

Propaganda as Signaling

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Why do authoritarian governments engage in propaganda when citizens often know that their governments are propagandizing and therefore resist, ignore, or deride the messages? In China, for example, much of the government's official discourse and rhetoric are so obsolete and far-fetched that they have been widely ridiculed¹ and dubbed the Chinese government's "own worst enemy."² Some scholars have even argued that Chinese citizens with more exposure to state media reports may, in fact, have less trust in the government, since more official messages make them see more inconsistencies between the propaganda and the reality.³ Nevertheless, the Chinese government maintains a massive institutional structure and devotes enormous resources on a daily basis for the production of propaganda in the form of state media publications and programs, political education in schools, ideological campaigns, and various kinds of rituals and ceremonies.⁴

Similar examples abound in other countries. Former Syrian president Hafiz al-Assad was regularly portrayed in official Syrian political discourses and extravagant rituals as being omnipresent and omniscient, carrying such titles as the "first teacher," "savior of Lebanon," and even "premier pharmacist." As such, he knew "all things about all issues," even though such communications were not believed by ordinary Syrians or even by members of the regime directly responsible for their dissemination.⁵ Similarly, the North Korean propaganda apparatus is rarely concerned about the veracity of its various preposterous pronouncements, such as the one claiming a "big and bright halo" floated above Kim Jong Il's alleged birth place for an hour on the occasion of his birthday,⁶ but seems to insist that the supposed virtues of the leaders and the magical revolutionary history of the country must not be judged by their (lack of) factual accuracy but be accepted on their own terms.⁷ More generally, in communist countries propaganda posters and slogans can be found everywhere even though few people really care to read them.⁸ These countries also emphasize ideological and political education in schools, but such courses are so unpopular that the Vietnamese government, for instance, has recently resorted to offering free tuition to attract college students to study Marxism-Leninism and Ho Chi Minh Thought.⁹

Why do authoritarian governments engage in unpersuasive propaganda? The common understanding of political propaganda is that it is a means to indoctrinate

the masses with pro-regime values and attitudes. However, for indoctrination to be effective, one has to be convinced by the content of the propaganda. Pretentious propaganda that is not persuasive is at odds with this goal. In this paper I propose that propaganda is often not used for indoctrination, but rather to signal the government's strength in maintaining social control and political order. More specifically, by being able to afford significant resources to present a unified propaganda message and impose it on citizens, a government that has a strong capacity in maintaining social control and political order can send a credible signal about this capacity and distinguish itself from a weak government, hence implicitly intimidating the masses who may otherwise contemplate regime change. In other words, such propaganda is not meant to "brainwash" people with its specific content about how good the government is, but rather to forewarn the society about how strong it is via the act of the propaganda itself.

An example from Chinese media will be useful to illustrate the above argument. Media commercialization in China in the last few decades has bred market-oriented print, broadcast, and cable media outlets, and lively coverage of social and economic issues now thrives in the country, even though political discussions are still controlled.¹⁰ Against this sea change of the media sector, however, there exist some notable anomalies: the reportage of the country's prime-time television news program, China Central Television (CCTV)'s *Xinwen Lianbo* (Network News Broadcast), and the preeminent official newspaper, *People's Daily*, have remained notoriously formalistic, ritualistic, and ideological. Consider *Xinwen Lianbo*, which remains the most high-profile television news program in China as government regulations have made it virtually the only TV news program available around dinner time for most families. In contrast to the tremendous changes in the society that the news program is supposed to cover, and even to many other programs of the CCTV itself, the content, language, and format of *Xinwen Lianbo* have remained largely unchanged. Its coverage has invariably focused on party leaders having meetings, attending ceremonies, receiving foreign guests, or touring local areas, often without reporting the substance of those activities. The use of archaic and stilted prose glorifying the government has made the program a constant target of mockery among ordinary citizens;¹¹ media scholars in China call it "a theatrical privately not believed by people at all but nevertheless performed with a clear and rich tone and promoted as real."¹² Despite this, the state orders almost all provincial TV stations in the country to simulcast *Xinwen Lianbo* at 7 p.m. every evening.

Why does the Chinese government do this? The signaling theory suggests that citizens may dislike and remain unpersuaded by the content of *Xinwen Lianbo*, but its continual existence and the fact that the government can easily bombard the nation with this much-ridiculed program demonstrates its strength and capacity.¹³ This is not to say that *Xinwen Lianbo* has no other functions. Chinese citizens who view official media as government mouthpieces will nevertheless consume their reports in order to learn the government's policy positions.¹⁴ But the fact that the style of *Xinwen Lianbo* is conspicuously different from other news programs of CCTV and has stubbornly remained so despite numerous calls to reform the program and make it "keep pace with

the times” shows that *Xinwen Lianbo* is not merely about announcing government positions or policies.

The term “signaling” here thus refers to the indirect provision of information—in the present case, the government’s strength—through the government’s act of doing the propaganda, rather than its usual meaning in everyday language: direct provision of information as contained in what the government is saying in the propaganda. Such indirect provision of information is possible because propaganda is costly, particularly at the scale implemented by authoritarian states like China, and, therefore, the willingness and/or ability to undertake such costly actions constitute a credible signal of the government’s capacity and resources. An analogy can be found in the literature on political campaigns and advertising in democracies, which can be expensive but often contain little new information to voters. By “burning money” publicly, however, such campaigns and advertising can signal some otherwise non-verifiable attributes of the candidates.¹⁵

In the article I use unique survey data from China to test the above argument; a simple game-theoretic model is contained in the appendix.¹⁶ Consistent with the theoretical prediction, I find that Chinese college students who are more familiar with the government’s propaganda messages embedded in their ideological and political education courses are not more satisfied with the government, but they are more likely to believe that it has a strong capacity in maintaining political order and are, hence, less willing to express dissent. This is notable because those courses are not really about the government’s repressive or political control capacity, but rather the greatness and glory of the party-state. That the government is capable of delivering the pompous and sometimes ludicrous propaganda without much overt opposition, however, has implied to the students that the government is strong.

This signaling theory of propaganda is a complement to rather than a substitute for the standard indoctrination theory of propaganda given that in many contexts propaganda (such as subtle media messages or literary works) can indeed change the recipients’ opinions and imbue them with attitudes favorable to those in power. Citizens’ political awareness and ability to resist government propaganda also vary.¹⁷ The purpose of this paper is not to replace the indoctrination theory but to suggest that indoctrination is not the only function of propaganda. Some propaganda may not influence the masses’ political values and attitudes but can nevertheless affect their behavior and promote regime stability by displaying the government’s strength, capacity, and resources. As will be discussed in the concluding section, propaganda that does and does not induce belief can be called “soft propaganda” and “hard propaganda” respectively. This study focuses on the latter.

