

When Does Online Public Diplomacy Succeed? Evidence from China's 'Wolf Warrior' Diplomats

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Abstract

Diplomats worldwide have adopted digital technologies as tools of public diplomacy. How does online public diplomacy shape global public opinion? In this letter, we theorize that positive public diplomacy that emphasizes aid and friendship works, even in the context of escalating real-world conflict. However, we argue that negative messages from diplomats that criticize rivals can backfire. We conduct an experiment, to our knowledge the first of its kind, that randomly exposes Indian citizens to real Twitter messages from Chinese diplomats just before and after a deadly border confrontation. We find that positive messages emphasizing aid and friendship improve perceptions of China, but that negative "Wolf Warrior" messages backfire, particularly after conflict escalation. We conclude that public diplomacy that touts aid can be a useful but limited tool for a rising power like China.

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1 Introduction

In international relations, public opinion matters. Popular support can pressure democratic governments — and even some autocrats (Weeks, 2012) — to agree to join military alliances (Goldsmith and Horiuchi, 2012), to open their markets (Milner and Tingley, 2011), to host military bases (Cooley, 2012), and to deescalate conflict (Kertzer, Brutger and Quek, 2019). On the other hand, hostile foreign opinion can lead to balancing, trade friction, and conflict spirals.

In an attempt to shape global public opinion, governments around the world invest significant sums in public diplomacy. The United States, for example, spends over \$2 billion per year on public diplomacy, while China spends nearly \$8 billion on direct outreach to foreign audiences.¹ How do these public diplomacy campaigns shape global public opinion? Despite the importance of public diplomacy, as (Goldsmith, Horiuchi and Matush, 2021, p. 1) note, “there is surprisingly little well-identified evidence about the effectiveness of public diplomacy.” There is especially scant theory and evidence for how different types of messages might persuade or backfire among foreign audiences.

In this letter, we theorize that positive public diplomacy that emphasizes aid and friendship is persuasive — and can even help to smooth relations in the context of escalating conflict — but that negative public diplomacy that criticizes rivals can backfire. Positive public diplomacy, we argue, works by causing audiences to update their beliefs about the generosity of aid and other foreign policy programs. Negative, Wolf Warrior-style public diplomacy, on the other hand, further inflames tensions, particularly when relations

¹See Martin (2021, p. 213) for China and the U.S. Department of State’s *2020 Comprehensive Annual Report on Public Diplomacy and International Broadcasting*, p 2.

between the two countries have already become polarized.

We arrive at these conclusions based on an experiment that randomly exposed Indian citizens to actual Twitter messages from Chinese diplomats. The experiment randomized whether recipients saw messages promoting Chinese aid and friendship, strident criticism of the United States by so-called Wolf Warrior diplomats, or a placebo condition. This experiment was embedded in a survey that was fielded in two waves, one shortly before and one immediately after deadly clashes between the Indian and Chinese armies in June 2020. The unexpected outbreak of violence further allowed us to examine how international conflict influences China's public diplomacy strategy.

The relationship between China and India is an important case for studying the effectiveness of public diplomacy. In India, China's public diplomacy efforts have been met with a wary reception, rooted in a long history of border tensions. In a recent Pew study, Indians had the most pessimistic view of China's economic rise out of 34 surveyed countries.² If Chinese public diplomacy works among an Indian public, there is reason to expect it will be effective elsewhere.

Despite the long history of conflict between the countries, we find that positive public diplomacy touting aid and friendship works to strengthen public perceptions of China in India — even in times of escalating territorial conflict. Our evidence suggests that these changes in attitudes are largely a consequence of respondents' updating their beliefs about the generosity of Chinese foreign aid, consistent with prior research on the reputational benefits of aid (Goldsmith, Horiuchi and Wood, 2014). Significantly, we find evidence

²Laura Silver, Kat Devlin, and Christine Huang. "China's Economic Growth Mostly Welcomed in Emerging Markets, but Neighbors Wary of Its Influence." Pew Research Center report. Available at <https://www.pewresearch.org/global/2019/12/05/attitudes-toward-china-2019/>.

that this type of diplomacy changed minds in the immediate aftermath of an emotionally charged military conflict in the Galwan Valley, an event which received blanket coverage in the Indian media.

However, we also show that more critical “Wolf Warrior” diplomacy seemingly backfires, but only when relations with China have soured. One plausible expectation is that audiences generally react negatively to this type of messaging. Yet we show that before the Galwan Valley clash, audiences were indifferent to this type of negative public diplomacy. Only in the aftermath of the clash, when relations had cratered, did exposure to Wolf Warrior diplomacy cause attitudes towards China to deteriorate further.

