

# Popular Entertainment as Propaganda: Insights from an Online Field Experiment in China

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## **Abstract**

Can popular entertainment serve as effective authoritarian propaganda? Traditional experiments in restricted settings struggle to capture entertainment’s full potential, so I designed an online field experiment providing participants with one-month subscriptions to a leading streaming platform in China, allowing them to explore content naturally. Participants were randomly assigned different starting movies, including a Chinese blockbuster-style propaganda film, and their political opinions were surveyed after initial viewings, with their behavior tracked over the month. The findings reveal both the strengths and limitations of entertainment-based propaganda. While it was well-received and boosted nationalism, economic perceptions, system pride, and perceived government responsiveness among the majority of participants, its effects varied based on initial attitudes and even backfired among a skeptical minority. Over time, enthusiasm waned, with no sustained increase in long-term propaganda consumption. Private engagement remained limited, indicating that diverse entertainment options temper propaganda’s long-term impact.

*“The easiest way to inject a propaganda idea into most people’s minds is to let it go through the medium of an entertainment picture when they do not realize that they are being propagandized.”*

– Elmer Davis, Director of U.S. Office of War Information<sup>1</sup>

## 1 Introduction

From the era of silent films to the age of streaming services, entertainment has always had a secret second life as a messenger of political ideas. In the 20th century, totalitarian regimes such as the Nazis and the Communist regime utilized movies as propaganda tools, a practice also adopted by democracies like the UK and the US during wartime. Key propagandists from these diverse regimes, including Joseph Goebbels from Nazi Germany and Elmer Davis from the US, echoed a similar sentiment regarding the effectiveness of movies in shaping public opinion. (Welch, 2008; Coyne and Hall, 2021). Moving into the 21st century, although the iron grip of totalitarian states has loosened in favor of “informational autocrats” who employ more subtle means of information manipulation (Guriev and Treisman, 2020), the strategy of embedding propaganda within entertainment persists in many autocracies, including China, Russia, Egypt, and Iran (Tolz and Teper, 2018; Knobel, 2020; Barshad, 2022; Soffar, 2022; El Banhawy, 2019; Sinaee, 2023; Ershad, 2016).

While anecdotal evidence suggests that entertainment media shapes political attitudes, rigorous academic research has yet to fully substantiate the propaganda potential of popular entertainment. Observational studies acknowledge media’s influence on public opinion (Adena et al., 2015; Voigtländer and Voth, 2015), but often fail to isolate entertainment as the key factor shaping attitudes. Meanwhile, studies on popular entertainment in democracies, such as Kim (2021) and Kim and Patterson (2024), show that reality TV can influence values and even boost political candidates, despite not being explicitly designed as propaganda. If such effects are possible in democracies, authoritarian propaganda may still offer an even more likely context to test entertainment’s full persuasive potential, as autocrats often actively discipline pop culture figures and content (Esberg, 2020).

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<sup>1</sup>Koppes and Black (1977).

Despite this persuasive potential, survey and lab experiments suggest the impact of authoritarian propaganda may be more limited than speculated. For example, [Mattingly and Yao \(2022\)](#) and [Huang \(2018\)](#) examine the effects of authoritarian propaganda, including entertainment-based forms, but find little evidence that it directly boosts support for authoritarian regimes. While these survey and lab experiments have provided valuable insights into the effects of propaganda, a broader concern with such designs is that they are typically conducted in restricted, artificial settings that hold participants’ attention for only short, focused periods. Researchers often rely on condensed information, such as short clips, to simulate the effects of the original content. In contrast, real-world media consumption involves fluctuating attention, and individuals might engage more deeply with full-length content in everyday environments. While useful for isolating causal effects, traditional designs struggle to capture the full influence of entertainment-based propaganda in real-world settings.

In this paper, I present an original field experiment conducted in China to overcome these limitations. The experiment utilizes a leading Chinese streaming platform—the country’s equivalent of Netflix—to provide a naturalistic setting where participants interact with entertainment as they typically would in their everyday lives. Each participant receives a one-month subscription, allowing them the freedom to choose what, when, and where to watch, with their viewing behavior unobtrusively tracked to capture natural fluctuations in attention and real-world media engagement patterns. While participants are generally free to explore content at their discretion, they are encouraged to begin with different movies, including a blockbuster-style propaganda movie. By inviting them to watch entire films instead of just short clips, this experiment delivers a more potent and realistic dosage of information. After these initial viewings, I survey participants to assess the immediate effects of the movies and continue monitoring their viewing choices to explore the longer-term exposure to propaganda in a private, unsupervised setting.

The empirical focus of this paper is China, where the state has recently found renewed success in using entertainment for propaganda. A prime example is the *Wolf Warrior* series (2015, 2017), blockbuster-style propaganda films produced with military support. These commercial action thrillers, often compared to the American *Rambo* series, feature China as an increasingly assertive rising power. The popularity of these films has even led to China’s assertive foreign policy being informally nicknamed the “Wolf Warrior” policy. Despite their immense popularity and high

box office success, the key question remains: do such regime-sponsored films actually persuade audiences or simply appeal to like-minded viewers? To approach this question, participants in my experiment were randomly assigned to one of three groups: a forced-exposure group (treatment group) encouraged to watch *Wolf Warrior* (2015), a placebo control group encouraged to watch a non-political action thriller with similar features, and a free-choice group that could select either the propaganda film or the non-political film to watch. A total of 362 participants were enrolled via a Chinese crowdsourcing website.

This experiment examines three sets of outcomes. The first set assesses the appeal of propaganda content and how participants engaged with it, including their actual decision to watch a particular movie, their emotional experiences while watching, and their ratings of the film. The second set of outcomes, essential for understanding the broader implications of the movie on authoritarian stability, focuses on core political opinions such as participants’ nationalism, economic perceptions, pride in the political system (henceforth referred to as “system pride”), perceived government responsiveness, and willingness to protest. Lastly, the third set of outcomes investigates participants’ willingness to consume more propaganda content, both in terms of their stated interest in watching similar films and their actual viewing behavior over the next month. Additionally, the experiment explores how pre-existing attitudes toward propaganda—whether participants initially liked or disliked it—shape the treatment effects. The study is pre-registered, including the primary outcomes, main hypotheses, and the examination of these heterogeneous effects.

The findings from my experiment first highlight the broad appeal of propaganda films. Despite varied initial attitudes toward propaganda, participants generally rated *Wolf Warrior* highly and reported positive emotions, particularly pride, after watching it. In the free-choice group, most participants selected the political film over a non-political alternative, demonstrating that well-crafted propaganda can compete effectively in the entertainment market. When comparing the key political opinions of the treatment group to the placebo control group, a clear split emerges. For the majority of participants who did not initially dislike propaganda, *Wolf Warrior* effectively boosted nationalism, system pride, and perceived government responsiveness. However, among the 20% of participants with a pre-existing aversion to propaganda, the film had the opposite effect, reducing political support. This dual impact shows how propaganda can strengthen support among the general audience while alienating a skeptical minority. Importantly, willingness to protest remained



unchanged, suggesting that while propaganda can shift positive political attitudes, it may not alter tendencies toward political activism. The behavioral data, however, suggests the long-term influence of propaganda may be limited. While some viewers expressed increased interest in similar content after watching the propaganda movie, this interest did not translate into substantial viewing behavior. The data reveal a relatively low level of private consumption of propaganda content, with little evidence that the treatment movie significantly impacted participants' actual media choices. These results underscore that the effectiveness of using entertainment for propaganda in authoritarian regimes ultimately depends on the ability to consistently produce content that is both appealing and competitive in a crowded media landscape.

Overall, my results lend credence to propagandists' claims that entertainment holds significant potential in winning hearts and minds for authoritarian regimes, though with notable limitations. While propaganda entertainment can spark enthusiasm among a broad audience, its actual impact on opinions is far from universal. For individuals predisposed to resist such content, initial emotional responses may align with others, but their cognitive processing can result in a backlash against the political messaging. Moreover, the enthusiasm generated by propaganda entertainment tends to wane over time, underscoring the challenge authoritarian regimes face in using entertainment to create a lasting impact on political opinions and culture.

This paper makes three significant contributions to the literature. First, it contributes to the study of information effects by introducing a new experimental design. By leveraging a real-world streaming platform, participants are able to consume full-length content in its original format over an extended period, in an environment that mirrors their everyday media consumption. My approach not only delivers a more potent dosage of information but also provides a more accurate test of how information captures and holds attention in real-world settings.

Second, this paper contributes to the literature on authoritarian propaganda, which has largely overlooked the role of popular entertainment-based propaganda, such as commercially successful propaganda movies embraced voluntarily by audiences.<sup>2</sup> In today's saturated media landscape, where capturing and retaining viewers' attention is increasingly challenging, this gap is particularly important. Ignoring the potential of such content as a vehicle for authoritarian propaganda risks

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<sup>2</sup>While some forms of entertainment, like overtly laudatory poems or segments from anti-Japanese TV dramas, have been analyzed, these do not represent the more popular entertainment known for its market appeal. (Mattingly and Yao, 2022; Huang, 2018)

underestimating the regime’s capacity to shape public opinion effectively.

Third, this paper contributes to the expanding literature on entertainment by evaluating its maximum persuasive potential (Esberg, 2020; Kim, 2021; Kim and Patterson, 2024). It positions authoritarian propaganda as a crucial case for understanding the full scope of entertainment’s influence and demonstrates that entertainment can shift core political attitudes essential to authoritarian survival. This deepens our understanding of entertainment as a powerful tool for political influence.

The remainder of the paper is organized as follows: The first section presents a theoretical discussion that derives expectations from a review of existing literature, followed by an examination of the context of popular propaganda in China. Next, I introduce the pre-registered experimental design and provide details on the data collection process and sample. I then present the experimental findings, followed by a discussion of the results and a reflection on the persuasive power of popular entertainment. Finally, the paper concludes with suggestions for future research.

## 2 Can Entertainment Win Hearts and Minds for Autocrats?

### 2.1 The Persuasive Potential of Entertainment

The use of entertainment as a vehicle for propaganda is a well-established phenomenon, with its roots deeply embedded in the 20th century. For example, Joseph Goebbels, the Nazi Minister of Propaganda, famously asserted that “as soon as propaganda... remains in the background and becomes apparent through human beings, then propaganda becomes effective” (Welch, 2008, p. 57.). Under Goebbels’ direction, the Nazis skillfully wove ideological messages into films and popular culture, aiming to influence the masses while minimizing scrutiny. Despite Goebbels’ confidence in his propaganda strategy, the actual effectiveness of Nazi propaganda remains debated, with no clear evidence that entertainment played a key role in changing beliefs (Adena et al., 2015; Voigtländer and Voth, 2015).

Beyond Nazi Germany, we see a recurring gap between the purported effectiveness of entertainment as propaganda and the evidence supporting it. For example, during World War II, the U.S. Army commissioned the *Why We Fight* series to educate American soldiers, and its effects were studied in the seminal work of Hovland, Lumsdaine, and Sheffield (1949). The study found that while the films successfully transmitted a significant amount of factual knowledge, they had more

limited influence on opinions and, most notably, failed to increase soldiers’ willingness to serve, which was the ultimate goal of the series. The field of Entertainment-Education offers another instructive example, where practitioners and scholars aim to leverage entertainment to raise awareness and encourage behavior change on important social and policy issues. Field experiments examining the effects of such efforts show that while entertainment effectively engages audiences and transmits information, it often falls short of transforming deeply held political attitudes (Green, 2021; Green, Wilke, and Cooper, 2020; Green, Groves, and Manda, 2020). Modern authoritarian regimes face a similar challenge in changing people’s minds. While propaganda, including entertainment-based efforts, has been shown to deter protest, frame public issues, and increase anti-foreign sentiment, it remains surprisingly difficult to demonstrate that these strategies effectively shift core opinions directly related to the government in a way that serves the regime’s interests (Mattingly and Yao, 2022; Huang, 2018; Pan, Shao, and Xu, 2020).

Taken together, this pattern raises an important question: while entertainment can effectively transmit facts and certain values, does it have the power to reshape deeply held beliefs—the kind that are central to how individuals perceive their political party, government, or regime—in a way that justifies the substantial investment political actors continue to make?

To answer this question, we must reconsider our expectations and explore why entertainment may fall short of its anticipated persuasive power. It is well established that deeply held political beliefs are inherently difficult to change, and one possibility is that entertainment, despite its appeal, simply lacks the strength to move them. While entertainment is often praised for its ability to engage audiences, its very nature might lead it to be taken too lightly to influence core political attitudes. As Hovland, Lumsdaine, and Sheffield (1949) cautioned, high entertainment value might undermine the credibility and authenticity of the message, making propaganda feel “too Hollywood” to be truly convincing.

Another possibility is that entertainment can indeed serve as an effective tool for propaganda, but previous studies may have overlooked the most powerful examples. In today’s environment of information overload, only a small portion of the most compelling content breaks through and leaves a lasting impact. Yet much of the literature on propaganda focuses on politically engineered content, which does not always resonate with audiences or achieve widespread popularity. In contrast, commercialized and popular entertainment, even without intentional political messaging, might

have a stronger effect, as it tends to maximize entertainment’s potential to captivate audiences. For instance, studies on commercialized entertainment in democracies, such as [Kim \(2021\)](#) and [Kim and Patterson \(2024\)](#), show that reality TV shows with rags-to-riches narratives influenced American perceptions of economic mobility and shows like *The Apprentice* boosted Donald Trump’s performance in the 2016 Republican primary. It is also important to recognize that popularity and politically engineered content are not mutually exclusive. Some popular authoritarian entertainment-based propaganda—such as those from modern China—remains underexplored. Studying these cases is crucial to fully understanding the potential of entertainment as a tool for political influence.

A final possibility lies in how we study entertainment’s effects. While survey and lab experiments can provide valuable insights, it can be difficult to capture real-world effects in these more restricted settings. First, controlled environments might prompt participants to pay attention to content they would not normally engage with in real life. For instance, a field experiment that provided VPNs demonstrated that people do not always seek out political information on their own ([Chen and Yang, 2019](#)). Second, researchers in these settings often rely on condensed content, such as short clips, which may fail to capture the full impact of longer, full-length material that audiences prefer to watch. This is especially concerning if we believe in the power of well-crafted entertainment to captivate audiences. In real life, people may consume much more content than restricted settings allow, which limits our ability to fully understand the real-world influence of entertainment in more restricted research designs.

Therefore, to understand the full potential of entertainment as propaganda, I argue that more attention should be given to popular authoritarian propaganda, those that have achieved success in the market as entertainment and gained widespread popularity. In the next subsection, I will explore this phenomenon in the context of China. Furthermore, I propose a more suitable design for the inquiry at hand: a study that uses a leading streaming platform, where participants have the freedom to consume content as they naturally would. This approach allows us to examine how authoritarian propaganda competes with alternative entertainment options and operates within a competitive media landscape. By studying content in its full-length form and in a more ecologically valid context, we can better assess the true persuasive power of entertainment-based propaganda.

Another frequently discussed theme in the literature on propaganda is whether it simply “preaches to the choir.” Many studies show that propaganda may not convert individuals with opposing beliefs

but rather reinforces the attitudes of a like-minded audience (Adena et al., 2015; Voigtländer and Voth, 2015; Peisakhin and Rozenas, 2018). Therefore, it is crucial to consider preexisting beliefs when designing research on propaganda effects. Classifying participants based on their preexisting attitudes allows us to analyze how propaganda resonates differently with audiences who hold varying views. Meanwhile, it is equally important to recognize that people’s receptiveness to certain kinds of political messaging exists on a continuum. Even if we observe heterogeneous effects, understanding the potential audience size that may be receptive to specific forms of propaganda is still crucial for comprehending the overall impact of propaganda.

## 2.2 Popular Propaganda in China

In 2021, Wang Xiaohui, then head of the Chinese Film Bureau, proudly claimed that their work had contributed to establishing a strong atmosphere of love for the Party, country, and socialism throughout society (Wang, 2021). Like many regimes previously discussed, the current Chinese government invests heavily in movie propaganda and consistently asserts that it is not only effective but critical. While evidence for the persuasive effect is still lacking, Wang’s claim is supported by how the state’s strategic use of entertainment has recently regained popularity. As China transitioned from a country with totalitarian control to one with a market-driven economy, the government’s direct influence over media consumption diminished, and propaganda content became marginalized as an entertainment option for decades. However, starting in the mid-2010s, propaganda films produced with state support, or even under state planning, have made a notable comeback in theaters, with many blockbuster-style movies achieving significant market success.