Propaganda: Indoctrination or Signaling

Traditionally, propaganda is understood and, indeed, defined as “the attempt to transmit social and political values in the hope of affecting people’s thinking, emotions,

and behavior.”¹⁸ This has been the premise of almost all classic and standard works on political propaganda, including those of early theorists,¹⁹ scholars of authoritarian and communist propaganda,²⁰ and critics of Western media.²¹ Scholars of political propaganda in China have similarly emphasized how propaganda shapes the values, opinions, and attitudes of the masses, and call it “thought work” following the terminology of the Chinese government.²² They argue that while the country’s propaganda system, particularly the media system, has been significantly updated and commercialized since the Maoist era, with the Maoist goal of transforming the nature of human beings for socialist revolution and construction discarded and Maoist tactics such as struggle and criticism sessions replaced by more modern and even entertaining practices, the fundamental goal of Chinese propaganda is still to instill the public with nationalism, consumerism, and/or New Confucianism, or otherwise to “guide public opinion” and make it conducive to regime and social stability.²³ I call this standard and prevailing view the indoctrination theory of propaganda.

While indoctrination indeed occurs when the content of propaganda persuades its recipients and scholars such as those cited above have provided significant insights about how it has been done in various contexts and time periods, the fact that in many other situations propaganda does not actually induce belief shows that indoctrination is not the only story of propaganda and sometimes not even the main story. Following the Spence signaling game framework,²⁴ I develop a signaling theory of propaganda, which states that authoritarian governments engage in seemingly unproductive and wasteful propaganda activities not to imbue the masses with pro-government attitudes, but to demonstrate their strength in social control. In fact, for this demonstration of strength to be well taken, propaganda may sometimes need to be dull and unpersuasive, so as to make sure that most citizens will know precisely that it is propaganda when they see it and hence get the implicit message.²⁵

The full theoretical model explicating the logic of the signaling theory is in the appendix; here I sketch its main idea. There are two players: the government and the citizenry. The government’s capacity for maintaining social control and political order can be strong or weak; a strong government can defeat a political challenge of the citizens with a higher probability than a weak government. The government knows its capacity, but citizens do not; although, prior to the game, they have a belief about the probability that the government is strong. Citizens’ preferences and costs of challenging the government are such that they will rebel against the government if they know it is weak, but will not rebel if they know it is strong. Such a rebellion should be understood as a political challenge or revolution against the regime rather than loyalist and localized protests asking the government to address some specific grievances.

In the game, the government moves first, deciding how much propaganda to produce. After observing the government’s level of propaganda, citizens decide whether or not to launch a rebellion. Crucially, the cost of producing the same amount of propaganda is lower for a strong government than for a weak government. In other words, a government that is strong and more capable in social control can maintain a propaganda

apparatus, carry out propaganda activities, and impose the messages on citizens more easily and efficiently than a weak government.

This means that citizens can make inferences about the type of the government by observing whether it is willing to produce a high level of propaganda, even if the content of the propaganda itself is not believed by the citizens. I show that there is a unique separating equilibrium in this game: a strong government produces a sufficiently high level of propaganda that a weak government is unwilling or unable to produce and, therefore, distinguishes itself from the latter. Citizens are then deterred from rebellion when they observe a sufficiently high level of propaganda not because it induces a more positive view of the government but because they now know that the government has a strong capacity for defeating a rebellion and maintaining political control.

Scholars have long noted that propaganda is often not intended for (or does not result in) persuasion. Hannah Arendt states in her analysis of totalitarianism that the “true goal of totalitarian propaganda is not persuasion, but organization of the polity,” and that “what convinces masses are not facts, and not even invented facts, but only the consistency of the system of which they are presumably part.”²⁶ In Vaclav Havel’s memorable discussion of why a greengrocer in Soviet-era Eastern Europe placed political slogans that few people would read in his store window among the fruits and vegetables, he notes that such slogans formed part of the panorama of everyday life, and that “while they ignore the details, people are very aware of that panorama as a whole,” which “reminds people where they are living and what is expected of them.”²⁷ These insightful observations, however, were brief and not fully developed or elaborated.

The work that is most closely related to this paper is Lisa Wedeen’s ethnographic study of the cult of Hafiz al-Assad in Syria, which also seeks to understand why an authoritarian regime would engage in preposterous propaganda and rituals that do not convince citizens. Her arguments are multifaceted but focus on how official discourses clutter public space and drive alternative messages underground, provide the correct “grammar” and formula for acceptable speech,²⁸ and thus habituate citizens to behave “as if” they believe in official rhetoric. She also hints at signaling, for example, when she notes that “the greater the absurdity of the required performance, the more clearly it demonstrates that the regime can make most people obey most of the time,”²⁹ but for her this is part of an extensive and intertwined mechanism that compels citizens to practice what Timur Kuran calls “preference falsification,”³⁰ and not analyzed separately.

This article explicitly develops and formalizes the signaling mechanism of propaganda and subjects it to systematic testing. It thus integrates formal theory with public opinion survey in the study of authoritarian politics. The contemporary literature on authoritarianism, including its formal theory component, has focused on how authoritarian rulers use political institutions for power sharing and social co-optation,³¹ but not the formation of public opinion. By connecting the traditionally disparate methods of research, the article can make unique contributions to the study of authoritarian politics.

There is also a nascent game-theoretic literature on news media in authoritarian countries, which focuses on the censorship of news and information.³² The only other

formal-theoretic paper to date on propaganda is by Chris Edmond, who shows through a global game model that exaggerating the government's ability to repress can lead citizens to coordinate on not challenging the regime.³³ The difference between his study and this paper is that in this paper information about the government's strength is not directly provided, but indirectly inferred from the government's actions.

With regard to China studies, two other papers have also used the signaling framework, although in different contexts. Victor Shih holds that junior officials in China often use "nauseating" public praises of a senior leader to send credible signals about their loyalty.³⁴ When explaining the prevalence of conservative and dogmatic rhetoric in China's reform era, I argue that the reformist central government uses such rhetoric to conceal its objective and to control the pace of local reforms.³⁵ This article studies state-society relations rather than internal dynamics within the government.

Survey Evidence

Background If the signaling theory correctly describes some aspects of the reality in an authoritarian country, there should be certain important forms of propaganda that will make citizens more likely to believe that the government is strong in maintaining political order and social stability, and thus decrease their willingness to oppose the government, although they are not necessarily made more satisfied with the regime.