A core contribution of our theory is to begin to resolve seemingly contradictory findings in the recent literature on public diplomacy, aid, and soft power. On one hand, some recent research suggests that public diplomacy by autocracies like China or Russia can backfire or have only weak effects. Chapman and Gerber (2019) find that Russian television broadcasts in foreign countries have only weak and conditional effects on Russian soft power. Blair, Marty and Roessler (2019) finds that exposure to Chinese aid projects is correlated with decreased support for Beijing, as recipients reject the government’s authoritarian values. And Green-Riley (2020) shows that American students who are exposed to teaching from Chinese government-backed Confucius Institute do not become more pro-China, but instead became *less* pro-China. Our theory and findings suggest that a backlash effect may be most likely when bilateral tensions have recently increased and when public diplomacy is critical in tone. However, more research is needed to understand why exposure to Chinese aid improves perceptions of China in some contexts but worsens them in others.

At the same time, we build on a seemingly contradictory strand of research that extols the effectiveness of public diplomacy. For example, Goldsmith, Horiuchi and Matush (2021) show that leader visits sway public opinion in favor of foreign countries. Similarly, Goldsmith, Horiuchi and Wood (2014) and Blair, Marty and Roessler (2019) show that foreign aid can under certain conditions improve recipient countries' opinions of donor countries, suggesting that public diplomacy touting aid and friendship may be effective. And Brazys and Dukalskis (2019) find that the presence of Confucius Institutes leads to more favorable news coverage of China in local media. Drawing on these studies, our theory suggests that diplomatic messaging touting the benefits of aid and friendship may be effective, at least in the short run.

2 Does Online Public Diplomacy Persuade?

Social media has seen widespread adoption by foreign ministries: the U.S. Department of State operates some 423 Twitter accounts, while China, which bans the use of Twitter within its borders, nevertheless operates numerous embassy accounts as a means of communicating with foreign publics.³ American public diplomacy seeks to “advance national interests... by informing and influencing foreign publics,” while Chinese Foreign Minister Wang Yi calls public diplomacy an essential tool to address misunderstandings and misinformation about China that impede the country's diplomatic goals.⁴

³United States Department of State, Global Social Media Presence, January 2021. <https://www.state.gov/social>

⁴See U.S. Department of State Undersecretary for Public Diplomacy and Public Affairs. Accessed June 23, 2021. <https://www.state.gov/about-us-under-secretary-for-public-diplomacy-and-public-affairs/> and “Wang Yi: Strengthening Public Diplomacy Is a Necessary Requirement for Advancing Major Country Diplomacy with Chinese Characteristics,” Foreign Ministry of the People's Republic of China, January 15, 2020, <https://www.fmprc.gov.cn/web/wjzbzd/t1732676.shtml>

The academic study of international relations recognizes these statements as efforts to transform perceived identities and interests. Foreign visits by national leaders, for example, improves perceptions of the leader's government in the host country, primarily by generating favorable media coverage (Goldsmith, Horiuchi and Matush, 2021). Chinese Confucius Institutes, on the other hand, promote greater interest in China and more favorable media coverage, but this does not necessarily translate into more favorable impressions of the country's government (Green-Riley, 2020; Brazys and Dukalskis, 2019).

A related strand of research investigates the role of foreign aid in improving perceptions of the donor government. Cross-national evidence suggests that donors can "do well by doing good" (Goldsmith, Horiuchi and Wood, 2014), but several within-country studies have found small or even negative reputational returns to foreign aid (Dietrich, Mahmud and Winters, 2018; Blair, Marty and Roessler, 2019). The limited returns from "branding" foreign aid attest to both governments' desire to influence foreign perceptions, and the great difficulty of successfully doing so.

What about public diplomacy via social media? Surprisingly, this question remains largely unanswered. Research on digital public diplomacy has made valuable contributions in identifying how MFAs use social media, but so far has not adopted research designs that can detect if these efforts are successful in changing perceptions. An overview of digital public diplomacy describes impact evaluation as "elusive" (Bjola, Cassidy and Manor, 2020, p. 409) while a review of research on China's efforts to manage its global image laments that most research "does not engage with the seemingly simple but fundamental question, namely whether all this image management has any effect" (Hartig, 2019, p. 75).

In this letter, we seek to address this gap in understanding by theorizing how online

public diplomacy can persuade a skeptical audience, with special attention to the global public relations contest between the United States and China.

We begin by disaggregating social media-based public diplomacy into two messaging strategies: positive messages of friendship and negative attacks on rivals. The first of these messaging strategies resembles traditional public diplomacy: portraying the sending country in a friendly light, usually by emphasizing its benevolent foreign aid or cultural vibrancy. The second is perhaps unique to diplomacy conducted via social media. Whereas “diplomatic” is usually a byword for politeness and attention to protocol, diplomats on social media can resort to surprisingly strong language in attacks on rival countries. In China, diplomats who engage in this rhetoric are called “Wolf Warriors” by the foreign press. For example, these diplomats have used Twitter to call Canadian Prime Minister Justin Trudeau a “boy” and Canada a “running dog” of the United States.

