, we would like to distinguish between two important categories of potential treatment effects and investigate them separately. First, if the tone of the assigned newspaper articles coincides with one's own political ideology, they can have an effect of reinforcing the subject's existing preferences, and this we can call *reinforcement effect*. Second, even if the information in the assigned articles is at odds with one's own ideology, but a subject is influenced by the articles and changes his initial political prefer-

Table 10: Regression Result: Vote for Party

VARIABLES	(1) Vote for KMT	(2) for DPP	(3) for GSD	(4) for NPP	(5) for GSD+NPP
KMT Treatment	0.110* (0.059)	0.022 (0.066)	0.097 (0.080)	-0.114 (0.082)	-0.017 (0.098)
DPP Treatment	0.055 (0.050)	0.071 (0.074)	0.101 (0.090)	-0.172** (0.077)	-0.070 (0.101)
Third Treatment	0.003 (0.047)	-0.031 (0.069)	0.323*** (0.085)	-0.160** (0.079)	0.163* (0.096)
Constant	0.044 (0.143)	0.039 (0.142)	0.148 (0.195)	0.475** (0.214)	0.623*** (0.233)
Observations	190	190	190	190	190
R-squared	0.335	0.305	0.359	0.159	0.210
KMT=DPP	0.055	-0.049	-0.005	0.058	0.053
DPP=Third	0.052	0.102	-0.222**	-0.012	-0.233**
KMT=Third	0.107*	0.053	-0.226***	0.046	-0.180**

Note. (i) Robust standard errors in parentheses: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

(ii) The last three rows for the results of F-Test of equality of coefficients.

(iii) All specifications include: gender, whether they are students/students from NTU, whether they are older than 25, whether the income is higher than 40,000NTD/month, whether they have voted before, and initial political preference.

ence, then we can call this *persuasion effect*.²⁵

In Table 11, getting the “same” treatment means that the information in the treated articles is consistent with one’s ideology. Thus if one prefers the candidate Chu and is assigned to the KMT treatment or prefers the candidate Tsai and is assigned to the DPP treatment, we define that the

²⁵Reinforcement effect should not be confused with the different but related concept of *confirmation bias* which could mean actively seeking information that matches one’s prior, or ignoring information counter to it (Ortoleva and Snowberg 2015). In view of our treatments (no matter whether they lead to reinforcement or persuasion effects), confirmation bias is a confounding factor as our design doesn’t have a complete control over how subjects would react after they read the treated articles - they can indeed behave according to confirmation bias! Our treatments give monetary incentives that can counter to some degree subjects’ selective consumption of news information that stems from confirmation bias.

Table 11: Who Got the “Same” Treatment?

	Control	KMT	DPP	Third
Initial Chu	Control (3)	Same Treat (7)	Different Treat (4)	Different Treat (6)
Initial Tsai	Control (42)	Different Treat (38)	Same Treat (42)	Different Treat (33)
Initial Others	Control (5)	Different Treat (3)	Different Treat (3)	Different Treat (4)
	Control	KMT	DPP	Third
Initial KMT	Control (7)	Same Treat (7)	Different Treat (8)	Different Treat (8)
Initial DPP	Control (17)	Different Treat (10)	Same Treat (18)	Different Treat (10)
Initial NPP	Control (6)	Different Treat (11)	Different Treat (8)	Same Treat (8)
Initial GSD	Control (14)	Different Treat (10)	Different Treat (8)	Same Treat (9)
Initial Others	Control (6)	Different Treat (10)	Different Treat (7)	Different Treat (8)

Note. Number of observations of each cell in parenthesis.

subject gets the *same* treatment; otherwise, we say that the subject gets the *different* treatment (except for the Control group). The definition about getting the same treatment with regard to party preference is similar and Table 11 shows a complete picture of who gets the same treatment and who gets the different treatment.

We find that our treatments have a very strong reinforcement effect. When subjects are treated with the articles that are consistent with their ideology, they are significantly more likely to vote for the (presidential) candidate that they originally prefer (19% more in column 1 of Table 12). This reinforcement effect is most prominent among the initial supporters of the candidate Tsai when they get the DPP treatment (columns 2 and 3 in the same table). Compared with the supporters of Chu treated with pro-KMT articles, the reinforcement effect found among the supporters of Tsai treated with pro-DPP articles is not only statistically significant but also is about two times as large as the effect among the former Chu supporter group.²⁶

²⁶The fact that the DPP treatment resulted in a significant reinforcement effect while the KMT treatment didn’t casts doubt upon the view that our results might be derived from experimenter demand effect. Although there is a reason to believe that the demand effect be positively correlated with our treatment effects, - the demand effect is considered as a problem only when it is positively correlated with the true experimental objectives’ predictions (Zizzo 2010) - then the demand effect can’t explain why the observed reinforcement effect is highly selective. However, we also can’t entirely rule out the possibility that insignificant reinforcement effect among the Chu supporters getting the KMT treatment is attributable to small sample size (the number of subjects in this subgroup is only 7

Table 12: Reinforcement Effects: Presidential Voting

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	Vote for Same President					
Same Treatment	0.189** (0.077)			0.146* (0.077)		
i.Chu & t.KMT		0.117 (0.149)	0.113 (0.150)		0.061 (0.163)	0.062 (0.164)
i.Tsai & t.DPP		0.201*** (0.076)	0.201*** (0.077)		0.162** (0.075)	0.162** (0.076)
i.Tsai & t.KMT			0.082 (0.096)			0.010 (0.097)
i.Chu & t.DPP			0.061 (0.261)			-0.049 (0.228)
Different Treatment	0.056 (0.078)	0.057 (0.078)	0.038 (0.089)	0.001 (0.094)	0.005 (0.094)	
Constant	0.949*** (0.195)	0.946*** (0.194)	0.963*** (0.205)	0.737*** (0.232)	0.733*** (0.230)	0.729*** (0.233)
Observations	190	190	190	136	136	136
R-squared	0.056	0.058	0.059	0.051	0.054	0.055

Note. (i) The subsample of 136 subjects in columns 4 through 6 includes initial Chu and Tsai supporters only, in Control, KMT and DPP (but *not* Third) groups.

(ii) i represents initial preference and t represents assigned treatment in the name of variables.

(iii) Robust standard errors in parentheses: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

(iv) All specifications include: gender, whether they are students/students from NTU, whether they are older than 25, whether the income is higher than 40,000NTD/month, whether they have voted before, and initial political preference.

The leftmost three columns in Table 12 show the results from the same analysis based on a subsample consisting only of the initial supporters of Chu and Tsai assigned to the Control, KMT and DPP (but not Third-Party) treatment groups. This enables us to focus on the two major preference groups getting either the same or the different treatment. As we can see in the table, the results from this subsample are essentially the same as those from the full sample.

while the number in the subgroup of Tsai supporters getting the DPP treatment is 42, as is shown in Table 11). On the other hand, the fact that the support for Tsai and DPP has decreased across all treatment groups (Table 7 and Table 8, respectively) provides an unambiguous evidence against the hypothesis of demand effect.

Table 13: Reinforcement Effects: Party Voting

VARIABLES	(1)	(2)	(3)
	Vote for Same Party		
Same Treatment	0.172 (0.105)		
i.KMT & t.KMT		0.263 (0.201)	0.228 (0.202)
i.DPP & t.DPP		0.132 (0.135)	0.106 (0.126)
i.GSD & t.Third		0.500*** (0.087)	
i.NPP & t.Third		-0.248 (0.175)	
i.DPP & t.KMT			0.060 (0.163)
i.KMT & t.DPP			0.098 (0.171)
Different Treatment	-0.041 (0.088)	-0.048 (0.089)	-0.188** (0.088)
Constant	0.542** (0.229)	0.602*** (0.225)	0.674*** (0.227)
Observations	190	190	190
R-squared	0.082	0.130	0.097

Note. (i) i represents initial preference and t represents assigned treatment in the name of variables.
(ii) Robust standard errors in parentheses: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.
(iii) All specifications include: gender, whether they are students/students from NTU, whether they are older than 25, whether the income is higher than 40,000NTD/month, whether they have voted before, and initial political preference.