I already discussed China's flagship state news program *Xinwen Lianbo* to illustrate the signaling theory. Here, I more formally test the theory by examining the effects of ideological and political education in Chinese universities, which has played a crucial role in sustaining the Chinese Communist Party's (CCP) rule. After the 1989 student-led Tiananmen Movement that brought the Chinese government to the brink of collapse was put down, the paramount leader Deng Xiaoping concluded that "[o]ur biggest mistake in the last ten years was education, by which I mainly mean ideological and political education."³⁶ Since then mandatory ideological and political education courses have been reemphasized in college curricula.³⁷ The current leadership, while pursuing economic and social reform measures to correct severe economic imbalances and alleviate social grievances, has continued and even intensified ideological work, including recently engineering major counteroffensives against seven "false ideological trends and positions,"³⁸ which have also been implemented on college campuses. With the expansion of higher education in China, the impact of political and ideological lecturing reaches a very large proportion of the young-adult population. Requiring political education to this "captive audience" on college campuses can also have ramifications beyond students' college careers.

In this study I measure the students' exposure to ideological and political education by a set of questions from the courses they have taken in previous semesters. Although these courses are mandatory, the attention students actually pay to them varies, and so the classes will have different levels of effects on the students. Chinese students and even many instructors generally view such courses as nuisances, rituals that they dislike

but have to observe. Students also typically regard the courses as useless for their future careers. When asked how they treated the political education courses, only 8 percent of the students surveyed in the study reported that they somewhat actively studied for the courses, with the rest acknowledging that they listened to lectures only casually, did not listen to lectures at all, relied on cram sessions to prepare for exams, or simply skipped some classes. Such attitudes are hardly unique to this sample.³⁹ Students' performances in such courses are therefore largely a function of their incentive and ability (including cognitive ability such as memory) to achieve a high overall academic standing, since grades in these courses constitute part of their GPA. Conditional on their overall academic standings as well as some other factors that will be controlled for, the students' familiarity with the materials and lecturing approximately reflect random or idiosyncratic factors not systematically correlated with their political attitudes that influence their attention and exposure to the ideological and political education. In other words, there is some randomness in the amount of treatment for each student. If the signaling model correctly describes the role of state propaganda in such courses, those students with more exposure to the courses, in the sense of being able to recollect more teachings from past courses, will be more likely to believe that the government is strong, but not more likely to believe that the government is good.

Data and Measurement In the following section, I report the results of a unique survey conducted in a mid-sized and mid-upper-ranked university in eastern China in the spring semester of 2011. Although not top-ranked, the university is one of the key national universities under the direct supervision of the Ministry of Education, offering degrees in engineering, social sciences and management, natural sciences, and humanities, with a slight emphasis on engineering as is typical in China (a legacy of socialist planning). In addition, because the university is mid-upper ranked, survey participants in the project were also potentially more representative of Chinese college students in general than those from top elite universities, who have usually been the target of academic surveys. Since instructors from different universities often teach the political education courses differently, for the purpose of this paper it is important to restrict the testing of the students' ideological and political "learning" within the same university so that students have had the same lectures and instructors.⁴⁰

The survey was implemented in a university-wide required second-year course as a class activity to assess teaching effectiveness and student opinions. One out of every two sections of the course in the university's main campus was selected for the survey, which thereby covered about half of its sophomore population and all but some small majors. The formal survey, reported below, had 1,250 respondents altogether; however, not all respondents answered every question on the questionnaire, thus the variation in the number of observations reported in the tables below. The survey was anonymous and conducted in group settings to ensure that the students knew their answers would not be individually identified.

To avoid any potential priming effects, the survey first asked the students about their political attitudes and opinions before measuring their exposure to ideological

and political education. The opinion questions include their satisfactions with China's overall situation, performance of the central government, performance of the respondent's local government, the Chinese government's competence in governance, and China's political system, on a five-point Likert scale.⁴¹

To measure the students' appraisal of the government's strength in maintaining political order, the survey asked them about the capacity of the government to "maintain social stability." The phrase "social stability" rather than "regime stability" was used in order to reduce the political sensitivity of the question, but the term "maintaining social stability" (*weiwen*) is broadly understood in China as a code word for maintaining the stability of the existing regime. The issue of political sensitiveness also made it impractical to measure this variable with multiple questions. In addition, the survey asked about their willingness to protest and dissent, in other words, to participate in assemblies/demonstrations and in student strikes, which were the two primary forms of rebellion in China's 1989 student movement. For obvious political concerns, the students could not be directly and explicitly asked about "rebellious against the government" or "challenging the national regime,"⁴² but the wording used in the survey was sufficient to tap into the students' inclination for political dissent.

Following the above questions on the dependent variables, the students were tested by fifteen multiple-choice questions based on the two ideological and political education courses they had taken in previous semesters. This represented their exposure to state propaganda, the study's independent variable.⁴³ The two courses were "Principles of Marxism" and "Modern Chinese History," which focused on justifying and glorifying the roots of China's current political system and its revolutionary path. The course on modern Chinese history was not a standard history class but one with a significant ideological component, and the survey questions on that course were all about ideological elements of the course rather than historical facts. Respondents were instructed to answer these questions according to what they had learned in classes. All in all, the test questions were similar to political knowledge questions in public opinion studies, except that the "correct" answers were based on the official political discourse in China.

Two examples will help elucidate the nature of these test questions. One of the questions asked: "What is the essence of elections in capitalist countries?" The choices were (A) "division of power between the capitalist class and the proletarian class," (B) "expression of citizens' wishes and demands through electoral competition and political participation," (C) "an important measure to mediate the interests and conflicts within the ruling class," and (D) "the principle that people are the masters of their own country." The "correct" answer according to the standard official political discourse in China is (C), with the implication that elections in the West are just façades and, therefore, the lack of elections in China is not a bad thing. Another question asked: "Among all the complicated contradictions and conflicts in modern China, what was the most important one?" The choices were (A) "the conflict between the proletarian class and the capitalist class," (B) "the conflict between feudalism and the masses," (C) "the conflict between the peasant class and the landlord class," and (D) "the conflict between imperialism and the Chinese nation." The "correct" answer

to this question is (D), which (implicitly) highlights the communist party's role in achieving China's national independence.

A respondent's propaganda score, which reflected his or her exposure to and familiarity with the ideological and political lecturing, was simply the number of questions answered correctly. The control variables included the students' general academic standings as discussed above, political efficacy, gender, family income, and CCP membership.⁴⁴ Age and education were not included because the respondents were all college sophomores.