The stark difference in tone between these two messaging strategies suggests different mechanisms of persuasion. We hypothesize that positive messages improve perceptions of the sending country by exhibiting a desire for friendly relations. Negative attacks from state A on rival state B, by contrast, reveal damaging information about B, which may harm its reputation in third country C. Citizens of C may even form more positive impressions of A, if A and B are evaluated in comparison with one another. These hypotheses are enumerated below:

H1 Exposure to friendly messaging improves perceptions of the sending state.

H2A Exposure to attacks on rivals harms third-party perceptions of the rival state.

H2B Exposure to attacks on rivals improves third-party perceptions of the sending state.

As we explain in more detail below, our experiment also afforded us the opportunity to test how a geopolitical crisis affects reactions to public diplomacy. With no theoretical prior from the literature to guide us, we hypothesized that, because the crisis was a much stronger signal than the social media messaging, the crisis would dampen any effects of online public diplomacy.

H3 Public diplomacy is less effective during a crisis.

3 Research Design

We conducted an experiment in India to examine the effect of different types of public diplomacy on popular attitudes. We chose India, a regional rival of China's, as a hard case to establish a lower bound for the effectiveness of this strategy. India's relations with China have never been warm; nevertheless, the two countries have worked to increase coordination on issues of global governance through summits of the BRICS nations, and Indian universities are host to three Confucius Institutes.⁵ Thus, India is a difficult but relevant target for Chinese public diplomacy efforts.

In total, we surveyed 4,677 residents of India. The 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. Furthermore, studies show that convenience samples often return estimates of causal effects similar to representative samples, at least in the United States (Coppock and

⁵Ananth Krishnan, "What are Confucius Institutes, and why are they under the scanner in India?" *The Hindu* August 9, 2020.

McClellan, 2019). Because the Chinese diplomats we study typically tweet in English, including to Indian audiences, we conducted the survey in English.

Public Diplomacy Materials

Our experimental treatments were composed of genuine tweets from Chinese diplomats. The first treatment, which emphasized a message of friendship, consisted of three tweets from Sun Weidong, China's ambassador to India, and two tweets from the Ministry of Foreign Affairs. Two of these messages advertised Chinese donations to the Indian Red Cross and World Health Organization during the ongoing coronavirus pandemic. Although this method of presentation bundles the effect of five separate tweets, this brought us closer to our goal of understanding the effect of a charm offensive, as opposed to the effect of any particular tweet. Examples are listed in Table 1, and the full treatments can be found in the online appendix.

The second treatment, which criticized the United States, drew on three tweets from the Ministry of Foreign Affairs, and two from Zhao Lijian, who in addition to being deputy director of the Information Department at the Ministry of Foreign Affairs, is the most visible and provocative of China's "Wolf Warrior" diplomats. These tweets portrayed the United States as a threat to world peace. Participants who did not view either of these treatments instead viewed a placebo control, which consisted of five tweets about entertainment-related topics.

Table 1: Examples of Public Diplomacy Tweets

Friendly Messaging	Wolf Warrior	Placebo Control
<p>@China_Amb_India: The second batch of donation from Chinese charity organizations Jack Ma and Alibaba Foundations has arrived in Delhi today and been received by the Indian Red Cross Society. The donation includes protective clothes, masks, respirators and ventilators.</p>	<p>@MFA_China: China a threat? @USAmbtoNATO Pew poll showed US unpopular among closest allies, as 49% Germans and French 66% Japanese and 67% South Koreans see US as a threat.</p>	<p>@harpreetk0607: #1917MovieReview: This movie is a masterpiece of filmmaking. The cinematography was breathtaking, the performances were phenomenal and the directing was top-notch! It makes sense why #1917Movie is winning all the awards this season. Perfect contender for the Oscars @1917</p>

Measuring Attitudes Toward China

We identified four primary outcomes of interest: perceptions of China’s government, perceptions of the Chinese people, attitudes about India’s policies toward China, and perceptions of China’s response to the Covid-19 epidemic. For each outcome, we asked participants to express agreement on a seven-point scale with various statements. (The full list of statements is included in the online appendix.) The outcome for each category was then constructed by extracting the first principal component of the corresponding group of statements. This method of constructing outcomes and our plan for analyzing them via difference-in-means tests were pre-registered prior to data collection.