Reinforcement effect turns out to be much weaker regarding party preferences. We couldn't find in Table 13 a strong evidence of the link between the original party preference and the assignment to the "same" treatment group to significantly increase the likelihood of voting for the party that one was initially leaning to. The only exception is the initial supporters of GSD interacting with the Thrid-Party treatment - they indeed are significantly more likely to vote for GSD once they are treated with the articles promoting the causes of third parties.

We next turn to persuasion effect which is found mainly in party voting.

Table 14: Persuasion Effects

VARIABLES	(1) Vote for KMT	(2) for DPP	(3) for GSD	(4) for NPP
KMT Treatment	0.009 (0.055)	0.026 (0.052)	0.116 (0.094)	-0.042 (0.090)
DPP Treatment	-0.044 (0.035)	0.047 (0.060)	0.188** (0.091)	-0.117 (0.076)
Third Treatment	-0.046 (0.033)	0.023 (0.054)	0.366*** (0.097)	-0.123 (0.082)
Constant	0.099 (0.088)	0.051 (0.092)	-0.102 (0.209)	0.417* (0.211)
Observations	160	135	149	157
R-squared	0.048	0.041	0.224	0.090

Note. (i) Robust standard errors in parentheses: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

(ii) All specifications include: gender, whether they are students/students from NTU, whether they are older than 25, whether the income is higher than 40,000NTD/month, and whether they have voted before.

When we look at the (persuasion) effect of different treatments in increasing the support for a party, our definition of persuasion effect naturally leads us to restrict the analysis to those who initially didn't support the party; e.g., the 160 subjects in column 1 of Table 14 are those who initially revealed themselves as not supporting the KMT party. Hence, this table tells us which treatments make subjects change their original preferences and choose to vote for some other party. According to the table, it is obvious that the Third-Party treatment is quite effective in making subjects change their voting intentions to support GSD. Interestingly, the DPP treatment is also shown to have some persuasion effect for GSD. This is because DPP and GSD share relatively similar ideology and agenda, and the messages in support of DPP can also strengthen the position of GSD.

We control initial preferences and find the same persuasion effect in Table 15. The table further shows that the subjects who initially supported KMT or DPP have decreased their support for GSD, controlling treatments. However, we can see, from Table 16, that those who initially supported DPP or GSD has increased their support for GSD when they were treated with pro-

Table 15: Persuasion Effects: with Initial Preferences

VARIABLES	(1) Vote for KMT	(2) for DPP	(3) for GSD	(4) for NPP
KMT Treatment	0.001 (0.053)	0.021 (0.047)	0.076 (0.094)	-0.042 (0.089)
DPP Treatment	-0.047 (0.036)	0.042 (0.059)	0.187** (0.091)	-0.138* (0.079)
Third Treatment	-0.051 (0.035)	0.018 (0.052)	0.348*** (0.103)	-0.124 (0.081)
i.KMT		0.071* (0.042)	-0.269** (0.116)	0.086 (0.096)
i.DPP	-0.083 (0.054)		-0.232** (0.104)	0.102 (0.079)
i.GSD	-0.093* (0.052)	0.049 (0.038)		-0.054 (0.060)
i.NPP	-0.094* (0.052)	0.112* (0.062)	-0.056 (0.117)	
Constant	0.168 (0.111)	0.006 (0.086)	0.062 (0.224)	0.374 (0.229)
Observations	160	135	149	157
R-squared	0.096	0.067	0.274	0.123

Note. (i) i represents initial preference in the name of variables.

(ii) Robust standard errors in parentheses: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

(iii) All specifications include: gender, whether they are students/students from NTU, whether they are older than 25, whether the income is higher than 40,000NTD/month, and whether they have voted before.

Third-Party articles. We thus conclude that those who initially supported DPP tend to decrease their support for GSD in general, but to increase it under the Third-Party treatment, demonstrating persuasion effect of the latter treatment. A possible reason for the Third-Party treatment to convert those who supported DPP initially and to switch to GSD is because the ideologies of DPP and GSD are relatively close, so the two parties compete with each other for the same segment of the electorate. Table 16 also shows that initial supporters of GSD tend to decrease their support for GSD with the DPP treatment, so they are some other preference groups who were persuaded to support GSD by the DPP treatment in an unintended way.

In sum, our findings suggest that the media has an effect of reinforcing the

Table 16: Persuasion Effects: Who Voted for New Parties?

May delete columns 3 and 6?

VARIABLES	(1) Vote for GSD	(2) for NPP	(3) for DPP	VARIABLES	(4) for GSD	(5) for NPP	(6) for DPP
i.KMT & t.Third	0.063 (0.159)	-0.040 (0.167)	0.079 (0.143)	i.KMT & t.DPP	-0.019 (0.145)	-0.054 (0.152)	0.043 (0.148)
i.DPP & t.Third	0.446*** (0.150)	-0.066 (0.126)	-0.232 (0.168)	i.DPP & t.DPP	0.031 (0.115)	-0.198** (0.094)	0.165 (0.139)
i.GSD & t.Third	0.247*** (0.090)	-0.020 (0.041)	-0.066 (0.050)	i.GSD & t.DPP	-0.449** (0.191)	-0.013 (0.054)	0.072 (0.125)
i.NPP & t.Third	0.254 (0.200)	-0.043 (0.183)	-0.068 (0.134)	i.NPP & t.DPP	-0.024 (0.219)	-0.092 (0.166)	0.024 (0.141)
Constant	0.252 (0.188)	0.356* (0.208)	0.081 (0.141)	Constant	0.361* (0.198)	0.341 (0.207)	0.042 (0.139)
Observations	190	190	190	Observations	190	190	190
R-squared	0.358	0.128	0.314	R-squared	0.334	0.147	0.309

Note. (i) i represents initial preference and t represents assigned treatment in the name of variables.

(ii) Robust standard errors in parentheses: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

(iii) All specifications include: gender, whether they are students/students from NTU, whether they are older than 25, whether the income is higher than 40,000NTD/month, and whether they have voted before. **specification correct?**

existing preferences for those candidates/parties whose ideology and policies are already well known to the public. Our study shows that the media can also have persuasive effect, especially for new parties, like GSD, as subjects learn more about them from the information provided by the media. We thus find a condition that media can have strong persuasion effects - if the level of information about parties or candidates is relatively low, the media information supporting these parties or candidates can indeed change people's voting intentions in a relatively short period of time.

3.4 Decided vs. Undecided Voters

One question included in the Initial Survey was whether subjects have decided or undecided who to vote for in the Presidential election. Table 17 summarizes the answers from this question and the number of undecided voters is found to be 73, slightly less than 40% of the entire sample. As we

can see below, it is this subsample of undecided subjects who delivered our main treatment effects

Table 17: Decided vs. Undecided Voters in Presidential Election

	Control	KMT	DPP	Third	Total
Chu	0	4	3	1	8
Tsai	28	27	28	21	104
Soong	1	3	0	1	5
Undecided	21	14	18	20	73
Total	50	48	49	43	190

Table 18 shows our baseline results about treatment effects, similar to those in Table 9, but now divided between decided and undecided subsamples. We can clearly see that the patterns of positive and negative treatment effects observed among the undecided subjects largely coincide with those found among the entire sample in Table 9, but that these positive and negative effects disappear among the decided subjects. Moreover, the magnitude of treatment effects for the undecided subjects is all greater than that for the whole sample (this happens as a matter of course since the decided subjects can only dilute the treatment effects), and some treatment effect now becomes significant, for example, the negative effect of the KMT treatment for the candidate Tsai (column 3). Importantly, some differences between coefficients are found to be statistically significant only for the undecided subsample, but *never* for the decided one.²⁷ This gives a strong evidence that they are undecided subjects or swing voters who were mainly influenced by our media treatments.