A prime example is the *Wolf Warrior* series (2015, 2017), produced with support from the Chinese military.<sup>3</sup> These action-thriller films, which portray a confident and assertive nation, have drawn comparisons to the American *Rambo* series for their mix of intense action and nationalist themes. The popularity of this series is evident in its box office performance: *Wolf Warrior* attracted over 20 million viewers, while its sequel, *Wolf Warrior 2*, reached a staggering 100 million viewers in theaters alone, not counting those who consumed it through other channels like online platforms.<sup>4</sup>

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<sup>3</sup>Although the movie was primarily produced by private companies, the Television and Art Center at the Political Department affiliated with the Nanjing Military Region served as a co-producer for the first *Wolf Warrior* movie. In its sequel, while the military unit was no longer a co-producer, it still provided logistical support and endorsed the films.

<sup>4</sup>The first movie, while commercially successful, was not as sensational as its sequel, which was crucial for my

Beyond commercial success, the *Wolf Warrior* series have become a cornerstone of China’s modern political landscape, even influencing the informal naming of China’s assertive foreign policy as the “Wolf Warrior” policy (Mattingly and Sundquist, 2023).

In this study, I used *Wolf Warrior* (2015) as the case for popular propaganda movies.<sup>5</sup> The plot follows Leng Feng, a skilled sniper in the People’s Liberation Army (PLA), who, despite disobeying orders from his superiors, is recruited into an mysterious elite PLA unit called the “Wolf Warriors.” In this unit, Leng Feng is tasked with protecting China’s border security against foreign influence. He battles mercenaries led by an American ex-Navy SEAL hired by a crime lord smuggling drugs into China’s border. Despite facing numerous dangers and traps, Leng Feng successfully eliminates the ex-Navy SEAL and arrests the crime lord. Although the plot sounds fictional, the movie’s Baidu Baike page, the Chinese counterpart of Wikipedia, claims that the story is adapted from a real border conflict between China and foreign forces (Anonymous, 2024).

While the plot features Hollywood-style individualism and heroism, the movie does not shy away from nationalistic themes. In climactic scenes, Leng Feng fights to protect a Chinese flag patch stitched onto his clothes. He also delivers the well-known line, “Anyone who offends China will be punished, no matter the distance.” This message reinforces the idea of China as a powerful, rising nation, unafraid to assert its influence and defend its sovereignty. It is this ethos that has made the *Wolf Warrior* series a symbol of China’s assertive foreign policy tactics in the real world.

While more research is needed to determine whether the effects of this film are generalizable to other propaganda films, a study on the perception of propagandist entertainment indicates that *Wolf Warrior* is perceived to be more entertaining and less indoctrinating than most other Chinese propaganda films (Liu and Yao, 2024). If we are willing to believe in the power of entertainment in enhancing the persuasive impact of propaganda, then it is likely that the chosen film is expected to yield greater persuasive effects compared to other propaganda movies.

To understand how I study the effects of the popular propaganda movie, the next section will

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experimental design. To maintain balance, the experimental design excluded participants who had seen any of the movies used in the experiment. The fact that fewer individuals had viewed the first *Wolf Warrior* film provided more room for studying the treatment effect among an audience first exposed to it.

<sup>5</sup>To approach this question, there are three methods: evaluating the effects of a single film, assessing the effects of a category of films, and manipulating elements within a film to isolate potent components Hovland, Lumsdaine, and Sheffield (1949). Since the subjects of interest have received little prior attention, it is essential to first understand the overall impact of propaganda movies as bundled treatments. Given time and budget constraints, starting with a single film rather than a category is a practical choice.

provide a detailed discussion of my empirical design.

### 3 Experimental Design and Participants

#### 3.1 Experimental Procedure

In preparation for my experiment, I created accounts on IQiYi, China’s leading streaming platform, which has the largest user base in the country. These accounts were topped up with one-month subscriptions and provided to participants upon their enrollment in the study. By having participants use these researcher-provided accounts, I was able to unobtrusively track their viewing behaviors through the platform’s view history page. The full experimental procedure involved multiple stages, from initial participant screening to tracking their viewing behavior over the course of a month. The key steps in the experiment are outlined in Figure 1 and are explained below:

- (1) Baseline survey: If respondents chose to enter the study, they would first complete a short survey. This survey first screened out individuals who had already seen the treatment or placebo movies by asking them to select the films they had watched from a list. I then collected information on participants’ demographic background, movie-watching preferences and habits, general satisfaction with the political and economic situation. All surveys for this experiment were conducted through Qualtrics, a reputable survey platform.
- (2) Random assignment and treatment delivery: I used simple randomization to assign each participant enrolled into one of three treatment conditions, with equal probabilities of assignment to any of them. The account information provided by the researcher (including the username and password) then came along with the encouragement to start with the movie recommended, according to their treatment assignment. They were also encouraged to continue to enjoy the movie subscription for as long as it remained valid (one month).

Participants were randomly assigned to one of three groups: a treatment group (encouraged to watch a propaganda movie), a placebo control group (encouraged to watch a non-political movie), or a free-choice group (where participants could choose between the two). This design, incorporating the free-choice group, is also known as the patient preference trial and allows for an assessment of preferences in real-world settings (Gaines and Kuklinski, 2011).

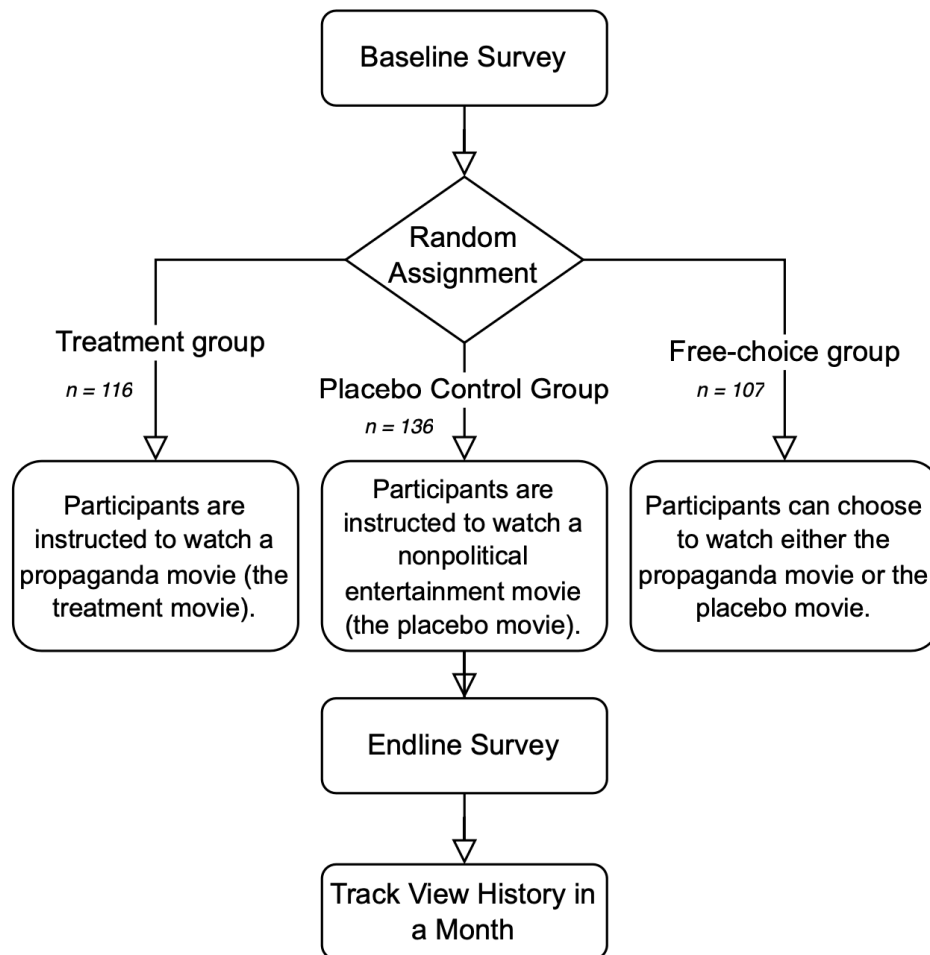


Figure 1: Experimental Procedure: Flowchart



- (3) Endline survey: One day after receiving the account information, participants were sent a follow-up survey to complete after watching the assigned or chosen movie. The survey included factual questions about the movie to ensure they had watched it and also gathered data on their political attitudes and engagement.
- (4) Tracking of viewing history: At the end of the month, I accessed each participant’s IQiYi account to track their viewing history, confirming whether they watched the recommended movie and analyzing any additional content they viewed over the month.

### 3.2 Movie Selection

Figure 2: Selection of Movies



As previously discussed, I used *Wolf Warrior*, a 2015 action thriller with a patriotic element, as the treatment propaganda film. The placebo movie is *Legendary Assassin* (the literal translation of its Chinese name is “Wolf Teeth”), a 2008 Hong Kong action thriller about an assassin who killed an evil gangster and ran away. The reason for choosing this film as the placebo movie is its similarity to the *Wolf Warrior* films: they share the same genre, director, lead actor, and a similar artistic style; they even share a wolf-related theme. However, unlike the *Wolf Warrior* series, which centers on a soldier from the special forces, *Legendary Assassin* features an assassin on the run from the law

in Hong Kong; thus, it does not have any political relevance and should not affect viewers’ political opinions about the mainland Chinese government.<sup>6</sup> Posters of these two movies are shown in Figure 2.

### 3.3 Outcomes

I pre-registered three sets of outcomes: engagement, political opinions, and future consumption, as previously discussed. Concerning opinion outcomes, I selected five main variables of interest: nationalism, economic perception, system pride, perceived government responsiveness, and willingness to protest. These variables were chosen based on a combination of factors, including prior literature, pilot surveys, and theoretical expectations. For each of the five opinion outcomes, an index was calculated by averaging standardized responses from several questions to minimize measurement errors. These questions were intentionally designed to be standard and commonly used but varied in format as much as possible to mitigate issues such as acquiescence bias. In Appendix A.1, I have included the correlation matrices for individual question responses that measure the same outcome. The question details will be presented along with the relevant empirical results in Appendix A.5. The hypotheses are registered as the expected treatment effects on these outcomes, which I will not enumerate individually here.

### 3.4 Estimation Strategy

In this paper, we will mainly focus on the intent-to-treat effects obtained by comparing the outcomes of all subjects assigned to different treatment groups because the compliance with the treatment was expected to be high.

My empirical analysis is based on estimating regressions of the following form:

$$Y_i = \alpha + \beta_1 T1_i + \beta_2 T2_i + \beta_3 \mathbf{X}_i + \epsilon_i$$

$Y_i$  refers to the outcomes.  $T1$  refers to whether an individual is assigned to the forced-exposure group (treatment group).  $T2$  refers to whether an individual is assigned to the free-choice group.

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<sup>6</sup>However, I do not claim that there are no differences in entertainment value between these two films. Given the differing popularity levels of these movies, *Wolf Warrior* may have a higher entertainment value. For this design, the most critical factor is to select two relatively similar films, where one contains propaganda content while the other does not.

$\mathbf{X}_i$  represents the covariates.  $\epsilon_i$  is the error term.

I reported the regression results from two models: a simple regression with only a treatment indicator, omitting covariates; and a regression model that also includes demographic variables as covariates to be adjusted.

Given the patient preference trial design, with the inclusion of a free-choice group, I am equipped to estimate the treatment effects among individuals who would self-select to watch propaganda movies versus those who would not. To do so, I will employ an instrumental variable strategy.<sup>7</sup> As noted in my pre-analysis plan, this analysis is underpowered, so it will not be the main focus and will be considered exploratory.

### 3.5 Participants and Subgroups

A total of 362 participants were enrolled via a Chinese crowdsourcing website, Yi Pin Wei Ke. The participant enrollment took place from February 24, 2023, to March 31, 2023. Endline surveys were collected between February 25, 2023, and April 6, 2023. Among all participants, 116 participants were assigned to the treatment group, 136 to the placebo control group, and 107 to the free-choice group. The final survey included responses from 101 participants in the treatment group, 116 in the placebo control group, and 93 in the free-choice group. For additional details related to compliance and attrition, please refer to Section 4.2.1.

The study’s sample exhibits biases toward certain demographics, with male, younger, and higher-educated respondents being overrepresented. The extent of these biases is detailed in Appendix A.2, which illustrates the distribution of gender, education, and age among participants. Due to the use of simple random assignment, slight covariate imbalances are observed across the experimental groups, as shown in Appendix A.3. After adjusting for these covariates, the main results will remain consistent. For further details on covariates adjustment, refer to Section 4.2.3.

Preference for propaganda movies, identified in the baseline survey, plays a key role in exploring heterogeneity in this study. In the baseline, participants were asked, “What types of movies do

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<sup>7</sup>Compared with the control group, some individuals in the free-choice group were experimentally induced to choose to watch propaganda movies, allowing me to estimate the proportion of compliers (the “self-selectors”—those who would choose to watch the propaganda movie if assigned to the free-choice group) and the treatment effects specific to them using the instrumental variable approach. Similarly, compared to the treatment group, some individuals in the free-choice group were experimentally induced to not watch propaganda movies, enabling me to estimate the proportion of “non-selectors” (those who would choose not to watch the propaganda movie if assigned to the free-choice group) and the treatment effects among them using the same approach.

you usually prefer to watch? Please select all that apply.” They were given 12 options, including genres such as romance, comedy, action, and “main melody movie.” They were then asked, “What types of movies do you usually prefer not to watch? Please select all that apply.” with the same 12 options provided. Among these options, “main melody movie” refers to cultural products in the Chinese context that actively promote state ideology and are widely understood to be equivalent to propaganda. If participants selected “main melody movie” in either question, they were categorized as either liking or disliking propaganda movies, respectively.

The distribution of respondents’ preferences for propaganda movies showed that the majority were initially indifferent to this genre ( $n = 223$ ). Of the remaining participants, more expressed a distaste for propaganda movies ( $n = 83$ ) than a preference for them ( $n = 51$ ). One respondent selected “main melody movie” for both the “like” and “dislike” questions.

Given the small size of the group that expressed a preference for propaganda movies, I combined this group with those who were indifferent for analysis, resulting in two subgroups: those who expressed a distaste for propaganda movies (“Dislike Propaganda - Yes”,  $n = 84$ ) and those who did not (“Dislike Propaganda - No”,  $n = 274$ ). Appendix A.4 shows that male participants and those with lower satisfaction with the country’s overall situation are more likely to dislike propaganda movies, though these relationships are not statistically significant.

## 4 Experimental Results

This section presents the key results of the experiment, structured into two main parts. The first part focuses on the core experimental results. It begins by examining the immediate appeal of propaganda, followed by an analysis of short-term changes in opinions, and concludes with the changes in the consumption of propaganda movies over time. The second part addresses potential threats to identification, discussing compliance and attrition, manipulation checks, and covariate adjustment. It also presents additional findings, exploring other heterogeneous treatment effects and behaviors in the free-choice group, which may have implications for interpreting the results.

## 4.1 Main Results

### 4.1.1 Immediate Appeal of Propaganda: Engagement and Emotional Response

Participants' decisions to voluntarily engage with the propaganda movie attest to its appeal. Across the different groups in the experiment, participants demonstrated a willingness to watch the state-sponsored content, even when given alternative choices and despite any distaste they might have had for the propaganda genre in general. Column 1 in Table 1 presents the percentage of those who ended up watching propaganda under different conditions. In the treatment group, where participants were directly encouraged to watch the propaganda film, a substantial 87.1% complied and watched the film. Breaking this down, 86.7% of those with no prior distaste for propaganda (Panel 2: Dislike Propaganda - No) and 88.0% of those with a distaste for propaganda (Panel 3: Dislike Propaganda - Yes) complied as well. In the free-choice group, where participants were given the option to choose between a politically neutral film and the propaganda film, 55.1% of all participants ended up watching the propaganda film. Specifically, 55.3% of those with no prior distaste for propaganda and 54.5% of those with a distaste for propaganda ended up watching it as well.

While these findings clearly demonstrate that it is possible to encourage people to watch the propaganda film, it is important to consider them in the context of attrition and noncompliance, which are discussed in detail later (see Section 4.2.1). Although there is no major imbalance across treatment groups in terms of attrition and noncompliance, these factors have implications for interpreting the results. For example, when we limit the analysis to those who complied in the free-choice condition—those who actually proceeded to make a choice—62.4% opted for the propaganda film. Among participants who complied, 62.7% of those with no prior distaste for propaganda opted for the propaganda film, and even 66.7% of those with a distaste for propaganda still chose the propaganda film (see Section 4.2.5 for more on this).

