A Online Appendix

A.1 Descriptive statistics

Table A1: Descriptive statistics.

Statistic	N	Mean	St. Dev.	Min	Max
Under 40 years old	4,670	0.817	0.387	0	1
Female	4,658	0.443	0.497	0	1
College educated	4,652	0.763	0.425	0	1
China Dove	3,563	0.253	0.435	0	1
China Hawk	3,563	0.585	0.493	0	1
Ideology: "Extreme right"	4,649	0.271	0.444	0	1
Ideology: "Extreme left"	4,649	0.062	0.241	0	1

A.2 Notes on the Sample

Our survey was distributed by Lucid, a market research firm. We used quota sampling to ensure gender balance and a variety of ages, but did not otherwise seek to make our sample representative. We consider our sample of relatively youthful internet users to be a politically important subset of India's population. Because the Chinese diplomats we study typically tweet in English, including to Indian audiences, we conducted the survey in English.

A.3 Ethical Responsibilities to Human Subjects

We took our ethical responsibilities as researchers seriously. Specifically, we took steps to ensure the well-being of survey participants and their society. We informed potential participants of our own identity, provided them with means to contact us, and offered them the opportunity to decline to participate. All data collection occurred online, which afforded participants maximum autonomy. Participants stayed anonymous during the entire research process. We remunerated participants $1.00 USD, or about 75 INR. The median respondent took approximately nine minutes to complete our survey. According to a 2018 International Labour Organization report on wages in India, the median daily wage in India in 2011-2012 was 150 INR. We believe that our compensation was fair, but resist

framing participation as purely a matter of employment. Many participants took the time to write in comments about China, despite the absence of a monetary incentive, suggesting genuine eagerness to voice their opinion, which is a common human desire. Furthermore, by soliciting Indian public opinion, we diversify a debate over China's rise that has been dominated by elite, American voices.

In designing the questionnaire, we included only truthful information that did not place anyone at risk or compromise the integrity of political processes.

A.4 Treatments and Placebo Control

(Full-page images)

Figure A1: Aid-focused treatment

Figure A2: Wolf Warrior treatment

Figure A3: Placebo control

A.5 Composite Outcomes

As declared in our pre-analysis plan, we combined answers to multiple questions into composite outcomes by extracting the first principal component. The factor loadings for each question are given below. Many questions are statements, which respondents expressed agreement or disagreement to on a seven-point scale.

Table A2: Chinese Government PCA loadings

Question	PC loading (wave 1)	PC loading (wave 2)	PC loading (pooled)
1. The Chinese government is trustworthy.	0.53	0.53	0.53
2. The Chinese government is dangerous.	0.02	-0.04	-0.02
3. If China were to increase its military activities in the South China Sea, do you think it would be for offensive or defensive reasons?	0.36	0.36	0.36
4. China's rise is good for India's economy	0.53	0.53	0.53
5. China's rise is good for India's national security	0.55	0.55	0.55

Table A3: Chinese People PCA loadings

Question	PC loading (wave 1)	PC loading (wave 2)	PC loading (pooled)
1. It's good that Chinese ideas and customs are spreading here.	0.57	0.57	0.57
2. Chinese culture has positive aspects.	0.58	0.58	0.58
3. People from China are trustworthy.	0.58	0.58	0.58