Because the Wolf Warrior treatment condition targets the reputation of the United States, we also collected an identical set of outcomes for that country. Question ordering was randomized at three levels: by country, outcome, and individual statement, which

ensured a coherent survey-taking experience while guarding against question-ordering effects.

Natural Experiment

Our first wave of 2,319 responses was collected between May 7-9, 2020. Thirty-seven days after the first wave of data collection ended, on the night of June 15-16, Chinese and Indian soldiers fought their largest engagement since the 1962 border war. The battle, which saw the first deaths in the conflict since 1974, took place in the Galwan River Valley, near the triple point of territory controlled by India, China, and Pakistan. At least twenty Indian soldiers were killed, many of them falling from great heights in the rugged terrain. The incident precipitated a furious nationalistic response in India, with angry citizens smashing Chinese-made televisions.⁶ In the wake of this incident, we collected a second wave of responses, exploiting the as-if-random nature of the timing of the event to compare effect sizes in normal and crisis circumstances. We collected 2,358 responses, beginning roughly 48-60 hours after news of the clash broke, and ending 22 hours later.

4 Results

Positive Public Diplomacy Emphasizing Aid Improves Perceptions of China

We first consider the case of friendly messaging, which was effective in improving perceptions of China (Figure 1). Exposure to this messaging improved opinions of the Chinese government ('Government') and the Chinese people ('People') using an index that combines multiple outcomes. In addition, these respondents increased their support for Indian

⁶Bismee Taskin, "Breaking TV sets to boycotting Chinese goods," *The Print*, June 18, 2020.

cooperation with China ('Policy') and also evaluated of China's response to the coronavirus pandemic more positively ('Covid-19'). China's "mask diplomacy" has previously been shown to have been effective in improving media coverage of the country (Müller, Brazys and Dukalskis, 2021); here, we show that this type of announcement also causes individuals to perceive China more positively.

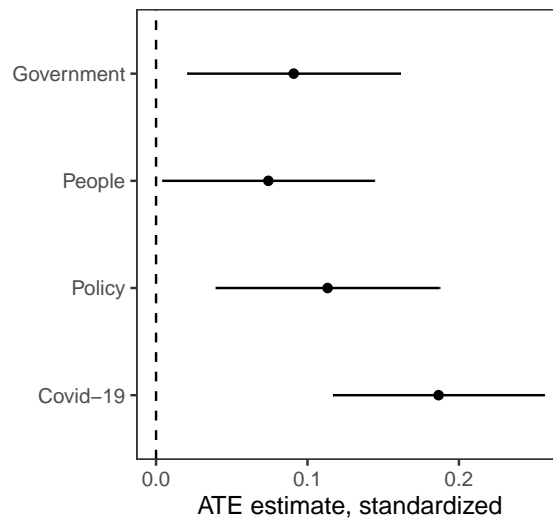


Figure 1: Effects of positive messaging

The wide range of outcomes that improved after reminders of China's generosity is striking. Question-level results are available in the appendix, but a sampling includes: respondents became more willing to support cooperation with China on trade, more likely to perceive its activities in the South China Sea as defensive in nature, and less willing to support sanctions on China for its repression of the Uyghur minority. We infer that aid-focused public diplomacy lifts perceptions of "China" as an entity, causing it and its activities to be evaluated more positively.

The persuasive effect of public diplomacy, though broad, is modest in size, in most cases only about one-tenth of a standard deviation. However, our experiment measures only a single exposure to nothing more than five tweets. Online public diplomacy is unlikely to transform a country’s international image on its own; but it does appear to offer a modest reputational return in exchange for a minimal investment.

Wolf Warrior-style public diplomacy, on the other hand, was in our first round survey ineffective in shaping perceptions about China or the United States (Figure 2). Across all outcomes, the effects are precisely estimated to be close to zero. The limited effectiveness of Wolf Warrior diplomacy might lead observers to wonder why Chinese diplomats chose to adopt this unusual strategy. One possibility is that these ostensibly public messages are in fact aimed at rivals or superiors within the Chinese government, or to the Chinese public, in order to burnish the sender’s reputation as a hawk on the Sino-US relationship.