To measure how much attention participants paid to the movies, I asked them to identify key plots, elements, and lines from the film they watched. The percentage of correct answers served as the attention score, presented also in Table 1. Across all groups, these scores were generally high, which is a good indicator for the experiment. Notably, the intercepts, representing the mean outcomes for the placebo control group, show high accuracy, exceeding 85%. In addition, both the

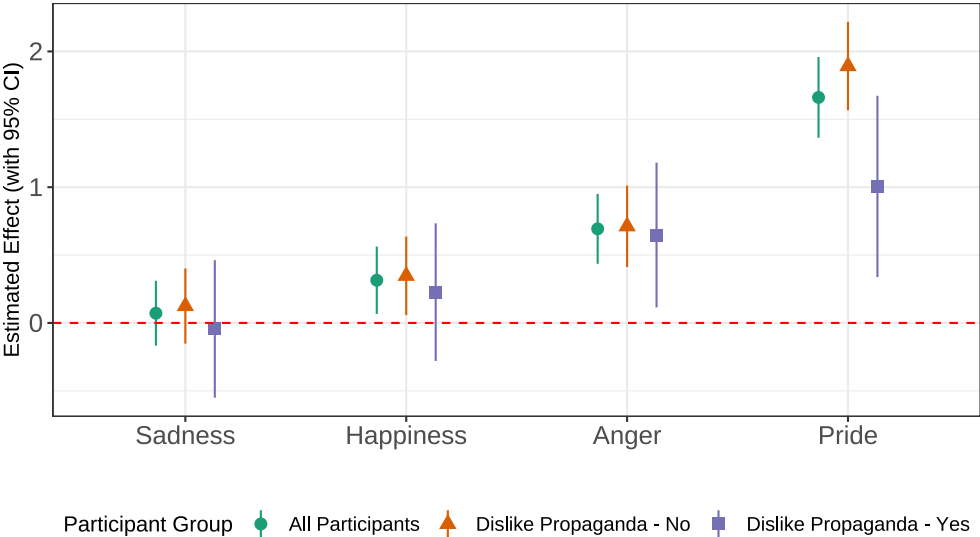
Table 1: Appeal of Propaganda: Engagement and Emotional Response

	Appeal		Emotion				Evaluation
	Watch Propa- ganda	Attention Score	Pride	Anger	Happiness	Sadness	Rating
<i>Panel 1: All Participants</i>							
Intercept	0.000 (0.028)	0.858*** (0.017)	2.551*** (0.114)	2.782*** (0.091)	2.517*** (0.082)	2.798*** (0.082)	7.588*** (0.155)
Treatment	0.871*** (0.042)	0.035 (0.026)	1.661*** (0.169)	0.693*** (0.134)	0.315* (0.123)	0.072 (0.121)	0.952*** (0.230)
Free-Choice	0.551*** (0.043)	0.048+ (0.028)	0.933*** (0.172)	0.401** (0.137)	0.320* (0.124)	-0.056 (0.124)	0.498* (0.235)
Num.Obs.	362	292	310	311	305	312	312
<i>Panel 2: Dislike Propaganda - No</i>							
Intercept	0.000 (0.034)	0.861*** (0.020)	2.481*** (0.133)	2.768*** (0.109)	2.500*** (0.099)	2.744*** (0.098)	7.537*** (0.180)
Treatment	0.867*** (0.050)	0.021 (0.029)	1.892*** (0.191)	0.712*** (0.158)	0.347* (0.145)	0.125 (0.141)	1.240*** (0.260)
Free-Choice	0.553*** (0.050)	0.032 (0.031)	0.959*** (0.191)	0.378* (0.158)	0.380** (0.143)	0.016 (0.141)	0.583* (0.261)
Num.Obs.	274	216	231	232	229	233	233
<i>Panel 3: Dislike Propaganda - Yes</i>							
Intercept	0.000 (0.049)	0.853*** (0.035)	2.703*** (0.222)	2.811*** (0.166)	2.556*** (0.149)	2.919*** (0.152)	7.703*** (0.303)
Treatment	0.880*** (0.079)	0.078 (0.055)	1.006** (0.354)	0.648* (0.265)	0.227 (0.239)	-0.044 (0.243)	0.089 (0.483)
Free-Choice	0.545*** (0.082)	0.109+ (0.064)	0.964* (0.388)	0.523+ (0.290)	0.092 (0.264)	-0.252 (0.267)	0.242 (0.530)
Num.Obs.	87	76	79	79	76	79	79

treatment and free-choice groups display slightly higher attention scores on average, though the differences are rarely large or statistically significant. Maintaining consistently high attention is crucial at this stage, as it ensures that participants fully engaged with the content, an important factor before assessing the impact on their opinions.

In the post-viewing survey, participants were also asked to rate their emotional experiences while watching the movie. The survey focused on four emotional states—sadness, happiness, anger, and pride, following the approach of Mattingly and Yao (2022). Respondents were asked to rate their emotional experiences using a five-point scale, including the options of “almost none,” “relatively few,” “moderate,” “relatively many,” and “extremely many.” The results are presented in Table 1, with a comparison between the treatment and control groups further visualized in Figure 4. In this figure, as well as in all other figures using the same style in this paper, the bar labeled “Placebo Control” represents the mean outcome for the control group, while the “Treatment” bar represents the mean outcome for the treatment group, which is calculated as the control group’s mean plus the estimated treatment effect. The error bars depict the estimated 95% confidence intervals of the treatment effects.

Figure 3: Emotions During Movie-Watching



I observe that participants in the placebo control group reported mild emotional experiences during movie-watching, with similar levels across different emotions. In contrast, participants in the treatment group exhibited stronger emotional responses, particularly in feelings of anger and

pride. Most notably, participants reported an average feeling of pride above the second-highest level, “relatively many.” This suggests that this particular propaganda movie elicited especially powerful feelings of pride. In the free-choice group, outcomes were generally in between the control and treatment groups, as expected.

Interestingly, people with different predispositions toward propaganda displayed a similar emotional pattern, though the intensity varied. For the subgroup without a prior distaste for propaganda, emotional responses in the treatment group were particularly pronounced, especially for pride. Even among participants with a prior distaste for propaganda, higher levels of anger and pride were observed in the treatment group compared to the placebo control group, though the increases were less dramatic. Nevertheless, pride remained the most heightened emotional response for this subgroup as well.

Participants rated the propaganda movie quite favorably. In the post-viewing survey, participants were asked to rate the movie they watched on a scale from 0 to 10. As shown in Table 1, the mean rating for the placebo movie was 7.59, while the propaganda movie received a higher rating of 8.54. Among participants who did not previously dislike propaganda, the difference was even more pronounced, with a 1.24-point increase compared to the 0.95-point increase for the overall sample. Importantly, even among those who previously disliked propaganda, the treatment film was not rated less favorably than the placebo movie. This suggests that, despite their predispositions against the propaganda genre, the quality or appeal of the propaganda film was strong enough to prevent any significant negative downgrades, even when compared to films without the elements they generally dislike.

Overall, the findings suggest that state-sponsored propaganda, when presented as entertainment, can appeal to a broad audience. Despite some participants having a natural distaste for propaganda, many still chose to watch the film, experienced similar feelings, and rated it almost as favorably as more neutral movies. This demonstrates the power of entertainment to capture the audience’s attention and engage them emotionally, in a way that can soften resistance.

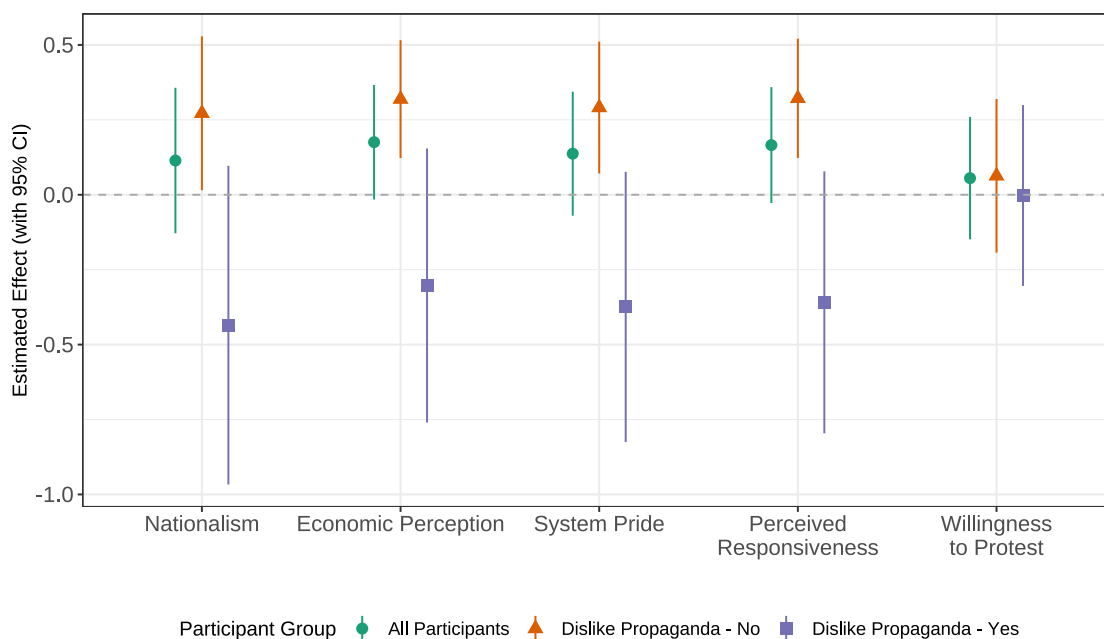
#### **4.1.2 Changes in Opinions**

Table 2 presents the estimated effects of the treatment on five short-term opinion variables: nationalism, economic perception, system pride, perceived government responsiveness, and willingness



to protest. The key results are visualized in Figure 4. Each outcome is represented by an index, created by averaging the standardized responses to a set of related questions. My analysis primarily focuses on the results of these indexes, while detailed descriptions of the individual questions and corresponding results are provided in the appendix.

Figure 4: Treatment effects by outcome and taste for propaganda



The results in “Panel 1: All Participants” in Table 2 indicate that, among all participants, the propaganda film enhanced nationalism (0.114 standard deviations), improved economic perceptions (0.175 standard deviations), increased pride in the political system (0.137 standard deviations), and boosted perceived government responsiveness (0.166 standard deviations). Additionally, it slightly reduced willingness to protest (0.055 standard deviations). However, none of these effects reached statistical significance at the 0.05 level.

To further analyze the data, I investigate subgroup effects based on participants’ pre-treatment expressions of dislike for propaganda. “Panel 2: Dislike Propaganda – No” presents the treatment effects for participants who did not express a prior distaste for propaganda. The effects are consistently positive and statistically significant at the 0.05 level across all outcomes except willingness to protest, with effect sizes of approximately 0.3 standard deviations for nationalism, economic perceptions, system pride, and perceived responsiveness.

Table 2: Effects of Propaganda Movie on Political Opinions

	Nationalism	Economic Perception	System Pride	Perceived Responsiveness	Willingness to Protest
<i>Panel 1: All Participants</i>					
(Intercept)	-0.052 (0.084)	-0.107+ (0.062)	-0.052 (0.070)	-0.053 (0.069)	-0.062 (0.071)
Treatment	0.114 (0.123)	0.175+ (0.092)	0.137 (0.102)	0.166 (0.101)	0.055 (0.105)
Free-Choice	0.036 (0.126)	0.158+ (0.094)	0.026 (0.105)	0.006 (0.103)	0.160 (0.107)
Num.Obs.	309	311	312	312	312
<i>Panel 2: Dislike Propaganda - No</i>					
(Intercept)	-0.008 (0.090)	-0.088 (0.069)	-0.034 (0.076)	-0.027 (0.074)	-0.027 (0.090)
Treatment	0.272* (0.129)	0.319** (0.098)	0.291** (0.109)	0.322** (0.106)	0.063 (0.129)
Free-Choice	0.091 (0.130)	0.136 (0.100)	0.117 (0.110)	0.031 (0.106)	0.136 (0.130)
Num.Obs.	231	233	234	234	234
<i>Panel 3: Dislike Propaganda - Yes</i>					
(Intercept)	-0.149 (0.177)	-0.150 (0.126)	-0.094 (0.141)	-0.113 (0.146)	-0.142 (0.105)
Treatment	-0.435 (0.281)	-0.303 (0.200)	-0.374+ (0.222)	-0.359 (0.231)	-0.002 (0.166)
Free-Choice	-0.273 (0.307)	0.215 (0.219)	-0.388 (0.244)	-0.148 (0.253)	0.190 (0.182)
Num.Obs.	78	78	78	78	78

Given that the effect size is measured in standard deviations, it can be difficult to interpret its substantive significance. For context, participants in the baseline survey rated their overall satisfaction with the country’s economic and social conditions on a five-point scale. This variable, which is used for covariate adjustment, shows that the treatment effect is roughly equivalent to the effect of increasing participants’ general satisfaction by one unit on a five-point scale. This provides a more intuitive sense of the magnitude of the treatment effect and suggests that it is quite meaningful in relative terms.

In contrast, “Panel 3: Dislike Propaganda – Yes” shows that the treatment had negative effects across all outcome variables except willingness to protest. These negative effects were more pronounced than those observed among participants with a favorable view of propaganda, with the most substantial negative effect on nationalism (less than half a standard deviation). For other variables, the treatment produced shifts of more than 0.3 standard deviations. This suggests that the propaganda film had an inverse effect on participants who initially disliked propaganda, although these results are not statistically significant.

Figure 4 visualizes the estimated subgroup effects. Participants who expressed a distaste for propaganda films exhibited slightly larger absolute effect sizes compared to those who did not express such a distaste, although these effects were less precisely estimated. This highlights how pre-existing attitudes shape persuasive effects: the film had a positive impact on those with neutral or favorable views, while it backfired among those with a negative predisposition. Given the larger size of the favorable group, the overall response to the film leans positive.<sup>8</sup>

The one outcome that the treatment did not affect for either group was participants’ willingness to protest. The study cannot provide a conclusive explanation for this result. While it is possible that there is simply no effect, it may also be due to the dual-edged effects of propaganda films. In cases where they boost support for the regime and reduce the willingness to protest, the intense emotional responses they evoke could simultaneously agitate people, potentially offsetting the previous effect.

Figure 14, Figure 15, Figure 16, Figure 17, and Figure 18 in the Appendix A.5 present the

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<sup>8</sup>This variation in treatment effect between the two subgroups could lead to the overall effect of the treatment, when averaged across all participants, appearing statistically insignificant. In other words, the positive effect of the treatment on the first subgroup—those who did not express a prior distaste for propaganda—could be partially “cancelled out” by the negative effect on the second subgroup, those who expressed a distaste for propaganda movies.

original questions and the treatment effects for each, measured on their respective scales. For nationalism, I included questions that range from benign national pride to more extreme forms of nationalism. While the baseline level of national pride was already high, it was further boosted by the treatment among those who did not dislike propaganda; backfire effects were stronger on the more extreme nationalism questions. In terms of economic perception, I included questions about both personal and national conditions, as well as current and future outlooks. Heterogeneous effects were most pronounced on questions concerning the country’s economic condition. For system pride and perceived government performance, which did not start from a high baseline like nationalism, consistent heterogeneous effects were observed across all questions. Minimal changes were noted for the protest-related questions.

In summary, the results indicate that the propaganda movie had varied effects on participants’ short-term opinions, which are critical for support of an authoritarian regime, depending on their pre-existing attitudes toward propaganda. Overall, the effects were positive, given the predominance of participants who either liked or were indifferent to propaganda. However, the treatment did not influence participants’ expressed willingness to protest.