Table A4: India's Policy Toward China PCA loadings

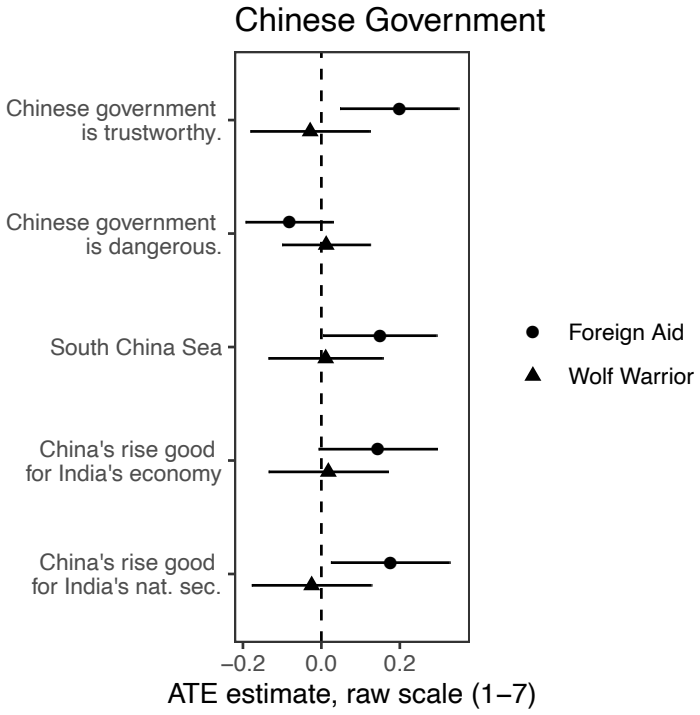
Question	PC loading (wave 1)	PC loading (wave 2)	PC loading (pooled)
1. India should cooperate more with China on trade.	0.47	0.55	0.56
2. India should cooperate more with China on national defense.	0.48	0.54	0.56
3. The Indian government should publicly condemn the Chinese government for its actions in Xinjiang	0.24	-0.29	0
4. The Indian government should impose economic sanctions on the Chinese government for its actions in Xinjiang	0.29	-0.25	0.06
5. The Indian government should offer asylum to Uyghurs	0.41	-0.01	0.26
6. If India must chose between being allies with China or allies with the United States, it should pick China	0.48	0.51	0.55

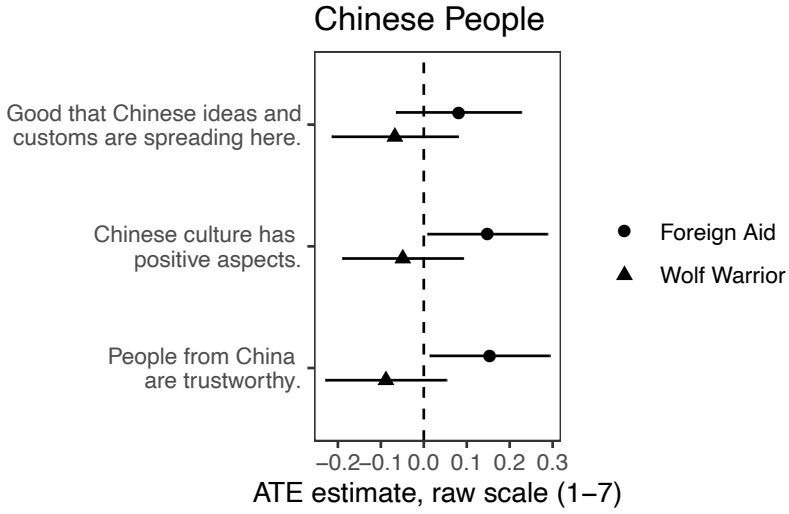
Table A5: China's Handling of COVID-19 PCA loadings