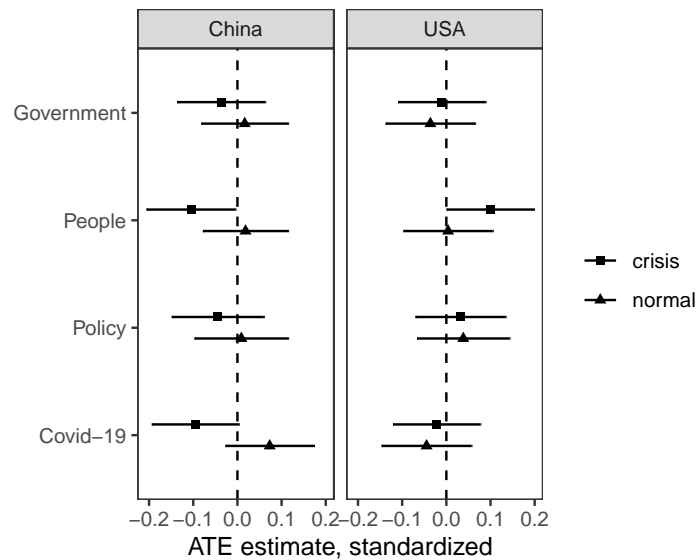


Figure 2: Effects of Wolf Warrior messaging

Impact of the Crisis

Can online public diplomacy shape perceptions even during a geopolitical crisis? A reasonable expectation is that violent conflict would make positive public diplomacy ineffective, as audiences turn against a perceived rival and enemy. The unexpected outbreak of deadly border violence one month after our first wave of responses was collected afforded us a rare opportunity to compare the effects of public diplomacy in two contexts whose only practical difference was a dramatic jump in geopolitical tensions.

To our surprise, friendly messaging continued to have modest positive effects on perceptions of China. All four outcomes displayed effect size estimates very close to those from the pre-crisis wave.

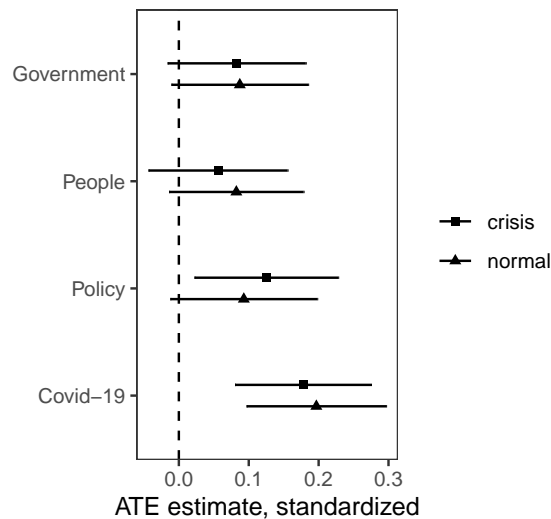


Figure 3: Effects of positive messaging by wave

Another feature of the interaction between the border crisis and public diplomacy was the anti-China backlash sparked by Wolf Warrior messaging. Estimated effects for each

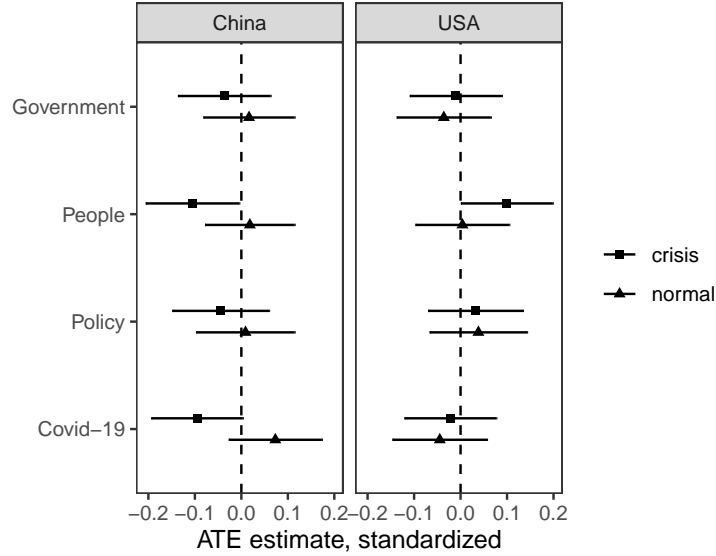


Figure 4: Effects of Wolf Warrior messaging by wave

Chinese outcome flipped from positive to negative. In particular, perceptions of the Chinese and American peoples shifted in response to this messaging strategy during the crisis: respondents perceived Chinese people to be less trustworthy, their culture having fewer positive aspects, and their ideas and customs less welcome in India. American people and culture, by contrast, were rated more highly, which was the opposite effect of that intended by the Wolf Warrior diplomats.

The uneven performance of online public diplomacy in our experiment mirrors the inconsistent evidence on public diplomacy's effectiveness more generally. Clearly, both the content and the context of a messaging strategy can shape how it is received. Overall though, content seems to play the more important role, with a charm offensive offering consistently positive results, in contrast to Wolf Warrior diplomacy's null-to-negative effects.

5 Conclusion

In this study, we provide experimental evidence of the effectiveness of Chinese public diplomacy via social media, and leverage a natural experiment to learn how international crises affect these efforts. We conclude that a messaging strategy that emphasizes generosity and friendship is effective both in normal times and during a crisis. Attacks on rivals, however, do not appear to be persuasive and may even backfire.