We also conduct an analysis about reinforcement effect, parallel to that in Table 12, but again divided between decided and undecided subjects. Table 19 clearly shows that reinforcement effect too is observed only among the undecided subjects, whether the effect is exhibited by the entire undecided subsample (column 1) or those who originally preferred Tsai, but not firmly decided (columns 3 and 5). In addition, we again find that the magnitude of reinforcement effect or the *same* treatment effect is much greater in the undecided subsample than in the entire sample. We can also conclude

²⁷For example, the differences between KMT and DPP coefficients are significant for both entire and undecided subjects, as seen in the bottom of columns 1 and 3 in Tables 9 and 18, respectively, but *not* for the decided subjects.

Table 18: Decided vs. Undecided: Baseline Effect

VARIABLES	(1) Vote for Chu	(2) Vote for Chu	(3) Vote for Tsai	(4) Vote for Tsai	(5) Vote for Soong	(6) Vote for Soong
KMT Treatment	0.260 (0.175)	0.021 (0.019)	-0.353** (0.170)	0.004 (0.035)	0.111 (0.165)	-0.025 (0.030)
DPP Treatment	-0.071 (0.111)	0.002 (0.019)	0.154 (0.164)	0.001 (0.045)	-0.086 (0.143)	-0.003 (0.041)
Third Treatment	-0.013 (0.107)	0.062 (0.050)	-0.130 (0.153)	-0.026 (0.060)	0.066 (0.134)	-0.036 (0.034)
Constant	0.299 (0.260)	-0.096 (0.090)	0.358 (0.628)	0.100 (0.093)	-0.056 (0.438)	0.996*** (0.028)
Observations	73	117	73	117	73	117
R-squared	0.384	0.776	0.313	0.722	0.195	0.717
Subgroup	Undecided	Decided	Undecided	Decided	Undecided	Decided
KMT=DPP	0.331**	0.020	-0.506***	0.003	0.197	-0.023
DPP=Third	-0.058	-0.060	0.284*	0.026	-0.152	0.034
KMT=Thrid	0.273*	-0.041	-0.222	0.030	0.045	0.011

Note. (i) Robust standard errors in parentheses: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

(ii) The last three rows for the results of F-Test of equality of coefficients.

(iii) All specifications include: gender, whether they are students/students from NTU, whether they are older than 25, whether the income is higher than 40,000NTD/month, and whether they have voted before.

these findings support the intuitive idea that those who are most likely to be influenced by the treated newspaper articles and to confirm their original preferences are the subjects whose preferences aren't decided for sure in the beginning.

It is unfortunate that we fail to include a similar question about party voting - whether subjects have decided which party to vote - in the Initial Survey, hence are unable to do an analysis of the role of undecided subjects with regard to persuasion effect.

3.5 Persuasion Rate

Although it's not easy to compare the estimates of media effects across different studies, DellaVigna and Kaplan (2007) and DellaVigna and Gentzkow (2010) introduce *persuasion rate* which estimates the percentage of receivers

Table 19: Decided vs. Undecided: Reinforcement Effect

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	Vote for Same President					
Same Treatment	0.418** (0.159)	0.002 (0.046)				
i.Chu & t.KMT			0.321 (0.280)	0.044 (0.045)	0.316 (0.272)	0.049 (0.033)
i.Tsai & t.DPP			0.439** (0.172)	-0.004 (0.048)	0.372** (0.168)	-0.003 (0.039)
i.Tsai & t.KMT					-0.224 (0.165)	0.020 (0.027)
i.Chu & t.DPP					0.469*** (0.168)	-0.302 (0.288)
Different Treatment	0.057 (0.143)	-0.005 (0.041)	0.059 (0.144)	-0.005 (0.041)		
Constant	0.609 (0.417)	1.058*** (0.086)	0.604 (0.421)	1.058*** (0.086)	0.637 (0.395)	1.028*** (0.087)
Observations	73	117	73	117	73	117
R-squared	0.218	0.054	0.219	0.056	0.252	0.121
Subgroup	Undecided	Decided	Undecided	Decided	Undecided	Decided

Note. (i) i represents initial preference and t represents assigned treatment in the name of variables.

(ii) Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1.

(iii) All specifications include: gender, whether they are students/students from NTU, whether they are older than 25, whether the income is higher than 40,000NTD/month, and whether they have voted before.

that change the behavior among those that receive a message (in our case, a treatment) and are not already persuaded. They don't claim that persuasion rate is a fundamental parameter that is invariant over time or between contexts. It just captures the average effect of persuasive communications and thus enables us to compare between those effects on equal footing.

In a setting with a binary behavioral outcome (in our case, supporting or not supporting a particular candidate or a party), a treatment group T , and a control group C , DellaVigna and Gentzkow (2010) define the persuasion rate f (in percent terms) as

$$f = 100 \times \frac{y_T - y_C}{e_T - e_C} \frac{1}{1 - y_0}$$

Table 20: Persuasion Rates

Treatment	Variable*	Sample size [‡]	Effect size [†] $y_T - y_C$	Initial support y_0	Persuasion rate f
KMT	<i>Chu</i>	190	0.079	9.91%	8.77%
DPP	<i>Tsai</i>	190	0.075	82.55%	42.97%
Third	<i>Soong</i>	190	0.014	6.60%	1.50%
KMT	KMT	190	0.110	16.51%	13.18%
DPP	DPP	190	0.071	28.77%	9.97%
Third	GSD	190	0.323	21.70%	41.25%
Third	NPP	190	-0.160	16.98%	-19.27%
Third	GSD+NPP	190	0.163	38.68%	26.58%

Note. (*) The variables to be affected are the vote shares or the voting intentions (in case of abstention) for the relevant candidates or parties.

(†) Effect size is approximated by the regression coefficient in Tables 9 or 10.

(‡) The coefficients in Tables 9 and 10 have used all 190 subjects in the Final Survey, hence is our sample size.

where e_i is the share of group i receiving the message/treatment, y_i is the share of group i adopting the behavior of interest (i.e., voting for or supporting a particular candidate or a party), and y_0 is the share that would adopt the behavior if there were no message/treatment.²⁸ Since we have the data about y_0 , we calculate it as the share of all subjects who have revealed preference for the relevant candidate or party in the Initial Survey. We use as estimates for effect size $y_T - y_C$ the baseline treatment effects in Tables 9 or 10. All those in the Control group didn't receive political articles while all those in a treatment group have read the assigned articles, hence $e_C = 0$ and $e_T = 1$, respectively. We report the estimates of the persuasion rates of our treatments in Table 20.

The persuasion rate $f = 8.77$, for example, means that the persuasive effect of the KMT Treatment is 8.77 percent of the subjects who initially don't support *Chu*, but now vote for or support him, affected by the treatment. Although the estimated effect sizes of the KMT Treatment, directed at *Chu*, and the DPP Treatment, directed at *Tsai*, are similar, the levels of initial support

²⁸If we have used only actual voting decisions in our analysis (to produce the estimated effect size in Table 20), this formula for persuasion rate should have been modified to accommodate turnout rate that is less than one: see the appendix of DellaVigna and Gentzkow (2010).

for the two candidates are vastly different among our subjects, resulting in a dramatic difference between the corresponding persuasion rates ($f = 8.77$ vs 42.97). Since there are only a few subjects not supporting *Tsai* (those whom to be persuaded) in the beginning, a small change in vote choices or voting intention is translated into a big difference in persuasion rates. In this way, even if the DPP coefficient affecting the likelihood of voting for *Tsai* is not significant in Table 9, its persuasive effect can nevertheless be very large. Our subjects who are exposed to the Third Treatment are significantly more likely to vote for GSD ($f = 41.25$) and for GSD and NPP combined ($f = 26.58$). Considering the medium level of initial support for these two parties, the persuasive effects of the Third Treatment are rather large and this confirms our previous findings about persuasion effect.