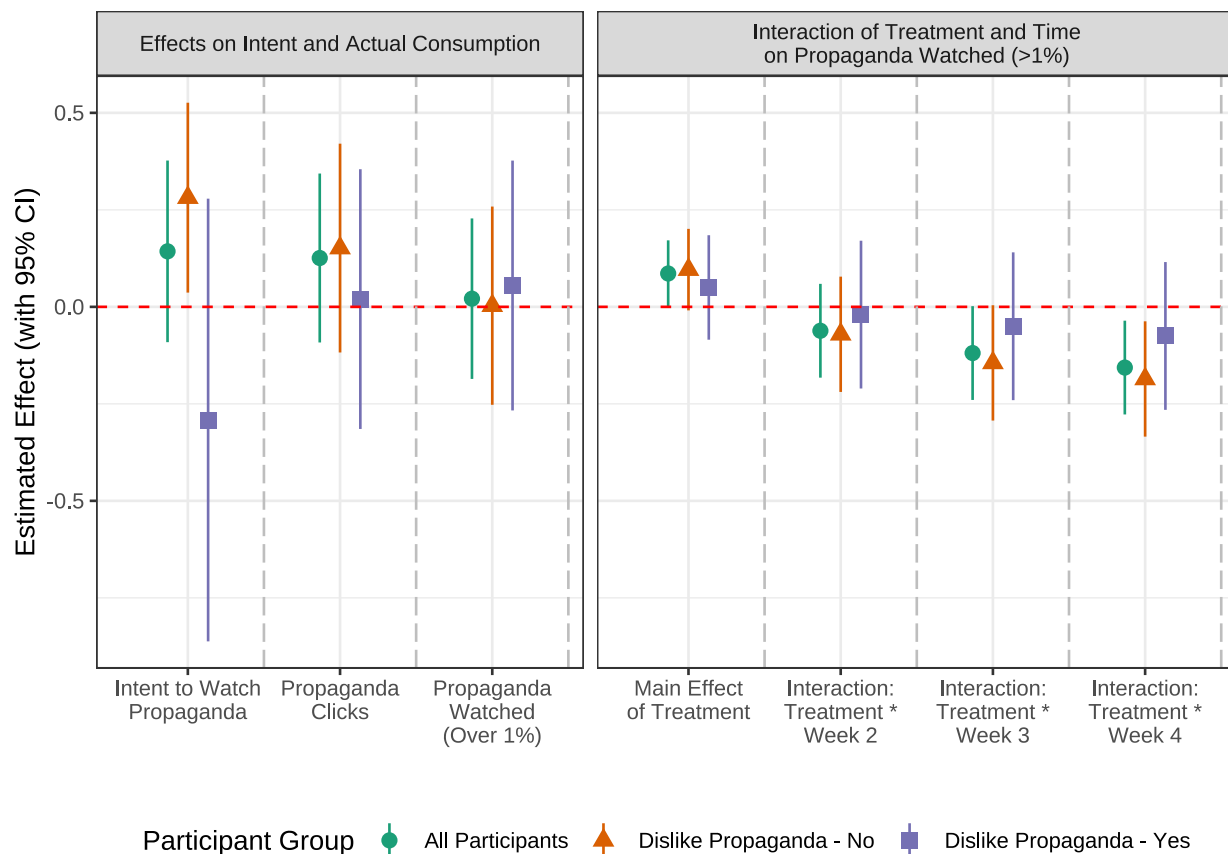
### **4.1.3 Consumption of Propaganda Movies Over Time**

The success of the government’s efforts to use movies as vehicles for political propaganda hinges on whether individuals choose to engage with them. While it is possible to nudge audiences toward consuming propaganda, as demonstrated earlier in this paper, a key question remains: will individuals voluntarily consume such content in their private leisure time? This is particularly relevant given that the treatment movies were generally well-received, suggesting the possibility of cultivating a taste for propaganda. However, as I will demonstrate, the evidence for both a high level of voluntary private engagement and a cultivated taste for propaganda remains limited.

To assess these questions empirically, I turn to the experimental results. Figure 5 provides a visual representation of the key findings, including the treatment effects (comparing the treatment and control groups) on participants’ expressed intent to watch propaganda, the number of propaganda clicks, and the percentage of propaganda watched beyond 1%. The figure also highlights the interaction between the treatment effect and time, illustrating how the impact diminished over the four-week period. For full results and corresponding tables, please refer to Table 6 and Table 7 in

the Appendix A.6.

Figure 5: Estimated Treatment Effects on Propaganda Consumption



When it comes to the willingness to watch more propaganda, the findings present an interesting contradiction between participants' expressed interest and their actual consumption. In the endline survey, when participants were asked about their willingness to watch a sequel to the *Wolf Warrior* series, those without a prior aversion to propaganda showed increased interest as the result of the treatment, with an effect size of 0.28 ( $p < 0.05$ ) on a 4-point interest scale. In contrast, those who initially disliked propaganda showed lower, though not statistically significant, willingness to watch more. Despite this increase in expressed interest, the treatment did not change actual consumption based on behavioral data. Post-treatment, participants without a prior distaste for propaganda clicked on propaganda content 0.15 more on average, an effect that is not statistically significant. More importantly, when looking at the proportion of propaganda watched beyond 1%, the effect was negligible, with an estimated treatment effect of 0.003, also insignificant. As shown in the left

panel of Figure 5, the estimated effects diminish from expressed interest to actual viewing behavior.

The interaction effects between the treatment and time, illustrated in the right panel of Figure 5, provide evidence that the treatment had a declining effect on propaganda consumption over time. In the first week, the treatment group consumed slightly more propaganda than the control group, but this difference decreased by 0.071 in the second week, 0.144 in the third week, and 0.186 in the fourth week, all compared to the first week. One explanation for the declining treatment effect and the overall null result in a month is that participants may have simply reallocated their viewing behaviors. There are popular propaganda shows and movies that participants might watch regardless of their treatment assignment. The treatment may have prompted participants to watch these movies sooner rather than later, but it did not increase the total amount of propaganda they consumed in the long run.

These findings suggest that while the treatment may have reinforced or polarized participants' existing attitudes toward propaganda films, it did little to alter their actual consumption behavior in the long term. The reluctance of many participants to follow through on their short-term expressed interest points to a more complex set of factors influencing media choices. One key factor is the sheer volume of entertainment options available, coupled with the audience's remarkably diverse tastes, which they likely reverted to after the initial viewing. The data reveal that participants, on average, clicked on 8.56 films, with some selecting as many as 85. In contrast, the average number of propaganda films clicked following the assigned treatment was just 0.46, with the highest being 7. This suggests that people have well-established entertainment preferences that they tend to fall back on, beyond political or propaganda content.

The behavioral data further emphasize the diversity of entertainment preferences. Figure 6 illustrates the types of content participants chose after the experiment. Non-political dramas dominated, accounting for 62% of total consumption, while propaganda dramas made up only 6.88%. This points to a general preference for entertainment that avoids overt political or ideological themes. Notably, this figure is significantly lower than the 20% market share that propaganda films typically capture at the box office in recent years. The data also underscore the wide range of entertainment consumed, from American and Hong Kong dramas to animations and variety shows. In Appendix A.7, I demonstrate that the treatment has little effect on the audience's preferences for non-political entertainment.

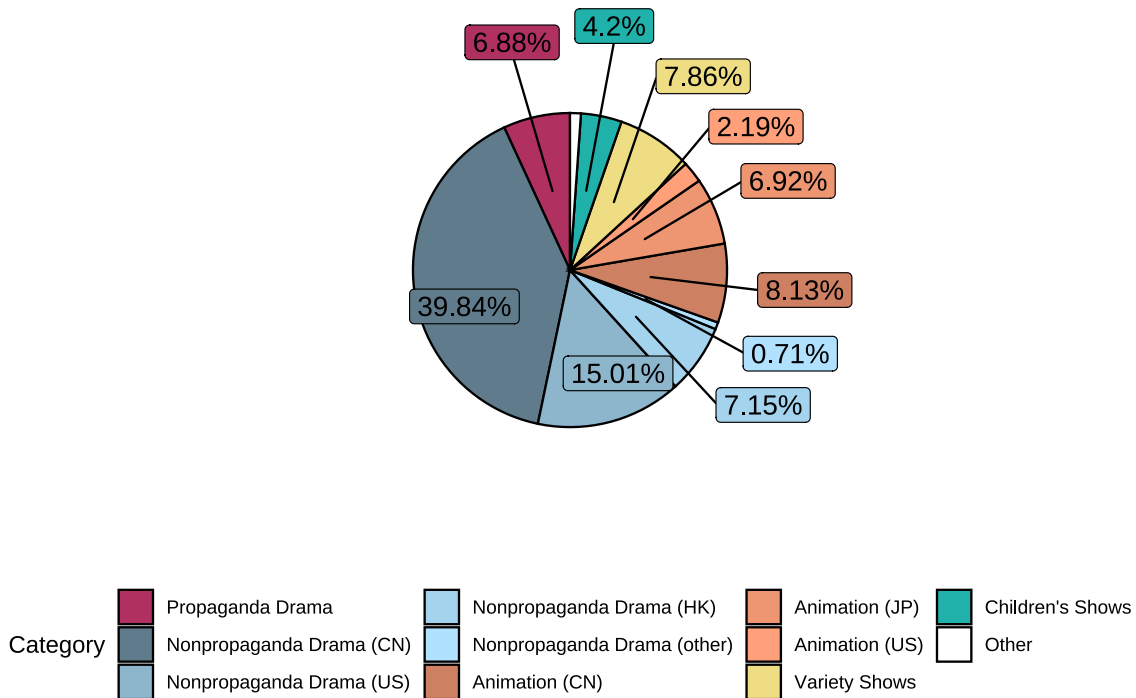


Figure 6: Audience's Choice in Entertainment

While overall propaganda consumption is limited, this should not be seen as evidence that individual propaganda pieces cannot compete in the entertainment market. In fact, one of the most consumed pieces of content in the study, viewed by 36 participants, was the hit propaganda drama *Knockout*.<sup>9</sup> However, even this relative success highlights an important point: individual propaganda pieces have limited influence within the broader entertainment landscape. The state's efforts to promote its propaganda through entertainment hinge on its capacity to consistently produce a large quantity of high-quality films that achieve widespread, mainstream popularity.

## 4.2 Threats to Identification and Additional Results

### 4.2.1 Compliance and Attrition

Results from the experiment suggests that the propaganda movie is quite effective at generating interest and capturing attention. Among participants who registered for the study, 12.26% of participants in the treatment group and 14.18% of participants in the control group did not show

<sup>9</sup> *Knockout*, produced under the guidance of the Central Political and Legal Affairs Commission, is set against the backdrop of the nationwide campaign against organized crime. It is considered both a propaganda piece and a major hit. See Colville (2023).

signs of using the provided account. Another 11.32% of participants in the treatment group and 11.94% of participants chose to use the account without clicking on the recommended movie. Among the remaining participants who did start watching the movies, 87.65% of participants in the treatment group and 90.91% of participants in the control group watched more than 90% of the recommended movies.

While there was a certain degree of attrition observed in each group concerning the opinion outcomes, the rates of attrition were reasonably balanced across the treatment groups. Specifically, 15 participants or 12.93% of the treatment group, 20 participants or 14.02% of the placebo control group, and 14 participants or 13.08% of the free-choice group did not complete the final survey. In general, there is little evidence to suggest that participants' willingness to partake in the experiment is likely related to treatment assignment.

I assessed participants' ability to identify the correct elements, plots, and lines from a list of options in the endline survey to assess participants' attention to the assigned or chosen movie. Among participants who completed this survey, 91.44% achieved an accuracy rate of above 60%, while 80.82% achieved an accuracy rate of above 80%. Furthermore, 42.46% achieved a perfect accuracy rate of 100%. Additionally, Appendix A.8 provides the estimates of the Complier Average Causal Effects, the average treatment effects among those who paid attention to the film. Here, it is measured as those who watched the movies above 90 percent. The results suggest that while the estimates vary slightly from the previous results, the pattern remains fairly consistent.

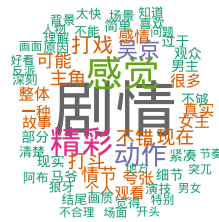
#### **4.2.2 Manipulation Checks**

In the final post-viewing survey, I asked participants to write a few sentences commenting on the movie they had watched. To discern whether participants had absorbed the propaganda messages from the movies, I analyzed the word clouds generated from the audience's comments. Figure 7 presents the results. The prominent words for the non-propaganda movie were "plot", "feeling", and "exciting". This suggests that viewers primarily focused on the storyline and the thrill of the film, characteristics typical of non-propaganda content. The absence of politically charged words or messages indicates that viewers were not impacted by any distinct ideological or political message from this movie.

In contrast, the comments for the propaganda film included words like "China," "patriotism,"



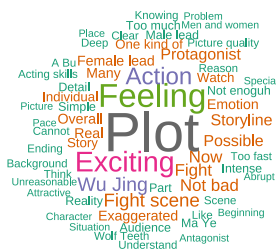
and “soldier.” This implies that viewers noted the nationalistic and military-themed propaganda messages within the film, in addition to paying attention to the storyline. The presence of these words suggests that the film successfully conveyed its ideological content to its audience.



### Legendary Assassin: Comments in Chinese



Wolf Warrior: Comments in Chinese



Legendary Assassin: English-Translated Comments



Wolf Warrior: English-Translated Comments

Figure 7: Audience Impressions

### 4.2.3 Covariate Adjustment

Due to the use of simple random assignment, covariate imbalances are observed across the groups, as presented in Appendix 4. After adjusting for these covariates, the overall results remain mostly consistent. These results are demonstrated in Appendix A.9. However, it is noteworthy that among individuals who expressed an aversion to propaganda, the estimated effects remain negative but decrease in absolute magnitude. For a visual representation of these changes, please refer to Appendix Table 10 in Appendix A.9.

### 4.2.4 Other Heterogeneous Treatment Effects

Appendix A.10 illustrates that the treatment tends to negatively affect the opinions of those initially dissatisfied with the country’s overall situation, while having a positive effect on the rest of the participants. This confirms the previous finding that propaganda influences individuals with different political attitudes in distinct ways.

Another concern arising from potential heterogeneous treatment effects by gender. In my experiment, a greater number of male participants registered, which could render the obtained estimates very unrepresentative if the true average treatment effects vary between genders. In Appendix A.11, I present the estimates for male and female participants separately to see if that is the case.

### 4.2.5 Free-choice group

Appendix A.12 shows that, in the free-choice group, male participants, younger participants, those with higher education levels, individuals from lower-tier cities, and those with lower incomes were more likely to opt for the propaganda movie instead of the nonpolitical movie. However, none of these differences are statistically significant. Earlier, it was discussed that male participants may generally be less receptive to propaganda, which suggests that the strong appeal of this particular hit movie may resonate with demographics typically less inclined toward propaganda in the first place.

Consistent with common expectations, the mean outcomes in the free-choice group generally falls somewhere between the placebo group and the treatment group. This suggests that if we divide

respondents into those who would choose to consume propaganda given another choice and those who would not, propaganda is unlikely to have a negative average treatment effect on either group. Appendix A.13 presents the instrumental variable (IV) estimates of the average treatment effect among self-selectors (those who would choose to watch propaganda films given an alternative choice) and non-selectors (those who would not choose to watch propaganda films given an alternative choice). The results do not reveal a consistent pattern across these groups. It is important to note that this is an exploratory exercise with limited statistical power.

## 5 Rethinking the Persuasive Power of Popular Entertainment

In this section, I present a discussion of my experimental results. The findings of this study demonstrate that entertainment-based propaganda can be highly appealing and has the capacity to shape core political attitudes that are vital for authoritarian resilience.<sup>10</sup> For example, the *Wolf Warrior* series, which attracted 120 million viewers in theaters alone, illustrates how such films can achieve widespread reach while also changing minds. The combination of massive viewership and the persuasive power of its nationalistic narrative highlights the real-world impact of entertainment-based propaganda in shaping political attitudes and reinforcing regime legitimacy.

When comparing the results of this study with those of Mattingly and Yao (2022), it becomes clear that the persuasive power of soft propaganda is critically dependent on the narrative and emotions it generates. Mattingly and Yao (2022) examine anger-driven propaganda that draws on China’s “Hundred Years of Humiliation,” which can inflame nationalism and anti-foreign sentiment through past grievances but does not necessarily improve perceptions of the government. In contrast, my research focuses on pride-driven propaganda, which highlights China’s rise and achievements under the CCP and is used to build national pride in a way that shapes views of the regime that has overseen this progress. I show that the such a positive narrative about China and its path encourages optimism about governance and reinforces loyalty to the state.

Another key result demonstrating the persuasive potential of propaganda is how it fosters a

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<sup>10</sup>While I have used the term “persuasion” in this paper, it may not accurately capture the dynamics at play. For example, I have not distinguished between persuasion and group cueing, a distinction emphasized in the American politics literature. It is possible that the positive shifts in regime perception observed in my results may be driven by audiences following group cues rather than engaging in informational updating. More generally, entertainment-based propaganda may not work through persuasion in the traditional sense of belief updating based on new information.

sense of optimism about current and future economic conditions, both in terms of the country’s overall situation and the respondents’ personal circumstances. While a prevalent body of literature suggests that it is difficult to sway economic views because individuals rely on personal signals to assess economic conditions (Frye, 2022; Coyne and Hall, 2021; Sobolev, 2019), my research indicates that instilling pride through propaganda can generate hope and reshape these economic perceptions. This finding is especially relevant in the context of speculation about China’s economic downturn. It suggests that authoritarian regimes may not necessarily lose public support during periods of economic difficulty, as propaganda through entertainment serves as an effective tool for preserving a positive outlook on the country’s economic trajectory.

However, the effects are not uniformly positive. This first highlights the importance of cognitive processes, in addition to emotional reactions, in the effectiveness of soft propaganda (Mattingly and Yao, 2022). In my analysis of two subgroups—those with no pre-existing aversion to propaganda and those who were more skeptical—both exhibited heightened positive emotional responses, such as pride, when watching the treatment movie. However, their political opinion changes moved in opposite directions. This indicates that viewers are not merely being emotionally manipulated; they actively process the messaging and integrate it into their broader worldview through cognitive engagement. In addition, while some scholars argue that backlash effects should be minimal (Coppock, 2023), my findings indicate that a subset of viewers reacted negatively to the movie, suggesting that propaganda can still backfire under certain conditions. This might be related to Huang (2018)’s notion of “hard propaganda,” which erodes public opinion about the regime and reduces their willingness to protest. While there is no evidence that the popular entertainment-based propaganda examined here functions as hard propaganda, the results highlights that what constitutes overly heavy-handed messaging may ultimately be subjective and in the eye of the beholder.