Positive public diplomacy can be effective, even in the hardest of hard cases: citizens of a rival nation during a security crisis. For this reason, China will likely continue to invest in aid and public diplomacy efforts to improve its image abroad and reduce concerns about the threat it poses. Meanwhile, its rivals may find themselves compelled to compete, given the ineffectiveness of negative tactics and the fact that tensions with China do not necessarily push countries towards the United States.

However, there are important limits to this strategy. Effect sizes are small relative to the importance of international conflict. Furthermore, military conflict causes negative public diplomacy to backfire. Since China has active territorial disputes not only with India, but also in the East and South China Seas, such conflicts pose a significant obstacle to the country's efforts to woo foreign audiences.

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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)

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.

Figure A1: Aid-focused treatment

Spokesperson发言人办公室 @MFA_China

China will donate another \$30 million to the WHO to help contain #COVID19 & support developing countries in improving their public health systems. At this critical moment, support for WHO helps to strengthen multilateralism & the UN.



7:23 AM · Apr 23, 2020 · Twitter Web App

Sun Weidong @China_Amb_India

Today marks #70th anniversary of establishment of diplomatic ties b/t #China & #India. At this moment, it's imperative to recall original aspiration, carry forward spirit of good-neighborly friendship, explore on how to coexist with each other between major neighboring countries.



12:02 AM · Apr 1, 2020 · Twitter for Advertisers

Sun Weidong @China_Amb_India

The second batch of donation from Chinese charity organizations Jack Ma and Alibaba Foundations has arrived in Delhi today and been received by the Indian Red Cross Society. The donation includes protective clothes, masks, respirators and ventilators. (1/2)

12:43 PM · Mar 31, 2020 · Twitter Web App

Spokesperson发言人办公室 @MFA_China

As the only two countries with 1 billion+ populations, China and India face common challenges in public health. The two sides maintain close communication and cooperation. China is ready to share experience and help India in fighting #COVID19.

9:44 AM · Mar 23, 2020 · Twitter Web App

Sun Weidong @China_Amb_India

Happy Holi to all the Indian friends! Wish you a joyful, healthy and prosperous festival of spring, colours and love!

1:42 AM · Mar 10, 2020 · Twitter Web App

Figure A2: Wolf Warrior treatment

Spokesperson发言人办公室 @MFA_China

Big guy NOT NECESSARILY threat. Unilateralism & hegemony IS. #NATO #LondonDeclaration



6.6K views 0:55 / 0:42

5:49 AM · Dec 5, 2019 · Twitter Web App

Lijian Zhao 赵立坚 @vli517

Old habits die hard. He is doing the same as US Secretary of State, on China, Hong Kong, and Huawei 5G...

RT @RT_com · Dec 8, 2019

Pompeo: 1 was the CIA director. We lied, we cheated, we stole! (April 2019)



505.8K views 0:03 / 0:19

0:01 AM · Dec 9, 2019 · Twitter for iPhone

Spokesperson发言人办公室 @MFA_China

China a threat? @USAmbtoNATO Pew poll showed US unpopular among closest allies, as 49% Germans & French, 66% Japanese and 67% South Koreans see US as a threat.



8:50 AM · Dec 3, 2019 · Twitter Web App

Spokesperson发言人办公室 @MFA_China

On US air strikes in Iraq & Syria, we OPPOSE the use of force in international relations as always. NO COUNTRY shall violate the UN Charter and the basic norms governing international relations.



7:12 AM · Dec 30, 2019 · Twitter Web App

Lijian Zhao 赵立坚 @vli517

I see. Keep the oil. Keep the oil. Keep the oil...

The Hill @thehill Nov 28, 2019

Pres. @realDonaldTrump: "I've been saying for a long time, keep the oil. Hate to say it, I used to say it with a place called Iraq too. Keep the oil, they didn't listen to me. I was a civilian... Now they have to listen."



143.2K views 0:03 / 0:24

5:27 AM · Nov 30, 2019 · Twitter Web App

Figure A3: Placebo control



Table A2: Chinese Government PCA weights

Question	PC loading
1. The Chinese government is trustworthy.	0.53
2. The Chinese government is dangerous.	-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
4. China's rise is good for India's economy	0.53
5. China's rise is good for India's national security	0.55