In the literature, the persuasive effect of Fox news (DellaVigna and Kaplan 2007) was measured as $f = 11.6$; that of anti-Putin TV or NTV in Russia (Enikolopov et al. 2011), as $f = 7.7$; that of unsurprising and surprising Democratic endorsements (Chiang and Knight 2011), as $f = 2.0$ and $f = 6.5$, respectively; and that of a free subscription to the *Washington Post* (Gerber et al. 2009), as $f = 19.5$. Hence, relative to the previous studies of media effects, our persuasion rates tend to be similar or sometimes much larger, maybe because of the intensity of our treatments.²⁹

4 Final Remarks

Our experimental design is inspired by Gerber et al. (2009) in assigning subjects to right-leaning or left-leaning newspapers, but is augmented by an additional dimension of traditional vs. newly emerging political parties by introducing new internet media that speak for the latter, and by a marginal payment scheme that varies according to the extent of newspaper readership, which strengthens the intent-to-treat (ITT) and average treatment effects (ATE). This design enables us to identify a sophisticated mechanism by which biased media influence subjects' vote choices.

²⁹The previous experimental studies about get-out-the-vote (GOTV) operations also sometimes found out large persuasive effects on voter turnout: e.g., door-to-door canvassing ($f = 15.6$, Gerber and Green 2000) and personal phone calls by youth vote ($f = 20.4$, Green and Gerber 2008). For comparison of persuasion rates across different studies, see DellaVigna and Gentzkow (2010).

During a short period before an election, the treated news articles with a particular slant work in different ways for different levels of information about candidates or parties. That is, the treated articles are shown to mainly reinforce the existing preferences for well-known right-wing and left-wing parties (KMT and DPP) and their Presidential candidates while they can persuade subjects to vote for new parties (GSD) about which our treatments could be a main source of information. We also find that the main and reinforcement treatment effects are observed mostly among swing voters whose preference for Presidential candidates is not yet firmly decided at the beginning of experiments.

A problem about media studies is that people tend to seek information that is consistent with their own beliefs or ideologies, and this so-called confirmation bias can confound our measurement of media effects. For example, if a subject who originally prefers the candidate *Tsai* is treated by KMT articles, she may doubt the objectivity of the treated articles and try to look for articles of the opposite ideology, thus counterbalancing the treatment effects. In this scenario, our treatment has both direct and indirect effects on the subject’s vote choices, where ATE is given by the sum of both effects, but the resulting sum will be under-estimation of treatment effects in this case.

In order to separate between direct and indirect effects, we have conducted mediation analysis, as proposed by Imai et al. (2010). We use the questions in the surveys about the changes in media consumption after the experiments. It turns out that the KMT and DPP treatments have increased the readership of the rightist United Daily and the leftist Liberty Times, respectively. Moreover, the estimated indirect effects through further consumption of media information on vote choices is negligible in magnitude (very close to zero) and not statistically significant. We interpret this as an evidence that the observed treatment effects, if any, are mostly attributable to the direct effects of experimental treatments.³⁰

While the results from mediation analysis support our assumption that

³⁰The procedure of Imai et al. (2010) lets us estimate the direct and indirect effects through a single media source in the framework of binary comparison between, e.g. Control and KMT groups. We’ve conducted mediation analysis for Apple Daily, Liberty Times, United Daily, Storm media and combined rightist newspapers, and for each pair of treatment groups. The estimated indirect effects are mostly indistinguishable from zero while direct effects are relatively large in magnitude. The detailed estimation procedure and exemplary results are presented in the appendix.

subjects have not much time to read from media sources other than our treatment articles, the media effects we have measured are at best based on a partial model in which variation in media (consumption) is exogenous. A general equilibrium model of media effects would allow individuals to choose from different media sources and investigate how these endogenous selection of media affect vote choices and political behavior. Research along this line is DellaVigna and Kaplan (2007) who used the availability of Fox News, and Martin and Yurukoglu (2017) who used the differences in the location of Fox News in local cable channel lineups. In particular, the latter study simultaneously estimated two equations, one for the effects of the location of Fox News on media consumption and the other for the effects of media on vote choices. Our design can only estimate the second equation and development of new experimental designs that enable us to estimate both equations should be left for future research.

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Appendix A: Mediation Analysis

Media consumption can be a decisive factor in the formation of political preferences. We included in the surveys questions about media consumption behavior before and after the experiments. However, our treatments can simultaneously affect both subjects' political preferences and their media consumption behavior, and additional media consumption (other than treated articles) during the experiments can further influence their voting decisions. Usual econometric tools like instrument variables (IV) cannot be applied to our case due to the nature of our experimental designs, since there is no plausible IV to identify media consumption exogenously.

In order to identify the mediation effects of additional media consumption, triggered by our treatments, we apply the methods and statistical software kits (R package) developed by Imai et al. (2010). The mediation effect can be estimated by the product of coefficients in linear structural models.³¹

The key assumptions to identify mediation effects in the proposed methods follow from the principle of sequential ignorability (Imai et al. 2010), which can be formally written as

A1. $\{Y_i, M_i\}$ orthogonal to T_i , given $X_i = x$;

A2. Y_i orthogonal to M_i , given $T_i = t$, $X_i = x$,

where $Pr(T_i = t|X_i = x) > 0$ and $Pr(M_i = m|T_i = t, X_i = x) > 0$ for $t = 0, 1$ (pairwise comparison between treatment groups), and all $x \in X_i$.

The first part of the assumptions asserts that outcome variables (Y) and mediation factors (M) should be conditionally independent of treatments (T), which is immediately satisfied in experimental studies. The second part further asserts that outcome (Y) should be conditionally independent of mediation factor (M) in each subgroup. Nevertheless, experimental designs themselves do not guarantee the second assumption. We need to conduct sensitivity analysis additionally. If the correlation between the errors of the two models are known, we can estimate the actual ACME (average causal mediation effect), or indirect effect in our frameworks, and ADE (average direct effect), which can be derived by the tools of sensitivity analysis proposed by Imai et al (2010). However, there is no way to acquire the actual

³¹Imai et al. (2010) further proposed a generalized version of mediation analysis applied to nonlinear specifications like probit or logit models.

correlation coefficients. Researchers must examine whether the estimated ACME is sensitive to the correlation according to the sensitivity analysis.

We firstly show the treatment effects on subjects' media consumption. In the survey, we asked media sources from which subjects read the articles the most after the experiments. If a subject ranks a media source within his top three media, then we classify this subject as a consumer of this media (subjects can be a consumer of at most three media while they can also report less than three media sources). Table 21 shows how our treatments affect subjects' (further) consumption of news media, where the United Daily is our main source of KMT articles, the Liberty Times, the main source of DPP articles, and Storm media, the main source of Third treatment articles. We also used the China Times for KMT articles.

We can see from the table that the KMT treatment has significantly increased the consumption of the United Daily while the DPP treatment, that of the Liberty Times. The latter treatment has also increased the consumption of the China Times and the Storm Media, and the Third treatment, that of the Liberty Times. This shows that confirmation bias can work in any directions - either to reinforce or to counterbalance the slanted information included in the treated articles.

Table 21: Media Consumption after Treatments

VARIABLES	United Daily	Liberty Times	China Times	Apple Daily	Storm Media
KMT Treatment	0.204*** (0.077)	0.071 (0.072)	0.051 (0.043)	0.044 (0.082)	0.021 (0.062)
DPP Treatment	0.046 (0.078)	0.201** (0.083)	0.077* (0.044)	0.041 (0.085)	0.119* (0.066)
Third Treatment	-0.008 (0.076)	0.146* (0.086)	0.046 (0.045)	-0.109 (0.078)	0.045 (0.066)
Constant	-0.007 (0.198)	-0.132 (0.225)	0.099 (0.150)	-0.185 (0.211)	-0.121 (0.163)
Observations	190	190	190	190	190
R-squared	0.251	0.359	0.262	0.379	0.271

Note. (i) Robust standard errors in parentheses: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

(ii) All specifications include: gender, whether they are students/students from NTU, whether they are older than 25, whether the income is higher than 40,000NTD/month; whether they have voted before; and initial party preferences and media consumption behavior.