Table 1 shows the summary statistics of the survey. One thing that stands out is that the respondents' mean political satisfactions were only around the midpoint of the five-point scale, but their average willingness for political dissent was very low, suggesting that the state has made them reluctant to participate in such activities even though they were not really satisfied with the regime. With regards to the propaganda scores, no one attained the perfect or almost perfect score (15 or 14) but some got zero, which, again, indicates the students' general lack of interest in the subjects. The mean and the mode of the distribution (7) were just below half of the total number of questions.

Table 1 Summary Statistics of the Survey

Variable	Mean	Std. Dev.	Min	Max
Satisfaction with China's overall situation	2.97	0.93	1	5
Satisfaction with central government performance	3.36	0.90	1	5
Satisfaction with local government performance	2.81	1.02	1	5
Satisfaction with government competence	3.30	1.02	1	5
Satisfaction with political system	3.42	1.05	1	5
Evaluation of government capacity for social stability	3.59	1.05	1	5
Willingness to join assemblies and demonstrations	0.62	0.75	0	3
Willingness to join student strikes	0.61	0.77	0	3
Propaganda score	7.12	2.63	0	13
Academic standing	5.79	1.97	0	10
External efficacy	2.03	1.05	1	5
Internal efficacy	2.78	1.10	1	5
Female	0.42	0.49	0	1
Family income	4.56	1.59	0	10
CCP member	0.19	0.39	0	1

Results Given the ordinal nature of the dependent variables, I analyze the data with ordered logit regressions (I have also run OLS regressions, with results consistent with the theory). Table 2 shows the results on the respondents' satisfaction with China's overall situation, performance of the central and local governments, government competence, and the political system. As the table clearly shows, one's exposure to ideological and political education ("propaganda score") had no significant relationship

Table 2 Overall and Political Satisfactions

	China Overall	Center Performance	Local Performance	Government Competence	Political System
Propaganda Score	-0.003 (0.024)	0.037 (0.025)	0.004 (0.025)	0.005 (0.024)	0.029 (0.024)
Academic Standing	-0.045 (0.031)	0.024 (0.032)	-0.071** (0.032)	-0.018 (0.031)	-0.047 (0.031)
External Efficacy	0.205*** (0.057)	0.282*** (0.060)	0.293*** (0.061)	0.273*** (0.057)	0.198*** (0.057)
Internal Efficacy	-0.234*** (0.054)	-0.130** (0.054)	-0.111** (0.056)	-0.249*** (0.054)	-0.160*** (0.054)
Female	-0.015 (0.114)	-0.156 (0.117)	-0.074 (0.119)	-0.140 (0.115)	0.149 (0.114)
Family Income	0.091** (0.038)	-0.021 (0.039)	0.212*** (0.040)	0.066* (0.038)	0.033 (0.037)
CCP Member	0.442*** (0.145)	0.481*** (0.150)	0.027 (0.151)	0.244* (0.144)	0.419*** (0.146)
Intercept 1	-2.683*** (0.324)	-2.526*** (0.343)	-1.174*** (0.323)	-2.880*** (0.329)	-2.643*** (0.327)
Intercept 2	-0.995*** (0.308)	-1.495*** (0.326)	0.089 (0.319)	-1.515*** (0.311)	-1.644*** (0.312)
Intercept 3	0.826*** (0.307)	0.594* (0.321)	2.092*** (0.326)	0.411 (0.307)	0.077 (0.307)
Intercept 4	3.670*** (0.356)	3.261*** (0.343)	4.074*** (0.357)	2.102*** (0.315)	2.062*** (0.315)
Observations	1089	1079	1014	1072	1089

Standard errors in parentheses. * p < 0.1, ** p < 0.05, *** p < 0.01.

with any of the dependent variables that measure the respondents' overall and political satisfactions. In other words, if the purpose of ideological and political education is to make the students more pro-government (i.e., indoctrination), it has clearly failed.

Other variables worked as expected. External efficacy, one's feeling about their ability to influence government decision making, was correlated with higher satisfactions with the country and government. Internal efficacy, one's self-assessment of their ability to understand political affairs, was correlated with lower satisfactions, which was expected given China's authoritarian system. Naturally, family income and membership in the communist party were often correlated with more positive opinions of the country and government.

While propaganda has not elevated the students' satisfaction with the government system, Table 3 shows that it has succeeded in signaling the regime's strength. Respondents with higher propaganda scores had a higher belief that the government's capacity in maintaining social stability was strong. The effects of this enhanced belief are also apparent in Table 3. Higher propaganda scores were associated with a lower willingness to dissent, particularly with regards to participating in student strikes. The coefficient on participating in assemblies and demonstrations is not significant, but it nevertheless has a negative sign (the OLS regression with the same variables would return a statistically significant coefficient at $p = 0.09$). Overall, while the statistical significance levels of the main coefficients in Table 3 are usually at $p < 0.1$, they contrast sharply with the results on political satisfactions in Table 2, where the p -values of the coefficients on propaganda are often around 0.8 and 0.9. Given that the general level of willingness to dissent was already low (see Table 1), it is remarkable that a higher level of exposure to ideological and political lecturing could further dampen any such inclination.

In results reported in the appendix, I also found that there was no correlation between exposure to propaganda and willingness to vote in state-sanctioned local elections (e.g., village, local people's congress, and neighborhood elections) or elections on campus. Participation in local elections, which is encouraged by the Chinese government, has been shown to be associated with identification with the regime and affective attachments to the political authority.⁴⁵ That propaganda had no effect on regime-sanctioned forms of political participation but reduced people's willingness to dissent is revealing.

The general results are thus consistent with the signaling theory of propaganda, but not with the indoctrination theory, since political education made the respondents believe that the government was strong and reduced their willingness to dissent, but did not imbue them with a higher level of pro-regime sentiments. To use the game-theoretic terminology, political and ideological propaganda in Chinese colleges does not change the students' political "tastes" or "preferences," but does influence their belief about the "state of the world." Given that the ideological and political education courses focus on justifying and glorifying the rule of the communist party, rather than touting the state's social control or repressive capacity, this outcome would be otherwise surprising and confusing, but is natural within the signaling framework.