Table A3: Chinese People PCA weights

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

Table A4: India's policies toward China PCA weights

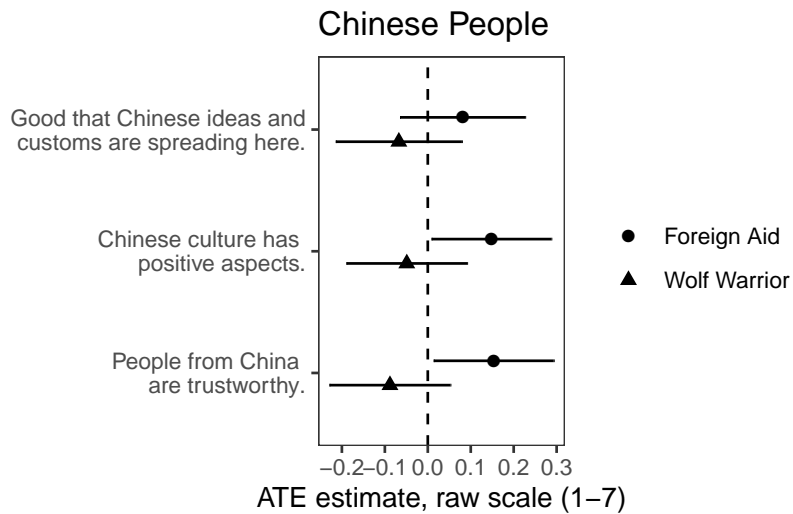
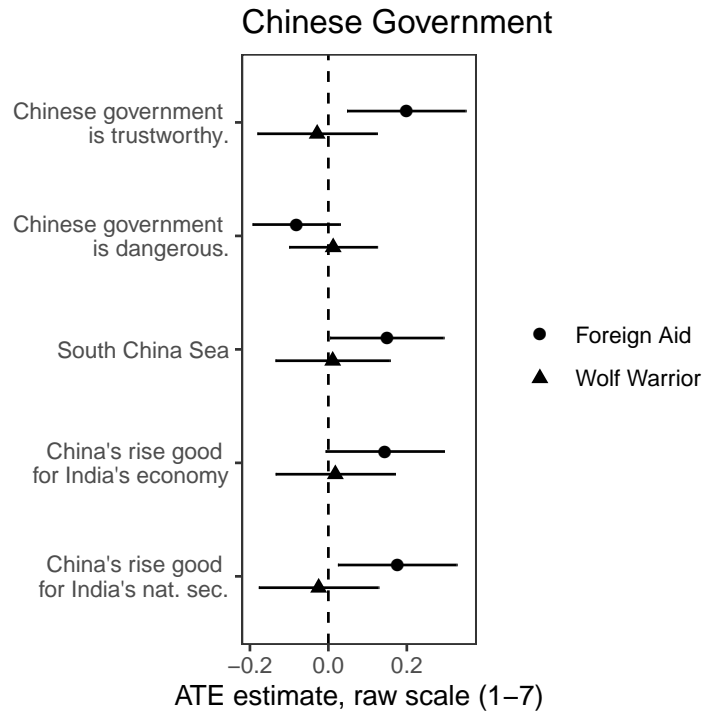
Question	PC loading
1. India should cooperate more with China on trade.	0.56
2. India should cooperate more with China on national defense.	0.56
3. The Indian government should publicly condemn the Chinese government for its actions in Xinjiang.	0.00
4. The Indian government should impose economic sanctions on the Chinese government for its actions in Xinjiang.	0.06
5. The Indian government should offer asylum to Uyghurs	0.26
6. If India must choose between being allies with China or allies with the United States, it should pick China.	0.55

Table A5: China's handling of COVID-19 PCA weights

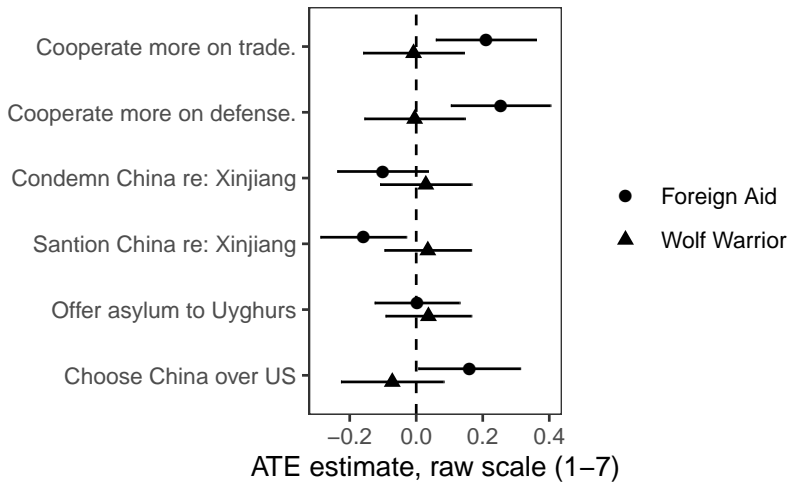
Question	PC loading
1. The Chinese government has done a good job of responding to the COVID-19 epidemic.	0.7
2. The Chinese government is responsible for the COVID-19 epidemic.	0.13
3. China has been generous in helping other countries during the COVID-19 epidemic.	0.7