Since the proposed method of mediation analysis (as well as the R pack-

age) can only be applied to models with a single treatment and a single mediation factor, we conduct the analysis for each media source at a time, comparing between the control and a treatment group (or between a pair of treatment groups). Table 22 shows a sample of estimation results for indirect effects (ACME) on the support for parties or candidates given as the column variables, mediated by the United Daily in comparison between the control and KMT groups. Note that the numbers in parentheses are p-values, and we can see that only the indirect effect on the support for DPP is marginally significant, but that the indirect effects for other parties or candidates are negligible in size and not significant at all. The results in the third column can be interpreted as follows: the KMT treatment has, relative to the control group, increased the support for DPP by 4.8% through the channel of direct effect while decreased the support for the same party by 3% through the channel of indirect effect mediated by the United Daily. ATE is roughly the sum of these two effects.

Table 22: Estimates of Direct and Indirect Effects (United Daily - Control vs. KMT)

	KMT	DPP	GSD	NPP	Chu	Tsai	Soong
ACME	0.002 (0.94)	-0.03 (0.08)	0.032 (0.10)	-0.004 (0.82)	-0.005 (0.74)	-0.003 (0.88)	0.005 (0.82)
ADE	0.096 (0.18)	0.048 (0.50)	0.09 (0.24)	-0.121 (0.16)	0.087 (0.34)	-0.041 (0.62)	0.000 (0.96)
ATE	0.097 (0.14)	0.019 (0.78)	0.122 (0.10)	-0.125 (0.14)	0.082 (0.38)	-0.044 (0.60)	0.005 (0.92)

Note. (i) p-values in parentheses: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

We obtain similar results for indirect effects mediated by various media sources in all possible comparison groups. In all cases, mediation effects are observed to be small and not statistically significant (complete results available). This is true for the model of same/different treatments compared with initial preferences with the mediation variable now being “whether the subjects consume media sources of similar ideology”. We thus conclude that the observed treatment effects are largely attributable to direct treatment effects. As mentioned above, sensitivity analysis is required to determine the robustness of our results. Most of our insignificant results are robust under moderate levels of correlation ($|\rho| < 0.3$). The only significant case

(ACME on DPP in the above table) is marginally sensitive to the correlation coefficient because the size of ACME is small.

Appendix B: Initial and Final Surveys, and Sample News Articles and Quiz Questions

B.1 Recruiting Flyers

B.2 Initial Survey

Please complete the survey and answer all the questions.

1. Your assigned experiment ID?
2. When were you born? YY/MM/DD

We want to know more about your news consumption behavior:

3. Which of the following is your major news source?
 - (1) News from the Internet (Yahoo news,...)
 - (2) Social media (Facebook, Twitter,...)
 - (3) Newspapers (Paper version)
 - (4) TV news
4. A. Do you get information online regularly?
 - (1) Yes (2) No (Please skip B.)B. If yes, please indicate the news website you visit the most often (rank top 6).
 - (1) Yahoo News (2) Apple Daily (3) United Daily News
 - (4) Economic Daily News (5) Liberty Times (6) China Times
 - (7) Storm Media Group (8) Hinet News (9) PChome News
 - (10) MSN News (11) NOWnews (12) ETtoday (13) Newtalk News
 - (14) The News Lens (15) CNA News (16) Google News
 - (17) Other News websites (Please specify)
5. A. Do you read newspaper regularly?
 - (1) Yes (2) No (Please skip B.)B. If yes, please indicate the newspaper you read the most often (rank top 6).
 - (1) Apple Daily (2) United Daily News (3) Economic Daily News
 - (4) Liberty Times (5) China Times (6) Other Newspaper (Please specify)

6. A. Do you watch TV news regularly?
 (1) Yes (2) No (Please skip B.)
 B. If yes, which TV news do you watch the most often (rank top 6)?
 (1) TTV (2) CTV (3) CTS (4) FTV (5) TVBS (6) SET (7) ETTV (8) CtiTV
 (9) ERA NEWS (10) GTV (11) USTV (12) DaAi TV (13) PTS (14) Hakka TV
 (15) Taiwan Indigenous TV (16) Others (Please specify)
7. A. Have you used Twitter or Facebook or blogs to share news in the past month? Please choose all that apply.
 (1) Yes. Tweeter (2) Yes. Facebook (3) Yes. Blogs (4) No
 B. If yes, which type of news have you shared?
 (1) Politics News (2) Sports News (3) International News
 (4) Entertainment News (5) Business/Economy News
 (6) Others (Please specify)
8. We would like to know how much you can believe the news from each of the following media sources. Please rank the degree of trust on a 1 to 8 scale. 1 means that you believe nothing of what they say. 8 means that you believe all or most of the organization says.
 (1) Apple Daily (2) United Daily News (3) Liberty Times (4) China Times
 (5) CNA News (6) TVBS (7) Formosa TV News (8) PNN News
 (9) SET News (10) ETTV News (11) TTV News (12) CTV News
 (13) CTS News (14) BBC (15) CNN (16) New York Times
9. Did you follow the news of Ma-Xi meeting?
 (1) Yes - watched the live news during their meeting
 (2) Yes - watched or read the news after they met
 (3) Not so much - didn't pay much attention
 (4) No at all - did not follow at all
10. In the past week, how many days did you hear or read news information about 2016 presidential election?
11. How many news articles related to the presidential election did you read yesterday?
 (1) 0-3 articles (2) 4-6 articles (3) 7-9 articles
 (4) 10-12 articles (5) Above 12 articles (6) Don't remember

12. If you are given a free subscription of a newspaper, so you will have free Liberty Times to read every day, how many political news articles do you think you will read from it per day?
 (1) 0-3 articles (2) 4-6 articles (3) 7-9 articles
 (4) 10-12 articles (5) Above 12 articles
13. If you are given a free subscription of a newspaper, so you will have free United Daily to read every day, how many political news articles do you think you will read from it per day?
 (1) 0-3 articles (2) 4-6 articles (3) 7-9 articles
 (4) 10-12 articles (5) Above 12 articles
14. In the past week, did you visit a website/facebook of a presidential candidate?
 (1)No (2)Yes, Tsai Ing-wen (3)Yes, Li-luan Chu (4)Yes, Chuyu Soong
15. When did Xi-ging Ping become the leader of China?
16. Who is the current President of the Executive Yuan?
17. Who is the current Minister of Finance Ministry?

We want to know your life experiences and perspectives on several things:

18. The inflation rate is the annual percentage change in prices for basic goods like food, clothing, housing, and energy. Since 1960 it has ranged from a high of 47.45 percent (a 47.45 % increase in prices over the previous year) to a low of -0.86 percent (a 0.86% decline in prices over the previous year). What is your best guess about the inflation rate in the Taiwan today? Even if you are uncertain, please provide us with your best estimate of about what percent do you think prices went up or down in the last 12 months.
 Do you think prices went up or down?
 By what percent do you think prices went up or down?[only allow a positive number]
19. How confident are you of your answer to this question?
 (1) No confident at all (2) Not very confident (3) Somewhat unconfident
 (4) Somewhat confident (5) Very confident (6) Certain
20. In which year was the writer Cao Xueqin born? Even if you are not sure, please give us your best guess.