But how significant are these backfire effects for authoritarian propaganda, really? The backfire effects suggest that ill-targeted propaganda can “boomerang.” However, in authoritarian regimes, if we are willing to assume that individuals with a distaste for propaganda tend to avoid it, self-selection could mitigate much of the backlash. In this sense, backfire effects indicate that, rather than imposing propaganda on the masses, authoritarian governments may be better served by producing compelling, entertaining content that draws in audiences naturally. By allowing people to self-select into content, regimes can reach a more receptive audience, increasing the effectiveness

of their messaging. Ultimately, the question is not whether authoritarian regimes need to persuade every individual, but whether they can secure broad-based support. Given that the majority of the audience is likely receptive, and self-selection plays a role in the dissemination, the identified backlash becomes a less pressing concern when considering the regime’s broader goals of political persuasion.

However, backfire effects are only part of the challenge. My results suggest that the more pressing issue for authoritarian propaganda lies in the ongoing difficulty of capturing people’s attention. While governments can boost consumption through organized viewing or protectionist box office policies, behavioral data indicate that private, voluntary consumption of propaganda remains low, and it is difficult to cultivate a lasting interest in such content. This is likely due to the vast array of alternative entertainment options and the diversity of audience preferences. Ultimately, the power of entertainment-based propaganda hinges critically on the regime’s ability to produce content compelling enough to compete in a crowded media landscape.

## 6 Conclusion

Authoritarian regimes, from the Nazis to modern-day China, have long sought to use entertainment as a tool for political persuasion. By focusing on highly popular entertainment-based propaganda in China and conducting an experiment using a leading Chinese streaming platform that allows participants to engage with the content immersively and naturally, I demonstrate how entertainment can indeed serve as a powerful tool for political influence in authoritarian regimes. The propaganda film boosted nationalism, system pride, economic perceptions, and perceived government responsiveness among those who did not initially dislike such content, a group that accounted for the majority of viewers. However, the study also revealed limitations: for those with a pre-existing distaste for propaganda, the film backfired, reducing political support. While the film generated short-term positive emotional engagement and favorable ratings, it did not lead to sustained private consumption of propaganda content, underscoring the challenge of maintaining interest in a crowded media landscape.

Future research is needed to determine if entertainment products effectively persuade audiences to embrace all types of political messages. While this experiment focused on nationalistic themes,

Chinese propaganda encompasses a wider range of messages, from state responses to disasters and corruption to promoting role models who advance state objectives. The effectiveness of these messages likely varies, since audience preferences play a significant role in shaping the effects of propaganda. Further research should also investigate why different audiences respond differently to the same messages and how entertainment might facilitate persuasion.

Another important avenue for future research is to investigate the conditions under which autocrats decide to politicize entertainment. While providing popular, non-political content can maintain public satisfaction and divert attention away from politics ([Kern and Hainmueller, 2009](#)), as seen in South Korea's 3S (Sex, Screen, Sports) policy during its authoritarian period, countries like China exercise strict control over entertainment as its authoritarian strategy for managing cultural production. Understanding the source of this divergence is crucial, as cultural liberalization often serves as a precursor to broader political liberalization.

## References

- Adena, Maja et al. “Radio and the Rise of the Nazis in Prewar Germany”. In: *The Quarterly Journal of Economics* 130.4 (2015). Publisher: MIT Press, pp. 1885–1939 (cit. on pp. 2, 6, 9).
- Anonymous, *Wolf Warrior*. <https://baike.baidu.com/item/%E6%88%98%E7%8B%BC/80549>. 2024 (cit. on p. 10).
- Barshad, Amos. “How Russian Action Movies Are Selling War”. en-US. In: *The New York Times* (Oct. 2022). <https://www.nytimes.com/2022/10/12/magazine/russian-action-movies.html>. ISSN: 0362-4331. (Visited on 10/24/2022) (cit. on p. 2).
- Chen, Yuyu and David Y. Yang. “The Impact of Media Censorship: 1984 or Brave New World?” In: *American Economic Review* 109.6 (June 1, 2019), pp. 2294–2332. DOI: 10.1257/aer.20171765. URL: <https://pubs.aeaweb.org/doi/10.1257/aer.20171765> (cit. on p. 8).
- Colville, Alex. *China’s ‘The Knockout’ Is a Propaganda Hit*. <https://foreignpolicy.com/2023/02/18/the-knockout-china-main-melody-films-tv-propaganda/>. Feb. 2023 (cit. on p. 27).
- Coppock, Alexander. *Persuasion in parallel: How information changes minds about politics*. University of Chicago Press, 2023 (cit. on p. 32).
- Coyne, Christopher J. and Abigail R. Hall. *Manufacturing Militarism: US Government Propaganda in the War on Terror*. Stanford University Press, 2021 (cit. on pp. 2, 32).
- El Banhawy, Yasmin. *Why is the Egyptian state monopolizing the entertainment industry?* en. <https://www.opendemocracy.net/en/north-africa-west-asia/why-egyptian-state-monopolizing-entertainment-industry/>. June 2019. (Visited on 07/04/2023) (cit. on p. 2).
- Ershad, Alijani. *Why Iran keeps making anti-American propaganda videos*. <https://observers.france24.com/en/20160831-iran-propaganda-music-videos-usa>. Aug. 2016. (Visited on 07/04/2023) (cit. on p. 2).
- Esberg, Jane. “Censorship as Reward: Evidence from Pop Culture Censorship in Chile”. In: *American Political Science Review* 114.3 (Aug. 2020). Publisher: Cambridge University Press, pp. 821–836. DOI: 10.1017/S000305542000026X. URL: <https://www.cambridge.org/core/journals/american-political-science-review/article/censorship-as-reward-evidence-from-pop-culture-censorship-in-chile/1F2391F13BB0DACA6F844F6351FB5BA9> (cit. on pp. 2, 6).

- Frye, Timothy. *Weak Strongman: The Limits of Power in Putin's Russia*. Princeton University Press, 2022 (cit. on p. 32).
- Gaines, Brian J. and James H. Kuklinski. "Experimental Estimation of Heterogeneous Treatment Effects Related to Self-Selection". en. In: *American Journal of Political Science* 55.3 (2011). \_eprint: <https://onlinelibrary.wiley.com/doi/pdf/10.1111/j.1540-5907.2011.00518.x>, pp. 724–736. ISSN: 1540-5907. DOI: [10.1111/j.1540-5907.2011.00518.x](https://doi.org/10.1111/j.1540-5907.2011.00518.x). URL: <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1540-5907.2011.00518.x> (visited on 10/14/2021) (cit. on p. 13).
- Green, Donald P. "In search of entertainment-education's effects on attitudes and behaviors". In: *Entertainment-Education Behind the Scenes*. Palgrave Macmillan, Cham, 2021, pp. 195–210 (cit. on p. 7).
- Green, Donald P., Dylan W. Groves, and Constantine Manda. "A Radio Drama's Effects on Attitudes Toward Early and Forced Marriage: Results from a Field Experiment in Rural Tanzania". In: *Unpublished Manuscript* (2020) (cit. on p. 7).
- Green, Donald P., Anna M. Wilke, and Jasper Cooper. "Countering violence against women by encouraging disclosure: A mass media experiment in rural Uganda". In: *Comparative Political Studies* 53.14 (2020). Publisher: SAGE Publications Sage CA: Los Angeles, CA, pp. 2283–2320 (cit. on p. 7).
- Guriev, Sergei and Daniel Treisman. "A theory of informational autocracy". In: *Journal of public economics* 186 (2020). Publisher: Elsevier, p. 104158 (cit. on p. 2).
- Hovland, Carl I, Arthur A Lumsdaine, and Fred D Sheffield. "Experiments on mass communication.(studies in social psychology in world war ii), vol. 3". In: (1949) (cit. on pp. 6, 7, 10).
- Huang, Haifeng. "The Pathology of Hard Propaganda". In: *The Journal of Politics* 80.3 (May 2018). Publisher: The University of Chicago Press, pp. 1034–1038. ISSN: 0022-3816. DOI: [10.1086/696863](https://doi.org/10.1086/696863). URL: <https://www.journals.uchicago.edu/doi/full/10.1086/696863> (visited on 02/24/2021) (cit. on pp. 3, 7).
- Huang, Haifeng. "The Pathology of Hard Propaganda". In: *The Journal of Politics* 80.3 (May 11, 2018). Publisher: The University of Chicago Press, pp. 1034–1038. DOI: [10.1086/696863](https://doi.org/10.1086/696863). URL: <https://www.journals.uchicago.edu/doi/full/10.1086/696863> (cit. on pp. 5, 32).



- Kern, Holger Lutz and Jens Hainmueller. “Opium for the Masses: How Foreign Media Can Stabilize Authoritarian Regimes”. en. In: *Political Analysis* 17.04 (2009), pp. 377–399. ISSN: 1047-1987, 1476-4989. DOI: [10.1093/pan/mpp017](https://doi.org/10.1093/pan/mpp017). URL: [https://www.cambridge.org/core/product/identifier/S1047198700012237/type/journal\\_article](https://www.cambridge.org/core/product/identifier/S1047198700012237/type/journal_article) (visited on 10/04/2018) (cit. on p. 34).
- Kim, Eunji. *Entertaining Beliefs in Economic Mobility*. en. SSRN Scholarly Paper ID 3838127. Rochester, NY: Social Science Research Network, 2021. DOI: [10.2139/ssrn.3838127](https://doi.org/10.2139/ssrn.3838127). URL: <https://papers.ssrn.com/abstract=3838127> (visited on 09/26/2021) (cit. on pp. 2, 6, 8).
- Kim, Eunji and Shawn Patterson. “The American Viewer: Political Consequences of Entertainment Media”. In: *American Political Science Review* (2024) (cit. on pp. 2, 6, 8).
- Knobel, Beth. “The Great Game and the evolving nature of political talk shows on Russian television”. In: *Post-Soviet Affairs* 36.4 (July 2020). Publisher: Routledge \_eprint: <https://doi.org/10.1080/1060586X.2020.1772664>, pp. 346–364. ISSN: 1060-586X. DOI: [10.1080/1060586X.2020.1772664](https://doi.org/10.1080/1060586X.2020.1772664). URL: <https://doi.org/10.1080/1060586X.2020.1772664> (visited on 09/14/2022) (cit. on p. 2).
- Koppes, Clayton R. and Gregory D. Black. “What to Show the World: The Office of War Information and Hollywood, 1942–1945”. In: *Journal of American History* 64.1 (1977), pp. 87–105 (cit. on p. 2).
- Liu, Hanzhang and Linan Yao. “Entertainment as Trojan Horse: Voluntary Consumption of Propaganda in China”. In: *Working Paper* (2024) (cit. on p. 10).
- Mattingly, Daniel C and James Sundquist. “When does public diplomacy work? Evidence from China’s “wolf warrior” diplomats”. In: *Political Science Research and Methods* 11.4 (2023), pp. 921–929 (cit. on p. 10).
- Mattingly, Daniel C. and Elaine Yao. “How soft propaganda persuades”. In: *Comparative Political Studies* (2022). Publisher: SAGE Publications Sage CA: Los Angeles, CA, p. 00104140211047403 (cit. on pp. 3, 5, 7, 19, 31, 32).
- Pan, Jennifer, Zijie Shao, and Yiqing Xu. “The Effects of Television News Propaganda: Experimental Evidence from China”. In: *Available at SSRN* (2020) (cit. on p. 7).
- Peisakhin, Leonid and Arturas Rozenas. “Electoral Effects of Biased Media: Russian Television in Ukraine: ELECTORAL EFFECTS OF BIASED MEDIA”. en. In: *American Journal of*

- Political Science* 62.3 (July 2018), pp. 535–550. ISSN: 00925853. DOI: 10.1111/ajps.12355. URL: <https://onlinelibrary.wiley.com/doi/10.1111/ajps.12355> (visited on 01/18/2022) (cit. on p. 9).
- Sinaee, Maryam. *Iran's Regime Tightens Control Over Entertainment Media*. en. <https://www.iranintl.com/en/202306259077>. June 2023. (Visited on 07/04/2023) (cit. on p. 2).
- Sobolev, Anton. “How pro-government “trolls” influence online conversations in Russia”. In: (2019) (cit. on p. 32).
- Soffar, Ossama. *The Egyptian TV Drama Taking Pro-Sisi Propaganda to New Heights*. en-US. <https://dawnmena.org/the-egyptian-tv-drama-taking-pro-sisi-propaganda-to-new-heights/>. Apr. 2022. (Visited on 07/04/2023) (cit. on p. 2).
- Tolz, Vera and Yuri Teper. “Broadcasting agitainment: a new media strategy of Putin’s third presidency”. In: *Post-Soviet Affairs* 34.4 (July 2018). Publisher: Routledge \_eprint: <https://doi.org/10.1080/1060586X.2018.1459023>, pp. 213–227. ISSN: 1060-586X. DOI: 10.1080/1060586X.2018.1459023. URL: <https://doi.org/10.1080/1060586X.2018.1459023> (visited on 09/14/2022) (cit. on p. 2).
- Voigtländer, Nico and Hans-Joachim Voth. “Nazi indoctrination and anti-Semitic beliefs in Germany”. In: *Proceedings of the National Academy of Sciences* 112.26 (June 2015). Publisher: Proceedings of the National Academy of Sciences, pp. 7931–7936. DOI: 10.1073/pnas.1414822112. URL: <https://www.pnas.org/doi/abs/10.1073/pnas.1414822112> (visited on 09/13/2022) (cit. on pp. 2, 6, 9).
- Wang, Xiaohui. *Xin Shi Dai Wen Hua Jian She De Cheng Jiu Zhu Yao Bao Kuo Wu Ge Fang Mian [The Achievements of Cultural Construction in the New Era Mainly Include Five Aspects]*. 2021. URL: <http://www.scio.gov.cn/xwfbh/xwfbh/wqfbh/44687/47390/zy47394/Document/1716226/1716226.htm> (visited on 05/23/2023) (cit. on p. 9).
- Welch, David. *The Third Reich: politics and propaganda*. Routledge, 2008 (cit. on pp. 2, 6).

# A Appendix

## A.1 Correlation matrices for key opinion outcomes

These correlation matrices represent the correlations between the individual questions that combine to form an index for the outcome variables,