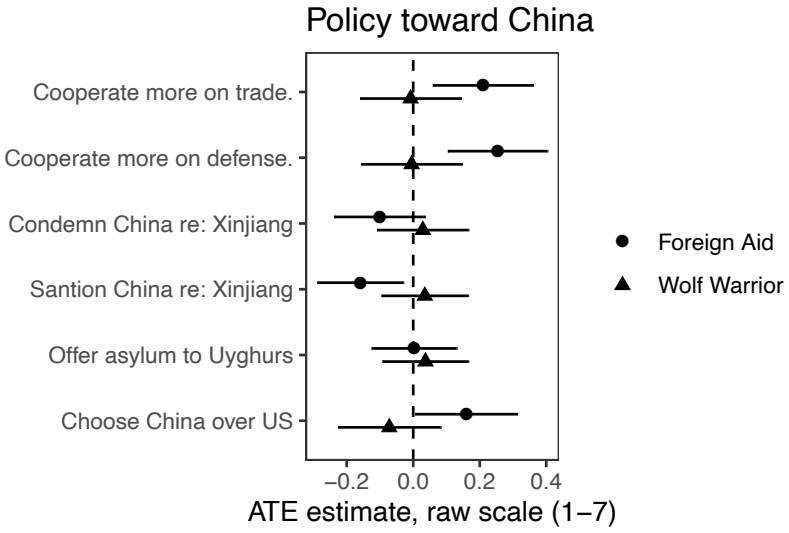
Question	PC loading (wave 1)	PC loading (wave 2)	PC loading (pooled)
1. The Chinese government has done a good job of responding to the COVID-19 epidemic.	0.69	0.70	0.7
2. The Chinese government is responsible for the COVID-19 epidemic.	0.2	0.08	0.13
3. China has been generous in helping other countries during the COVID-19 epidemic.	0.69	0.70	0.7

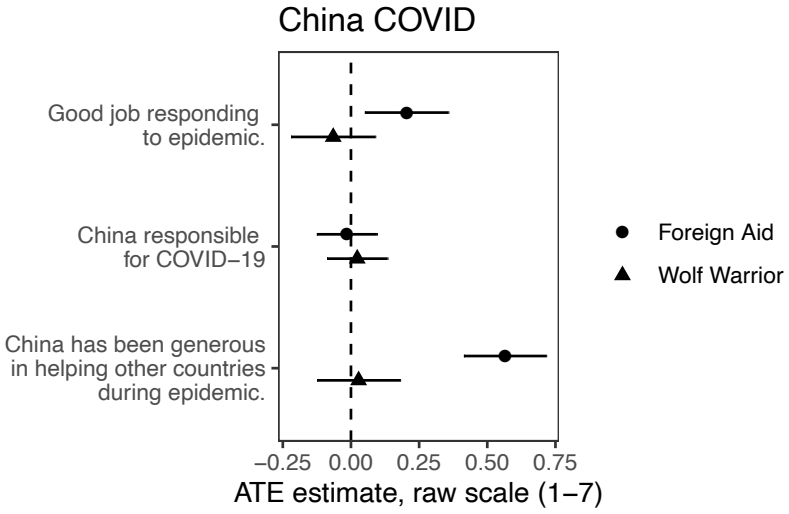
A.6 Results for Individual Questions

Pooled across waves.






Policy toward China
Cooperate more on trade.
Cooperate more on defense.
Condemn China re: Xinjiang
Santion China re: Xinjiang
Offer asylum to Uyghurs
Choose China over US
–0.2
0.0
0.2
0.4
ATE estimate, raw scale (1–7)
Foreign Aid
Wolf Warrior


China COVID
Good job responding to epidemic.
China responsible for COVID–19
China has been generous in helping other countries during epidemic.
–0.25
0.00
0.25
0.50
0.75
ATE estimate, raw scale (1–7)
Foreign Aid
Wolf Warrior

A.7 Pre-Analysis Plan and Multiple Comparisons

We submitted two pre-analysis plans and collected four rounds of data. Our first P-AP was submitted to EGAP on March 4, 2020, and envisioned a small-n, two-arm pilot, where the only treatment consisted of "Wolf Warrior" tweets criticizing the US. We collected approximately 200 responses each from India and the United States, using Amazon's Mechanical Turk platform.

Following these pilots, we decided to focus on the Indian audience, primarily because we thought that the theoretical questions were sharper in the Indian context. On May 5, 2020, we submitted an addendum to our first P-AP, which outlined a larger, four-arm experiment: control, foreign-aid messaging, Chinese criticism of the US, and US criticism of China. We then collected about 4000 responses, using Lucid's platform.