21. How confident are you of your answer to this question?
 (1) No confident at all (2) Not very confident (3) Somewhat unconfident
 (4) Somewhat confident (5) Very confident (6) Certain
22. Now, please answer the previous question in a different way. What's the probability that the difference between the real birth year of Cao Xueqin and your answer is less than 50 years?
23. In your mind, how high is Snow Mt.? Even if you are not sure, please give me your best guess.
24. How confident are you of your answer to this question?
 (1) No confident at all (2) Not very confident (3) Somewhat unconfident
 (4) Somewhat confident (5) Very confident (6) Certain
25. Now, please answer the previous question in a different way. What's the probability that the difference between the real height of Snow Mt. and your guess is less than 200 meters?
26. On a scale from 1-10, please rate the degree of your support for the following politicians. (1 means extremely not support, and 10 means extremely support.)
 (1) Li-luan Chu (2) Ing-wen Tsai (3) Chuyu Soong
27. We would like you to express your support for each candidate in another way: please divide 10 points to the following candidates (so the total numbers you give should be 10):
 (1) Li-luan Chu (2) Ing-wen Tsai (3) Chuyu Soong
28. On a scale from 1-10, please rate the degree of your support for the following parties.
 (1) KMT (2) DPP (3) Taiwan Solidarity Union (4) People First Party
 (5) Non-Partisan Solidarity Union (6) Minkuotang (7) GSD (8) New Party
 (9) National Health Service Alliance (10) Taiwan's National Conference
 (11) Taiwan Union of Human Right (12) Trees Party (13) China uniform party
 (14) People's Democratic Front (15) The Motorists' Party of R.O.C
 (16) MCFAP (17) New Power Party (18) Free Taiwan Party
 (19) Taiwan Independence Party (20) Social Welfare Party
 (21) Faith And Hope League
29. We would like you to express your support for each party in another way: please divide 10 points to the following candidates (so the total

- numbers you give should be 10)
- (1) KMT (2) Democratic Progressive Party (3) Taiwan Solidarity Union
(4) People First Party (5) Other Parties
30. In terms of Taiwanese political spectrum ranging from “deep blue” to “deep green”. Which place are you on?
(1) Deep blue (2) Light blue (3) Center
(4) Light green (5) Deep green (6) Don’t know/ Refuse to answer
31. A. Have you ever heard of any results from any poll on 2016 Presidential election released by media?
B. If yes, please state the polling organization of the survey you hear of, and the corresponding vote share of each candidate is:
Ing-wen Tsai ?%, Li-luan Chu ?%, Chu-yu Soong ?% undecided/not going to vote ?%
32. What do you think about the percentage of votes will be obtained by the three candidates:
Ing-wen Tsai ?%, Li-luan Chu ?%, Chu-yu Soong ?%
33. Have you decided which candidate you are going to vote for in the 2016 presidential election?
(1) Yes, I am going to vote for Ing-wen Tsai
(2) Yes, I am going to vote for Li-luan Chu
(3) Yes, I am going to vote for Chu-yu Soong
(4) No, I haven’t decided yet.
34. A. Have you voted in any election?
B. If, yes, when was the last time you voted?
(1) January 14, 2012 : Presidential election
(2) November 29, 2014 : Municipal elections
C. If voted in presidential election, which candidate did you vote for?
(1) Ing-wen Tsai (2) Ying-jeou Ma (3) Chu-yu Soong
D. If voted in Municipal elections, which party did you vote for?
(1) KMT (2) DPP (3) Taiwan Solidarity Party (4) People First Party
(5) other parties (6) no party affiliation
35. If the 2016 presidential election were held today, who would you vote for?
(1) Ing-wen Tsai (2) Li-luan Chu (3) Chu-yu Soong
36. If the legislative election were held today, which party would you vote for? (1) KMT (2) DPP (3) Taiwan Solidarity Union (4) People First

Party

- (5) Non-Partisan Solidarity Union (6) Minkuotang (7) GSD (8) New Party
(9) National Health Service Alliance (10) Taiwan's National Conference
(11) Taiwan Union of Human Right (12) Trees Party (13) China uniform party
(14) People's Democratic Front (15) The Motorists' Party of R.O.C
(16) MCFAP (17) New Power Party (18) Free Taiwan Party
(19) Taiwan Independence Party (20) Social Welfare Party
(21) Faith And Hope League

Personal Information:

37. Your gender? Male/Female
38. Which county/city is your household is registered in?
39. Are you currently enrolled as a student?
40. If you are currently a student, please select the school you attend. If you have graduated from school, please select the school you graduated from.
41. What is your major of your highest degree?
42. What is your employment status?
43. What is your own currently average monthly income ?(including salary, bonus, overtime, execute business income, self-employed income, pension)
44. Are you willing to participate our subsequent experiments?

B.3 Instruction of the Reading Sessions

National Taiwan University Economics Experiment Experiment Introduction

In this experiment, you are asked to read the news articles sent to you previously, and then answer some comprehension questions based on news contents. Please sign your name, experiment ID, and your answers on the answer sheet.

This session has two parts of comprehension tests and a survey after the tests.

The first section contains multiple choice questions and short answer questions. You would have 10 articles followed by 40 questions. Each article is followed by 1 question (Questions begin with “A”) asking your valuation toward the credibility of this article, and 3 questions (Questions begin with “B”) asking some information in the article. For each question begins with “B”, there is only one correct answer. In this section, you can read the essay when you are answering the question. You will be paid 5 NTD per question for each correct answer in “B” questions.

After you finish the first section, please raise your hand. Our assistant will then give you the questions and instruction for the second section, and collect the article copies distributed earlier.

The second section contains short answer questions. For each article, you have to answer 1 question (questions begin with “C”). There are in total 10 questions. In this section, you have to answer questions **without** text. You will be paid 5 NTD per each correct answer.

After you finish this section, please raise your hand again. The assistant will give you a survey of the experiment and receipt, and collect the answer sheet.

After you finish the survey, please take the survey, receipt, ID card, and a pen to write receipt to the front. The assistant will calculate the payoff for you. The payoff of this session consists of: the show-up fee 100 NTD, and the rewards for correctly answers of the “B” questions and “C” questions.

If you have any problems, you can ask assistants for help at any time.

If there is no problem about the instruction, please turn to the next page and start the session.

First Section

For this section, you will answer some comprehension questions about the articles. You can look at our copies or use your own copies. You will be paid for each correct answer in “B” part.

(Questions)

Here is the end for the first section. Please raise your hand to call the stuffs.

Second Section

For this section, you will answer some other comprehension questions about the articles. Please return the copies, or take away your own copies. You will be paid for each correct answer in this section.

(Questions)

B.4 Treatment Article and Reading Comprehension task (Sample)

(DPP Treatment, Session 2, Article 4)

2015/12/23

賣黨產籌選舉經費？綠估國民黨砸七億 - 政治 - 自由時報電子報

自由時報

Liberty Times Net

政治

賣黨產籌選舉經費？綠估國民黨砸七億

2015-12-22 12:10

〔記者蕭婷方／台北報導〕選戰進入倒數，民進黨緊咬國民黨黨產爭議，今日上午民進黨再公佈國民黨總統候選人朱立倫文宣費用，光網路宣傳費用就高達二．五億元，加上電視、廣播與平面報紙廣告，保守估計超過三億一百一十萬元；加上國民黨挹注立委候選人經費，合計超過七億元，為國民黨有史以來投入大選最高金額。



今日上午民進黨再公佈國民黨總統候選人朱立倫文宣費用，光網路宣傳費用就高達二．五億元（記者蕭婷方攝）

民進黨發言人阮昭雄指出，朱立倫競選文宣費用，目前保守推估逾三億一百一十萬元，包含各人口網站、官網維護、臉書粉絲專頁等網媒，依照網路的露出量推估，再加上網管人事費，朱陣營光網路媒體就砸二．五億元以上，電視廣告約三千五百萬元，廣播電台約砸九百一十萬元，而平面報紙約占七百萬元。

民進黨發言人楊家俁也指出，以歷次國民黨選舉黨產支出金額換算，國民黨的立委候選人每人從黨中央得到補助經費平均超過三百八十萬元，此次選舉國民黨每位立委候選人至少可得黨挹注六百萬元，甚至加碼補助瀕臨落選的候選人，合理懷疑國民黨此次黨產挹注大選經費超過四億四千萬元。

楊家俁也補充，黨產挹注大選經費，加上三億餘元宣傳費用，總計逾七億元，已超越歷來大選水準，遑論組織行政、大型活動支出，認為國民黨已傾注所有黨產要來打這場選舉。

阮昭雄表示，民進黨先前已經公佈兩次競選經費明細，並經過會計師查核，朱立倫若要取得人民信任，應在總統大選辯論前將選舉支出清楚公佈，是否使用黨產也要說清楚、講明白。

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<http://news.ltn.com.tw/news/politics/breakingnews/1547647/print>

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Figure 3:

According to the article above, please answer the following questions:

A4. After you carefully read this article, how credible do you think this article is?

Please answer with scale 1-8, where “1” means the article is not credible at all, and “8” means it is totally credible.