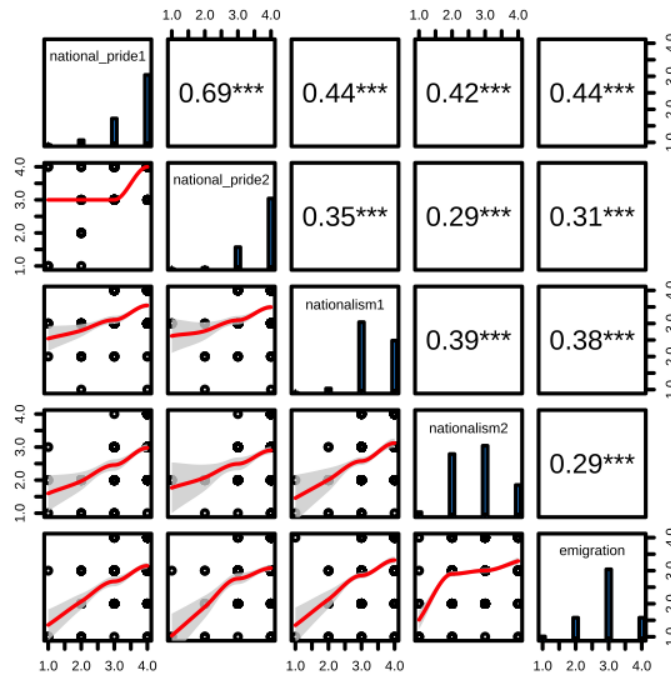


Figure 8: Correlational matrix: nationalism

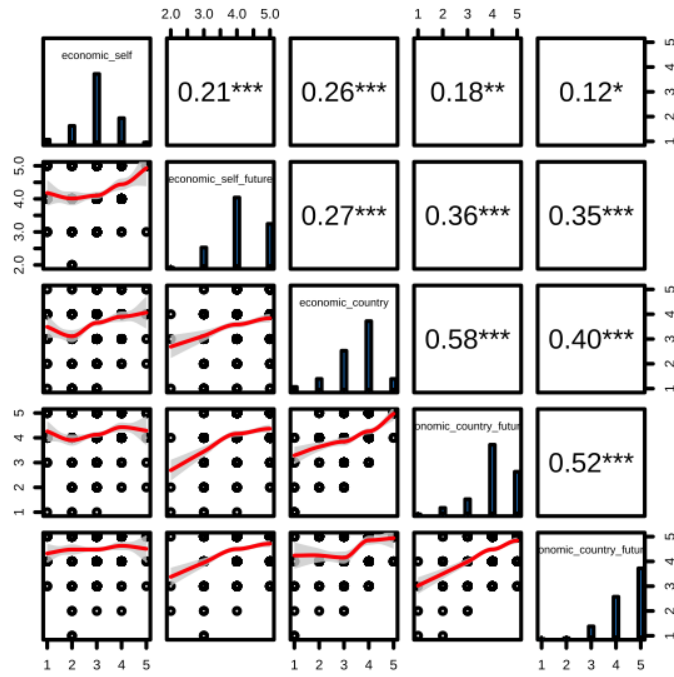


Figure 9: Correlational matrix: economic perception

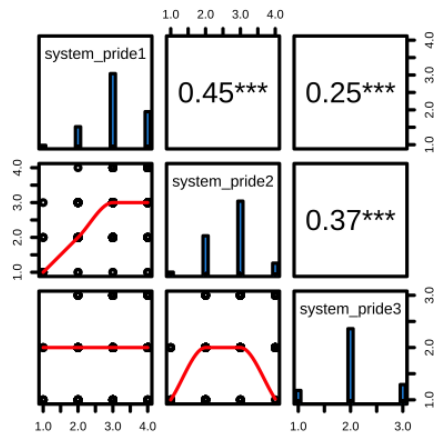


Figure 10: Correlational matrix: system pride

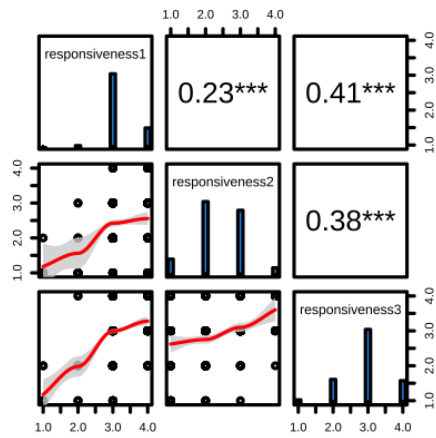


Figure 11: Correlational matrix: perceived responsiveness

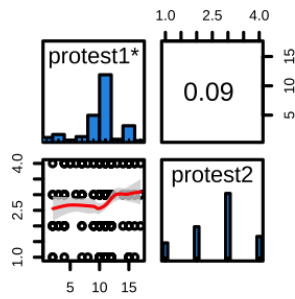


Figure 12: Correlational matrix: protest

## A.2 Characteristics and Bias of Sample

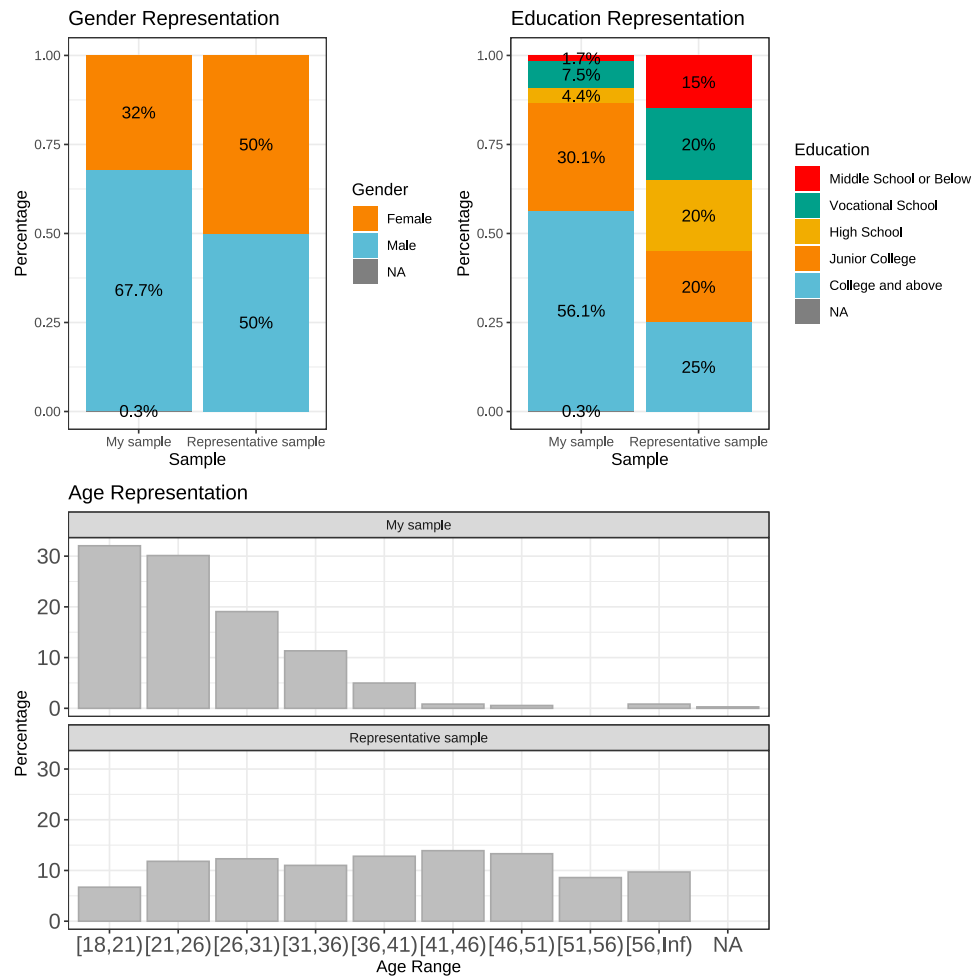


Figure 13: Characteristics and Bias of Sample

Table 3: Sample Demographics

N	362.00
<b>Age</b>	
Mean	24.97
SD	6.65
Median	23.00
Min	18.00
Max	58.00
<b>Gender (Count)</b>	
Female	116
Male	245
<b>Education (Count)</b>	
High School or Lower	49
Three-year College	109
Bachelor’s Degrees or Above	203
<b>Residence (Count)</b>	
First Tier City	89
Second Tier City	116
Third Tier City	81
Fourth Tier City	53
Rural Area	21

### A.3 Covariate Imbalance

Table 4: Balance of covariates

	Gender	Age	Education	City	Income	Party Af- filiation	Overall Satisfac- tion
<i>Panel 1: All Participants</i>							
(Intercept)	1.302*** (0.040)	24.633*** (0.584)	4.309*** (0.092)	2.288*** (0.100)	4.813*** (0.401)	2.079*** (0.091)	3.266*** (0.078)
Treatment	0.046 (0.059)	0.263 (0.869)	0.099 (0.136)	0.277+ (0.148)	-1.109+ (0.595)	-0.123 (0.135)	0.134 (0.116)
Num.Obs.	254	254	254	254	254	254	254
<i>Panel 2: Dislike Propaganda - No</i>							
(Intercept)	1.303*** (0.048)	24.838*** (0.711)	4.253*** (0.107)	2.323*** (0.121)	4.404*** (0.446)	2.030*** (0.108)	3.212*** (0.092)
Treatment	0.075 (0.069)	-0.272 (1.030)	0.247 (0.155)	0.266 (0.175)	-0.760 (0.646)	-0.053 (0.156)	0.277* (0.133)
Num.Obs.	189	189	189	189	189	189	189
<i>Panel 3: Dislike Propaganda - Yes</i>							
(Intercept)	1.300*** (0.072)	24.125*** (1.008)	4.450*** (0.178)	2.200*** (0.174)	5.825*** (0.865)	2.200*** (0.173)	3.400*** (0.143)
Treatment	-0.060 (0.116)	1.955 (1.625)	-0.370 (0.287)	0.280 (0.281)	-1.905 (1.395)	-0.320 (0.278)	-0.320 (0.230)
Num.Obs.	65	65	65	65	65	65	65

#### A.4 Who dislikes propaganda movies

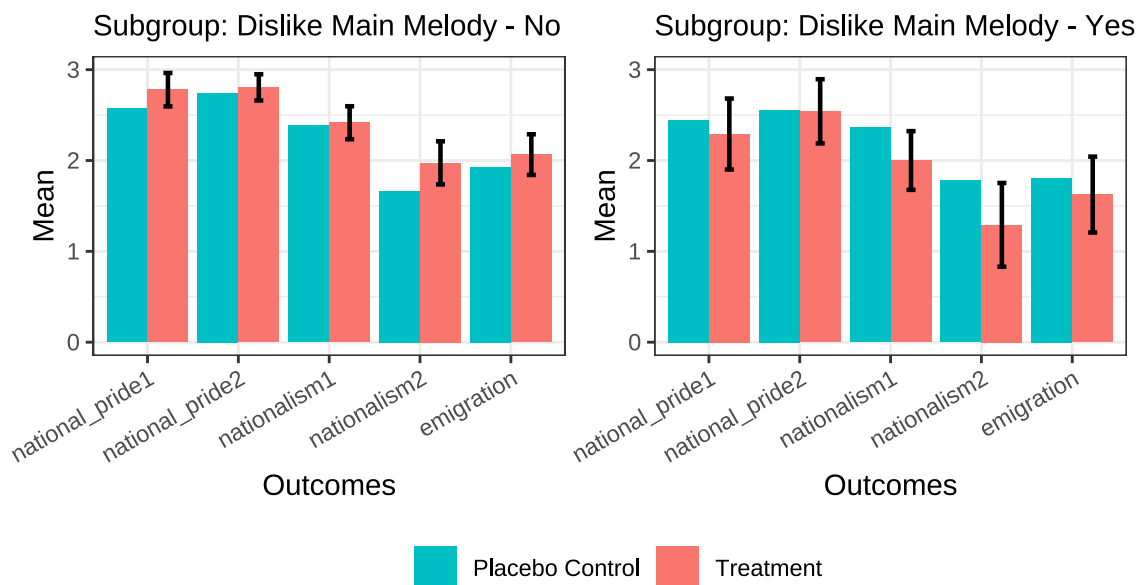
Table 5: Who Dislikes Propaganda Movies?

(Intercept)	0.474* (0.193)
Gender	-0.026 (0.049)
Age	-0.002 (0.004)
Education	-0.009 (0.023)
City	-0.017 (0.020)
Income	0.006 (0.005)
Overall Satisfaction	-0.028 (0.026)
Num.Obs.	360



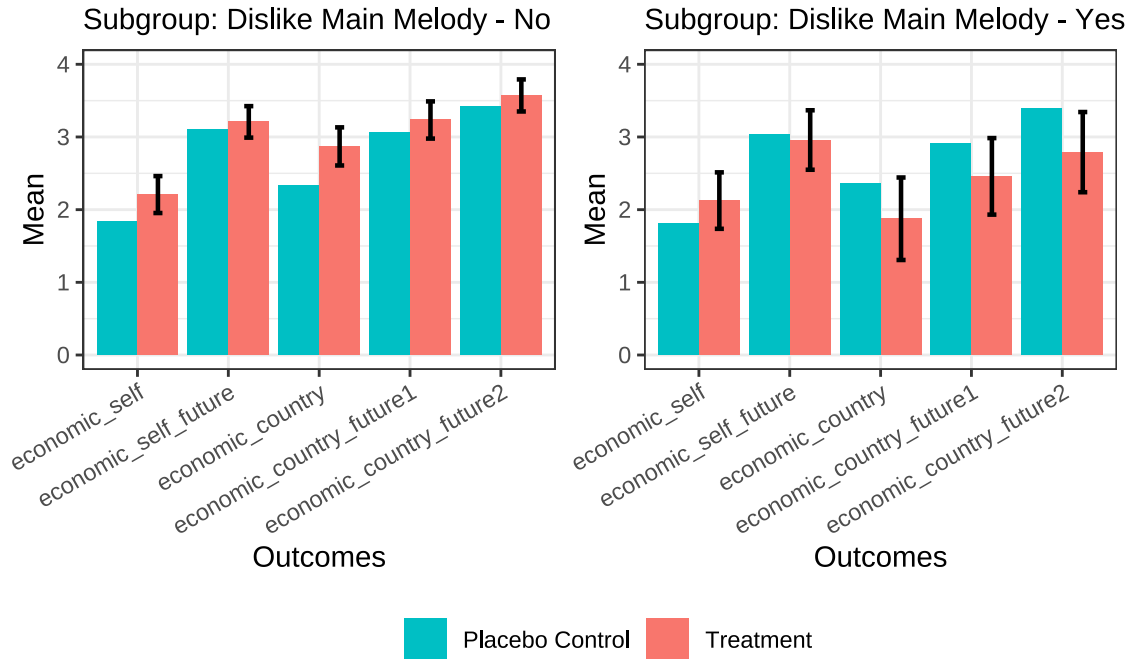
## A.5 Treatment Effects for Each Question

The bar labeled “Placebo Control” represents the mean value for the control group, while the “Treatment” bar denotes the mean value of the control group plus the estimated treatment effect. Furthermore, the error bars represent the range from the control group’s mean value plus the lower limit to the upper limit of the 95% confidence interval for the estimated treatment effect.



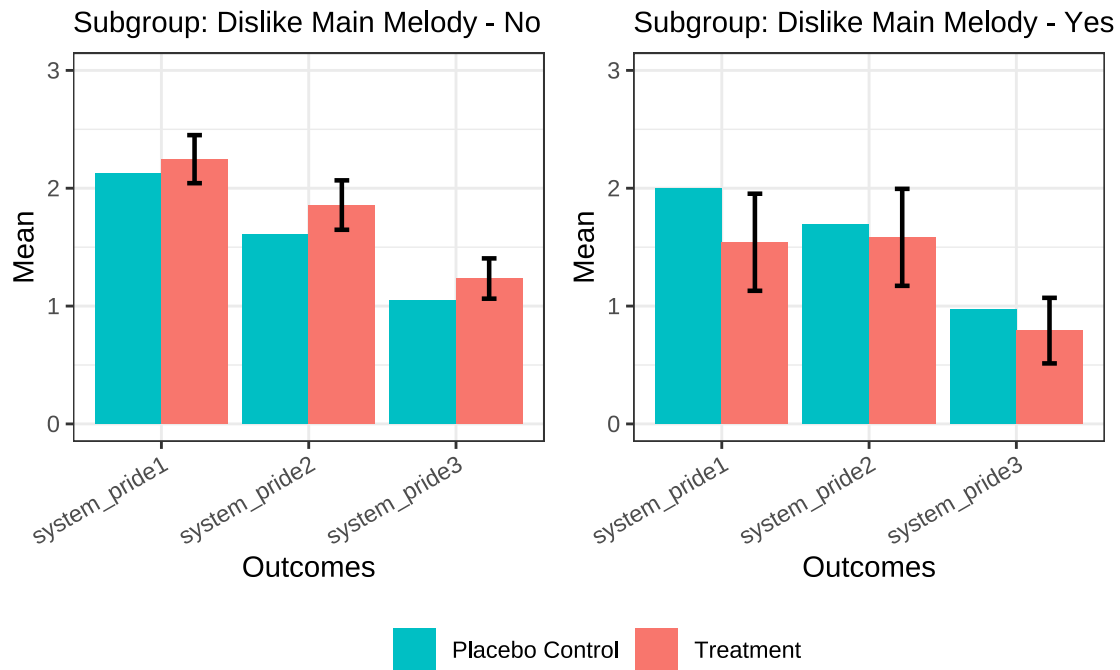
Index	Questions	Scales
1 national_pride1	As a Chinese, I feel very proud.	0 = Strongly disagree, 3 = Strongly agree
2 national_pride2	I am proud of China's history and arts.	0 = Strongly disagree, 3 = Strongly agree
3 nationalism1	Generally speaking, China is better than most other countries.	0 = Strongly disagree, 3 = Strongly agree
4 nationalism2	People should support their country even if the country is wrong.	0 = Strongly disagree, 3 = Strongly agree
5 emigration	Given the chance, how willing would you be to live in another country?	0 = Strongly willing, 3 = Strongly unwilling