Approximately, one month later, Chinese and Indian soldiers became involved in a deadly clash. Once again, we collected responses using Lucid's platform, but this time, we excluded the fourth arm of the experiment (US criticism of China). This was because, in beginning to write up our results, we found it easier to frame our research in terms of "What China is doing." This second large-n wave was governed by the same May 5 pre-analysis plan.

Our manuscript diverges from the pre-analysis plan on two points: first, we ignore the experimental arm in which participants were exposed to official US criticism of China. As mentioned above, we decided to stop collecting observations for this arm because we had narrowed our research question from Twitter diplomacy to China's autocratic public diplomacy.

Second, we decided to present our findings graphically, rather than in a table with p-values. Overall, we believe that this is a superior means of communicating our results, but we want to honor our commitment to adjusting for multiple comparisons. Whereas our pre-analysis plan anticipated four arms, with six potential cross-arm comparisons, we ultimately only made two comparisons per outcome: control versus Foreign Aid, and control versus Wolf Warrior. Below, we present our main results and ITT results in tabular format, with both raw and adjusted p-values.

Using conventional $\alpha = 0.05$ levels of statistical significance, the only significant result that does not hold up to the Bonferonni-Hochberg procedure is the effect of the Foreign Aid messaging treat-

ment on perceptions of the Chinese people. Our ITT estimates, which re-fit and re-tested the composite outcomes using all responses (including those suspected of repeat submission) are very similar to the main results.

Table A6: Adjusting p-values for multiple comparisons with Benjamini-Hochberg procedure

	Outcome	Treatment	p-value	B-H correction	ITT p-value	ITT B-H correction
1	Government	Foreign Aid	0.011	0.022	0.013	0.027
2	Government	Wolf Warrior	0.952	0.952	0.988	0.988
3	People	Foreign Aid	0.038	0.075	0.036	0.071
4	People	Wolf Warrior	0.326	0.326	0.409	0.409
5	Policy	Foreign Aid	0.003	0.005	0.021	0.042
6	Policy	Wolf Warrior	0.743	0.743	0.93	0.93
7	COVID	Foreign Aid	$< .001$	$< .001$	$< .001$	$< .001$
8	COVID	Wolf Warrior	0.769	0.769	0.962	0.962