B10. According to this article, how much did Chu spend on web campaign, revealed by DPP?

(A) 350 millions

(B) 220 millions

B11. As DPP’s spokesperson Chia-Liang Yang points out, how much can each KMT legislator candidate get supported from KMT?

(A) 10 millions

(B) 6 millions

B12. According to this article, which of the following is wrong?

(A) Chao Hsiung-tuan asserts that Chu should reveal all campaign costs before the debate.

(B) DPP has announced campaign costs twice, which are checked by accountants.

(C) Chu spent about 35 millions on TV ads.

(D) KMT spent more in the previous election.

C4. On this article’s spokesperson, Chia-Liang Yang, how many times has DPP revealed their campaign costs?

B.5 Repeated Survey in Treatment Sessions

1. Your assigned experiment ID.
2. We would like to know how much you can believe the news reporting from each of the following media organization. Please rank the degree of trust on a 1 to 8 scale. 8 means that you believe all or most of the organization says. 1 means that you believe almost nothing of what they say.
(1) Apple Daily (2) United Daily News (3) Liberty Times (4) China Times
(5) CNA News (6) Storm Media Group
(7) Now News (8) BBC
3. On a scale from 1-10, please rate the degree of your support for the following politicians. (1 means extremely not support, and 10 means extremely support.)
(1) Li-Luan Chu (2) Ing-wen Tsai (3) Chuyu Soong
(4) Jennifer Wang (5) Chien-jen Chen (6) Hsin-ying Hsu
4. We would like you to express your support for each candidate in another way: please divide 10 points to the following candidates (so the total numbers you give should be 10):
(1) Li-Luan Chu (2) Ing-wen Tsai (3) Chuyu Soong
5. We would like you to express your support for each presidential and vice-presidential candidate pair: please divide 10 points to the following presidential and vice-presidential candidate pairs (so the total numbers you give should be 10):
(1) Li-Luan Chu and Jennifer Wang
(2) Ing-wen Tsai and Chien-jen Chen
(3) Chuyu Soong and Hsin-ying Hsu
6. On a scale from 1-10, please rate the degree of your support for the following parties.
(01) KMT (02) DPP (03) Taiwan Solidarity Union
(04) People First Party (05) Non-Partisan Solidarity Union
(06) Minkuotang (07) GSD (08) New Party
(09) National Health Service Alliance (10) New Power Party
(11) Peace Dove Alliance (12) Free Taiwan Party (13) China uniform party
(14) Constitutional Conventions of Taiwan (15) Trees Party

- (16) MCFAP (17)Faith And Hope League (18)Taiwan Independence Party
7. We would like you to express your support for each party in another way: please divide 10 points to the following parties (so the total points you give should be 10)
 (1) KMT (2) DPP (3) PFP (4) Taiwan Solidarity Union
 (5) NPP (6) GSD (7) Other Party
 8. A. Have you ever heard of any results from any poll on 2016 Presidential election released by media?
 B. If yes, please state your source of the polling information, and the corresponding vote share of each candidate.
 C. What is your prediction regarding the percentage of votes will be obtained by the three candidates.
 9. Have you decided which candidate you are going to vote for in the 2016 presidential election?
 (1) Yes, I am going to vote for Ing-wen Tsai
 (2) Yes, I am going to vote for Li-luan Chu
 (3) Yes, I am going to vote for Chu-yu Soong
 (4) No, I haven't decided yet.
 10. If the 2016 presidential election were held today, who would you vote for?
 (1) Li-Luan Chu (2) Ing-wen Tsai (3) Chuyu Soong
 11. If the legislative election was held today, which party would you vote for?
 (01) KMT (02) DPP (03) Taiwan Solidarity Union
 (04) People First Party (05)Non-Partisan Solidarity Union
 (06) Minkuotang (07) GSD (08) New Party
 (09) National Health Service Alliance (10) New Power Party
 (11) Peace Dove Alliance (12) Free Taiwan Party (13) China uniform party
 (14)Constitutional Conventions of Taiwan (15) Trees Party
 (16) MCFAP (17)Faith And Hope League (18)Taiwan Independence Party
 12. **(Only in the third session.)** A. Have you ever watched the debate of the candidates of president or vice president (live or edited clips)? Please check all debates you have watched.
 (1) Yes, I have watched the vice president candidates' debate on 12/26.

- (2) Yes, I have watched the president candidates' debate on 12/27.
- (3) Yes, I have watched the president candidates' debate on 1/2.
- (4) No, I have never watched any of the debates. (Please skip this question.)

B. How did you watch the debate?

- (1) On Internet (2) On TV

C. How long did you spend on watching the debate? (1) Less than 5 minutes. (2) 5-15 minutes

- (3) 15-30 minutes (4) 30 minutes-1 hour

- (5) 1-3 hours (6) more than 3 hours

D.

(a) Does the debate influence evaluation toward Ing-wen Tsai?

- (1) Increase much (2) Increase (3) No change

- (4) Decrease (5) Decrease Much

(b) Does the debate influence evaluation toward Chien-Ren Chen?

- (1) Increase much (2) Increase (3) No change

- (4) Decrease (5) Decrease Much

(c) Does the debate influence your voting decision toward Tsai/Chen?

- (1) Increase much (2) Increase (3) No change

- (4) Decrease (5) Decrease Much

E. (Same Question For Chu)

F. (Same Question For Soong)

13. Do you know who are running for legislator in the election district you live in? Please list these legislative candidates you know in the following table. You can leave blank for information you do not know. If the legislative election was held today, who would you vote for? Please mark for the candidate you would vote for.

(Instructions after the survey in the third session)

It is the end of our on-site experiment. Thank you for your attendance in our experiments. There is a final survey after the whole project. We will open some time slots from Jan. 18th for several days. You can come and finish the final survey and then take the payoff immediately. The payoff for finish the final survey is 200 NTD. Additionally, if you attend all of our experiment sessions (including 3 on-site experiments and 2 Internet quizzes), we will pay you 200 NTD 200 more. You will get them simultaneously when you come for the payoff from the final survey.

B.6 Final Survey

1. Your subject number.
2. Did you turn out to vote on 1/16?
(01) Yes. (Please answer Question 3 to Question 5.)
(02) No. (Please turn to the next sheet, and answer Question 6 to Question 9.)

If you have turned out to vote, please answer Q3-Q5.

3. Who did you vote for the president and the vice president?
(1) Li-luan Chu & Ru-hsuan Wang
(2) Ing-wen Tsai & Chien-ren Chen
(3) Chuyu Soong & Hsin-ying Hsu
(4) I cast invalid vote
(5) I skipped this vote
4. Which party did you vote for in legislative election (PR)?
(01) KMT (02) DPP (03) Taiwan Solidarity Union
(04) People First Party (05) Non-Partisan Solidarity Union
(06) Minkuotang (07) GSD (08) New Party
(09) National Health Service Alliance (10) New Power Party
(11) Peace Dove Alliance (12) Free Taiwan Party (13) China uniform party
(14) Constitutional Conventions of Taiwan (15) Trees Party
(16) MCFAP (17) Faith And Hope League (18) Taiwan Independence Party
(19) I cast invalid vote. (20) I skipped this vote.
5. Do you know who are running for legislator in the election district you live in? Please list these legislative candidates you know in the following table. You can leave blank for information you do not know. If you cast an invalid vote or skipped the vote, you can check the box below the table.
Who you did vote for? Please mark for the candidate you voted for.
Or (a) Invalid vote (b) Skipped this vote

If you did not go to vote, please answer from here.

6. Why did you not go to vote? (You can choose all possible reasons.)
 - (1) It costs too much time or money to go home and cast the vote.
 - (2) I have to work on the election day.
 - (3) There is no ideal candidate to vote for.
 - (4) I am not interested in politics.
 - (5) Others

Although you did not go to vote, we would still like to know your voting decision if you had gone to vote. Please answer Question 7 to 9 with this hypothetical scenario.