Table 3 Evaluation of the Government's Strength and Willingness to Dissent

	Government Capacity for Social Stability	Assembly and Demonstration	Student Strike
Propaganda Score	0.043* (0.025)	-0.035 (0.025)	-0.046* (0.025)
Academic Standing	0.008 (0.033)	0.071** (0.033)	0.040 (0.033)
External Efficacy	0.148** (0.061)	0.205*** (0.059)	0.219*** (0.060)
Internal Efficacy	-0.157*** (0.058)	0.070 (0.056)	-0.019 (0.056)
Female	-0.431*** (0.122)	-0.339*** (0.121)	-0.355*** (0.122)
Family Income	0.010 (0.041)	-0.017 (0.040)	-0.003 (0.040)
CCP Member	0.334** (0.156)	-0.275* (0.155)	-0.446*** (0.159)
Intercept 1	-2.910*** (0.354)	0.524 (0.324)	0.151 (0.320)
Intercept 2	-1.844*** (0.333)	2.430*** (0.334)	1.959*** (0.327)
Intercept 3	-0.098 (0.327)	4.671*** (0.405)	3.964*** (0.382)
Intercept 4	1.531*** (0.331)		
Observations	937	1083	1084

Standard errors in parentheses. * p < 0.1, ** p < 0.05, *** p < 0.01.

Concerns and Alternative Explanations An obvious concern with the results is potential reverse causality: the causal direction might be from a higher belief about the strength of the state to a higher willingness to pay attention to propaganda, rather than the other way around. For example, those who believe the regime is strong and are interested in a career in the government may have an incentive to obtain good grades from the political education courses. It is well known in China, however, that the most important political expedience for government and other state sector jobs is

CCP membership, which has been controlled for in the statistical analysis. Grades from the ideological and political education courses themselves do not really matter aside from affecting the GPA. That is why Chinese students, including party members, generally regard ideological and political education as “useless” and consider related coursework as the least important of their college career. In fact, student party members, who had a higher incentive for government and party jobs, did not score higher in the propaganda test than non-party members. The party members’ average score was 7.38 (standard deviation = 2.404), while the non-party members’ average score was 7.33 (standard deviation = 2.399).⁴⁶ In addition, the important annual civil service exams, which applicants for government jobs must take, primarily test intellectual aptitude along the lines of that measured by the United States’ GRE and LSAT rather than conformity to state ideology; they cover Chinese language, mathematics, logic, general knowledge, basic data analysis, and writing, but very little, if any, material from college political education courses.

A related alternative explanation is that belief in and fear of the state’s social control capacity will induce more attention to ideological and political education. This concern is also not warranted. As I have discussed earlier, Chinese students’ incentive in political education courses is to meet the degree requirement and attain a high overall academic standing. Low grades in these courses will not result in any negative outcome other than a low GPA. Satisfaction with and loyalty to the government, on the other hand, may indeed provide a student with more incentive to hear what the state has to say, but as Table 2 has clearly shown, there is little relationship between the students’ exposure to political lecturing and their satisfaction with the regime. Any potential effect of one’s fear of the government’s strength on willingness to receive state propaganda will therefore be even weaker.

Another type of concern is due to the observational rather than experimental nature of the data. Ideally, to examine the effects of the students’ exposure to propaganda, one should run an experiment in which some students are randomly assigned to a year of political education, while others do not receive the treatment, and then compare the two groups. Clearly this is not feasible. As I have discussed above, however, even though these political education classes are mandatory, students’ actual attention to them over the course of several semesters varied considerably, which reflects their differing incentives (and abilities) to achieve good overall academic standing, as well as other random and idiosyncratic reasons. In other words, even though they have all received the propaganda treatment, the amount of treatment varies from one student to another. Controlling for their overall academic standing as well as demographic and political factors such as CCP membership, the students’ ability to recall the lecturing reflects the varying amount of treatment they have received due to these random and exogenous factors, which can then be used to estimate the effects of exposure to propaganda.

One may also wonder if the propaganda scores actually measured the extent to which the students were convinced by the propaganda, rather than their exposure to propaganda. But if that were the case, students with higher propaganda scores should

be more satisfied with the government, unlike the results in Table 2. For another example, the survey shows that most of the students preferred Western political systems over the Chinese system, a finding that is echoed in other surveys.⁴⁷ In a question (before the propaganda test) asking whether they agreed or disagreed with the statement that “Western political systems are very appropriate for our country,” a total of 73.2 percent of the students answered “agree” or “somewhat agree,” while only 7.3 percent answered “disagree” or “somewhat disagree,” with the remaining choosing “neither agree nor disagree.” It is unlikely, therefore, that the 57.4 percent of students who “correctly” answered the political education test question about the essence of elections in the West truly believed that democratic elections were merely a “measure to mediate the interests and conflicts within the ruling class.” Rather, they were completing that section of the survey according to the section instruction, which was to select answers according to what they had been taught regardless of their personal opinion.

Another concern is that the propaganda scores may simply reflect the students’ memorization ability. This concern will not affect the validity of the results. First of all, much of the cognitive ability, including memory, is already reflected in the students’ academic standing, given that Chinese education has a well-known emphasis on memorization. Secondly, even if there are aspects of one’s memorization ability not captured by academic standing, having remembered more of the state’s propaganda is functionally equivalent to having had more exposure to the propaganda. In either case, the lecturing has similar cognitive effects on the recipients.

Still another concern is that even though political education does not improve the students’ satisfaction with the government and the political system, it might have effects on other types of political attitudes, for example, fostering higher levels of attachment to the state for nationalist reasons. It should be noted that I am not arguing that political and ideological education does not have any conceivable indoctrination effect; the survey did not exhaust all possible political attitude questions. The evidence does show, however, that political education does not improve the students’ views of the government and the regime in a general sense. Regarding the specific question of nationalist or pro-China sentiments, one of the survey questions asked the students the extent to which they agreed with the following statement: “We should strive to maintain our own institutions, culture, and way of life, rather than becoming more and more like other countries.” Ordered logit analysis with the same control variables as in the above statistical tables shows that there was little relationship between propaganda scores and pro-China sentiments (see the appendix).

Conclusion

This paper has shown through the use of a signaling model that a sufficient amount of propaganda can serve to demonstrate a regime’s strength in maintaining social control and political order, thus deterring citizens from challenging the government, even if the content of the propaganda itself does not induce pro-government attitudes or values.

This can explain why authoritarian governments are willing to spend an enormous amount of resources on propaganda activities, the content of which often does not persuade the intended recipients. A unique survey dataset from China lends support to the signaling theory of propaganda. Students with more exposure to state propaganda in the form of ideological and political education are not more satisfied with the government and state, but they are more likely to believe that the state is strong in maintaining political order and social stability, and are less willing to engage in political dissent. In other words, the ideological and political lecturing they receive does not persuade them about the greatness of the state but does succeed in warning them about the capacity of the regime and hence the likely futility of challenging it.