A.8 Covariate Balance

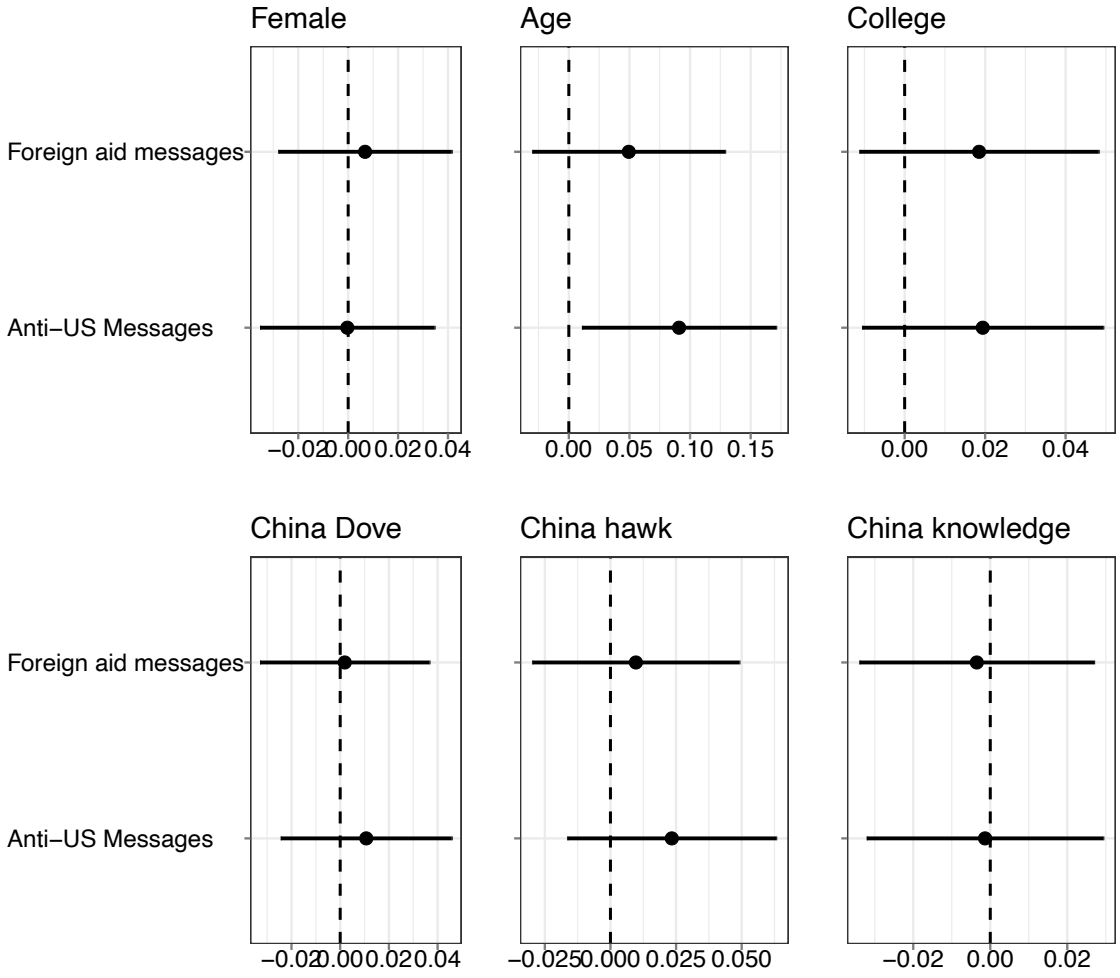


Figure A4: **Pre-Treatment Covariate Balance**: Most covariates are very well balanced, although age is not balanced for the Wolf Warrior treatment. The results remain robust when controlling for pre-treatment covariates.

Autocratic Soft Power: Evidence from China and India

Pre-Analysis Plan

Submitted to EGAP May 5, 2020

Introduction

The rise of China is the most important shift in international politics since the end of the Cold War. China's ascendency on the world stage poses a challenge to the United States: will its historical allies remain with the United States or shift their support to China? Whether they do will shape the distribution of power in the international system, possibly for generations.

One key battleground is over public opinion towards the United States and, especially, China, whose lack of a track record as a world leader may make opinion more malleable. The Chinese Ministry of Foreign Affairs has taken aggressive steps in its public diplomacy to court the public in Africa, Asia, and Latin America by both promoting its own investments in these countries and by trying to fan anti-American sentiment.

In this paper, we examine whether public diplomacy efforts by China and the United States are successful at shaping public opinion. The key empirical question we seek to answer is whether China's aggressive "wolf warrior" diplomacy is successful in shaping attitudes towards the United States and China.

The results will also contribute to two theoretical frontiers in the study of international relations. The first is research into microfoundations, which has revealed that publics are not always sheep to be led by elites (Kertzer and Zeitoff 2017), with real consequences for foreign policy (Heinrich, Kobayashi, and Long 2018). The second is the study of status and international hierarchy. By investigating the effects of official rhetoric on perceptions of China, we believe that we are, with Allan, Vucetic, and Huth (2018), among the first to explore the microfoundations of Chinese hierarchy, and the first to do so experimentally. Closely related to the study of hierarchy is research into anti-American and anti-Chinese sentiment; we explore a new cause of both: public diplomacy by the opposing governments.

The table below summarizes our core hypotheses:

Treatment	Perceptions of China	Perceptions of US
(China) Anti-US		Harmed
(China) China-India ties	Improved	
(US) Anti-China	Harmed	

Sample

We will recruit 4000 English-speaking Indian citizens who are over the age of 18, using Lucid's Marketplace platform. Participants will be randomly assigned to either a control tradition, consisting of non-political, entertainment-related tweets, or one of three treatment conditions: Chinese criticism of the US, emphasis of China's ties to India, or US criticism of China.