Figure 14: Nationalism: Individual Questions



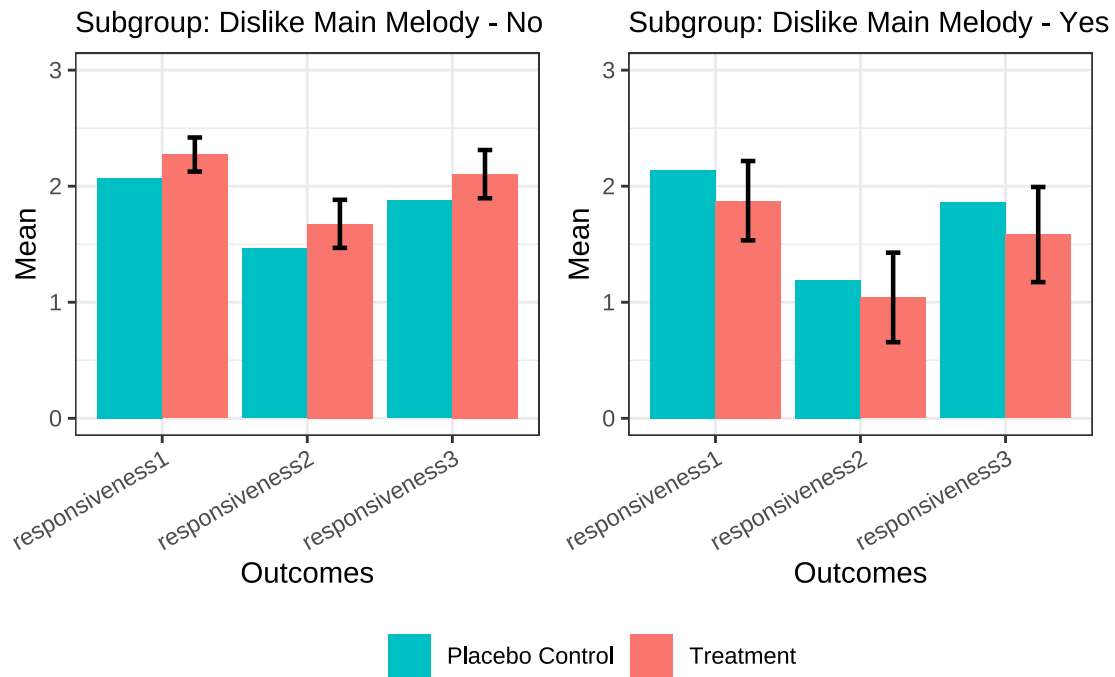
	Index	Questions	Scales
1	economic_self	Overall, how would you rate your current economic situation?	0 = Very bad, 4 = Very good
2	economic_self_future	Overall, how would you predice the change of your economic situation in five years?	0 = Much worse, 4 = Much better
3	economic_country	Overall, how would you rate the country's current economic situation?	0 = Very bad, 4 = Very good
4	economic_country_future1	Overall, how would you predice the change of country's current economic situation in a few years?	0 = Much worse, 4 = Much better
5	economic_country_future2	How do you think your child's standard of living will compare to yours when they are your age (if you don't have a child now, assume you have)?	0 = Much worse, 4 = Much better

Figure 15: Economic Perception: Individual Questions



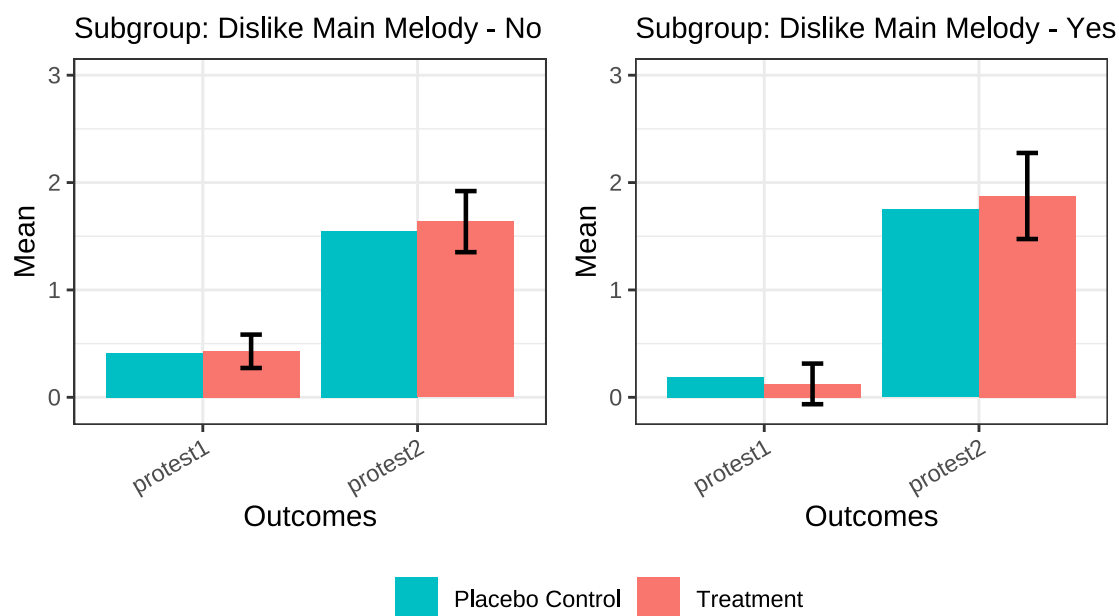
Index	Questions	Scales
1 system_pride1	A political system like ours, even if it runs into problems, deserves the people' s support.	0 = Strongly disagree, 3 = Strongly agree
2 system_pride2	Our political system is capable ofn solving the most pressing problems our societyn faces.	0 = Strongly disagree, 3 = Strongly agree
3 system_pride3	Would you say our system of governmentn works fine as it is, needs minorn change, or needs major change?	0 = It needs major change, 2 = It works fine and no need for changes

Figure 16: System Pride: Individual Questions



Index	Questions	Scales
1 responsiveness1	Overall, our government is working for the people and responsive to the needs of people.	0 = Strongly disagree, 3 = Strongly agree
2 responsiveness2	Currently, there are not enough legal channels for ordinary people to influence government behaviors.	0 = Strongly disagree, 3 = Strongly agree
3 responsiveness3	How responsive do you think the current government is to people's needs?	0 = Very unresponsive, 3 = Very responsive

Figure 17: Perceived Responsiveness: Individual Questions



Index	Questions	Scales
1 protest1	If you have encountered very difficult situations or been treated very unfairly in your life, would you consider seeking solutions through the following channels? (choose all that apply)	0 = "Offline petitions and protests" is not chosen, 1 = "Offline petitions and protests" is chosen
2 protest2	If you and a group of people experienced very unfair treatment in your life, and someone organized a gathering or group walk, would you consider participating?	0 = Definitely no, 3 = Definitely yes

Figure 18: Willingness to Protest: Individual Questions

## A.6 Audience's Consumption of in Entertainment by Treatment Group

Table 6: Effects of Treatment on Propaganda Consumption

	Intent to Watch Propaganda	Propaganda Clicks	Propaganda Watched (Over 1%)
<i>Panel 1: All Participants</i>			
Intercept	4.144*** (0.081)	0.374*** (0.075)	0.324*** (0.071)
Treatment	0.143 (0.119)	0.126 (0.111)	0.021 (0.105)
Free-Choice	0.136 (0.122)	0.159 (0.113)	0.125 (0.108)
Num.Obs.	312	362	362
<i>Panel 2: Dislike Propaganda - No</i>			
Intercept	4.134*** (0.086)	0.404*** (0.094)	0.364*** (0.090)
Treatment	0.281* (0.124)	0.152 (0.137)	0.003 (0.130)
Free-Choice	0.226+ (0.125)	0.184 (0.139)	0.142 (0.132)
Num.Obs.	234	274	274
<i>Panel 3: Dislike Propaganda - Yes</i>			
Intercept	4.167*** (0.181)	0.300** (0.104)	0.225* (0.100)
Treatment	-0.292 (0.286)	0.020 (0.168)	0.055 (0.162)
Free-Choice	-0.222 (0.314)	0.018 (0.175)	0.002 (0.169)
Num.Obs.	78	87	87

Table 7: Interaction Effects of Treatment and Time on Propaganda Watched (Over 1%)

	Panel 1: All Participants	Panel 2: Dislike Propaganda - No	Panel 3: Dislike Propaganda - Yes
	Propaganda Watched (Over 1%) with Interaction	Propaganda Watched (Over 1%) with Interaction	Propaganda Watched (Over 1%) with Interaction
Intercept	0.173*** (0.029)	0.182*** (0.037)	0.150*** (0.042)
Treatment	0.086* (0.044)	0.096+ (0.054)	0.050 (0.068)
Free-Choice	0.089* (0.045)	0.124* (0.054)	-0.059 (0.071)
Week 2	-0.137** (0.042)	-0.152** (0.052)	-0.100+ (0.060)
Week 3	-0.122** (0.042)	-0.111* (0.052)	-0.150* (0.060)
Week 4	-0.094* (0.042)	-0.081 (0.052)	-0.125* (0.060)
Treatment * Week 2	-0.062 (0.062)	-0.071 (0.076)	-0.020 (0.097)
Treatment * Week 3	-0.119+ (0.062)	-0.144+ (0.076)	-0.050 (0.097)
Treatment * Week 4	-0.156* (0.062)	-0.186* (0.076)	-0.075 (0.097)
Free-Choice * Week 2	-0.041 (0.063)	-0.084 (0.077)	0.145 (0.101)
Free-Choice * Week 3	-0.121+ (0.063)	-0.171* (0.077)	0.059 (0.101)
Free-Choice * Week 4	-0.084 (0.063)	-0.119 (0.077)	0.034 (0.101)
Num.Obs.	1448	1096	348

## A.7 Audience's Taste in Entertainment by Treatment Group

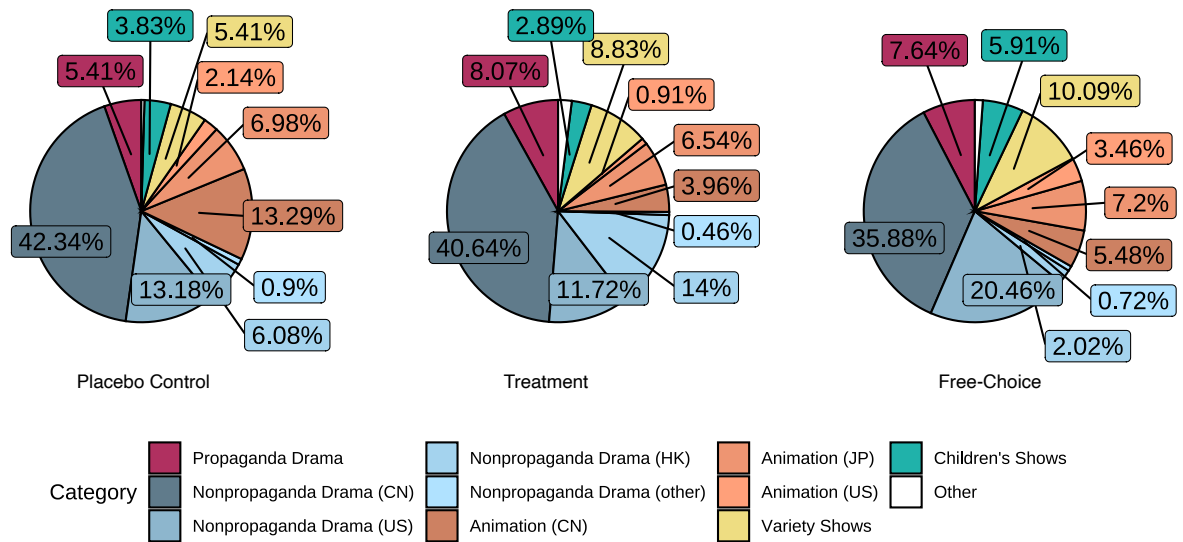
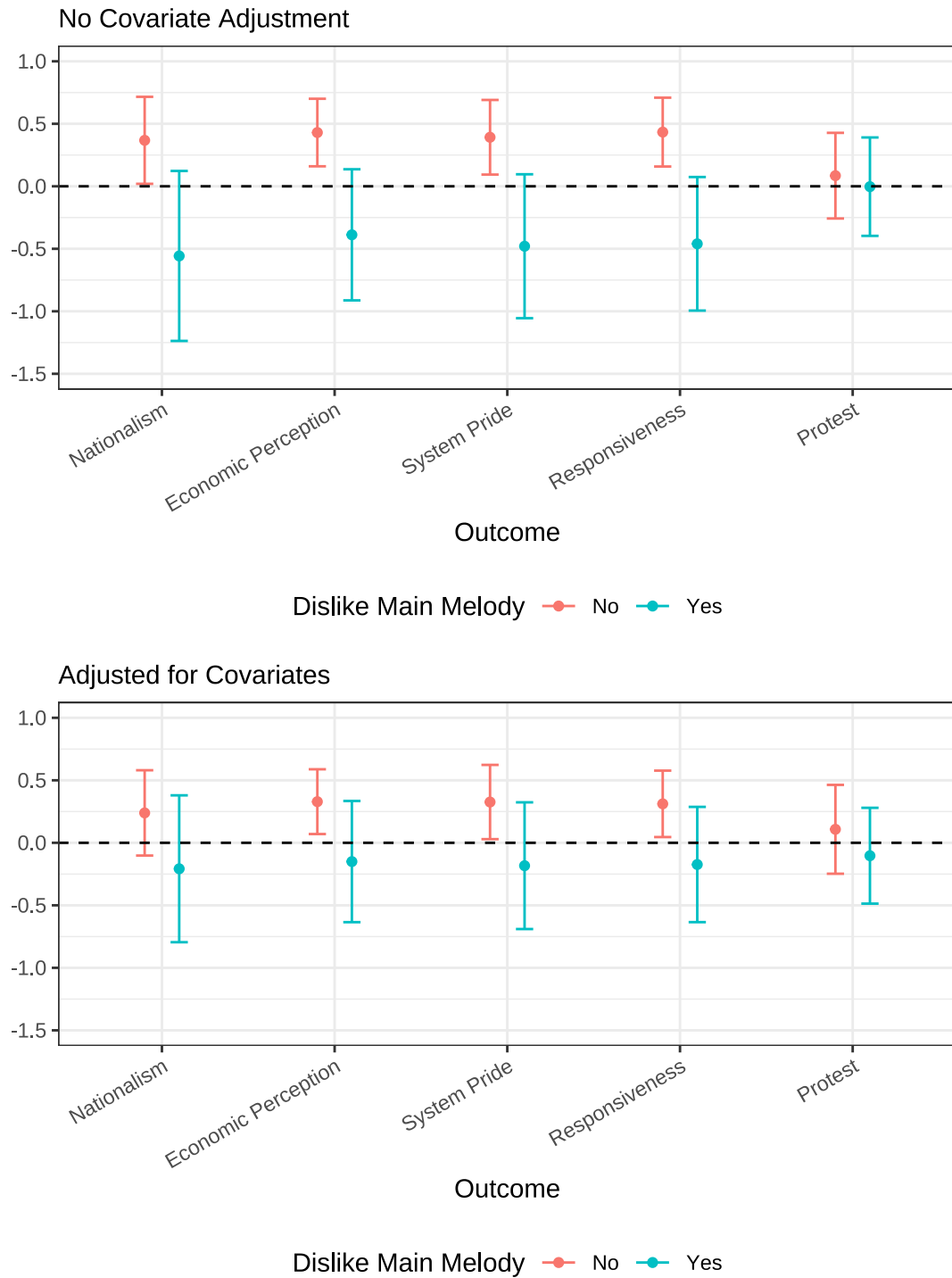


Figure 19: Audience's Taste in Entertainment by Treatment Group



## A.8 Compliance and CACEs



Note: Covariates include gender, age, education, city, income, overall satisfaction.