One may wonder why the Chinese government would signal its strength through a socially wasteful activity, rather than through investing in useful public projects and infrastructure building, or improving citizens' livelihood. Political propaganda is certainly not the only mechanism through which a regime sustains its rule, and the Chinese government has indeed been doing all of the above. However, that does not mean that the government can do without political education in schools. In fact, the inevitable slowing down of economic growth in China means that the Chinese government cannot simply rely on performance legitimacy to sustain its rule.⁴⁸ Given the central role that young people, especially students, play in political crises, signaling the state's social control capacity to them may actually become more important.

Aside from the above survey evidence and the existence of seemingly outdated state news programs such as *Xinwen Lianbo*, the pattern of political challenges to the Chinese regime during the last three decades is also largely consistent with the theory here. During the 1980s, China's first decade of reform, a notable relaxation of propaganda work and ideological control accompanied the deterioration of state capacity and a series of pro-democracy protests aimed at the entire government system, culminating in the 1989 student-led Tiananmen movement that almost toppled the regime. This development prompted Deng Xiaoping's comment about the state's biggest failure of the decade being ideological and political education. Since the 1990s, after the state reasserted its propaganda work, there have been no large-scale political challenges to the regime aside from some ethnic and religious-based conflicts.⁴⁹ The vast majority of social protests in China have been localized loyalist ones calling for the government to deal with certain specific issues or punish corrupt local officials.⁵⁰ To be sure, propaganda is just one of many social factors and mechanisms that affect political dissent in a country, and so the above pattern is only suggestive. Nevertheless, the association between the intensity of propaganda work and the absence of political revolt against the regime since the 1990s, when the country's economy has become increasingly integrated with the global market, information and ideas flowing around the society are increasingly pluralistic, and social grievances are on the rise, is telling.

The signaling theory of propaganda should be regarded as a complement to rather than a substitute for the traditional indoctrination theory of propaganda. The goal of the article is not to replace the indoctrination theory, but to point out that the purpose of propaganda is often not limited to influencing the recipients' opinion; signaling the

government's strength, capacity, and resources and therefore intimidating the masses is sometimes a more important goal.

This finding sheds important light on the issue of whether and how propaganda can be effective. I will continue to focus on the Chinese case for concreteness. In recent years there has been a debate among scholars about whether the Chinese government's propaganda has achieved its intended goal or has been ineffective or even counter-productive. On the one hand, Chen and Shi argue that propaganda has alienated Chinese citizens and, using a 1993–94 national survey (not long after the Tiananmen movement), show that those with more exposure to state media reports actually trust the government and the Chinese political system less.⁵¹ Tong's case study of the publishing industry during the anti-Falun Gong campaign shows that the Chinese government has an impressive capacity in quickly producing a large amount of propaganda materials in the face of challenges, but the public appeal of such publications is meager.⁵² Lynch and Latham argue that the in-flow of a multitude of alternative information from global and other non-official sources has significantly increased fatigue and skepticism toward state-sponsored communications.⁵³ Chan and Rosen focus on political education in schools rather than propaganda in the media and publishing industry and show with a series of reports from Chinese newspapers and journals that the renewed emphasis on political lecturing following the 1989 Tiananmen movement has little effect on the students' belief systems; in fact, Chinese students' admiration and acceptance of the American political system often far exceeds that for the Chinese party-state model.⁵⁴

On the other hand, Stockmann and Gallagher find from surveys conducted in four Chinese cities in 2005 that Chinese media's propaganda about ordinary people's positive experiences in the legal system contributes to regime legitimacy and encourages citizens to participate in the legal system.⁵⁵ Kennedy, using the 2000 World Value Survey, shows that media exposure increases Chinese citizens' satisfaction with the national leadership. With regard to education, he finds that primary and junior high school education has positive effects on rural residents, although those with higher levels of education can resist state propaganda and display lower satisfactions.⁵⁶ Tang, using a 1999 six-city survey, also shows that media exposure increases the respondents' nationalism and support for China's political system.⁵⁷ Yang and Tang use a 2004 national survey and similarly find that media exposure increases Chinese citizens' trust in the country's political institutions.⁵⁸

Note that the negative quantitative evidence discussed above is either about ideological and political education, or about media effect in the wake of major anti-government movements, when the regime is more focused on deterrence and prevention than persuasion. The more positive results, on the other hand, are from surveys about media effects during more recent and "normal" times. With the continued reform in the media sector, Chinese media have become much more commercialized and diversified than those of earlier times. As a result, Chinese media reports are now significantly more lively and interesting than before, and less preposterous or distorted than political lecturing in schools (except for important anomalies such as Xinwen

Lianbo). Even though the Chinese state still ensures that media serve political purposes by synchronizing media messages and preventing conflicting communication from being widely circulated, the official messages conveyed in Chinese media are now much more subtle, sophisticated, and credible.⁵⁹ We can call these more subtle and persuasive messages “soft propaganda,” while those pretentious and dogmatic propaganda in ideological and political courses as well as media programs and publications following major anti-government movements can be termed “hard propaganda.” The aforementioned studies have demonstrated that soft propaganda can indeed influence people’s political and social opinions, while hard propaganda will not and may even backfire.

The current study shows, however, that even though hard propaganda does not influence the masses’ opinions and attitudes toward the government, it can nevertheless be effective in influencing their behavior and promoting regime stability. By surrounding the society with pompous and resource-consuming propaganda messages and activities, the regime signals its strength in social control and capacity to meet potential challenges. Both soft and hard propaganda, therefore, can be effective tools for an authoritarian government, with the former changing social attitudes and the latter deterring political opposition. This article represents an endeavor to theoretically characterize hard propaganda with support from empirical evidence, but much additional work is needed. For example, how do the indoctrination goal and the deterrence goal of propaganda work together in the authoritarian setting? And what is the relationship between propaganda, both hard and soft, and other forms of social control? These and other questions are left for future research.

NOTES

I am very grateful to Li Zhi for help with the data collection. I would also like to thank John James Kennedy, Daniela Stockmann, Kharis Ali Templeman, and two anonymous reviewers for helpful comments. Partial financial support was provided by the Pacific Rim Research Program of the University of California.