A.6 Results for Individual Questions

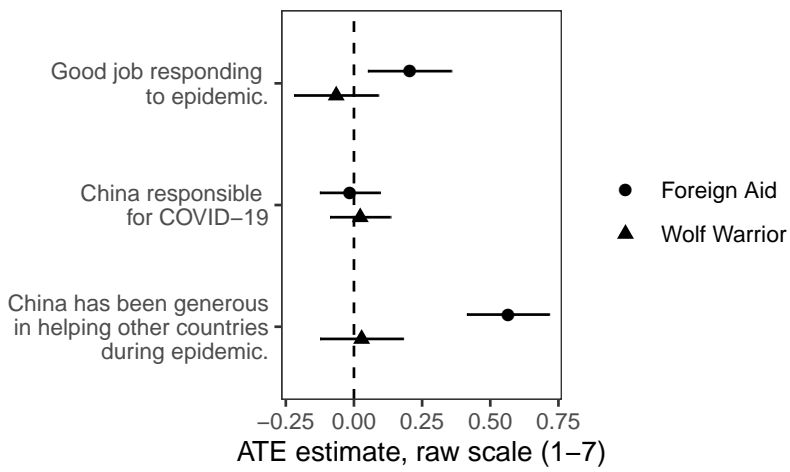
Pooled across waves.



Policy toward China



China COVID



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 treatment 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

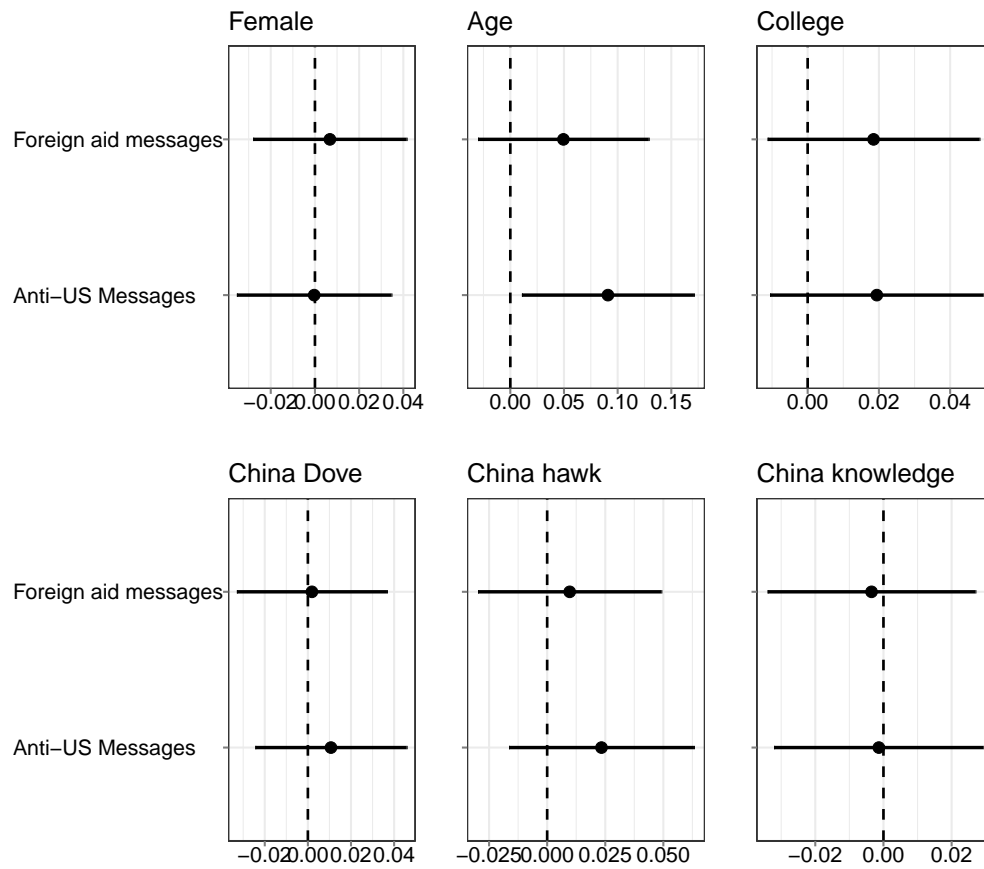


Figure A4: **Pre-Treatment Covariate Balance:** Most covariates are very well balanced, although age is not balanced for the Wolf Warrior treatment. The results remain robust when controlling for pre-treatment covariates.

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 ascendancy 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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