7. If you had cast the vote, which group of presidential candidates would you have voted for?
 - (1) Li-luan Chu & Ru-hsuan Wang
 - (2) Ing-wen Tsai & Chien-ren Chen
 - (3) Chuyu Soong & Hsin-ying Hsu
 - (4) I would have cast an invalid vote.
 - (5) I would have skipped this part of voting.
8. If you had cast the vote, which party would you have voted in the legislative vote? (01) KMT (02) DPP (03) Taiwan Solidarity Union (04) People First Party (05) Non-Partisan Solidarity Union (06) Minkuotang (07) GSD (08) New Party (09) National Health Service Alliance (10) New Power Party (11) Peace Dove Alliance (12) Free Taiwan Party (13) China uniform party (14) Constitutional Conventions of Taiwan (15) Trees Party (16) MCFAP (17) Faith And Hope League (18) Taiwan Independence Party (19) I would have cast an invalid vote. (20) I would have skipped this part of voting.
9. Do you know who are running for legislator in the election district you live in? Please list these legislative candidates you know in the following table. You can leave blank for information you do not know. If you would have cast invalid vote or skipped this part, you can check the box below the table. If you had cast the vote, who would you have voted for? Please mark for the candidate you would like to vote for.

- Or (a) I would have cast an invalid vote.
(b) I would have skipped this part of voting.

Please continue answering the following questions:

10. On a scale from 1-10, please rate the degree of your support for the following politicians. (0 means extremely not support, and 10 means extremely support.)
(1) Li-Luan Chu (2) Ing-wen Tsai (3) Chuyu Soong
(4) Jennifer Wang (5) Chien-jen Chen (6) Hsin-ying Hsu
11. We would like you to express your support for each candidate in another way: please divide 10 points to the following candidates (so the total numbers you give should be 10):
(1) Li-Luan Chu (2) Ing-wen Tsai (3) Chuyu Soong
12. We would like you to express your support for each group of president and vice president candidates: please divide 10 points to the following groups (so the total numbers you give should be 10):
13. On a scale from 1-10, please rate the degree of your support for the following parties.
(01) KMT (02) DPP (03) Taiwan Solidarity Union
(04) People First Party (05) Non-Partisan Solidarity Union
(06) Minkuotang (07) GSD (08) New Party
(09) National Health Service Alliance (10) New Power Party
(11) Peace Dove Alliance (12) Free Taiwan Party (13) China uniform party
(14) Constitutional Conventions of Taiwan (15) Trees Party
(16) MCFAP (17) Faith And Hope League (18) Taiwan Independence Party
14. We would like you to express your support for each party in another way: please divide 10 points to the following candidates (so the total numbers you give should be 10)
(1) KMT (2) DPP (3) PFP (4) Taiwan Solidarity Union
(5) NPP (6) GSD (7) Other Party

We would like to know your media consumption behavior:

15. During the month before the election day (Dec. 2015 to Jan. 2016), which of the following is your major news source before the election on Jan. 16th?
- (1) News from the Internet (Yahoo news,...)
 - (2) Social media (Facebook, Twitter, ...)
 - (3) Newspapers (Paper version)
 - (4) TV news

From this question, we would like to know the change in your media consumption behavior. Please answer the following question for every media in the table. Each column with different background color is a sub-question. The first one is similar to the initial survey, which asks you about the most frequently attached media. The second one asks whether you media consumption behavior changed after you participated this experiment until the election. The third and fourth one ask how it changes. If you answered “No effect” in the second question, then you don’t have to answer the third and the fourth question.

16. A. Do you get information online regularly after you participated the experiment until the election day?
- (1) Yes. (2) No. (Please skip B)
- B. If yes, please pick the most frequently visited website from the list below. If there are more than one most frequently visited websites, please fill “1” for the most frequently visited, “2” for the second, and you can fill up to “6”. Please also answer how the frequency changes with the table below after you participated the experiment.
17. A. Do you get information from newspaper regularly after you participated the experiment until the election day? (1) Yes. (2) No. (Please skip B)
- B. If yes, please pick the most read newspaper from the list below. If there are more than one most frequently read newspaper, please fill “1” for the most frequently read, “2” for the second, and you can fill up to “6”. Please also answer how the frequency changes with the table below after you participated the experiment.

18. A. Do you get information from watching TV news regularly after you participated the experiment until the election day?
 (1) Yes. (2) No. (Please skip B)
 B. If yes, please pick the most watched TV news channel from the list below. If there are more than one most frequently watched channel, please fill “1” for the most frequently watched, “2” for the second, and you can fill up to “6”. Please also answer how the frequency changes with the table below after you participated the experiment.
19. A. Do you share news articles on SNS like Twitter, Facebook or blog after you participated the experiment until the election day? Please check all proper one.
 (1) Yes, on Twitter
 (2) Yes, on Facebook
 (3) Yes, on blog
 (4) No. (Please skip B.)
 B. If yes, please answer how the frequency changes with the table below after you participated the experiment.
20. We would like to know how much you believe the news from each of the following media organization. Please rank the degree of trust on a 1 to 8 scale. “1” means that you believe almost nothing of what they say. “8” means that you believe all or most of the organization says. For each news organization, please circle one of the numbers below.
 (1) Apple Daily (2) United Daily News (3) Liberty Times (4) China Times
 (5) CNA News (6) Storm Media Group (7) Now News (8) BBC

We would like to know about your attitude toward some issues. Please state how you agree/disagree with these issues:

(Strongly agree / Agree / Neutral / Disagree / Strongly disagree)

- (1) Open free trade
- (2) Enhance the economic connection with China
- (3) Protect domestic industry
- (4) Stop using nuclear power
- (5) Long term caring steered by the government.
- (6) Open the long term caring system to enterprise.
- (7) Lower age limit for election

- (8) Party negotiation
- (9) Neutralize the chair of Legislative Yuan
- (10) Right of congress testimony
- (11) Right of congress police
- (12) Cancel the high school entrance exam
- (13) Raise the minimum wage
- (14) Legalize the labor union
- (15) Building the social apartment by government
- (16) Taiwan Independence
- (17) Unite with China
- (18) Gay Marriage

21. Among the issues above, what are your most interested issues? You can choose any number of issues you care about from the table above. Please order the degree of interest of the issues and fill in the blanks below by the order.
22. Among the issues above, what are the most important issues you think? You can choose any number of issues you think the most important from the table above. Please order the degree of importance of the issues and fill in the blanks below by the order.
23. Among the issues above, what are the most critical issues affecting your voting decision? You can choose any number of issues you think the most critical from the table above. Please order the degree of how critical are the issues and fill in the blanks below by the order.
24. Which of the following factors influences your voting decision most? (Including: Vote/abstention, who or which party to vote, etc.)
 - (1) Family or friend
 - (2) Traditional media. (Eg. TV news, newspapers, web news, etc.)
 - (3) SNS (Eg. Circulated pictures or video clips about the election)
 - (4) Participating in the political activities (Attending Campaigns, being the volunteer of some candidates or parties, contact with candidates directly, etc.)
 - (5) Others (please indicate)
25. What are the reasons affecting your voting decision in this election? Please list them as many as you can.

26. What are the most critical reasons affect your involving in politics?
Please list them as many as possible.

We would like to ask some question about this experiment:

27. Do you think the articles we gave lean to some specific situation? Please indicate with the number scale 1-8. “1” means they do not lean to some specific situation, and “8” means they totally lean to some specific situation.
28. In general, do you think the articles we gave credible? Please indicate with the number scale 1-8. “1” means they are not credible at all, and “8” means they are totally or almost credible.
29. Do you think the articles we gave in the experiment help you understand more about the candidates or the parties? Please indicate with the number scale 1-8. “1” means they do not help at all, and “8” means they help very lot.
30. How does the experiment affect your media consumption behavior?
(1) Decreased significantly (2) Decrease (3) No influence
(4) Increase (5) Increase Significantly
31. How does the experiment affect your interests toward politics?
(1) Decreased significantly (2) Decrease (3) No influence
(4) Increase (5) Increase Significantly

This is the end of the survey. Thank you for the participation!