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40. The political education courses in the survey university are often divided into several modules, with each module taught by the same instructor throughout the university. Teacher quality, therefore, is largely controlled.
41. Survey question wordings are in the appendix.
42. In several ways the current survey was already more politically delicate than most academic surveys in China.
43. Alternatively, the respondents could be asked to report their grades from those courses, but that would lead to concerns about the anonymity of the survey.
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Appendix 1 A Signaling Model of Political Propaganda

Model Setup

There are two players in the game: the government and a representative citizen. Since the paper focuses on the role of propaganda in influencing citizen beliefs rather than coordination among citizens, they will be treated as a single entity and represented by one agent. The government is endowed with a strength θ , which can be high (h) or low (l). This strength refers to the government's ability of social control and capacity to maintain political order when it is challenged, hence $1 > h > l > 0$. In particular, when the government faces a rebellion by the citizen, it will survive with probability h if its strength is h and survive with probability l if its strength is l . I will call the type h government a strong government and the type l government a weak government. The government's strength is its private information. The citizen has a prior belief that the government's θ is h with probability π and l with probability $1 - \pi$. The government's utility when it stays in power is 1. To simplify the algebra, it is assumed that the cost of suppressing a rebellion reflects the resources and capability of the regime and has therefore been incorporated into the probability of surviving the rebellion.

The government can choose the amount of propaganda to produce. The cost of producing amount p of propaganda for a type θ government is $c(p, \theta)$, where the cost function is twice differentiable in p and satisfies $c(0, \theta) = 0$, $c_p(p, \theta) > 0$, $c_{pp}(p, \theta) > 0$, and $c_p(p, l) > c_p(p, h)$. Thus, both the total and marginal cost of propaganda are increasing, and both total and marginal costs are lower for type h . In other words, it is easier for a strong government to produce any given level of propaganda and any marginal unit of propaganda. Intuitively, this assumption means that a government that is strong in social control can carry out propaganda activities and make ordinary people participate or observe the rituals more easily and without trouble than a weak government. For example, to organize a parade celebrating the regime's achievements, a strong government can deploy fewer personnel (police officers, community organizers, etc.) than a weak government to make the same number of citizens participate in the event. To focus on the potential signaling effect of propaganda, I do not assume any indoctrination role for the propaganda. In other words, the government's propaganda will not change the citizen's (dis)satisfaction with the government or her intention to rebel conditional on her belief about the probability that the rebellion will succeed.

The citizen can choose action $a \in \{0, 1\}$, where $a = 0$ means staying quiet and $a = 1$ means rebelling against the government. Conceptually, such a rebellion should be understood as a political challenge or revolution against the regime rather than loyalist and localized protests asking the government to address some specific grievances. If the citizen decides to challenge the government, she pays a cost of r whether the challenge is successful or not. If the challenge is successful,

she gets a benefit of b . The utility of living under the current regime is normalized to be 0.

The two players' utility can be summarized as follows, with $U_g(\theta)$ and U_c respectively denoting the utility of a government with type θ and the utility of the citizen:

$$U_g(\theta) = \begin{cases} 1 - c(p, \theta), & \text{if } a = 0; \\ \theta - c(p, \theta), & \text{if } a = 1. \end{cases} \quad (1)$$

$$U_c = \begin{cases} 0, & \text{if } a = 0; \\ b(1 - \theta) - r, & \text{if } a = 1. \end{cases} \quad (2)$$

The values of r and b will obviously affect the citizen's choice of action. To avoid trivial and uninteresting cases (i.e., cases in which the citizen always rebels regardless of the strength of the government, or never rebels), I assume that r follows a prior uniform distribution on $[b(1 - h), b(1 - l)]$, and its value will be realized after the government makes its propaganda decision (the results of the model will be similar if some other continuous distribution is assumed). This means that, after observing the amount of propaganda produced by the government, the citizen will rebel if she knows the government is of type l , and will not rebel if she knows the government is of type h . If she cannot tell whether the government is strong or weak, the citizen will rebel if the realized r is lower than $\pi b(1 - h) + (1 - \pi) b(1 - l)$ and not rebel otherwise. Therefore, *ex ante* the citizen's probability of rebellion is $1 - \pi$ if she cannot tell the government's type following its propaganda production.

The game proceeds as follows: 1) nature decides the type of the government and the government learns of its type; 2) the government decides how much propaganda to produce and then the cost of rebellion is realized; 3) the citizen decides whether or not to rebel; 4) payoffs are assigned. This is a game of incomplete information, and I use the solution concept of perfect Bayesian equilibrium, augmented by the Cho-Kreps Intuitive Criterion.

Analysis

This is a standard signaling game in the style of Spence (1973). As in any signaling game, there are potential separating equilibria and potential pooling equilibria in this game. In a separating equilibrium the two types of government choose different level of p , and hence their types are revealed. The citizen will rebel if she observes the government's type is l and not rebel if she observes the government's type is h . Since in this equilibrium the weak government's type is revealed, there is no point in producing any propaganda, and hence it will choose $p = 0$. Let the equilibrium level of propaganda produced by the strong government be p^* . For both types of government to have incentive to stick to their respective equilibrium strategy rather than emulating

the other type's strategy (and be taken by the citizen as being of the other type), it must be that (following equations 1 and 2):

$$U_g^*(h) = 1 - c(p^*, h) \geq h \quad (3)$$

and

$$U_g^*(l) = l \geq 1 - c(p^*, l) \quad (4)$$

Define \underline{p} and \bar{p} implicitly by

$$1 - c(\underline{p}, l) = l \quad (5)$$

and

$$1 - c(\bar{p}, h) = h. \quad (6)$$

In other words, \underline{p} is the propaganda level that leaves the weak government indifferent between producing no propaganda and being known as the weak government on the one hand, and producing that level of propaganda and being (mistakenly) regarded as a strong government on the other hand. Similarly, \bar{p} is the propaganda level that leaves the strong government indifferent between producing that level of propaganda and being known as strong on the one hand, and producing no propaganda and being (mistakenly) regarded as a weak government on the other hand. If $\bar{p} > \underline{p}$, any level of propaganda between the two values can serve to signal high strength in a separating equilibrium. Equations (5) and (6) indicate that $c(\bar{p}, h) < c(\underline{p}, l)$. Because $c_{e\theta} < 0$, we know $\bar{p} > \underline{p}$. Therefore any propaganda level \hat{p} in the interval $[\underline{p}, \bar{p}]$ can be the p^* and signal a strong government in a separating equilibrium. Such an equilibrium can be supported by the citizen's belief that the probability that the government is of type h is

$$\mu(\theta_h) = \begin{cases} 0, & \text{if } p < p^*; \\ 1, & \text{otherwise.} \end{cases} \quad (7)$$

However, propaganda levels $\hat{p} > \underline{p}$ fail the Intuitive Criterion, because the strong government with strength h can strictly benefit from deviating to propaganda level \underline{p} if the citizen believes such a deviating government is a strong government, whereas the weak government with strength l can never strictly benefit from such a deviation no matter what the citizen will believe. Therefore, according to the Intuitive Criterion, the citizen should believe that a government that deviates to \underline{p} must be of type h , and hence the strong government will indeed deviate to \underline{p} . This discussion leads to the following proposition.