Figure 20: Estimated CACEs: Using Attention Check Question as Measures of Compliance

## A.9 Covariate Adjustment

Table 8: Effects of Propaganda Movie on Opinions: Adjusted for Covariates, All Participants

	Nationalism	Economic Perception	System Pride	Perceived Responsive- ness	Willingness to Protest
(Intercept)	−0.795 (0.500)	−0.788* (0.358)	−0.930* (0.408)	−1.031** (0.366)	0.588 (0.430)
Treatment	0.071 (0.127)	0.137 (0.089)	0.109 (0.102)	0.131 (0.091)	0.082 (0.107)
Gender	0.025 (0.131)	0.182+ (0.093)	0.103 (0.106)	0.153 (0.095)	−0.107 (0.111)
Age	−0.012 (0.010)	−0.016* (0.007)	−0.006 (0.008)	−0.012 (0.008)	−0.013 (0.009)
Education	−0.051 (0.059)	−0.061 (0.043)	−0.021 (0.049)	0.000 (0.044)	0.015 (0.052)
City	−0.015 (0.056)	−0.017 (0.039)	−0.031 (0.044)	−0.033 (0.040)	−0.030 (0.046)
Income	0.000 (0.015)	−0.002 (0.011)	0.010 (0.012)	0.002 (0.011)	−0.003 (0.013)
Party Affiliation		0.064 (0.042)	0.001 (0.048)	0.059 (0.043)	0.013 (0.051)
Overall Satisfaction	0.378*** (0.068)	0.303*** (0.048)	0.302*** (0.055)	0.308*** (0.049)	−0.060 (0.058)
Num.Obs.	217	219	219	219	219

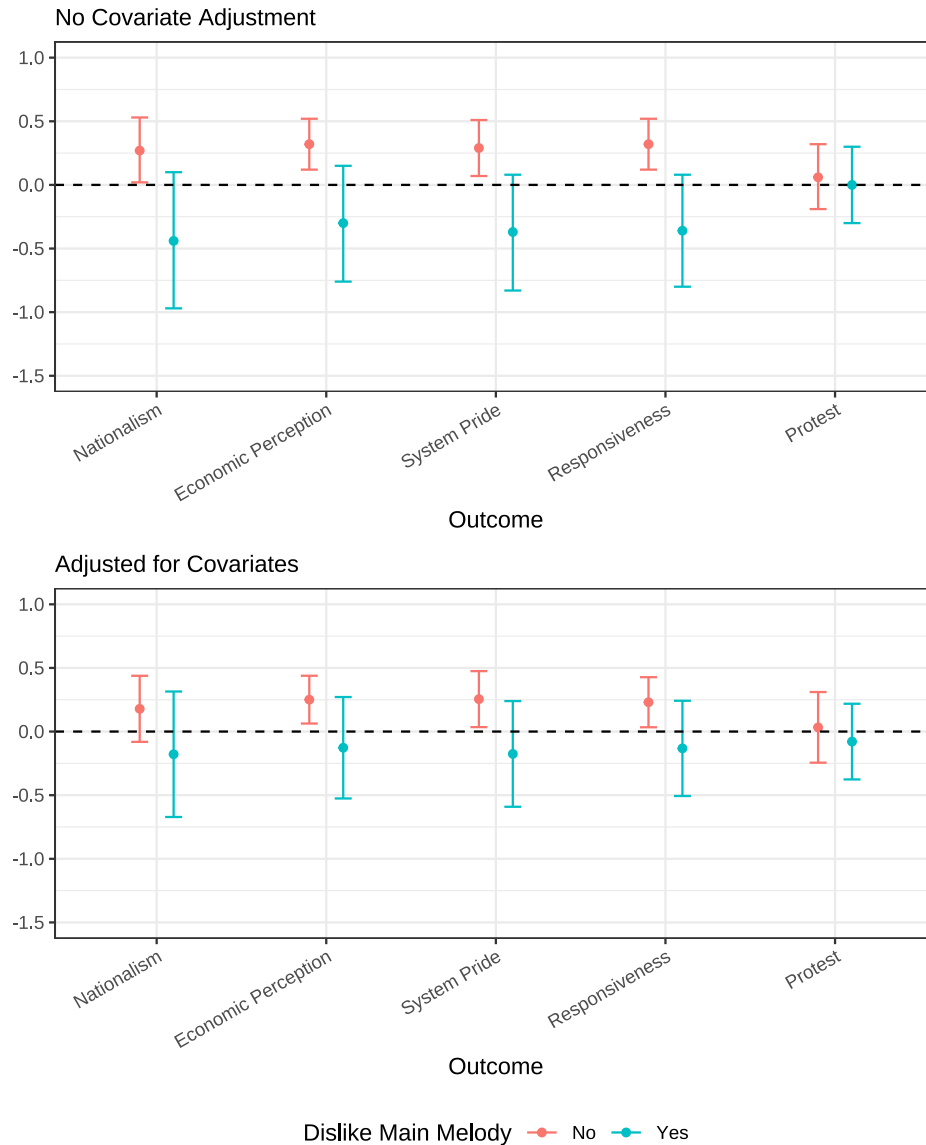
Table 9: Effects of Propaganda Movie on Opinions: Adjusted for Covariates, Dislike Propaganda - No

	Nationalism	Economic Perception	System Pride	Perceived Responsive- ness	Willingness to Protest
(Intercept)	−0.488 (0.540)	−0.387 (0.375)	−0.520 (0.439)	−0.798* (0.388)	0.482 (0.531)
Treatment	0.234 (0.142)	0.257** (0.098)	0.247* (0.115)	0.241* (0.101)	0.085 (0.139)
Gender	−0.030 (0.142)	0.135 (0.098)	0.071 (0.115)	0.100 (0.101)	−0.034 (0.139)
Age	0.003 (0.012)	−0.013 (0.008)	0.004 (0.010)	−0.005 (0.008)	−0.018 (0.012)
Education	−0.091 (0.067)	−0.114* (0.048)	−0.077 (0.056)	−0.045 (0.050)	−0.002 (0.068)
City	0.007 (0.060)	−0.023 (0.040)	−0.030 (0.047)	−0.011 (0.042)	−0.030 (0.057)
Income	−0.013 (0.020)	0.003 (0.013)	0.010 (0.015)	0.007 (0.013)	0.001 (0.018)
Party Affiliation		0.089+ (0.046)	−0.013 (0.054)	0.054 (0.048)	0.041 (0.065)
Overall Satisfaction	0.259*** (0.076)	0.241*** (0.053)	0.210*** (0.062)	0.257*** (0.054)	−0.015 (0.074)
Num.Obs.	157	159	159	159	159

Table 10: Effects of Propaganda Movie on Opinions: Adjusted for Covariates, Dislike Propaganda - Yes

	Nationalism	Economic Perception	System Pride	Perceived Responsive- ness	Willingness to Protest
(Intercept)	−0.528 (1.173)	−1.151 (0.977)	−1.405 (1.001)	−0.477 (0.918)	1.687* (0.764)
Treatment	−0.287 (0.261)	−0.119 (0.201)	−0.143 (0.206)	−0.135 (0.189)	−0.088 (0.157)
Gender	−0.129 (0.296)	0.117 (0.228)	−0.061 (0.233)	0.069 (0.214)	−0.407* (0.178)
Age	−0.027 (0.023)	−0.016 (0.018)	−0.015 (0.019)	−0.029+ (0.017)	−0.012 (0.014)
Education	−0.016 (0.120)	0.010 (0.092)	0.086 (0.095)	0.048 (0.087)	0.029 (0.072)
City	−0.166 (0.125)	−0.052 (0.099)	−0.076 (0.101)	−0.159+ (0.093)	−0.106 (0.077)
Income	0.003 (0.026)	−0.013 (0.020)	−0.003 (0.021)	−0.008 (0.019)	0.003 (0.016)
Party Affiliation		0.014 (0.095)	0.042 (0.097)	0.049 (0.089)	−0.077 (0.074)
Overall Satisfaction	0.483** (0.157)	0.392** (0.121)	0.426** (0.124)	0.303* (0.113)	−0.213* (0.094)
Num.Obs.	60	60	60	60	60

The figure below presents a comparison of the estimates with and without covariate adjustment. As the treatment groups were unbalanced, the estimated effects were found to be smaller after controlling for covariates. However, the overall pattern of results remained consistent.



Note: Covariates include gender, age, education, city, income, party affiliation, and overall satisfaction.

Figure 21: No Covariate Adjustment Versus Adjusted for Covariate

## A.10 Estimated Heterogeneous Treatment Effects By Overall Satisfaction

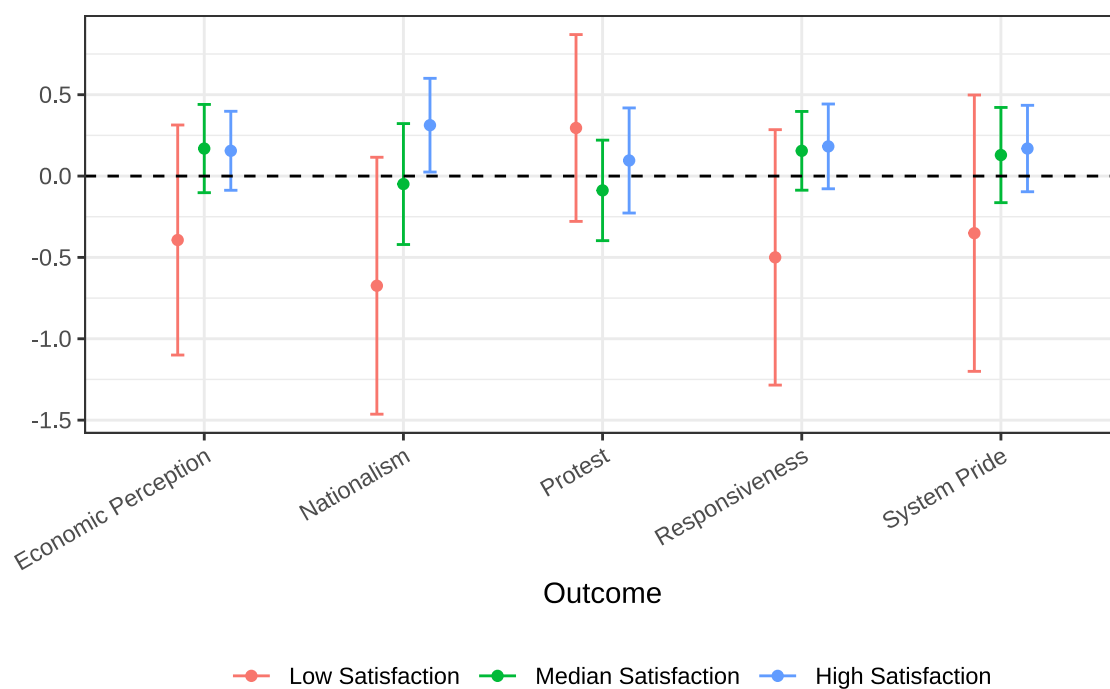


Figure 22: Estimated Heterogeneous Treatment Effects By Overall Satisfaction

## A.11 Estimated Heterogeneous Treatment Effects By Gender

One issue that complicates this exercise is the small number of female participants who expressed a distaste for propaganda. This means that the estimates for this subgroup are particularly imprecise. Other than that, some minor gender differences are observed, but the overall pattern remains roughly similar.

Table 11: Gender: Sample Bias

Gender	Dislike Propaganda	N
Male	Yes	183
Male	Yes	62
Female	Yes	91
Female	Yes	25

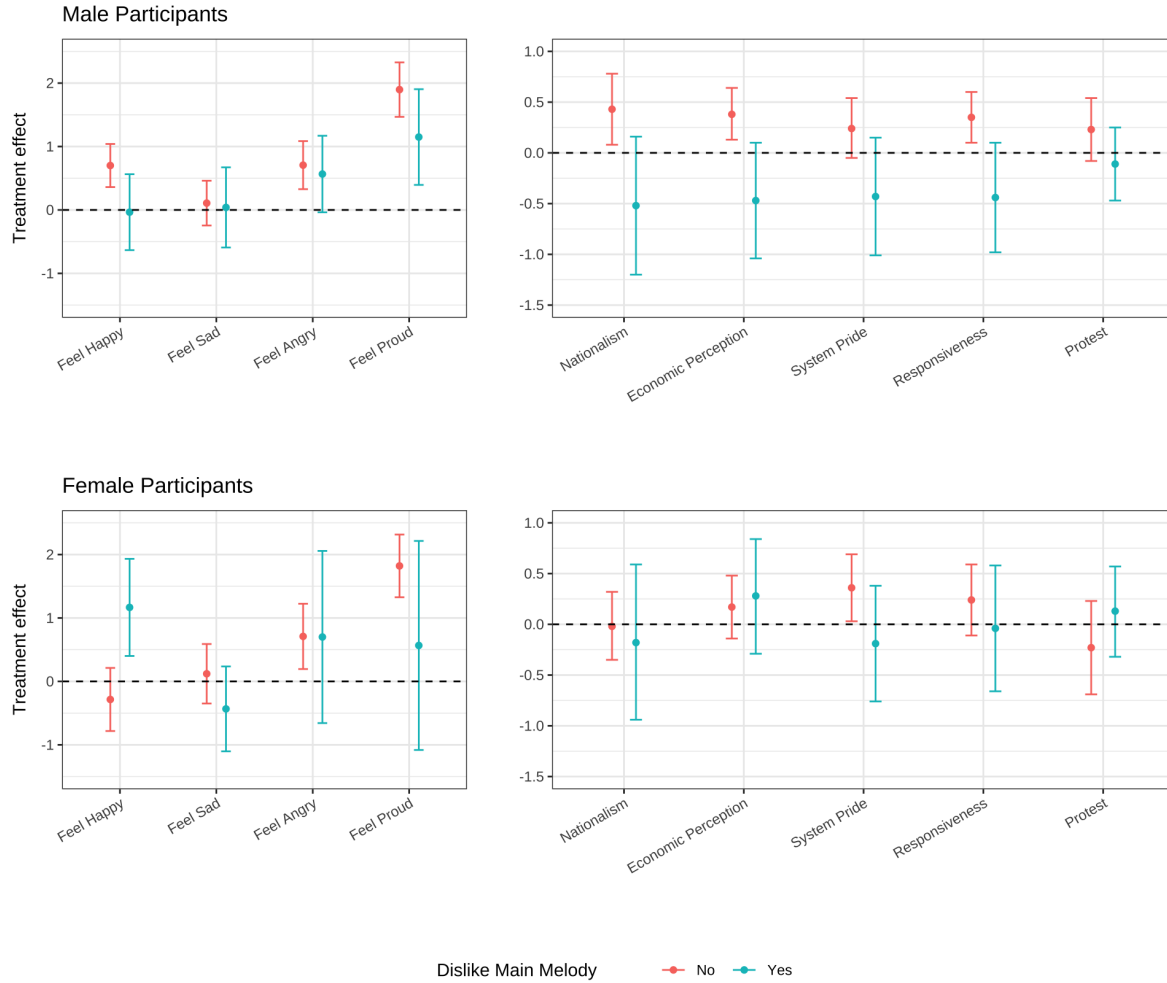


Figure 23: Estimated Treatment Effects By Gender

## A.12 Who Chooses the Propaganda Movie in the Free-choice Group

Table 12: Who Chooses the Propaganda Movie?

(Intercept)	0.741 (0.544)
Gender	−0.097 (0.108)
Age	−0.010 (0.010)
Education	0.082 (0.058)
City	−0.050 (0.048)
Income	−0.014 (0.013)
Overall Satisfaction	0.033 (0.065)
Num.Obs.	92



### A.13 Self-selectors and non-selectors

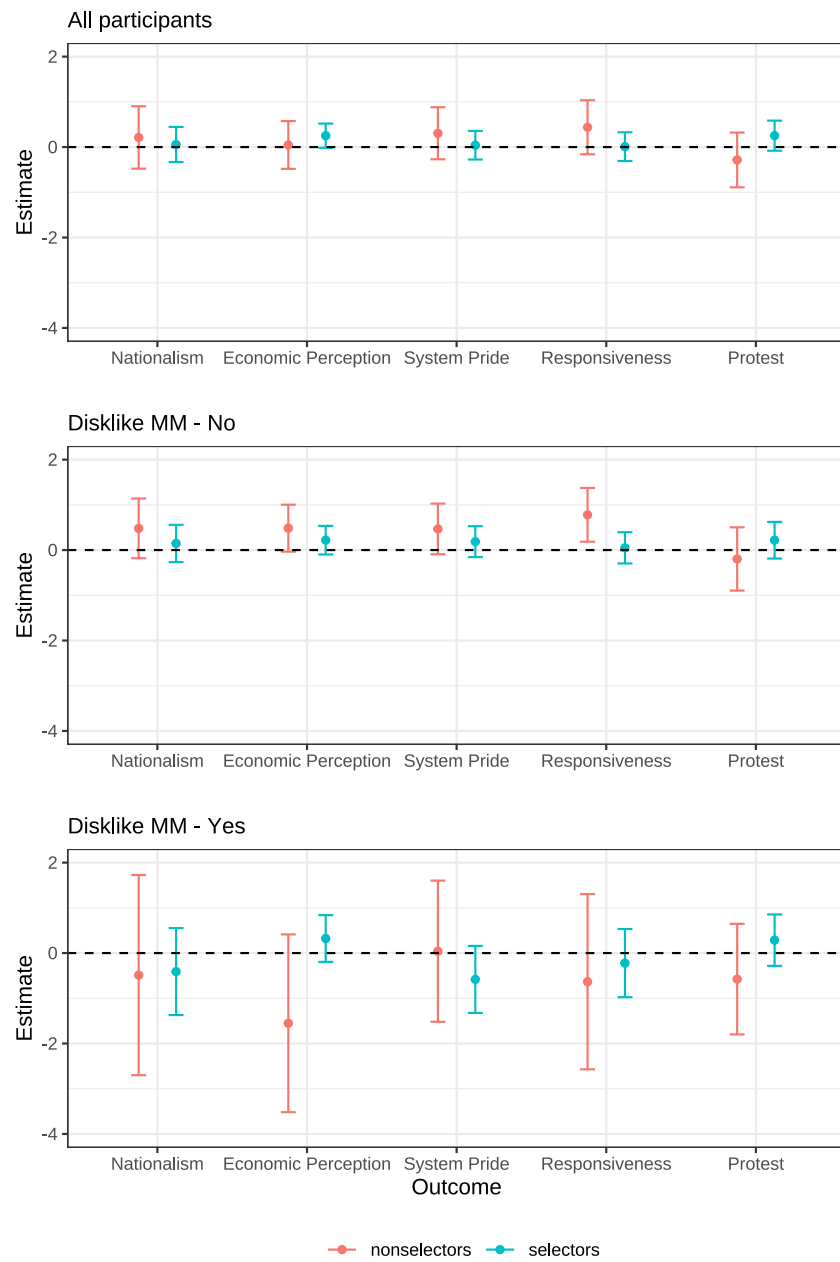


Figure 24: Estimated Treatment Effects Among Selectors and Nonselectors