Responses will be excluded from analysis if either of the following conditions are met:

- The IP address appeared in a previous response.
- The response took fewer than 90 seconds to complete.

As a robustness check, we will will also conduct an intention-to-treat (ITT) analysis in which no responses are excluded.

Measurement

We ask participants to agree or disagree (on a seven-point scale) with a number of statements about China and the United States. For each country, these statements can be grouped into four categories: culture and people, the government, Indian foreign policy toward the country in question, and COVID-19. Question order is randomized at three levels: the order in which countries are asked about, the order in which the categories appear, and the order of questions within each category. This guards against question-ordering effects while maintaining a coherent survey-taking experience.

For each category, we will construct a summary outcome by calculating the first principal component.

At the conclusion of the survey, we offer respondents the opportunity to anonymously sign two petitions by typing the name of the state that they live in. One petition advocates a policy favorable to China, while the other advocates policy unfavorable to China. We predict that this behavioral outcome will move in the same direction as the perceptual outcomes.

Hypotheses and tests

Our hypotheses are summarized in the above table: we expect each treatment to alter Indian perceptions of one foreign government in a specific direction. We do not have theoretically-informed priors about the effects of any treatment on a foreign government not mentioned by the treatment. We will test our hypotheses with two-sided t-tests, using conventional ($\alpha = .05$) levels of significance.

Because we test each hypothesis with multiple outcomes and across multiple arms, we acknowledge the need to guard against false positives that may arise due to multiple comparisons. For our core, pre-registered analyses, we will ignore the `(China) anti-US` — `(China) China-India ties` cross-arm comparison, leaving five cross-arm comparisons. For each of the four meta-outcomes, we will implement the Benjamini-Hochberg procedure with $m = 5$ hypotheses and $\alpha = .05$ to determine statistical significance. We will also report uncorrected p-values.

We will also test individual questions, controlling for multiple comparisons within categories and across arms. We do this in two ways. First, we preregister one specific question of interest within each of the four main categories: India should cooperate with the US on national defense (Indian policy towards the US); India should condemn the Chinese government for its actions [in Xinjiang] (Indian policy towards China); the Chinese government is trustworthy (Perceptions of China); and Chinese people are trustworthy (Chinese people and culture). We will use the Benjamini-Hochberg procedure to correct for four comparisons. We also examine each question within each category. For example, the category `Perceptions of Chinese culture and people`, which has 3 questions, will be subjected to the Benjamini-Hochberg procedure with $m = 3 * 5 = 15$ hypotheses and $\alpha = .05$ to determine statistical significance. We will also report uncorrected p-values.

Theoretical mechanisms and heterogeneous effects

We collect three covariates of theoretical interest: honor orientation, pre-treatment attitude toward China (classified as hawk, dove, or neither), and knowledge of Chinese politics. In brief, we expect treatment effects to be strongest among individuals with high honor orientation, who already sympathize with the message, and who are comparatively uninformed, as summarized in the table below:

We explore two mechanisms through which tweets might change beliefs and behavior: attitudes and emotions. To examine honor, we ask a series of pre-treatment questions about honor and reputation and examine subgroup effects. To examine changes in beliefs, we ask whether reading the Tweets causes individuals to change their evaluation of whether China gives India a significant amount of aid. To test the emotions mechanism, we ask individuals whether they feel angry about Chinese or American interventions. Our main analysis will focus on comparing mechanisms using the same difference-in-means framework as our outcome variables. We will report results for mediation analysis in the appendix or not at all.

Groups with greatest treatment effect sizes

Covariate	(China) Ties with India	(China) Anti US	(US) Anti China
Honor orientation	High	High	High
China Hawk or Dove	Doves	Doves	Hawks
Knowledge of China	Low	Low	Low

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