Proposition 1: There is a unique separating perfect Bayesian equilibrium in the game that satisfies the Intuitive Criterion, in which the strong government chooses a propaganda level p^* that solves $1 - c(p^*, l) = l$, and the weak government chooses no propaganda. The citizen will not rebel if the observed level of government propaganda is p^* or higher, and rebel otherwise.

Next, consider potential pooling equilibria. In a pooling equilibrium, the citizen cannot tell whether the government is strong or weak from the level of propaganda it produces, and so treats the government as being weak with probability $1 - \pi$. Since the prior distribution of the rebellion cost is uniform on the interval $[b(1 - h), b(1 - l)]$, the citizen's ex-ante probability of rebellion in such an equilibrium is $1 - \pi$ as discussed earlier. Suppose the two types of government pool at p^* , their payoffs are then respectively

$$U_g^*(h) = \pi + (1 - \pi)h - c(p^*, h) \quad (8)$$

and

$$U_g^*(l) = \pi + (1 - \pi)l - c(p^*, l). \quad (9)$$

Define \tilde{p} implicitly by

$$\pi + (1 - \pi)l - c(\tilde{p}, l) = l. \quad (10)$$

In other words, \tilde{p} is the highest level of propaganda that type 1 is willing to pool to; for any higher level of propaganda, the cost of producing the propaganda is too high, and a weak government would rather produce nothing and be known as the weak type. The following belief of the citizen will support any propaganda level $p^* \in [0, \tilde{p}]$ in a pooling equilibrium:

$$\mu(\theta_h) = \begin{cases} \pi, & \text{if } p = p^*; \\ 0, & \text{otherwise.} \end{cases} \quad (11)$$

However, no pooling equilibrium in the game can satisfy the Intuitive Criterion. To see this, define p' , which is greater than p^* , implicitly by

$$\pi + (1 - \pi)l - c(p^*, l) = 1 - c(p', l). \quad (12)$$

That is, given the pooling equilibrium at p^* , p' is the highest propaganda level that the weak government is willing to choose if the citizen mistakes it for a strong government. Then, if the strong government will strictly benefit from deviating to p' , the pooling equilibrium at p^* will fail the Intuitive Criterion. In other words, the strong government will deviate to p' if

$$\pi + (1 - \pi)h - c(p^*, h) < 1 - c(p', h). \quad (13)$$

Substituting from equation (12), inequality (13) is equivalent to

$$c(p^*, l) - c(p^*, h) < c(p', l) - c(p', h), \quad (14)$$

which always holds because $p' > p^*$ and $c_{p\theta} < 0$. The above discussion yields the following proposition.

Proposition 2: There is no pooling equilibrium in the game that satisfies the Intuitive Criterion.

The unique perfect Bayesian equilibrium satisfying the Intuitive Criterion in the propaganda game, then, is the separating equilibrium in which a strong government chooses a sufficiently high level of propaganda to distinguish itself from a weak government.

Appendix 2 Wording of Survey Questions

Satisfaction with China's overall situation:

"How do you feel about the overall situation in China today?"

- A. satisfied
- B. somewhat satisfied
- C. neither satisfied nor dissatisfied
- D. somewhat dissatisfied
- E. dissatisfied

Satisfaction with the central government:

"How satisfied are you with the work of the central government?"

- A. satisfied
- B. somewhat satisfied
- C. neither satisfied nor dissatisfied
- D. somewhat dissatisfied
- E. dissatisfied

Satisfaction with the local government:

"How satisfied are you with the work of your local government?"

- A. satisfied
- B. somewhat satisfied
- C. neither satisfied nor dissatisfied
- D. somewhat dissatisfied
- E. dissatisfied

The government's competence in governance:

"What do you think of the Chinese government's competence in governance?"

- A. high
- B. somewhat high
- C. intermediate
- D. somewhat low
- E. low

China's political system:

"How appropriate do you think our current political system is for the country?"

- A. appropriate
- B. somewhat appropriate

- C. neither appropriate nor inappropriate
- D. somewhat inappropriate
- E. inappropriate

The government's capacity for social stability:

"What do you think of the Chinese government's capacity in maintaining social stability?"

- A. high
- B. somewhat high
- C. intermediate
- D. somewhat low
- E. low

Willingness to participate in political activities:

"Are you willing to participate in the following activities to express your views and opinions?"

- (1) Local elections (e.g., village, people's congress, and neighborhood elections)
- (2) Elections on campus
- (3) Assemblies, processions, and demonstrations
- (4) Strikes

- A. I already participated in such activities before
- B. yes
- C. maybe
- D. no

Political efficacy (the first question measures internal efficacy and the second measures external efficacy, with answers appropriately coded for each so that higher scores indicate higher efficacy):

"Do you agree with the following statements?"

- (1) Politics are too complicated for people like me to understand.
 - (2) People like me can have an influence on the government's decision making.
- A. agree
 - B. somewhat agree
 - C. neither agree nor disagree
 - D. somewhat disagree
 - E. disagree

Appendix 3 Additional Statistical Results

Willingness to Participate in State-Sanctioned Elections and Pro-China Sentiments

	Local Election	Campus Election	Pro-China
Propaganda Score	0.004 (0.024)	0.005 (0.024)	0.010 (0.024)
Academic Standing	0.059* (0.031)	0.055* (0.031)	0.020 (0.031)
External Efficacy	0.317*** (0.058)	0.094* (0.056)	-0.030 (0.056)
Internal Efficacy	-0.036 (0.053)	0.041 (0.053)	-0.037 (0.053)
Female	-0.271** (0.115)	0.232** (0.113)	-0.031 (0.114)
Income	0.016 (0.038)	0.104*** (0.037)	-0.038 (0.038)
CCP Member	0.118 (0.146)	0.482*** (0.145)	0.211 (0.144)
Intercept 1	0.221 (0.310)	-0.634** (0.313)	-3.681*** (0.351)
Intercept 2	1.675*** (0.315)	0.787** (0.312)	-2.148*** (0.313)
Intercept 3	3.468*** (0.332)	2.016*** (0.316)	-0.931*** (0.305)
Intercept 4			0.568* (0.304)
Observations	1077	1081	1076

Standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.